

Global Mapping

Red Cross / Red Crescent National Society
involvement in country blood programs

2018



Global Advisory Panel

on Corporate Governance and Risk Management of Blood Services in Red Cross and Red Crescent Societies





GAP Global Mapping - 2018

Red Cross / Red Crescent National Society involvement
in country blood programs

www.globaladvisorypanel.org

Thank you to all National Societies and
Blood Services for your valuable contribution
to this project and report

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Foreword

About the Global Advisory Panel (GAP)

The Global Advisory Panel on Corporate Governance and Risk Management of Blood Services in Red Cross and Red Crescent Societies (GAP) is global network of Red Cross and Red Crescent blood services.

GAP provides advice and support to National Societies and their affiliated blood services in matters concerning corporate governance and risk management of National Society blood programs.

GAP advocates and supports the establishment of safe and sustainable blood systems, promotes the adoption of best practice, and facilitates resource mobilization and knowledge transfer between blood services

Key objectives of GAP:

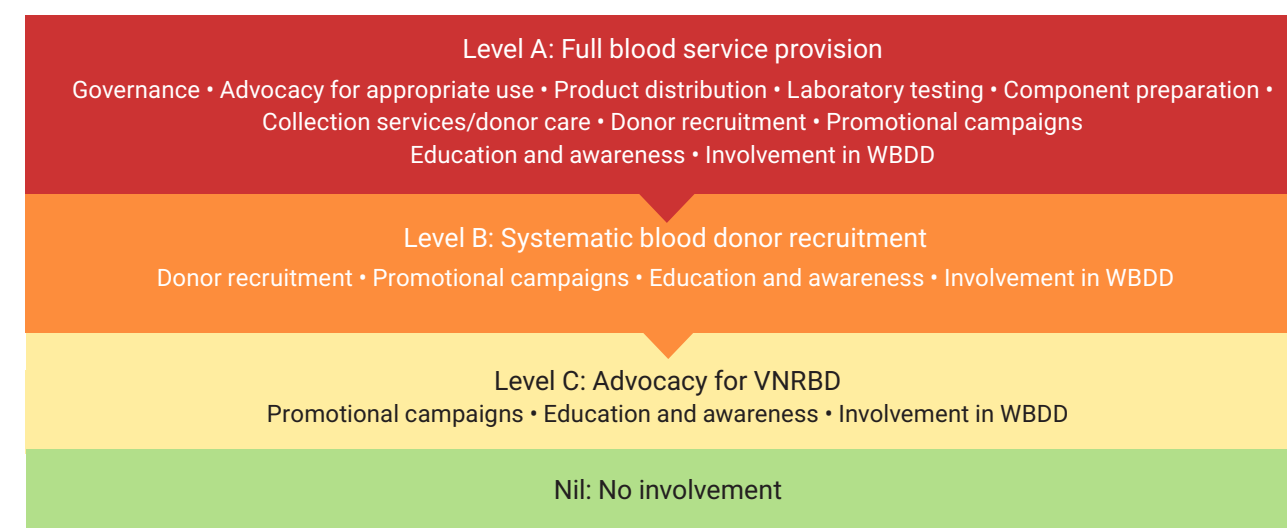
- Provide technical advice in terms of corporate governance and risk management to National Society blood programs;
- Promote knowledge sharing, networking and partnership among and between Red Cross and Red Crescent blood services and external partners;
- Develop and provide tools and guidelines and country support to National Society blood services most in need;
- Coordinate assistance to National Society blood services post-disaster including blood program recovery;
- Influence global blood policy in conjunction with partners;
- Provide advocacy and support to National Society blood services and the IFRC on issues affecting blood programs.

Further information on GAP's activities, including our in-country programs, can be found on the GAP website - www.globaladvisorypanel.org

The Global Mapping project

In order for GAP to be able to best assist Red Cross / Red Crescent National Societies with their blood banking activities, from 2015-2018 a global mapping survey was undertaken to determine the level of involvement of all Red Cross / Red Crescent National Societies in the blood programs of their respective countries.

The level of involvement of a National Society may be:



All 190 National Societies were invited to participate in the global mapping survey and, of those, 185 responded (97%). The following report provides a global, regional and country specific overview of Red Cross / Red Crescent involvement in blood programs, based on the information provided in the survey responses and also obtained from public sources.

The country reports include information on:

- Level of engagement (and details where relevant) of the National Society in the blood program of their country (A, B, C or Nil)
- National context (e.g. size of country, population, economy, health system)
- National blood program overview

While attempts were made to maintain consistency in the country reports, there was considerable variation in the type of information available for each country's national blood program. References have been provided for all information used, however where a reference is not noted, data has been provided by the National Society, their blood service or non-Red Cross blood services in the global mapping survey.

History of the Red Cross / Red Crescent in blood

1859

THE RED CROSS WAS FOUNDED BY HENRY DUNANT

In observing the battle of Solferino in 1859, Henry Dunant noticed how few people there were to take care of the injured soldiers, and even then, only for those from their own side.

In witnessing this, Dunant envisioned a neutral organisation that would provide aid and protection to the affected; thus founding the Red Cross Movement on both a legal (Geneva Conventions) and a (para)medical footing.

The provision of safe blood for life saving transfusion later became part of that tradition/movement.

1921

ESTABLISHMENT OF THE FIRST RED CROSS BLOOD TRANSFUSION SERVICE

The British Red Cross established the first Red Cross blood transfusion service, with the Australian and Netherlands Red Cross following shortly after.¹

1948

LEAGUE'S RESOLUTION TO TAKE AN ACTIVE PART IN BLOOD WITH GOVERNMENT

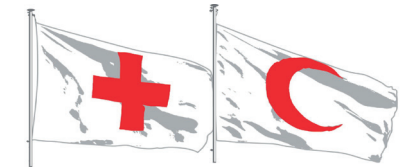
The League of the Red Cross (later renamed IFRC) adopted a resolution recommending National Societies to take an active part in blood transfusion and co-operate with their respective governments in establishing blood transfusion centres, or organizing these centres themselves. They also endorsed that where possible, blood should be free and universally applied.¹

1997

IFRC RE-EXAMINED ITS ROLE IN BLOOD

Following a number of highly visible incidents and legal liabilities surrounding the HIV epidemic arising in the 1980's, the IFRC were concerned about the potential risk posed by National Society participation in blood and the very threat to the existence of the organisation as a whole. The decision was made to focus on promotion of voluntary blood donor recruitment.

At this time, the IFRC also decided to set up an experts group to share knowledge and to provide advice to National Societies on the proper management of risk associated with blood programs; and to invite the experts group from time to time to inform it of the results of its work. As a reaction to this, Red Cross / Red Crescent National Societies involved in blood banking, self-organised.



Given the challenges experienced by so many countries in achieving a safe and sustainable supply of blood for their population, the Red Cross / Red Crescent Movement, as a universal and neutral organisation, has a significant role in international cooperation and promotion of voluntary blood donation.

1973

ROLE OF VOLUNTARY NON-REMUNERATED BLOOD DONATION (VNRBD)

As a result of an increase in the instances of paid commercial blood donation globally, the International Conference of the Red Cross affirmed that a blood service based on voluntary non-remunerated blood donation (VNRBD) and motivated by humanitarian principles is the safest and most effective way of supplying blood needs.

They urged the Governments of all nations to adopt the highest standards for a safe blood service to their citizens and formulate those standards on the concept of VNRBD, and recommended the two work together to obtain national blood services based on the broad voluntary participation of the people.²

By the mid 1970s, the Red Cross was active in the national blood program in approximately 95% of countries. The majority of these were involved in blood donor recruitment and education.¹

1998

IDENTIFICATION OF KEY REQUIREMENTS FOR NATIONAL SOCIETIES: BLOOD GOVERNANCE & MANAGEMENT

During a G24 meeting in Sydney, a session was organised for all National Societies actively involved in blood program activities as an opportunity to share experiences and fundamentals in regard to the ethical, social, legal and financial environment facing the blood programs.

The following year in Bonn, it was agreed that any new program should focus on blood governance and management issues as core requirements.

1999

GAP WAS CONVENED

With all of these preceding activities at the forefront, GAP was convened following a seminar on blood program governance and management which was co-organised by the IFRC and the Finnish Red Cross in Helsinki, Finland.

The seminar was attended by 14 National Societies, the IFRC, as well as speakers from Sanquin, National Blood Authority (England) and the European Plasma Fractionation Association (EPFA).

2000

THE GLOBAL ADVISORY PANEL WAS ESTABLISHED

A small network of Red Cross blood service CEOs established the new program, known as the “Global Advisory Panel on Corporate Governance and Risk Management of Blood Services in Red Cross and Red Crescent Societies” (GAP).

The founding members included Australia, America, Finland, Switzerland, Japan and Thailand.

2002

INAUGURAL GAP MEETING

The inaugural GAP meeting was held in Vancouver where the first 6 critical issues of blood program governance and management were identified. This formed the foundation for the GAP Self-assessment as the fundamental guidance tool for National Societies.

2011

IFRC BLOOD POLICY WAS DEVELOPED

The Policy on “Promoting Safe and Sustainable National Blood Systems” acknowledges the critical role that the Red Cross / Red Crescent plays in health care systems and in advancing health security through safe and sustainable blood systems; including the need for a sufficient supply of safe blood based on VNRBD.

The blood policy outlines the responsibilities for National Societies, GAP and the IFRC with respect to management and governance of blood programs. In particular, National Societies have a responsibility to implement the GAP Self-assessment and adhere to the GAP Manual and take steps in consultation with GAP and other partners to ensure that appropriate risk management measures are implemented.

2012

GAP BECAME A LEGAL ASSOCIATION GOVERNED BY SWISS LAW

Ten years after its inaugural meeting, GAP became a legal entity governed by Swiss Law. Per its statutes, GAP’s mandate is to provide ‘advice to National Red Cross and Red Crescent Societies, and their affiliated blood services, in matters concerning Corporate Governance and Risk Management of National Society blood programmes, as well as to the IFRC Secretariat and relevant IFRC bodies’.

RATIONALE & ROLE OF THE RED CROSS / RED CRESCENT IN BLOOD

The reason the Red Cross / Red Crescent, as a volunteer-driven organization, became so heavily involved in blood donation is explained by the added safety (low transfusion transmissible disease rates) of voluntary non-remunerated blood donation as compared to paid or family replacement donations, and the ethics surrounding paying people for substances of human origin.

Perhaps underpinning all of the Movement’s impetus in becoming involved in blood transfusion, Hantchef (1961 page 370) affirmed that “above all, every programme of transfusion requires, as a fundamental prerequisite, the active participation and support of the population. Experience has proved that such participation depends on how well the programme is understood by the public... creating and promoting a disinterested spirit of co-operation, free from all prejudice and fear.

That is why the Red Cross, which has a very high moral influence with the public, is perhaps the ideal organization and the most logical, through which the recruitment of donors can be made all over the world.”¹

GAP - 2018

GOOD GOVERNANCE, SAFE BLOOD

With a membership of 13 National Societies involved in operating a blood service, GAP continues to deliver its core program of work, which centres upon providing assistance to Red Cross / Red Crescent National Societies to identify any potential risks associated with their involvement in a blood programme, and provide specialist support to help address any risk areas.

GAP interacts with all 190 Red Cross / Red Crescent National Societies, as well as the IFRC, and fits squarely within the medical foundation of the Red Cross / Red Crescent Movement.



In 2018, GAP member countries account for approx 26% of the world’s population and collect approx 18% of all blood donations globally each year

GAP would like to acknowledge the following articles by Hantchef which assisted in the development of this historical timeline:
1. Z. S. Hantchef (1961). The gift of blood and some international aspects of blood transfusion. International Review of the Red Cross, 1, pp 355-370 doi:10.1017/S0020860400009724
2. Z. S. Hantchef (1974). The Red Cross and new developments in blood transfusion. International Review of the Red Cross, 14, pp 337-343 doi:10.1017/S0020860400018994

Why Global Mapping?

Determining the level of involvement of all National Societies in their country's blood program through the Global Mapping survey is a precursor to the GAP Self-assessment process and is also used to inform GAP's disaster response management protocols. This enables rapid assessment of the potential impact of a disaster on a National Society blood program, and to determine the extent of support that may be required if the blood service is affected.

GAP Self-assessment

GAP's main tool when working with National Society Blood Services is the Self-assessment questionnaire. The aim of the Self-assessment is to assist National Societies to ensure that appropriate steps are taken to support the long term stability and sustainability of their blood service without exposing the National Society to any unnecessary risks. It is considered critical to understanding a National Society Blood Service's operations and allows them to:

- Measure their own performance against international benchmarks;
- Identify where they are performing well and where improvements can be made; and
- Identify whether it is appropriate that they continue their involvement in blood service activities

It is a National Society's responsibility to manage the risks associated with its blood service activities. National Society Blood Services that participate in the Self-assessment receive a feedback report that:

- Provides the blood services with an individual analysis of their Self-assessment results, highlighting potential corporate governance and risk management issues which may need to be addressed, and
- Offers recommendations and strategies for the consideration of the blood service that it can incorporate into its organisational and risk management planning.

Subject to whether GAP receives sufficient Self-assessments from a region to adequately de-identify the participants, blood service may also receive a regional Self-assessment report which will allow them to compare their results with other unidentified blood services. The regional report also identifies regional themes and shared challenges.

The GAP Self-assessment has been acknowledged by National Societies involved in blood services to be an extremely useful tool for their blood service risk management.

Blood program risk

In August 2009, GAP was asked by the IFRC to provide a review of the risks associated with National Society blood service activities. GAP's analysis of the Self-assessment results received since 2003 revealed that significant risks existed in many of the responding National Societies across the ten specific issues canvassed by the Self-assessment and that the highest level of risk was faced by National Societies operating full blood services (Level A).

The blood risk review report submitted to the IFRC concluded that there were seven areas of significant risk facing National Society blood service (and IFRC):

1. A lack of government protection for blood borne disease transmission and/or appropriate insurance cover to reduce financial risk
2. The inability to meet either regulatory or national standards
3. A lack of funding and resources which affected National Society's ability to put in place risk management and donor and product safety systems/processes
4. A lack of systems for the identification, analysis, evaluation, prioritisation and management of risks
5. Ineffective governance – leading to significant risks in lack of assurance and leadership
6. A lack of appropriate systems to monitor emerging threats to the blood supply
7. A failure to provide meaningful practical support for 'victims' of blood borne disease transmission which goes to the very reputation of the Red Cross / Red Crescent as a humanitarian organisation

GAP continues to monitor these risks through its Self-assessment process and through individual support to National Societies most in need.



GAP's tools and resources, including the Self-assessment questionnaire and GAP Manual, can be downloaded from the GAP website - www.globaladvisorypanel.org

GAP Manual

In addition to the Self-assessment, in 2010 GAP developed and released a Blood Program Manual as guidance for National Societies to use in risk management and governance of their blood services.

The GAP Manual supports National Societies to manage their involvement in blood programs in accordance with the International Federation's blood policy and principles and in the best interests of donors and recipients. Its chapters include guidance and recommendations on blood program management, building a sustainable donor base, blood safety, quality management, partnerships and sustainability, and provides reference to supporting materials.

Role of blood in disasters - GAP's perspective

In countries where the National Society runs the blood program, GAP has an agreed role with IFRC to provide coordination assistance to the affected National Society Blood Service for the recovery of their blood program in the event of a disaster. This includes assessment of need and coordination of bilateral Partner National Society support programs to minimise duplication of effort.

A disaster situation for a blood service may include a natural disaster (e.g. earthquake, flood, cyclone, fire); a disease outbreak (e.g. Ebola); or a major equipment malfunction or supply shortage; and may impact the blood service in a number ways.

Immediate impacts for a blood service post disaster may include:

- Direct loss or damage to facilities, equipment or other health care infrastructure;
- Loss of key personnel, for example through loss of life or conflicting priorities in the post disaster situation;
- Breakdowns in the blood supply chain and/or shortages of critical consumables;
- Changes to immediate supply needs;
- The need to manage a higher than normal number of blood donors who want to help and donate when additional blood donations may not actually be required.

If your National Society Blood Service is directly impacted by a disaster event and you require assistance or support, contact GAP within 24 hours - gapsecretariat@redcrossblood.org.au

After the initial disaster response phase is over, blood services may continue to be affected by the disaster through changes to their regular blood demand profile, for example as a result of:

- Increased foreign medical support in health care driving changes to demand, including new blood component requests and/or increasing volume of orders,
- Post disaster disease outbreaks (e.g. Dengue) driving new product requirements.

In the longer term, the capacity of staff and the blood service to provide an adequate and sustainable blood service may require ongoing technical support, including:

- Consolidation of lessons learned from the disaster response and development of a disaster preparedness plan for blood, for improved response / management in future disaster situations.
- Governance and management support for coordination of the national blood program – with a focus on strengthening the central blood service first, and then cascading to regional sites as part of a hub and spoke model. This model supports sustainability of blood services in a country.
- Training across functional areas, including quality assurance, SOPS etc.
- The rebuilding of new permanent facilities.
- Support for the purchase, installation and training for required critical equipment and materials.

Nepal earthquake - April 2015

Following the devastating earthquake in Nepal in April 2015, the Nepal Red Cross Society (NRCS) requested that GAP take on an advisory role for the rebuild and recovery of the NRCS National Blood Transfusion Service (NBTS)

This advisory and technical coordination role supports the NRCS NBTS development in conjunction with the associated partner National Societies, facilitating the optimal use of available funds in Nepal and providing transparency of multiple partner programs to ensure there is no duplication of activity or investment.



GAP members providing support to the Nepal Red Cross Blood Service as part of the GAP Post-earthquake recovery program



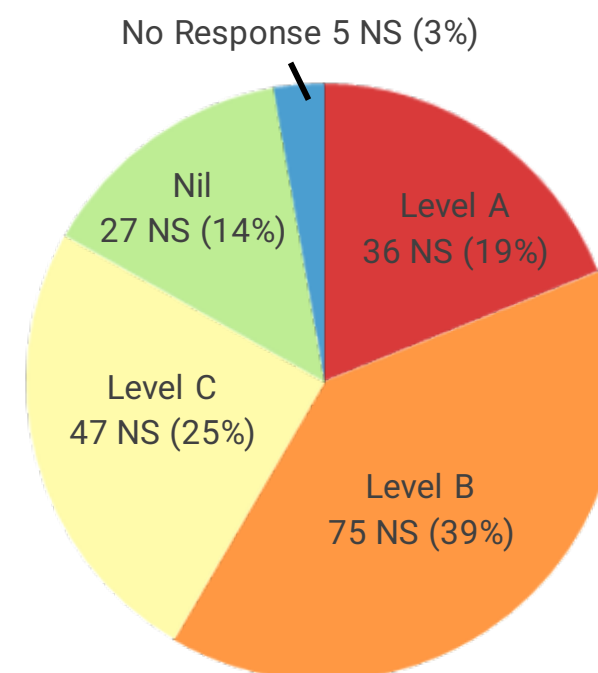
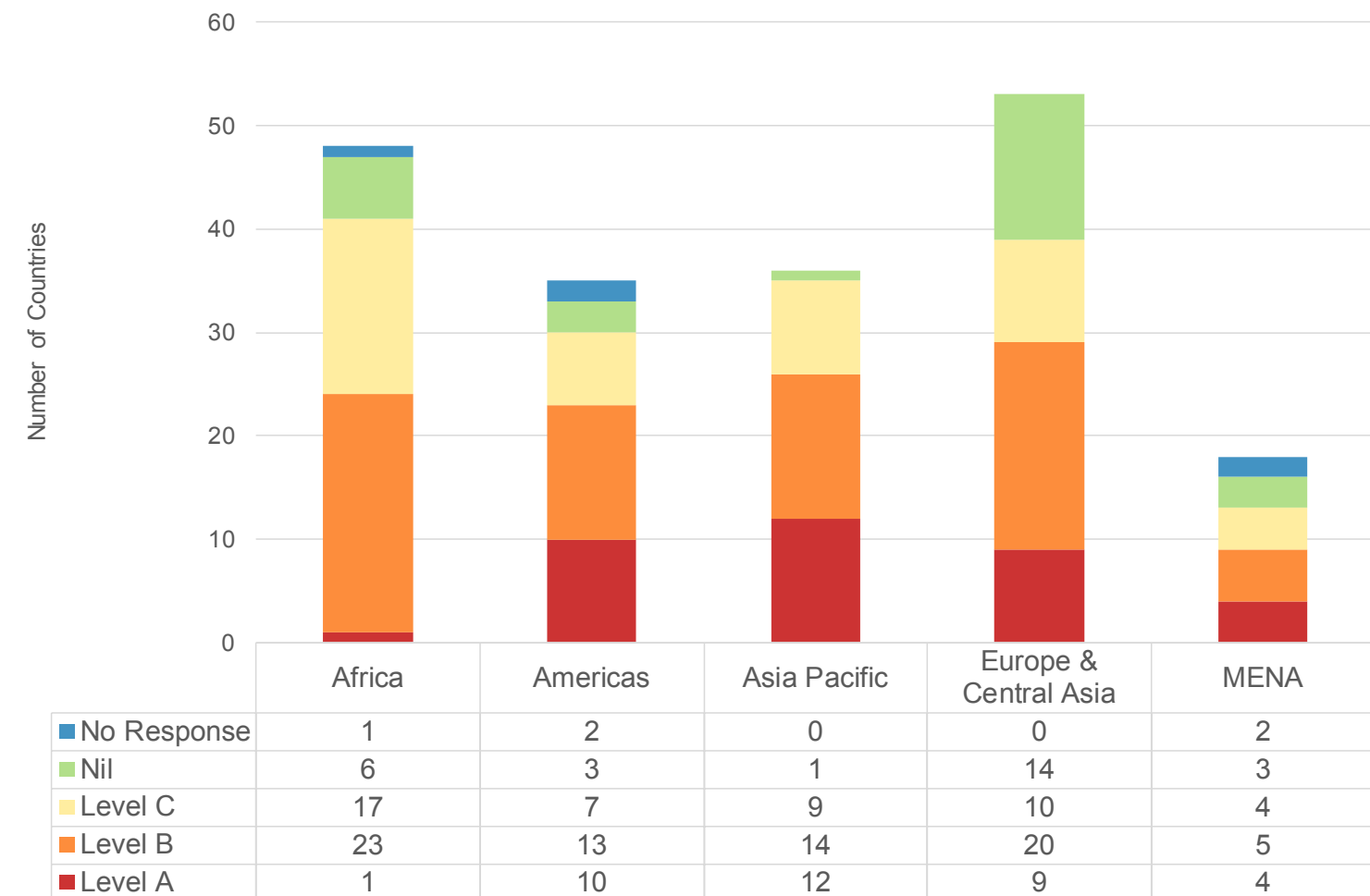
Global Mapping results summary

All 190 National Societies were invited to participate in the GAP global mapping survey between 2015 - 2018.

97% (185 of 190)
of National Societies provided
information for the survey

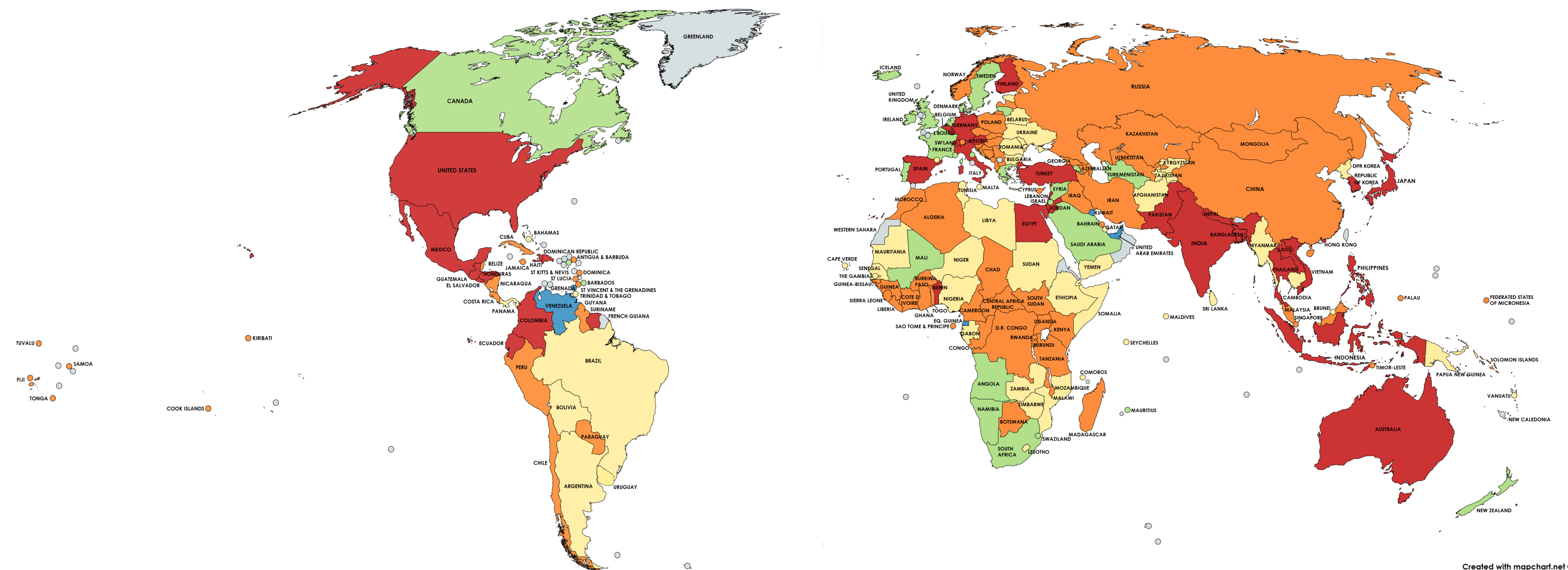
- Level A (full blood service - collection, processing, testing, distribution)
- Level B (regular recruitment of voluntary blood donors)
- Level C (promotion of voluntary non-remunerated blood donation - VNRBD)
- Nil (no involvement)
- No response to the global mapping survey

Level of involvement of all National Societies by region



National Society (NS) involvement
in blood programs by level
(total number NS = 190)

National Society involvement in blood programs



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- Level A (full blood service - collection, processing, testing, distribution)
- Level B (regular recruitment of voluntary blood donors)
- Level C (promotion of voluntary non-remunerated blood donation - VNRBD)
- Nil (no involvement)
- No response to the global mapping survey
- No National Society

Focus on **Level A** National Society Blood Services

Level A National Society Blood Services may be involved in the following activities:

- Blood service governance
- Advocacy for appropriate use of blood products
- Blood product distribution
- Laboratory testing
- Blood component preparation
- Blood collection services/donor care
- Blood donor recruitment
- Promotional campaigns
- Education and awareness
- Involvement in World Blood Donor Day



>1 billion

of the world's population is supported by Level A National Society Blood Services



>22 million

units of whole blood are collected by Level A National Societies worldwide each year



22% (8/36)

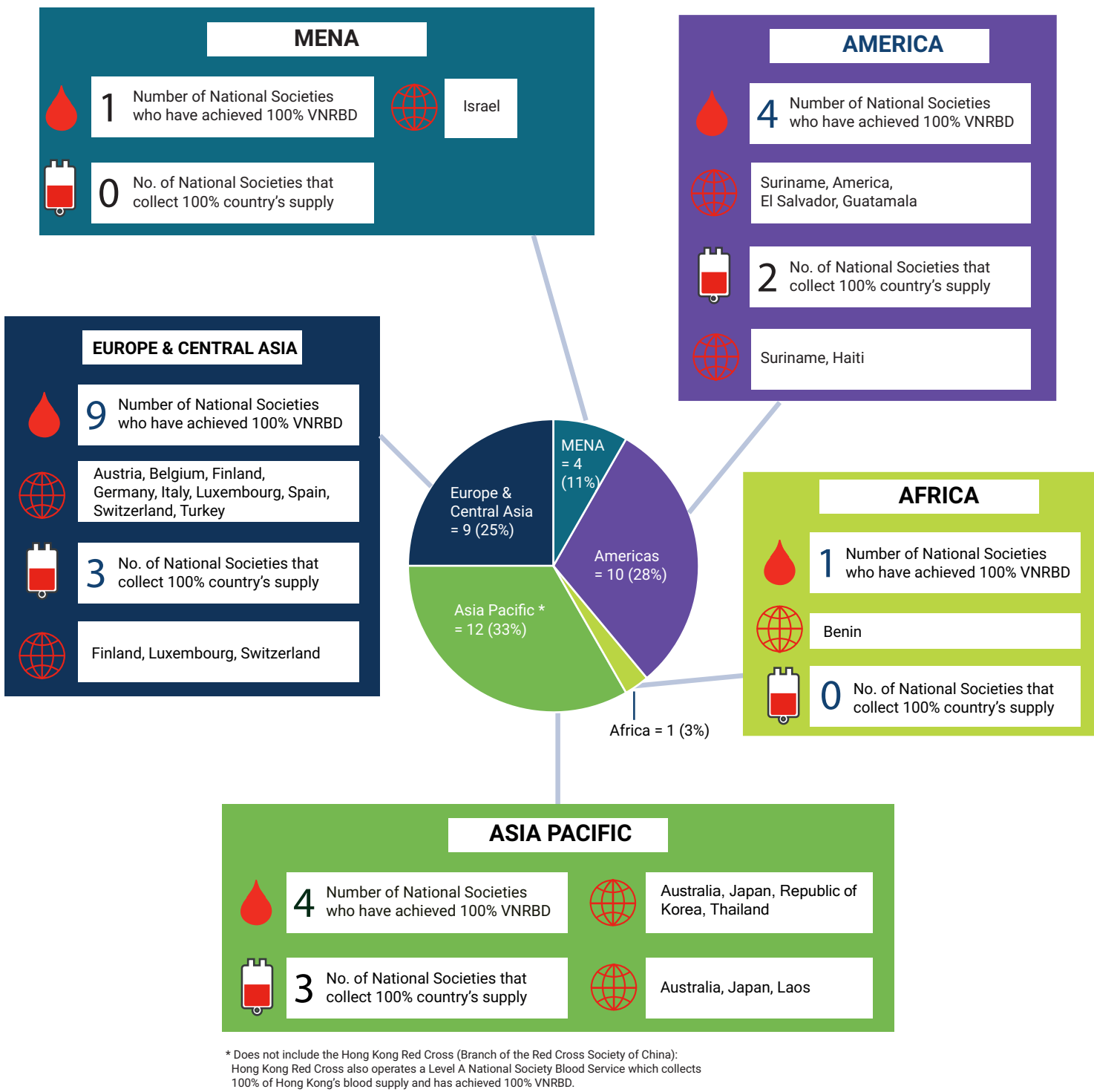
of Level A National Society Blood Services provide 100% of the blood supply in their country



53% (19/36)

of Level A National Society Blood Services have achieved 100% voluntary blood donation

There are **36** Level A National Society Blood Services globally



CONTENTS

| | |
|---|----|
| History of the Red Cross / Red Crescent in blood..... | 1 |
| Why Global Mapping?..... | 5 |
| Role of blood in disasters – GAP’s perspective..... | 7 |
| Global Mapping Results Summary | 9 |
| Focus on Level A National Society Blood Services..... | 13 |

AFRICA

| | |
|------------------------|----|
| REGIONAL SUMMARY | 15 |
|------------------------|----|

AFRICA - LEVEL A

| | |
|-------------|----|
| Benin | 17 |
|-------------|----|

AFRICA - LEVEL B

| | |
|--|----|
| Botswana | 20 |
| Burkina Faso..... | 22 |
| Burundi | 24 |
| Cameroon | 26 |
| Central African Republic | 28 |
| Chad | 30 |
| Congo, Democratic Republic of the..... | 32 |
| Congo, Republic of | 34 |
| Côte d'Ivoire..... | 36 |
| Ghana..... | 38 |
| Guinea | 40 |
| Guinea-Bissau | 42 |
| Kenya | 44 |
| Liberia..... | 46 |
| Madagascar | 48 |
| Malawi | 50 |
| Rwanda | 52 |
| Sao Tome and Principe..... | 54 |
| Sierra Leone | 56 |
| South Sudan | 58 |
| Tanzania..... | 60 |
| Togo | 62 |
| Uganda | 64 |

AFRICA - LEVEL C

| | |
|-------------------------------|----|
| Cape Verde (Cabo Verde) | 66 |
| Comoros | 68 |

| | |
|-----------------|----|
| Djibouti..... | 69 |
| Ethiopia..... | 71 |
| Gabon..... | 73 |
| Gambia..... | 75 |
| Lesotho..... | 77 |
| Mauritania..... | 79 |
| Mozambique..... | 81 |
| Niger..... | 83 |
| Nigeria..... | 85 |
| Senegal..... | 87 |
| Seychelles..... | 89 |
| Somalia..... | 91 |
| Sudan..... | 93 |
| Zambia..... | 95 |
| Zimbabwe..... | 97 |

AFRICA - NIL (NO INVOLVEMENT)

| | |
|-------------------|-----|
| Angola..... | 100 |
| Mali..... | 102 |
| Mauritius..... | 104 |
| Namibia..... | 106 |
| South Africa..... | 108 |
| Swaziland..... | 110 |

AFRICA - NO RESPONSE

| | |
|------------------------|-----|
| Equatorial Guinea..... | 112 |
|------------------------|-----|

AMERICAS

| | |
|-----------------------|-----|
| REGIONAL SUMMARY..... | 113 |
|-----------------------|-----|

AMERICAS - LEVEL A

| | |
|-------------------------------|-----|
| Colombia..... | 115 |
| Dominican Republic..... | 117 |
| Ecuador..... | 119 |
| El Salvador..... | 122 |
| Guatemala..... | 124 |
| Haiti..... | 126 |
| Honduras..... | 128 |
| Mexico..... | 130 |
| Suriname..... | 132 |
| United States of America..... | 134 |

AMERICAS - LEVEL B

| | |
|---------------------------------------|-----|
| Antigua and Barbuda | 137 |
| Belize..... | 139 |
| Chile | 141 |
| Costa Rica | 143 |
| Cuba | 145 |
| Dominica..... | 147 |
| Guyana | 149 |
| Jamaica | 151 |
| Nicaragua | 153 |
| Paraguay | 155 |
| Peru..... | 157 |
| Saint Lucia..... | 159 |
| Saint Vincent and the Grenadines..... | 161 |

AMERICAS - LEVEL C

| | |
|--------------------------|-----|
| Argentina | 163 |
| Bahamas | 165 |
| Bolivia | 167 |
| Brazil..... | 169 |
| Panama | 171 |
| Trinidad and Tobago..... | 173 |
| Uruguay | 175 |

AMERICAS - NIL (NO INVOLVEMENT)

| | |
|----------------------------|-----|
| Barbados | 177 |
| Canada | 179 |
| Saint Kitts and Nevis..... | 181 |

AMERICAS - NO RESPONSE

| | |
|----------------|-----|
| Grenada..... | 183 |
| Venezuela..... | 185 |

ASIA PACIFIC

| | |
|------------------------|-----|
| REGIONAL SUMMARY | 187 |
|------------------------|-----|

ASIA PACIFIC - LEVEL A

| | |
|-----------------|-----|
| Australia..... | 189 |
| Bangladesh..... | 192 |
| Hong Kong..... | 195 |
| India..... | 198 |
| Indonesia | 201 |
| Japan..... | 204 |
| Laos..... | 207 |
| Nepal | 209 |

| | |
|---------------------------------------|-----|
| Pakistan..... | 212 |
| Philippines | 215 |
| Republic of Korea (South Korea) | 218 |
| Thailand..... | 221 |
| Vietnam | 225 |

ASIA PACIFIC - LEVEL B

| | |
|---------------------------------------|-----|
| China | 227 |
| Cook Islands..... | 230 |
| Fiji..... | 232 |
| Kiribati..... | 234 |
| Malaysia | 236 |
| Micronesia, Federated States of | 239 |
| Mongolia | 241 |
| Palau | 244 |
| Samoa | 246 |
| Singapore | 248 |
| Solomon Islands | 251 |
| Timor-Leste..... | 254 |
| Tonga | 256 |
| Tuvalu..... | 258 |

ASIA PACIFIC - LEVEL C

| | |
|--|-----|
| Afghanistan..... | 260 |
| Brunei Darussalam | 262 |
| Cambodia | 264 |
| Democratic People's Republic of Korea (North Korea)..... | 267 |
| Maldives | 269 |
| Myanmar (formerly Burma) | 271 |
| Papua New Guinea..... | 273 |
| Sri Lanka | 275 |
| Vanuatu | 277 |

ASIA PACIFIC - NIL (NO INVOLVEMENT)

| | |
|------------------|-----|
| New Zealand..... | 279 |
|------------------|-----|

EUROPE AND CENTRAL ASIA

| | |
|------------------------|-----|
| REGIONAL SUMMARY | 281 |
|------------------------|-----|

EUROPE AND CENTRAL ASIA - LEVEL A

| | |
|---------------|-----|
| Austria | 283 |
| Belgium..... | 285 |
| Finland..... | 288 |
| Germany | 291 |
| Italy | 294 |

| | |
|-------------------|-----|
| Luxembourg | 296 |
| Spain | 298 |
| Switzerland | 301 |
| Turkey | 303 |

EUROPE AND CENTRAL ASIA - LEVEL B

| | |
|--------------------------------|-----|
| Albania | 306 |
| Azerbaijan | 308 |
| Bosnia and Herzegovina | 310 |
| Croatia | 312 |
| Cyprus | 314 |
| Czechia (Czech Republic) | 316 |
| Georgia | 318 |
| Hungary | 320 |
| Kazakhstan | 322 |
| Latvia | 324 |
| Liechtenstein | 326 |
| Macedonia | 328 |
| Montenegro | 330 |
| Norway | 332 |
| Poland | 334 |
| Russia | 336 |
| Serbia | 338 |
| Slovakia | 340 |
| Slovenia | 342 |
| Uzbekistan | 344 |

EUROPE AND CENTRAL ASIA - LEVEL C

| | |
|----------------------------|-----|
| Andorra | 346 |
| Belarus | 348 |
| Bulgaria | 350 |
| Estonia | 352 |
| Kyrgyzstan | 354 |
| Malta | 356 |
| Moldova, Republic of | 358 |
| Romania | 361 |
| Tajikistan | 363 |
| Ukraine | 365 |

EUROPE AND CENTRAL ASIA - NIL (NO INVOLVEMENT)

| | |
|---------------|-----|
| Armenia | 367 |
| Denmark | 369 |
| France | 371 |

| | |
|-----------------------|-----|
| Greece..... | 373 |
| Iceland..... | 375 |
| Ireland..... | 377 |
| Lithuania..... | 379 |
| Monaco..... | 381 |
| Netherlands, the..... | 383 |
| Portugal..... | 385 |
| San Marino..... | 387 |
| Sweden..... | 389 |
| Turkmenistan..... | 391 |
| United Kingdom..... | 393 |

MIDDLE EAST AND NORTHERN AFRICA (MENA)

| | |
|-----------------------|-----|
| REGIONAL SUMMARY..... | 395 |
|-----------------------|-----|

MENA - LEVEL A

| | |
|--------------|-----|
| Egypt..... | 397 |
| Israel..... | 400 |
| Jordan..... | 403 |
| Lebanon..... | 405 |

MENA - LEVEL B

| | |
|--------------|-----|
| Algeria..... | 408 |
| Bahrain..... | 410 |
| Iran..... | 412 |
| Iraq..... | 415 |
| Morocco..... | 417 |

MENA - LEVEL C

| | |
|--------------|-----|
| Libya..... | 419 |
| Qatar..... | 421 |
| Tunisia..... | 423 |
| Yemen..... | 425 |

MENA - NIL (NO INVOLVEMENT)

| | |
|-------------------------------------|-----|
| Palestinian Occupied Territory..... | 427 |
| Saudi Arabia..... | 429 |
| Syria..... | 431 |

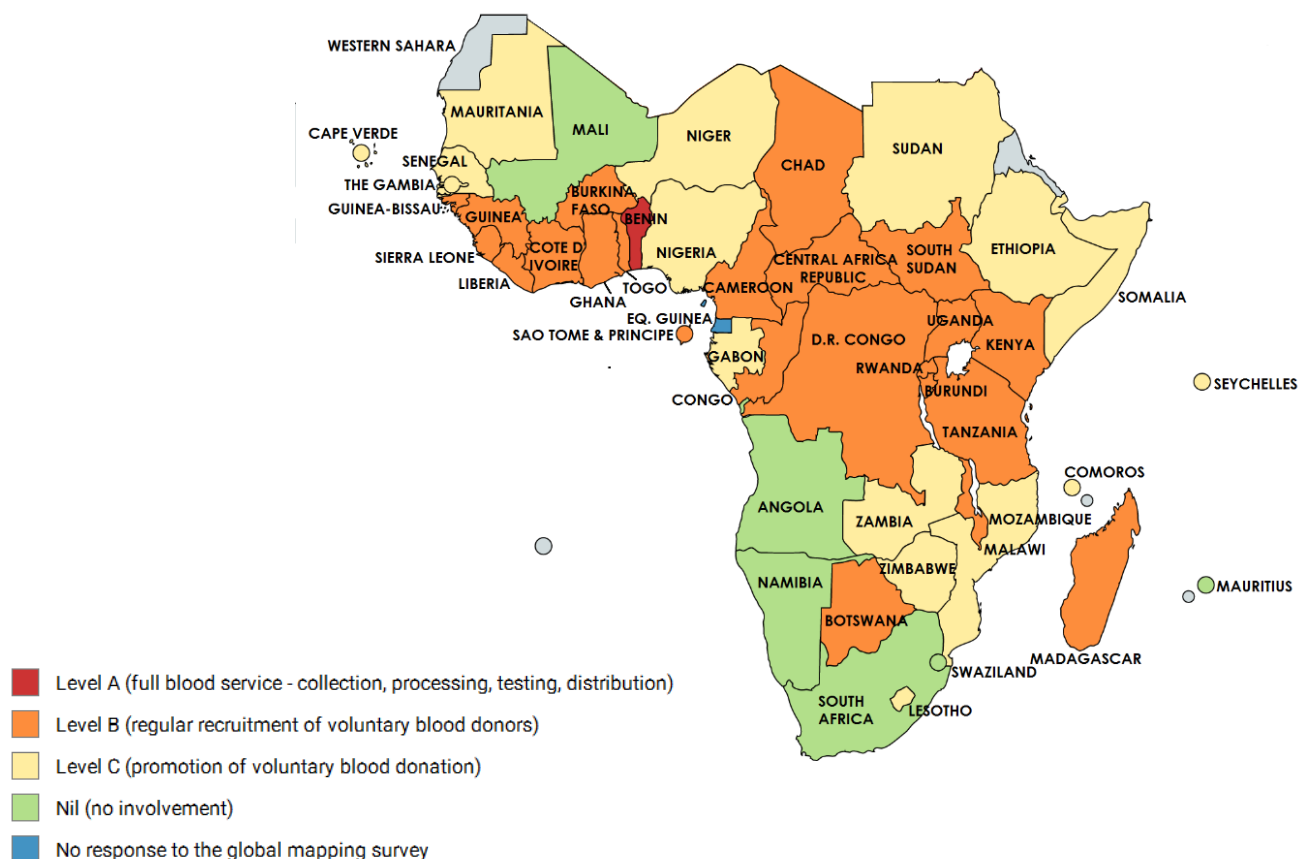
MENA - NO RESPONSE

| | |
|---------------------------|-----|
| Kuwait..... | 433 |
| United Arab Emirates..... | 435 |

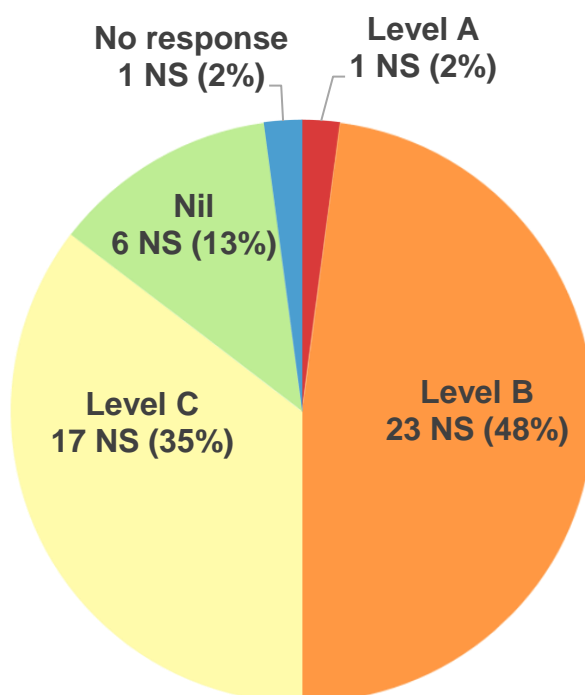
| | |
|--|-----|
| APPENDIX 1- Global Mapping Survey..... | 437 |
|--|-----|

AFRICA

NATIONAL SOCIETY (NS) INVOLVEMENT IN BLOOD PROGRAMS BY LEVEL



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TOTAL NUMBER NS = 48

FOCUS ON **LEVEL A** NATIONAL SOCIETY BLOOD SERVICES IN THE REGION

There is only one Level A country in the region

BENIN

VNRBD rate is **100%**

The NSBS provides **35% of the national blood supply**

BENIN



Red Cross of Benin:

- Level A (undertakes full blood service provision)
- 35% of the national total blood collection
- 100% VNRBD

NATIONAL CONTEXT

| | |
|--|----------------------------------|
| Location | Western Africa |
| Geographical size ranking¹ | 103 rd |
| Population (world ranking)¹ | 11 million (82 nd) |
| Median age¹ | 18.2 |
| Political system¹ | Presidential republic |
| GDP per capita (world ranking)¹ | \$2,200 (204 th) |
| HDI Index (world ranking)² | 0.485 - low (167 th) |
| Health Expenditure¹ | 4.6% of GDP |
| Population prevalence hepatitis B³ | High: ≥8% |
| Population prevalence hepatitis C⁴ | Moderate: 1.5-3.5% |
| Population prevalence HIV⁵ | 1.00% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

The blood program in Benin falls under the government's Ministry of Health and consists of the National Blood Transfusion Service, Departmental Blood Transfusion Services, blood banks, and health facility transfusion posts.⁶ Approximately 86.5% of the national blood product demand is met when there are blood products available.⁶

Data from 2013 indicates that there are approximately 40 blood centres in the country (6 stand-alone and 34 hospital-based).⁷

The number of whole blood donations in 2013 was 77,510 which included 74,016 VNRBD donors and 3494 family/replacement donations.⁷ The majority of blood transfused nationally is whole blood.⁷

The Benin national blood program has⁷:

- a specific unit within the Ministry of Health responsible for monitoring blood activities
- a system of blood cost recovery
- national standards for the collection, testing, processing, storage and distribution of blood products
- national guidelines on the clinical use of blood

According to the 2016 World Health Organisation (WHO) Global Status Report on blood safety and availability, the national blood transfusion service received international agency financial or technical support during the period of 2011-2013 from the following agencies⁷:

- Agence Belge de Développement
- APEFE (Association pour la Promotion de l'Education et de la Formation à l'Etranger),
- WBI (Wallonie-Bruxelles International)
- Bavarian Red Cross
- WHO ⁷

NATIONAL SOCIETY (RED CROSS OF BENIN)

The Red Cross of Benin (CRBe):

- operates two blood banks (in Parakou and Porto-Novo)
- annually collects 13,000-15,000 units of whole blood (2017)
- collects 35% of the national blood supply (65% is collected by the National Blood Transfusion Agency)
- processes collected blood into components
- conducts screening testing of blood for infectious disease and blood grouping
- conducts cross-matching for transfusion
- forwards plasma to a fractionation facility
- does perform transfusions
- is working towards accreditation
- does not receive technical assistance or financial support for VNRBD or blood service activities from outside the country (support from the German Red Cross ended in 2014)
- is not involved in the collection, processing or testing of cord blood stem cells, peripheral stem cells, bone marrow stem cells, bone, solid organs and corneas
- is planning to expand its current level of involvement in blood-related activities

Blood donor recruitment and retention activities are coordinated nationally, through the districts and locally by the National Society. They are funded by the government, National Society, blood service and privately. Paid staff and volunteers are used to undertake recruitment programs, such as school/university and corporate programs.

The CRBe provides technical, material and logistical support to the blood banks and technical support to blood donor associations (for training and graduation). They are a member of the Blood Bank Management Committee and there is an agreement between the Ministry of Health and CRBe for the management of blood banks in Benin.

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Feb 01]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/bn.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2018 Feb 01]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Feb 01] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

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- ⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Feb 01] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>
- ⁵ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Feb 01]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>
- ⁶ Republic of Benin, Ministry of Health General Secretariat, Directorate of Planning & Forecasting. National Health Development Plan (2009-2018) [Internet] Republic of Benin [cited 2018 Feb 01] Available from: http://www.nationalplanningcycles.org/sites/default/files/country_docs/Benin/benin_pnds_2009-2018_last_year_version_-_en_1.pdf
- ⁷ World Health Organization. The 2016 Global Status Report on Blood Safety and Availability. [Internet] World Health Organization 2017 [cited 2018 Feb 01] Available from: <http://apps.who.int/iris/bitstream/10665/254987/1/9789241565431-eng.pdf?ua=1>

BOTSWANA



Botswana Red Cross Society:

- Level B - involved in the systematic/regular recruitment of voluntary non-remunerated blood donors but with no involvement in blood collection

NATIONAL CONTEXT

| | |
|--|-------------------------------------|
| Location | Southern Africa |
| Geographical size ranking¹ | 49 th |
| Population (world ranking)¹ | 2.2 million (145 th) |
| Median age¹ | 24.5 |
| Political system¹ | Parliamentary republic |
| GDP per capita (world ranking)¹ | \$18,100 (96 th) |
| HDI Index (world ranking)² | 0.698 - medium (108 th) |
| Health Expenditure¹ | 5.4% of GDP |
| Population prevalence hepatitis B | No current data available |
| Population prevalence hepatitis C³ | Low Moderate: 1.0% - <2.0% |
| Population prevalence HIV⁴ | 21.9% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

The National Blood Transfusion Service (NBTS) falls under the responsibility of the Ministry of Health and is the single provider of blood and blood products in Botswana.⁵ Botswana has a national policy on blood transfusion principles based on 100% VNRBD.⁵ There is no cost to patients receiving a blood transfusion as the Botswana government supports all associated costs.⁶

There are two centres operating under the NBTS – the National Blood Transfusion Centre in Gaborone and the Francistown Regional Blood Transfusion Centre.⁵

Each centre consists of ⁵:

- Blood Donor Section – Responsible for recruitment, counselling, collection, apheresis and donor relations
- Laboratory Section – Responsible for testing, grouping, components and dispatch
- Quality Section – Responsible for quality, safety health and environment, and training coordination

Decentralization of blood collection started in August 2013 with collections being undertaken in Molepolole, Mahalapye, Serowe-Palapye and Maun.⁵

In 2013, there were 20,207 blood donations⁵, though the Ministry of Health states the minimum requirement for blood is 40,000 units annually.⁶

There are approximately 8,000 donors who have donated in the last two years.⁶

The Blood Donor Relation Unit recalls donors through SMS and email.⁵

Every blood donation is tested for HIV, Hepatitis B and C and Syphilis.⁶

NATIONAL SOCIETY (BOTSWANA RED CROSS)

Blood donor recruitment and retention activities are coordinated nationally by the National Society. However, there is no longer funding for recruitment and retention activities which the Botswana Red Cross Society was integrating into its service.

Volunteers are used for recruitment, with technical assistance from staff. Recruitment programs include school/university programs and Club 25.

Botswana Red Cross Society:

- does not receive technical assistance or financial support for VNRBD activities from outside the country
- is planning to expand its current level of involvement in blood-related activities to help meet the countries requirement of 40,000 pints of blood annually, through:
 - expanding to other branches which did not register with the Society for better recruitment from the community
 - partnering with schools and youth clubs in villages, to plan together and see how they can assist each other
 - working more on the pledge 25 as it is preventing further infections
- has not previously been involved in blood at Level A

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Feb 01]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/bc.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2018 Feb 01]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Feb 01] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁴ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Feb 01]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁵ Ministry of Health. Botswana. National Blood Transfusion Service Overview. <http://www.moh.gov.bw/Publications/Overview%20of%20Blood%20Transfusion%20Services.pdf>

⁶ Republic of Botswana. Ministry of Health. National Blood Transfusion Service (NBTS) [Internet] Government of Botswana 2011 [cited 2018 Feb 01]. Available from:

<http://www.gov.bw/en/Ministries--Authorities/Ministries/MinistryofHealth-MOH/Tools--Services/Services--forms/World-War--II-WWII-Veterans-Allowance/>

BURKINA FASO



Burkinabe Red Cross Society:

- Level B - involved in the systematic/regular recruitment of voluntary non-remunerated blood donors but with no involvement in blood collection

NATIONAL CONTEXT

| | |
|--|----------------------------------|
| Location | Western Africa |
| Geographical size ranking¹ | 76 th |
| Population (world ranking)¹ | 20.1 million (59 th) |
| Median age¹ | 17.3 |
| Political system¹ | Presidential republic |
| GDP per capita (world ranking)¹ | \$1,900 (209 th) |
| HDI Index (world ranking)² | 0.402 - low (185 th) |
| Health Expenditure¹ | 5% of GDP |
| Population prevalence hepatitis B³ | High: ≥8% |
| Population prevalence hepatitis C⁴ | High: ≥5% |
| Population prevalence HIV⁵ | 0.8% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

The CNTS (Centre National de Transfusion Sanguine-National Blood Transfusion Centre) in Burkina Faso provides 53% of the national blood supply.⁶ The remaining 47% is produced by independent hospital blood banks.⁶ In 21.4% of non-CNTS sites, blood donation is restricted to replacement (family) donors.⁶

In 2010 98.4% of blood was separated into components.⁷ Donations are tested for HIV, HBV, HCV and syphilis.⁷

In 2013 there were a total of 100,716 blood donations nationwide with 68,032 coming from voluntary donors.⁸

NATIONAL SOCIETY (BURKINABE RED CROSS)

GAP records for Burkina Faso indicate that the Burkinabe Red Cross Society (CRBF) were previously involved at Level A (2008).

The CRBF actively promotes blood donation through awareness-raising activities in several branches. Volunteers also contribute to mobile blood collection in collaboration with the regional blood transfusion centres through donor mobilisation and campaign coordination. All blood bank activities are managed by the Ministry of Health, though the CRBF is present on the board of directors for the National Blood Transfusion Centre.

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Feb 01]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/uv.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2018 Feb 01]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Feb 01] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Feb 01] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Feb 01]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁶ Nèbié K1, Ouattara S, Sanou M, Kientega Y, Dahourou H, Ky L, Kienou K, Diallo S, Bigirimana F, Fretz C, Murphy EL, Lefrère JJ., Poor procedures and quality control among nonaffiliated blood centers in Burkina Faso: an argument for expanding the reach of the national blood transfusion center. *Transfusion* 2011 Jul; 51(7 Pt2). <https://www.ncbi.nlm.nih.gov/pubmed/21736582>

⁷ Tapko, JB Toure, B Sambo LG. Status of blood safety in the WHO African Region – Report of the 2010 Survey. World Health Organization [Internet] 2014 [cited 2017 October 31]. Available from: <http://www.afro.who.int/sites/default/files/2017-06/status-of-blood-safety-in-the-who-african-region.pdf>

⁸ World Health Organization. The 2016 Global Status Report on Blood Safety and Availability. [Internet] World Health Organization 2017 [cited 2018 Feb 01] Available from: <http://apps.who.int/iris/bitstream/10665/254987/1/9789241565431-eng.pdf?ua=1>

BURUNDI



Burundi Red Cross:

- Level B - involved in the systematic/regular recruitment of voluntary non-remunerated blood donors but with no involvement in blood collection

NATIONAL CONTEXT

| | |
|--|----------------------------------|
| Location | Central Africa |
| Geographical size ranking¹ | 147 th |
| Population (world ranking)¹ | 11.4 million (78 th) |
| Median age¹ | 17.0 |
| Political system¹ | Presidential republic |
| GDP per capita (world ranking)¹ | \$800 (228 th) |
| HDI Index (world ranking)² | 0.404 - low (184 th) |
| Health Expenditure¹ | 7.5% of GDP |
| Population prevalence hepatitis B³ | High: ≥8% |
| Population prevalence hepatitis C⁴ | Low: 1.0 - <1.5% |
| Population prevalence HIV⁵ | 1.1% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

In Burundi, blood transfusion is provided by the National Blood Transfusion Centre (CNTS) supported by the four Regional Blood Transfusion Centres (CRTS) and 30 blood banks (2009 data).⁶ Though it falls under the Ministry of Public Health, it operates autonomously.⁷

Difficulties faced by the CNTS in the past are generally those seen commonly in similarly placed countries, and include insufficient human resources and expertise, lack of infrastructure, lack of training resources, current standard operating procedures and guides and a lack of computerised systems all of which are compounded by limited funds being available.⁶ Blood safety is also threatened by the high prevalence of HIV / AIDS and other blood borne diseases in the population.⁶

Burundi reported having achieved 100% VNRBD in 2008.⁸ A resurgence of malaria increased the demand for blood in 2009 which resulted in 53 replacement donors (0.18%) being accepted with the remainder of blood collected from voluntary donors.⁶

In 2014, budget cuts and bureaucracy were blamed for blood shortages and led to calls for an overhaul of the transfusion system.⁹ To collect a minimum average of 4,000 units of blood per month, the CNTS needs an annual US\$775,000 to function properly but only received US\$370,000 in 2014.^{9,10}

NATIONAL SOCIETY (BURUNDI RED CROSS)

The Burundi Red Cross is heavily involved in the recruitment of voluntary donors and conducts outreach / community education on the voluntary blood donation. It also provides logistical support during the blood collection.

Blood donor recruitment and retention activities are coordinated nationally by the National Society. They are funded by government or Ministry of Health and by the National Society.

The Burundi Red Cross:

- uses volunteers for donor recruitment programs, such as Club 25
- does not receive technical assistance or financial support for VNRBD activities from outside the country
- was previously involved in blood at Level A
- signed an agreement in 1988 with the Burundian Government through its Ministry for Health to define the responsibilities of each in relation to the blood service
- is responsible for raising awareness and community mobilization for voluntary blood donation, while the Burundian Government is responsible for the collection, processing and distribution of blood to the recipient
- does not plan to expand or scale back its level of blood related activities

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Feb 01]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/by.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2018 Feb 01]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Feb 01] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Feb 01] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Feb 01]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁶ Centre National de Transfusion Sanguine- Rapport annuel 2009. (2009 Annual Report of the National Transfusion Centre in Burundi – in French). Available from <https://www.minisante.bi/index.php/Programmes/cnts>.

⁷ Republique du Burundi. Centre National de Transfusion Sanguine (CNTS) [Internet] Republique du Burundi 2018 Jan 12 [cited 2018 Feb 01]. Available from: <https://www.minisante.bi/index.php/programmes/cnts>

⁸ World Health Organization. Countries that reported having achieved 100% voluntary non-remunerated blood donation in 2008. [Internet] World Health Organization 2011 Jun [cited 2018 Feb 01]. Available from: http://www.who.int/bloodsafety/voluntary_donation/countries_100pct_vnrbd_2011.pdf?ua=1

⁹ IRIN. Blood woes in Burundi. IRIN News [Internet] 2017 Aug 27 [cited 2018 Feb 01]. Available from: <http://www.irinnews.org/report/100544/blood-woes-burundi>

¹⁰ Cavallaro A. Burundi's blood shortage. Borgen Magazine. [Internet] 2014 Sept 18 [cited 2018 Feb 01]. Available from: <http://www.borgenmagazine.com/burundis-blood-shortage/>

CAMEROON



Cameroon Red Cross Society:

- Level B - involved in the systematic/regular recruitment of voluntary non-remunerated blood donors but with no involvement in blood collection

NATIONAL CONTEXT

| | |
|--|----------------------------------|
| Location | Central Africa |
| Geographical size ranking¹ | 55 th |
| Population (world ranking)¹ | 24.9 million (53 rd) |
| Median age¹ | 18.5 |
| Political system¹ | Presidential republic |
| GDP per capita (world ranking)¹ | \$3,400 (188 th) |
| HDI Index (world ranking)² | 0.518 - low (153 rd) |
| Health Expenditure¹ | 4.1% of GDP |
| Population prevalence hepatitis B³ | High: ≥8% |
| Population prevalence hepatitis C⁴ | High: ≥5% |
| Population prevalence HIV⁵ | 3.8% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

The National Blood Transfusion Program (NBTP) was created by a Prime Ministerial order on 18 March 2013 and is the responsibility of the Ministry of Public Health.⁶ Through the US President's Emergency Plan for AIDS Relief (PEPFAR) program, the U.S. Government has been providing financial and technical support for increased blood collection using mobile collection units and also increasing the capacity and infrastructure of blood services to store, test, treat, distribute and transfuse blood and blood products that are safe.⁷

From 2016, PEPFAR started to transition the responsibility of blood donor mobilisation, advocacy and blood collection back to the Government of Cameroon.⁷ By end of 2017, it was planned that another 15 blood banks were transitioned back to the government, as the Ministry of Health regained fiscal responsibility for them.⁷

NATIONAL SOCIETY (CAMEROON RED CROSS)

In 2016, 3961 people donated blood with the assistance of the Cameroon Red Cross Society, an increase from 180 the year before.⁸

Blood donor recruitment and retention activities are nationally coordinated by the National Society, and are funded by the government and National Society.

The Cameroon Red Cross Society:

- use volunteers for donor recruitment programs (school / university, corporate programs, Club 25 still in experimentation)
- does not receive technical assistance or financial support for VNRBD activities from outside the country
- has not previously been involved at Level A
- with financial support it is planning to expand its level of involvement in blood related activities to make blood available for treatment of diseases such as malaria, cancer, childbirth complications, accidents and disasters

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Feb 01]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/cm.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2018 Feb 01]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Feb 01] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Feb 01] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Feb 01]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁶ World Health Organisation Africa, Cameroon. National Blood Transfusion Program [Internet] World Health Organization 2013 [cited 2018 Feb 01]. Available from: <http://www.afro.who.int/news/national-blood-transfusion-program>

⁷ United States Department of State. Cameroon Country/Regional Operational Plan COP/ROP 2015 Strategic Direction Summary [Internet] 2015 Aug 07 [cited 2018 Feb 01]. Available from: <https://www.pepfar.gov/documents/organization/250280.pdf>

⁸ The International Federation of Red Cross and Red Crescent Societies. Cameroon Red Cross Society [Internet] The International Federation of Red Cross and Red Crescent Societies 2016 [cited 2018 Feb 01]. Available from: <http://data.ifrc.org/dfs/societies/cameroon-red-cross-society>

CENTRAL AFRICAN REPUBLIC



Central African Red Cross Society:

- Level B - involved in the systematic/regular recruitment of voluntary non-remunerated blood donors but with no involvement in blood collection

NATIONAL CONTEXT

| | |
|--|----------------------------------|
| Location | Central Africa |
| Geographical size ranking¹ | 46 th |
| Population (world ranking)¹ | 5.6 million (115 th) |
| Median age¹ | 19.7 |
| Political system¹ | Presidential republic |
| GDP per capita (world ranking)¹ | \$700 (229 th) |
| HDI Index (world ranking)² | 0.352 - low (188 th) |
| Health Expenditure¹ | 4.2% of GDP |
| Population prevalence hepatitis B³ | High: ≥8% |
| Population prevalence hepatitis C⁴ | High: ≥5% |
| Population prevalence HIV⁵ | 4% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

The National Centre of Blood Donation in the Central African Republic is run by the Health Department. Central African Republic reported having achieved 100% VNRBD in 2008 ⁶, but a rate of 68% was reported in 2010. ⁷

In 2010, 100% of blood was separated into components.⁷

NATIONAL SOCIETY (CENTRAL AFRICAN RED CROSS)

The Central African Red Cross has a close relationship with the Ministry of Health (MoH), recruiting blood donors from the population and Red Cross volunteers (12,000)

In 2015, 333 people donated blood with the assistance of the Central African Red Cross Society, this was a decrease from 460 in 2014.⁸

Donor recruitment activities include educational campaigns, media and local communications in towns.

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- ¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Feb 14]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/ct.html>
- ² United Nations Development Programme. Human Development Report 2016 [Internet] 2016 [cited 2018 Feb 14]. Available from: <http://hdr.undp.org/en>
- ³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Feb 14] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>
- ⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Feb 14] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>
- ⁵ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Feb 14]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>
- ⁶ World Health Organisation. Countries that reported having achieved 100% voluntary non-remunerated blood donation in 2008. [Internet] 2011 [cited 2018 Feb 14]. Available from: http://www.who.int/bloodsafety/voluntary_donation/countries_100pct_vnrbd_2011.pdf?ua=1
- ⁷ Tapko JB, Toure B, Sambo LG. Status of blood safety in the WHO African Region – Report of the 2010 Survey. World Health Organization [Internet] 2014 [cited 2018 Feb 14]. Available from: <http://www.afro.who.int/sites/default/files/2017-06/status-of-blood-safety-in-the-who-african-region.pdf>
- ⁸ The International Federation of Red Cross and Red Crescent Societies. Federation-Wide Databank and Reporting System. National Society Profiles - Central African Red Cross Society [Internet] 2016 [cited 2018 Feb 14]. Available from: <http://data.ifrc.org/fdrs/societies/central-african-red-cross-society>

CHAD



Red Cross of Chad:

- Level B - involved in the systematic/regular recruitment of voluntary non-remunerated blood donors but with no involvement in blood collection

NATIONAL CONTEXT

| | |
|--|----------------------------------|
| Location | Central Africa |
| Geographical size ranking¹ | 22 nd |
| Population (world ranking)¹ | 12 million (75 th) |
| Median age¹ | 17.8 |
| Political system¹ | Presidential republic |
| GDP per capita (world ranking)¹ | \$2,400 (199 th) |
| HDI Index (world ranking)² | 0.392 - low (185 th) |
| Health Expenditure¹ | 3.6% of GDP |
| Population prevalence hepatitis B³ | 11.8% |
| Population prevalence hepatitis C⁴ | High: ≥5% |
| Population prevalence HIV⁵ | 1.3% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

Chadina National Blood Transfusion Center was established in 1972.⁶ In 2016, the voluntary donation rate was reported as 14% for the capital N'Djamena, and 5% for the whole country.⁶

In 2013, there was a total of 69,265 blood donations, with 4,310 of those from voluntary donors (approximately 6% VNRBD).⁷

NATIONAL SOCIETY (RED CROSS OF CHAD)

In 2016, 500 people donated blood with the assistance of the Red Cross of Chad.⁸

Blood donor recruitment and retention activities are coordinated nationally and funded by the National Society.

The Red Cross of Chad:

- uses volunteers for donor recruitment programs such as Club 25
- does not receive technical assistance or financial support for VNRBD activities from outside the country
- has not previously been involved in blood at Level A
- is planning to expand its level of involvement in blood-related activities

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Feb 01]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/cd.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2018 Feb 01]. Available from: <http://hdr.undp.org/en>

³ Bigna JJ, Amougou MA, Asangbeh SL, Kenne AM, Noumegni SR, Ngo-Malabo ET, Noubiap JJ. Seroprevalence of hepatitis B virus infection in Cameroon: a systematic review and meta-analysis BMJ Open [Internet]. 2017 [cited 2018 Feb 01]; 7:e015298. Available from: <http://bmjopen.bmj.com/content/7/6/e015298> D.O.I: 10.1136/bmjopen-2016-015298

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Feb 01] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Feb 01]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁶ UN staff launch blood donation campaign. News Ghana [Internet] 2016 Oct 21 [cited 2018 Feb 01]. Available from: <https://www.newsghana.com.gh/un-staff-in-chad-launch-blood-donation-campaign/>

⁷ World Health Organization. The 2016 Global Status Report on Blood Safety and Availability. [Internet] World Health Organization 2017 [cited 2018 Feb 01] Available from: <http://apps.who.int/iris/bitstream/10665/254987/1/9789241565431-eng.pdf?ua=1>

⁸ The International Federation of Red Cross and Red Crescent Societies. Red Cross of Chad [Internet] The International Federation of Red Cross and Red Crescent Societies 2016 [cited 2018 Feb 01]. Available from: <http://data.ifrc.org/dfs/societies/red-cross-of-chad>

CONGO, DEMOCRATIC REPUBLIC OF THE



Red Cross of the Democratic Republic of the Congo:

- Level B - involved in the systematic/regular recruitment of voluntary non-remunerated blood donors but with no involvement in blood collection

NATIONAL CONTEXT

| | |
|--|----------------------------------|
| Location | Central Africa |
| Geographical size ranking ¹ | 12 th |
| Population (world ranking) ¹ | 83.3 million (16 th) |
| Median age ¹ | 18.6 |
| Political system ¹ | Semi-presidential republic |
| GDP per capita (world ranking) ¹ | \$800 (227 th) |
| HDI Index (world ranking) ² | 0.435 - low (176 th) |
| Health Expenditure ¹ | 4.3% of GDP |
| Population prevalence hepatitis B ³ | High Intermediate: 5% - 7% |
| Population prevalence hepatitis C ⁴ | High Moderate: 2.0% - <5.0% |
| Population prevalence HIV ⁵ | 0.7% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

A national blood transfusion policy is in place and the Ministry of Health coordinates transfusion activities in each province through their national technical office. **Error! Bookmark not defined.**

From 2001 to 2012, there was major progress made in blood transfusion safety and activities - 112,882 volunteer blood donors were mobilized; more than 80% of blood products were checked for safety; all blood needs were covered; and 7560 people were trained in blood transfusion. **Error! Bookmark not defined.**

NATIONAL SOCIETY (RED CROSS OF THE DEMOCRATIC REPUBLIC OF THE CONGO)

The Red Cross of the Democratic Republic of the Congo is involved in blood donor recruitment through the mobilization of donors, coordinated from the Red Cross headquarters.

They organise voluntary donation campaigns for the various blood banks in Kinshasa where volunteers and members of the public come to donate, as well as undertaking recruitment activities in various other provinces of DRC. They also work closely with the National Blood Transfusion Centre to do this.

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Feb 05]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/cg.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2018 Feb 05]. Available from: <http://hdr.undp.org/en>

³Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Feb 05] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Feb 05] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Feb 05]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

CONGO, REPUBLIC OF



Congolese Red Cross:

- Level B - involved in the systematic/regular recruitment of voluntary non-remunerated blood donors but with no involvement in blood collection

NATIONAL CONTEXT

| | |
|--|-------------------------------------|
| Location | Central Africa |
| Geographical size ranking¹ | 65 th |
| Population (world ranking)¹ | 4.9 million (122 nd) |
| Median age¹ | 19.7 |
| Political system¹ | Presidential republic |
| GDP per capita (world ranking)¹ | \$6,700 (162 nd) |
| HDI Index (world ranking)² | 0.592 - medium (135 th) |
| Health Expenditure¹ | 5.2% of GDP |
| Population prevalence hepatitis B³ | High: ≥8% |
| Population prevalence hepatitis C⁴ | High: ≥5% |
| Population prevalence HIV⁵ | 3.1% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

The French government contributed to the costs of establishing the National Blood Transfusion Centre (Centre National de Transfusion Sanguine) in Brazzaville, a regional centre in Pointe-Noire and eight transfusion posts at outlying regional sites.⁶

As part of the country's efforts to address the spread of HIV/AIDS, the World Bank renovated the National Blood Transfusion Centre and presented it to the Congolese government in September 2003.⁷

In 2010 35.5% of donations were VNRBD, and 20.5% of donations were separated into components.⁸

Ebola virus has been present in the northern region of the country.⁹

NATIONAL SOCIETY (CONGOLESE RED CROSS)

The Congolese Red Cross works with the National Centre for Blood Transfusion in the Congo and is the primary source for mobilizing blood donors through their volunteers.

Improving blood donor supply and educating donors on healthy, risk-free behaviours was one of the long term planning outputs for 2012-2015 for the Congolese Red Cross.¹⁰

- ¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Feb 05]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/cf.html>
- ² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2018 Feb 05]. Available from: <http://hdr.undp.org/en>
- ³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Feb 05] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>
- ⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Feb 05] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>
- ⁵ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Feb 05]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>
- ⁶ IFC Against AIDS – Partnerships list. Congo Brazza [Internet] IFC Against AIDS 2003 May 08 [cited 2018 Feb 05]. Available from: <http://allafrica.com/download/resource/main/main/00010431:4c66711496c657de397e42a34f47310f.pdf>
- ⁷ IRIN. Congo: World Bank rehabilitates Brazzaville blood transfusion centre. IRIN [Internet] UN Office for the Coordination of Humanitarian Affairs 2003 [cited 2018 Feb 05]. Available from: <https://reliefweb.int/report/congo/congo-world-bank-rehabilitates-brazzaville-blood-transfusion-centre>
- ⁸ Tapko, JB Toure, B Sambo LG. Status of blood safety in the WHO African Region – Report of the 2010 Survey. World Health Organization [Internet] 2014 [cited 2017 October 31]. Available from: <http://www.afro.who.int/sites/default/files/2017-06/status-of-blood-safety-in-the-who-african-region.pdf>
- ⁹ Revol D. Fighting superstition in Congo's Ebola zone. International Federation of the Red Cross and Red Crescent Societies [Internet] 2003 Apr 08 [cited 2018 Feb 05]. Available from: <http://www.ifrc.org/en/news-and-media/news-stories/africa/congo-republic-of/fighting-superstition-in-congos-ebola-zone/>
- ¹⁰ International Federation of the Red Cross and Red Crescent Societies. Central Africa 2012-2015 Long Term Planning Framework 2014 Annual Report [Internet] International Federation of the Red Cross and Red Crescent Societies 2015 April 30 [cited 2018 Feb 05]. Available from: <http://adore.ifrc.org/Download.aspx?FileId=79947>

CÔTE D'IVOIRE



Red Cross Society of Côte d'Ivoire:

- Level B - involved in the systematic/regular recruitment of voluntary non-remunerated blood donors but with no involvement in blood collection.

NATIONAL CONTEXT

| | |
|--|----------------------------------|
| Location | Western Africa |
| Geographical size ranking¹ | 70 th |
| Population (world ranking)¹ | 24.1 million (54 th) |
| Median age¹ | 20.9 |
| Political system¹ | Presidential republic |
| GDP per capita (world ranking)¹ | \$3,900 (181 st) |
| HDI Index (world ranking)² | 0.474 - low (171 st) |
| Health Expenditure¹ | 5.7% of GDP |
| Population prevalence hepatitis B³ | High: ≥8% |
| Population prevalence hepatitis C⁴ | High Moderate: 2.0% - <5.0% |
| Population prevalence HIV⁵ | 2.70% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

The National Blood Transfusion Service (NBTS) is responsible for all blood related activities including donor recruitment and retention, collection, testing, processing, storing and distributing blood and products across the country to over 200 hospitals.⁶ It performs these tasks as per WHO guidelines.⁶

The national blood system is comprised of a large central blood bank in Abidjan which undertakes collection of blood, testing and distribution.⁷ There are also another two collection and testing sites in Daloa and Yamoussoukro.⁷ In addition, there are 19 collection sites throughout the country and 110 blood bank storage units in hospitals.⁷

The NBTS' ability to meet the national demand for safe blood has been achieved with the support of the US President's Emergency Plan for AIDS Relief (PEPFAR) in the following ways⁶:

- the acquisition of cold-chain equipment
- rehabilitation of laboratories and blood collection sites
- expanding technology for tracking use of blood and blood products
- provision of reagents and other key commodities for testing blood units
- support for the validation of national blood transfusion guidelines and updating of training modules for health care professionals.⁶

The NBTS is also now able to separate whole blood into blood products and to collect blood directly into paediatric-size bags.⁶

100% VNRBD was reported in Cote d' Ivoire in 2008.⁸ NBTS donor recruitment activities include establishing donor groups in schools, churches, and in the workplace. Rigorous pre-screening questionnaires are in place to ensure the most low-risk donors are recruited.⁶

Blood shortages and lack of equipment have been reported in some regions.⁹

NATIONAL SOCIETY (RED CROSS OF CÔTE D'IVOIRE)

The Côte d'Ivoire Red Cross supports the Ministry of Health National Blood Transfusion Service through blood donor recruitment and registration, and the organisation of blood collection days.¹⁰

According to the GAP global mapping survey, the National Society acknowledged that Côte d'Ivoire has not yet achieved a self-sufficient blood supply and the Red Cross Society would like to contribute to achieving this goal.

Community education activities are coordinated nationally and through local branches. They are funded by the National Society (local branches are self-funding).

The Côte d'Ivoire Red Cross Society:

- does not receive technical assistance or financial support for VNRBD activities from outside the country
- is planning to expand its current level of involvement in blood-related activities to develop and retain voluntary donor networks through "Club 25"

According to the IFRC Federation-wide databank and reporting system (FDRS), in 2015, 455 people donated blood with the assistance of the Red Cross Society of Côte d'Ivoire.¹¹

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Feb 01]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/iv.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2018 Feb 01]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Feb 01] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Feb 01] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Feb 01]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁶ PEPFAR Cote d'Ivoire Operational Plan Report [Internet] 2012 [cited 2017 August 22]. Available from: www.pepfar.gov/documents/organization/145716.pdf

⁷ Delaney, Meghan (Medical Director, Children's National Health System, Washington DC). Cote d'Ivoire blood program. Message to: GAP Secretariat (WA). 2017 Nov 28 [cited 2018 Feb 23]. [about 1 screen].

⁸ World Health Organization. Countries that reported having achieved 100% voluntary non-remunerated blood donation in 2008. [Internet] World Health Organization 2011 Jun [cited 2018 Feb 01]. Available from: http://www.who.int/bloodsafety/voluntary_donation/countries_100pct_vnrbd_2011.pdf?ua=1

⁹ Blood shortages causing deaths in the West. IRIN. [Internet]. 2012 January 4 [cited 2017 August 22]. Available from: <http://www.irinnews.org/feature/2012/01/04/blood-shortages-causing-deaths-west>

¹⁰ Croix-Rouge Cote D'Ivoire. Don de sang [Internet] Croix-Rouge Cote D'Ivoire 2017 [cited 2017 June 20]. Available from: <http://www.croixrougeci.org/don-de-sang/>

¹¹ The International Federation of Red Cross and Red Crescent Societies. Red Cross Society of Cote d'Ivoire [Internet] The International Federation of Red Cross and Red Crescent Societies 2016 [cited 2017 August 22]. Available from: <http://data.ifrc.org/fdrs/societies/red-cross-society-of-cote-d-ivoire>

GHANA



Ghana Red Cross Society:

- Level B - involved in the systematic/regular recruitment of voluntary non-remunerated blood donors but with no involvement in blood collection.

NATIONAL CONTEXT

| | |
|--|-------------------------------------|
| Location | Western Africa |
| Geographical size ranking¹ | 83 rd |
| Population (world ranking)¹ | 27.5 million (49 th) |
| Median age¹ | 21.1 |
| Political system¹ | Presidential republic |
| GDP per capita (world ranking)¹ | \$4,600 (173 rd) |
| HDI Index (world ranking)² | 0.579 - medium (140 th) |
| Health Expenditure¹ | 3.6% of GDP |
| Population prevalence hepatitis B³ | High: ≥8% |
| Population prevalence hepatitis C⁴ | High: ≥5% |
| Population prevalence HIV⁵ | 1.6% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

The Ghana National Blood Service is overseen by the Ghana Ministry of Health⁶. Its directive is as per WHO guidelines for blood safety and to ensure blood products are available to all public and private patients in a timely manner, and that they are accessible and affordable⁶.

The National Blood Service coordinates all blood related activities, including processing and supply of blood and blood products, developing a national haemovigilance system and conducting relevant research to promoting 100% VNRBD, developing and implementing a national quality system, monitoring and evaluation of activities and implementing an appropriate information system.⁶ In 2013, 122,943 units were collected; 33% of blood donations are VNRBD; and 67% were from family/replacement donors.⁷

NATIONAL SOCIETY (GHANA RED CROSS)

In 2013, 800 people donated blood with the assistance of the Ghana Red Cross Society. The Ghana Red Cross Society coordinates donor recruitment and retention activities by district/chapter. Activities are funded by private organisations.

The Ghana Red Cross Society:

- uses both paid staff and volunteers for donor recruitment programs (youth clubs, Club 25 and corporate programs)
- does not receive technical assistance or financial support for VNRBD activities from outside the country
- has not previously been involved at Level A
- is not planning to expand their current level of activity

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Feb 01]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/gh.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2018 Feb 01]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Feb 01] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Feb 01] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Feb 01]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁶ National Blood Service, Ghana. Service Charter [Internet] National Blood Service 2016 June [cited 2018 Feb 05]. . Available from: <http://nbsghana.org/wp-content/uploads/2010/08/NBSG-Service-Charter-08.06.16.pdf>

⁷ Mamaye Factsheet on Ghana's blood services 2014 www.mamaye.org/sites/default/files/Blood%20factsheet_2014.pdf

GUINEA



Red Cross Society of Guinea:

- Level B - involved in the systematic/regular recruitment of voluntary non-remunerated blood donors but with no involvement in blood collection

NATIONAL CONTEXT

| | |
|--|----------------------------------|
| Location | Western Africa |
| Geographical size ranking¹ | 80 th |
| Population (world ranking)¹ | 12.4 million (74 th) |
| Median age¹ | 18.9 |
| Political system¹ | Presidential republic |
| GDP per capita (world ranking)¹ | \$2,000 (208 th) |
| HDI Index (world ranking)² | 0.414 - low (183 rd) |
| Health Expenditure¹ | 5.6% of GDP |
| Population prevalence hepatitis B³ | High: ≥8% |
| Population prevalence hepatitis C⁴ | High: ≥5% |
| Population prevalence HIV⁵ | 1.5% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

In Guinea, there is one National Center for Blood Transfusion (CNTS) and four existing regional centres with screening of blood only performed in Conakry, as the only centre to have adequate equipment and trained staff.⁶ The Ministry of Health did have plans in 2015 to refurbish the blood centres.⁶

Before the Ebola outbreak in 2014⁷, 10% of collected blood in the country came from voluntary non-remunerated donors, after the outbreak, those donations went down to 4% and the blood system was on the verge of collapse.⁶

After the discovery of treating Ebola patients with blood and plasma transfusions and the increase in associated funding, WHO issued guidance and recommendations to promote plasma collection and processing⁸ and there is now hope the limited capacity blood service could be improved with new equipment and training for plasma collection being received from the Bill and Melinda Gates Foundation.⁶

NATIONAL SOCIETY (RED CROSS OF GUINEA)

The Red Cross Society of Guinea Health Department is a partner of the CNTS, and performs mobilisation of the community for blood donation. The volunteers of the Guinea Red Cross are engaged in recruitment of candidates for blood donation, CNTS staff perform the actual blood collection. This socialization is performed throughout the country by Red Cross volunteers, who also help in the decentralized centres.

The Red Cross Society of Guinea organizes three or four blood collection sessions per year, with about 60 to 150 units of whole blood collected per session. Donor recruitment activities are restricted due to budget.

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Feb 01]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/gv.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2018 Feb 01]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Feb 01] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Feb 01] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Feb 01]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁶ World Health Organization. Improved blood systems in Ebola-affected countries expected to be positive outcome [Internet] World Health Organization 2015 Apr [cited 2018 Feb 12]. Available from: <http://www.who.int/features/2015/blood-plasma-ebola-context/en/>

⁷ Centers for Disease Control and Prevention. 2014-2016 Ebola Outbreak in West Africa [Internet] Centers for Disease Control and Prevention 2016 Oct 21 [cited 2018 Feb 05]. Available from: <https://www.cdc.gov/vhf/ebola/outbreaks/2014-west-africa/index.html>

⁸ Delamou A, Haba NY, Mari-Saez A, Gallian P, Ronse M, Jacobs J, Camara BS, Kadio KJ, Guemou A, Kolie JP, De Crop M, Chavarin P, Jacquot C, Lazaygues C, De Weggheleire A, Lynen L, van Griensven J. Organizing the Donation of Convalescent Plasma for a Therapeutic Clinical Trial on Ebola Virus Disease: The Experience in Guinea. Am. J. Trop. Med. Hyg [Internet]. 2016 [cited 2018 Feb 05];95(3):647-653. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5014273/pdf/tropmed-95-647.pdf>

GUINEA-BISSAU



Red Cross Society of Guinea-Bissau:

- Level B - involved in the systematic/regular recruitment of voluntary non-remunerated blood donors but with no involvement in blood collection

NATIONAL CONTEXT

| | |
|--|----------------------------------|
| Location | Western Africa |
| Geographical size ranking¹ | 138 th |
| Population (world ranking)¹ | 1.8 million (152 nd) |
| Median age¹ | 20 |
| Political system¹ | Semi-presidential republic |
| GDP per capita (world ranking)¹ | \$1,800 (213 th) |
| HDI Index (world ranking)² | 0.424 - low (178 th) |
| Health Expenditure¹ | 5.6% of GDP |
| Population prevalence hepatitis B³ | High: >8% |
| Population prevalence hepatitis C⁴ | Moderate: 1.5-3.5% |
| Population prevalence HIV⁵ | 3.10% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

In 2013, 28% of donations were VNRBD, 4,006 units of whole blood were issued for transfusion, and some paid donations were also accepted.⁶ A campaign was organised for World Blood Donor Day at the National Blood Service at the National Hospital Simão Mendes to address low emergency blood stock shortages and encourage people who were afraid to donate due to lack of information or cultural reasons.⁷

The National Red Cross supports the national blood service.⁸

NATIONAL SOCIETY (RED CROSS OF GUINEA-BISSAU)

The Red Cross Society of Guinea-Bissau coordinates donor recruitment and retention activities at a national level and by district/chapter. Activities are funded by the government and Ministry of Health.

The Red Cross Society of Guinea-Bissau:

- uses volunteers for donor recruitment programs (school/university programs and corporate programs)
- does not receive technical assistance or financial support for VNRBD activities from outside the country
- was previously involved at Level A, however the National Society could not maintain the capacity to continue at that level
- is planning to expand their current level of activity

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2017 October 31]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/pu.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2018 Feb 01]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Feb 01] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Feb 01] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Feb 01]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁶ World Health Organization. The 2016 Global Status Report on Blood Safety and Availability. [Internet] World Health Organization 2017 [cited 2018 Feb 12] Available from: <http://apps.who.int/iris/bitstream/10665/254987/1/9789241565431-eng.pdf?ua=1>

⁷ UNIOGBIS. News. Blood Donor Day: Guinea-Bissau Hospitals Short of Blood, People Afraid to Give [Internet] 2015 June 12 [cited 2017 October 31]. Available from: <https://uniogbis.unmissions.org/en/blood-donor-day-guinea-bissau-hospitals-short-blood-people-afraid-give>

⁸ World Health Organization. Current Status on Blood Safety and Availability in the WHO African Region, Report of the 2013 Survey. [Internet] World Health Organization Regional Office for Africa, Brazzaville 2017 [cited 2018 Feb 12]. Available from: <http://www.afro.who.int/sites/default/files/2017-06/9789290233480-eng.pdf>

KENYA



Kenya Red Cross Society:

- Level B - involved in the systematic/regular recruitment of voluntary non-remunerated blood donors but with no involvement in blood collection

NATIONAL CONTEXT

| | |
|--|-------------------------------------|
| Location | Eastern Africa |
| Geographical size ranking¹ | 50 th |
| Population (world ranking)¹ | 47.6 million (30 th) |
| Median age¹ | 19.7 |
| Political system¹ | Presidential republic |
| GDP per capita (world ranking)¹ | \$3,500 (187 th) |
| HDI Index (world ranking)² | 0.555 - medium (146 th) |
| Health Expenditure¹ | 5.7% of GDP |
| Population prevalence hepatitis B³ | High Intermediate: 5% - 7% |
| Population prevalence hepatitis C⁴ | Low: 1.0-<1.5% |
| Population prevalence HIV⁵ | 5.4% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

The Kenya National Blood Transfusion Services (KNBTS) was established by the Ministry of Health (MOH) in 2000, and entrusted with the responsibility of managing the blood collection and transfusion nationally in Kenya.⁶ KNBTS is situated at National Public Health Labs grounds in Kenyatta National Hospital Nairobi, with six Regional Blood Transfusion Centres and fourteen Satellite Centres around the country.⁶ The first blood policy and guidelines were initiated in 2001, and the country now also has National Blood Transfusion Standards, a haemovigilance manual for hospitals and guidelines for appropriate use of blood and blood products.⁶ The KNBTS is in the process of implementing a vein to vein blood bank management system in all centres.⁶

The core components of KNBTS include:

- specific unit within MOH for coordination, program management and monitoring of the blood system throughout the country
- advisory body bringing together major stake holders formulating policy and plans, setting standards and advising on key issues

- BTS involved in donor recruitment, collections, testing, processing, storage and distribution of blood and blood products
- hospital blood banks - clinical transfusion services and hospital transfusion committees (HTCs) for timely provision of compatible blood and its safe and appropriate use

Kenya has reported 100% VNRBD since 2011.⁷

In 2015, 155,000 units of blood were collected, with the national requirement estimated to be 400,000 units.⁸ 80% of blood donors are between 16 and 25 years.⁸

NATIONAL SOCIETY (KENYA RED CROSS)

To ensure safety, quality accessible and timely availability of blood and blood products KRCS focuses on blood donor recruitment and mobilization. The activities of focus include:

- advocacy campaigns, sensitization and public education through blood donor awareness creation for potential blood donor mobilization
- taking the lead in mobilization of blood donors during emergency situations
- policy, strategy and guidelines development and dissemination of blood donor services.
- recruitment of blood donors through community activities such as increasing emphasis of the Pledge 25 and social media mobilization through the Kenya Red Cross application
- supporting data feedback to DHS, which will guide policy formulations in haemovigilance and strengthen laboratory systems to enhance quality
- support in branding and marketing of blood donation and rolling out static sites for blood donation within the major towns and within the counties. Promotion of walk in donors to drop in collection centres in high traffic areas in major cities in the country.

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Feb 12]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/ke.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2018 Feb 12]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Feb 12] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Feb 12] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Feb 12]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁶ Ministry of Health. Kenya National Blood Transfusion Service [Internet] Kenya National Blood Transfusion Service 2016 [cited 2018 Feb 12]. Available from: <http://www.nbtskenya.or.ke/>

⁷ World Health Organization. The 2016 Global Status Report on Blood Safety and Availability. [Internet] World Health Organization 2017 [cited 2018 Feb 12] Available from: <http://apps.who.int/iris/bitstream/10665/254987/1/9789241565431-eng.pdf?ua=1>

⁸ Odhiambo, Rhoda. Blood donations fail to meet required target. The Star [Internet] 2016 Jun 14 [cited 2018 Feb 12]. Available from: http://www.the-star.co.ke/news/2016/06/14/blood-donations-fail-to-meet-required-target_c1369308

LIBERIA



Liberian Red Cross Society:

- Level B - involved in the systematic/regular recruitment of voluntary non-remunerated blood donors but with no involvement in blood collection

NATIONAL CONTEXT

| | |
|--|----------------------------------|
| Location | Western Africa |
| Geographical size ranking¹ | 5 th |
| Population (world ranking)¹ | 4.6 million (125 th) |
| Median age¹ | 17.8 |
| Political system¹ | Presidential republic |
| GDP per capita (world ranking)¹ | \$900 (226 th) |
| HDI Index (world ranking)² | 0.427 - low (177 th) |
| Health Expenditure¹ | 10% of GDP |
| Population prevalence hepatitis B³ | High: ≥8% |
| Population prevalence hepatitis C⁴ | High: ≥5% |
| Population prevalence HIV⁵ | 1.6% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

The National Blood Safety Program falls under the responsibility of the Ministry of Health and Social Welfare.⁶ Their mandate follows WHO guidelines to provide a safe, sufficient and timely supply of blood and blood products and to also transition from paid donors to voluntary donors, which prior to the Ebola outbreak of 2014, composed only 10% of donations.⁶

Following the Ebola outbreak, the delicate blood service systems which ensured the provision of safe blood for hospitals, maternal and child health and emergencies in Liberia were destroyed.⁷ All blood available was used during the epidemic, and now the country is uniting with Grifos and the University of Massachusetts to revitalise the blood program with new infrastructure.⁷

NATIONAL SOCIETY (LIBERIAN RED CROSS)

Blood donor recruitment and retention activities are coordinated nationally, at the district/chapter as well as at the community level by the National Society. They are funded by government or Ministry of Health and by private organisations.

The Liberian Red Cross Society:

- uses paid staff and volunteers for donor recruitment programs, such as school/university programs and programs in communities
- does not receive technical assistance or financial support for VNRBD activities from outside the country, however the government does
- was previously involved in blood at Level A - during the civil war the laboratory was vandalized and all the equipment including the blood bank freezer was looted
- is planning to partner with the blood safety program to create sensitization and awareness on voluntary donation in the communities, utilising volunteers in the 15 counties all the way down to the community level. The Ministry of Health is taking the lead through the Blood Safety Department, with support from an international NGO (ACCEL), however there is no structure in place for blood donor drives or campaigns.

There is a long term development plan for the construction of a blood bank / training facility, but no decision on the strategy that will be used in terms of running it.

The National Society would not consider including a focus on recruitment and collection of blood from recovered Ebola patients for convalescent plasma.

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Feb 01]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/li.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2018 Feb 01]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Feb 01] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Feb 01] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Feb 01]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁶ Ministry of Health Republic of Liberia. 2014 Annual Report [Internet] Ministry of Health and Social Welfare 2015 [cited 2018 Feb 12]. Available from: http://reliefweb.int/sites/reliefweb.int/files/resources/MOHSW%20Annual%20Report%202014_Revised.pdf

⁷ World Health Organization. Improved blood systems in Ebola-affected countries expected to be positive outcome [Internet] World Health Organization 2015 Apr [cited 2018 Feb 12]. Available from: <http://www.who.int/features/2015/blood-plasma-ebola-context/en/>

MADAGASCAR



Malagasy Red Cross Society:

- Level B - involved in the systematic/regular recruitment of voluntary non-remunerated blood donors but with no involvement in blood collection

NATIONAL CONTEXT

| | |
|--|----------------------------------|
| Location | Southern Africa |
| Geographical size ranking¹ | 48 th |
| Population (world ranking)¹ | 25 million (52 nd) |
| Median age¹ | 19.7 |
| Political system¹ | Semi-presidential republic |
| GDP per capita (world ranking)¹ | \$1,600 (218 th) |
| HDI Index (world ranking)² | 0.512 - low (158 th) |
| Health Expenditure¹ | 3% of GDP |
| Population prevalence hepatitis B³ | Low Intermediate: 2% - 4% |
| Population prevalence hepatitis C⁴ | Low: 1.0% - <1.5% |
| Population prevalence HIV⁵ | 0.2% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

One of the priority strategies of the Madagascar Action Plan 2007–2012 was to ensure there were blood banks in all 22 regions, to combat the spread of HIV and AIDS.⁶

In 2013, 23,075 units of blood were collected with 4,294 (18.6%) units from voluntary donors.⁷

There is a national blood policy, clinical transfusion guidelines and national standards in place and a unit within the Ministry of Health responsible for oversight of the blood transfusion activities.⁷ There are approximately 47 blood centres and 110 hospitals performing blood transfusions in Madagascar.⁷

NATIONAL SOCIETY (MALAGASY RED CROSS)

Blood donor recruitment and retention activities are coordinated by district/chapter of the National Society and are funded by the National Society.

Both paid staff and volunteers are used for donor recruitment and the donor recruitment program utilises the volunteer network.

The Malagasy Red Cross Society:

- does not receive technical assistance or financial support for VNRBD activities from outside the country
- is planning to expand its current level of involvement in blood-related activities, to increase awareness of blood donation in the community
- has not previously been involved in blood at Level A

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Feb 12]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/ma.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2018 Feb 12]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Feb 12] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Feb 12] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Feb 12]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁶ Republic of Madagascar. Madagascar Action Plan (MAP): 2007-2012 [Internet] International Monetary Fund 2007 [cited 2018 Feb 12]. Available from: <https://www.imf.org/external/pubs/ft/scr/2007/cr0759.pdf>

⁷ World Health Organization. The 2016 Global Status Report on Blood Safety and Availability. [Internet] World Health Organization 2017 [cited 2018 Feb 12] Available from: <http://apps.who.int/iris/bitstream/10665/254987/1/9789241565431-eng.pdf?ua=1>

MALAWI



Malawi Red Cross Society:

- Level B - involved in the systematic/regular recruitment of voluntary non-remunerated blood donors but with no involvement in blood collection

NATIONAL CONTEXT

| | |
|--|----------------------------------|
| Location | Southern Africa |
| Geographical size ranking¹ | 101 st |
| Population (world ranking)¹ | 19 million (61 st) |
| Median age¹ | 16.5 |
| Political system¹ | Presidential republic |
| GDP per capita (world ranking)¹ | \$1,200 (224 th) |
| HDI Index (world ranking)² | 0.476 - low (170 th) |
| Health Expenditure¹ | 11.4% of GDP |
| Population prevalence hepatitis B³ | High: ≥8% |
| Population prevalence hepatitis C⁴ | Low: 1.0% - <1.5% |
| Population prevalence HIV⁵ | 9.2% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

The Malawi Blood Transfusion Service (MBTS) was established in 2003, through joint funding by the Ministry of Health and the European Union.⁶ Prior to this blood was collected through the combined efforts of hospitals and the Malawi Red Cross.⁶

Although there was no legislation in place to regulate blood transfusion in Malawi in 2015, there was a national blood policy, guidelines for safe blood transfusion and guidelines for the clinical use of blood and blood products.⁷

Malawi reported having achieved 100% voluntary non-remunerated blood donation in 2008.⁸ However, by 2014, the proportion of VNRBD donors had fallen to just 65% with the remaining donors being family replacement donors.⁸ MBTS utilises Club 25 as the main strategy to collect blood from young people as it has over 500 active members.⁹

Malawi collects one third of the blood required nationally, with 66% of blood recipients being women and children.¹⁰

NATIONAL SOCIETY (MALAWI RED CROSS)

Blood donor recruitment and retention activities are coordinated nationally and by district/chapter by the National Society.

The Malawi Red Cross Society:

- uses volunteers for donor recruitment programs, such as school/university programs and community members
- does not receive technical assistance for VNRBD activities from outside the country
- receives funding support for VNRBD activities from The Swiss Red Cross
- was not previously involved in blood at Level A
- plans to scale up in four more areas, mainly cities, to support more collection of blood by the MBTS

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Feb 12]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/mi.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2018 Feb 12]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Feb 12] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Feb 12] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Feb 12]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁶ Malawi Blood Transfusion Service. Addressing blood shortage the corporate way [Internet] Malawi Blood Transfusion Service 2018 [cited 2018 Feb 12]. Available from: <http://www.mbtsmalawi.com/index.php/centre/press/79-blood-shortage/85-addressing-blood-shortange-the-corporate-way>

⁷ Njilomole SE, M'baya B, Ndhlovu D, Mfune T, Yonamu F, Phiri P, Kalonjeka B. Post Baseline Situational Analysis of Blood Safety in Malawi 2015. Malawi Blood Transfusion Service 2017 Jul [cited 2018 Feb 12]. Available from: <http://www.mbtsmalawi.com/images/publications/Post%20Baseline%20Situational%20Analysis%20of%20Blood%20Safety%20in%20Malawi%202015.pdf>

⁸ World Health Organization. Countries that reported having achieved 100% voluntary non-remunerated blood donation in 2008. [Internet] World Health Organization 2011 Jun [cited 2018 Feb 12]. Available from: http://www.who.int/bloodsafety/voluntary_donation/countries_100pct_vnrbd_2011.pdf?ua=1

⁹ Malawi Blood Transfusion Service. About Club 25 [Internet] Malawi Blood Transfusion Service 2018 [cited 2018 Feb 12]. Available from: <http://www.mbtsmalawi.com/index.php/club-25>

¹⁰ Mamaye! Maternal and Newborn Health Factsheet Malawi [Internet] Mamaye! 2017 [cited 2018 Feb 12]. Available from: http://mamaye.org/sites/default/files/docs/mamaye-factsheet-2017-mw-web-3_0.pdf

RWANDA



Rwandan Red Cross:

- Level B - involved in the systematic/regular recruitment of voluntary non-remunerated blood donors but with no involvement in blood collection

NATIONAL CONTEXT

| | |
|--|----------------------------------|
| Location | Central Africa |
| Geographical size ranking¹ | 149 th |
| Population (world ranking)¹ | 11.9 million (76 th) |
| Median age¹ | 19 |
| Political system¹ | Presidential republic |
| GDP per capita (world ranking)¹ | \$2,100 (205 th) |
| HDI Index (world ranking)² | 0.483 - low (163 rd) |
| Health Expenditure¹ | 7.5% of GDP |
| Population prevalence hepatitis B³ | High Intermediate: 5% - 7% |
| Population prevalence hepatitis C⁴ | Low: 1.0% - <1.5% |
| Population prevalence HIV⁵ | 3.1% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

A national policy on blood transfusion promoting VNRBD was accepted in 2006, and the National Center for Blood Transfusion (NCBT) in Kigali was established.⁶ Regional blood centers have been established in all five provinces of Rwanda to increase access to blood for transfusion.⁶

The NCBT has introduced vein to vein safety by implementing procedures to improve VNRBD safety, automated testing, computerised record management and guidelines for the rational use of blood.⁷

The NCBT collected 53,439 units in 2015, an increase from 42,788 units in 2014.⁸

Rwanda reported having achieved 100% VNRBD in 2008.⁹

NATIONAL SOCIETY (RWANDAN RED CROSS)

Rwanda Red Cross is involved in the blood program, but only in blood donor mobilisation.

Rwanda Red Cross provided a Level A global mapping response in 2008.

- ¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Feb 12]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/rw.html>
- ² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2018 Feb 12]. Available from: <http://hdr.undp.org/en>
- ³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Feb 12] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>
- ⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Feb 12] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>
- ⁵ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Feb 12]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>
- ⁶ Senyana F. Reorganisation of Blood Transfusion Services after the 1004 genocide to enhance access to blood and blood products in Rwanda. Paper presented at: African Society for Blood Transfusion International Congress; 2012 June 04-07; Mauritius. PowerPoint Presentation available from: www.afsbtedu.org/mauritius2012/usb/day2/talk2/ppt.pdf
- ⁷ Florent S, Gasana M. P318: Safety of blood products in Rwanda. Antimicrob Resist Infect Control 2013;2(Suppl 1):P318. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3688304/>
- ⁸ Atieno L. Blood bank calls for donation. The New Times [Internet] 2016 Jan 09 [cited 2018 Feb 12]. Available from: <http://www.newtimes.co.rw/section/article/2016-01-09/195945/> .
- ⁹ World Health Organization. Countries that reported having achieved 100% voluntary non-remunerated blood donation in 2008. [Internet] World Health Organization 2011 Jun [cited 2018 Feb 12]. Available from: http://www.who.int/bloodsafety/voluntary_donation/countries_100pct_vnrbd_2011.pdf?ua=1

SAO TOME AND PRINCIPE



Sao Tome and Principe Red Cross:

- Level B - involved in the systematic/regular recruitment of voluntary non-remunerated blood donors but with no involvement in blood collection

NATIONAL CONTEXT

| | |
|--|-------------------------------------|
| Location | Central Africa |
| Geographical size ranking¹ | 185 th |
| Population (world ranking)¹ | 201 thousand (184 th) |
| Median age¹ | 18.4 |
| Political system¹ | Semi-presidential republic |
| GDP per capita (world ranking)¹ | \$3,200 (192 nd) |
| HDI Index (world ranking)² | 0.574 - medium (142 nd) |
| Health Expenditure¹ | 8.4% of GDP |
| Population prevalence hepatitis B³ | High: >8% (central Africa) |
| Population prevalence hepatitis C⁴ | Moderate: 1.5-3.5% (central Africa) |
| Population prevalence HIV | Current data not available |



NATIONAL BLOOD PROGRAM

In Sao Tome and Principe there is only one blood bank, located at the Central Hospital.⁵ In 2006, a national policy for blood transfusion and a strategic plan was developed, but a lack of human resources, technical capacity and equipment have caused difficulties with implementation.⁵ In 2013, there was a total of 919 blood donations with 600 (65.3%) from voluntary donors, the remainder were replacement donors.⁶ There are national standards for collection and testing of blood and clinical guidelines for the appropriate use of blood and blood products available.⁶

In 2010, Sao Tome and Principe applied for funding from the Global Fund to implement HIV prevention strategies including the promotion of VNRBD and screening of donations for HIV, HBV, HCV and syphilis.⁵ The proposal noted:

- blood bank facility is in poor condition
- the proportion of family/replacement blood donors was still very high
- the service is operated by technicians with low haemotherapy knowledge
- the hospital lacks a haemotherapy committee and surveillance of transfusion adverse reactions
- physicians do not follow good practices on haemotherapy⁶

Efforts to move towards voluntary blood donation are performed by UNDABESA, an NGO that supports the blood bank educating the public, motivating and recruiting them as donors.⁶

NATIONAL SOCIETY (SAO TOME AND PRINCIPE RED CROSS)

The Sao Tome and Principe Red Cross:

- uses volunteers for donor recruitment (school/university programs and community mobilisation)
- blood donor recruitment and retention activities are coordinated both nationally and by the district/chapter
- blood donor recruitment activities are funded by the Blood Service, the National Society, government and another funder (OMS)
- does not receive technical assistance or financial support for VNRBD activities from outside the country
- is not planning to expand or scale back its current level of involvement in blood-related activities
- has not previously been involved in blood at Level A.

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Feb 12]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/tp.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2018 Feb 12]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Feb 12] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Feb 12] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ The Global Fund To Fight AIDS, Tuberculosis and Malaria. Proposal Form Round 10 [Internet] 2010 Oct 01 [cited 2018 Feb 13]. Available from: https://info.undp.org/docs/pdc/Documents/STP/STP-R10-HA_Proposal_0_en.pdf

⁶ World Health Organization. The 2016 Global Status Report on Blood Safety and Availability. [Internet] World Health Organization 2017 [cited 2018 Feb 12] Available from: <http://apps.who.int/iris/bitstream/10665/254987/1/9789241565431-eng.pdf?ua=1>

SIERRA LEONE



Sierra Leone Red Cross Society:

- Level B - involved in the systematic/regular recruitment of voluntary non-remunerated blood donors but with no involvement in blood collection

NATIONAL CONTEXT

| | |
|--|----------------------------------|
| Location | Western Africa |
| Geographical size ranking¹ | 120 th |
| Population (world ranking)¹ | 6.2 million (109 th) |
| Median age¹ | 19.0 |
| Political system¹ | Presidential republic |
| GDP per capita (world ranking)¹ | \$1,800 (212 th) |
| HDI Index (world ranking)² | 0.420- low (179 th) |
| Health Expenditure¹ | 11.1% of GDP |
| Population prevalence hepatitis B³ | High: ≥8% |
| Population prevalence hepatitis C⁴ | High: ≥5% |
| Population prevalence HIV⁵ | 1.7% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

According to the National Strategic Plan for Blood Safety (2011-2014)⁶, blood centres in Sierra Leone are mostly hospital based, with 90% of blood coming from replacement donors and only 10% from voluntary donors.⁶ The blood policy was launched in February 2006 but was only partially implemented in 2010.⁶ A National Blood Advisory Committee was created with members appointed from the MOHS and SLRCS.⁶ 26 hospitals conduct blood collections – this is comprised of 18 government hospitals, one military hospital, six missionary hospitals and one private hospital.⁶ The Blood Program has initiated a cost recovery system and charges are Le 10,000 and Le 5,000 per unit of blood issued to the private and public sector hospitals respectively.⁶ The national quality management program is yet to be fully implemented.⁶

After the Ebola virus outbreak in Western Africa, the strengthening of national blood transfusion systems became a priority in countries such as Sierra Leone.⁷ Plans were developed in Sierra Leone to strengthen blood transfusion systems and ensure safe blood became available.⁷ The Blood bank at the Connaught Hospital in Freetown was upgraded in 2015 by the Ebola Convalescent Plasma Consortium funded by The Wellcome Trust and The Bill & Melinda Gates Foundation.⁸

The Blood Bank was fully refurbished and refitted with modern equipment to enable the production and donation of blood and plasma.⁸

A continuous power supply is also provided to the hospital to ensure critical equipment is kept running at all times.⁸ Training and reagents have been provided by experts from the English NHS Blood and Transplant Service and Public Health England who have visited the Blood Bank.⁸

In 2010 9.7% of donations were VNRBD.⁹

NATIONAL SOCIETY (SIERRA LEONE RED CROSS)

In 2014, 1,300 people donated blood with the assistance of the Sierra Leone Red Cross Society, a decrease from 2,950 in 2013.¹⁰

The Sierra Leone Red Cross Society was said to have provided support to Blood Programs by promoting voluntary blood donation, in the National Strategic Plan for Blood Safety (2011-2014).⁶

The Sierra Leone Red Cross was involved in blood activities until 2003 (with the support of the German Red Cross), at which time the Ministry of Health took over. VNRBD is a key activity of volunteers during their training and 97% of blood donors (>2000) are Red Cross volunteers.

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Feb 14]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/sl.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] 2016 [cited 2018 Feb 14]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Feb 14] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Feb 14] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Feb 14]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁶ National Strategic Plan for Blood safety (Revised) (2011-2014). Government of Sierra Leone. Ministry of Health and Sanitation. [Internet] 2010 Sept [cited 2018 Feb 14]. Available from: <https://mohs-portal.net/wp-content/uploads/2017/06/National-Strategic-Plan-for-Blood-Safety-2011-2014.pdf>

⁷ WHO strengthens capacities of national blood transfusion systems in Ebola-affected countries. World Health Organisation. Regional Office for Africa. [Internet] 2015 Jun 2 [cited 2018 Feb 14]. Available from: <http://www.afro.who.int/news/who-strengthens-capacities-national-blood-transfusion-systems-ebola-affected-countries>

⁸ Freetown Blood bank Strengthened by Ebola Research Study. Clinical Research Management Inc. [Internet] 2017 [cited 2018 Feb 14]. Available from: <http://www.clinicalrm.com/freetown-blood-bank-strengthened-by-ebola-research-study/>

⁹ Tapko JB, Toure B, Sambo LG. Status of blood safety in the WHO African Region – Report of the 2010 Survey. World Health Organization [Internet] 2014 [cited 2018 Feb 14]. Available from: <http://www.afro.who.int/sites/default/files/2017-06/status-of-blood-safety-in-the-who-african-region.pdf>

¹⁰ The International Federation of Red Cross and Red Crescent Societies. Federation-Wide Databank and Reporting System. National Society Profiles - Sierra Leone Red Cross Society [Internet] 2016 [cited 2018 Feb 14]. Available from: <http://data.ifrc.org/fdrs/societies/sierra-leone-red-cross-society>

SOUTH SUDAN



South Sudan Red Cross:

- Level B - involved in the systematic/regular recruitment of voluntary non-remunerated blood donors but with no involvement in blood collection

NATIONAL CONTEXT

| | |
|--|----------------------------------|
| Location | East-Central Africa |
| Geographical size ranking¹ | 43 rd |
| Population (world ranking)¹ | 13 million (73 rd) |
| Median age¹ | 17.3 |
| Political system¹ | Presidential republic |
| GDP per capita (world ranking)¹ | \$1,500 (220 th) |
| HDI Index (world ranking)² | 0.418 - low (181 st) |
| Health Expenditure¹ | 2.7% of GDP |
| Population prevalence hepatitis B³ | High: ≥8% |
| Population prevalence hepatitis C⁴ | Low: 1.0% - <1.5% |
| Population prevalence HIV⁵ | 2.7% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

A relatively new country (independence was declared in 2011), South Sudan's first blood bank and the National and Regional Public Health Laboratories were launched on 8 July 2014.⁶ Developed by the United Nations Development Program (UNDP) through the Global fund, the facilities cost US\$1.5 million and serve to improve the country's health system.⁶

The blood bank was urgently needed after it was reported in 2012 that lack of blood was the main cause of mortality at the country's teaching hospital.⁷ Blood is directly donated by family, and therefore only available for that specific patient.⁷ Cultural taboos and lack of awareness also make voluntary blood donations challenging.⁷

NATIONAL SOCIETY (SOUTH SUDAN RED CROSS)

The South Sudan Red Cross officially became a member of the IFRC in November 2013.⁸

Blood donor recruitment and retention activities are coordinated nationally by the National Society. They are funded by the National Society and supported by the Swiss Red Cross Society.

Both paid staff (MoH) and volunteers are used for donor recruitment. Seconded staff from MoH ensure sustainability and capacity building. Volunteers are only given cost recovery payment for food and transport.

Recruitment programs include school/university programs, corporate programs and public campaigns in markets and during national events.

The South Sudan Red Cross Society:

- receives technical assistance from the World Health Organisation (WHO), UNDP & Centers for Disease Control and Prevention (CDC) - mainly for blood services, policies and guidelines
- does not receive financial support for VNRBD activities from outside the country
- is planning to expand its current level of involvement in blood-related activities by recruiting staff for VNRBD, assessing the possibility of expanding to two other states, and becoming involved in road safety
- has not previously been involved in blood at Level A

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Feb 13]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/od.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2018 Feb 13]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Feb 13] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ C Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Feb 13] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Feb 13]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁶ UNDP. South Sudan's first blood bank and public health laboratories established in Juba. News Centre [Internet] 2014 Jul 08. United Nations Development Program Geneva 2018 [cited 2018 Feb 13]. Available from: <http://www.europe.undp.org/content/geneva/en/home/presscenter/articles/2014/07/08/south-sudan-s-first-blood-bank-and-public-health-laboratories-established-in-juba.html>

⁷ Why the beleaguered hospitals of South Sudan are out for blood. The Guardian [Internet]. 2012 Jan 31 [cited 2018 Feb 23]. Available from: <https://www.theguardian.com/global-development/2012/jan/31/south-sudan-hospitals-blood>

⁸ South Sudan Red Cross. Annual Operations Report 2013 [Internet] South Sudan Red Cross 2014 [cited 2018 Feb 13]. Available from: <http://data.ifrc.org/fdrs/societies/south-sudan-red-cross>

TANZANIA



Tanzania Red Cross Society:

- Level B - involved in the systematic/regular recruitment of voluntary non-remunerated blood donors but with no involvement in blood collection

NATIONAL CONTEXT

| | |
|--|----------------------------------|
| Location | Eastern Africa |
| Geographical size ranking¹ | 32 nd |
| Population (world ranking)¹ | 53.9 million (26 th) |
| Median age¹ | 17.7 |
| Political system¹ | Presidential republic |
| GDP per capita (world ranking)¹ | \$3,300 (191 st) |
| HDI Index (world ranking)² | 0.531 - low (151 st) |
| Health Expenditure¹ | 5.6% of GDP |
| Population prevalence hepatitis B³ | High Intermediate: 5% - 7% |
| Population prevalence hepatitis C⁴ | Low: 1.0% - <1.5% |
| Population prevalence HIV⁵ | 4.7% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

The Tanzania National Blood Transfusion Service (TNBTS) was established in 2004.⁶ It is working with the Ministry of Health and Social Welfare to transform itself into an autonomous body.⁷ A national blood policy was developed in 2005 and a legislative framework was in development in 2015.⁷ Guidelines on the clinical use of blood and blood products have been developed.⁸

The TNBTS received Level 2 accreditation with the African Society for Blood Transfusion (AfSBT) in late 2017.⁹

The percentage of blood from VNRBD donors reduced to 80% in 2014 with 4% being from replacement donors⁶ with the total number of voluntary blood donors standing at 199,000 in 2017.⁹ The estimated demand for blood is 400,000 – 450,000 units annually.⁶

One of the biggest challenges to the blood system in Tanzania is insufficient supply of blood. Although the TNBTS has more than tripled the total collection of blood units from 52,000 in 2005 to 162,000 in 2014, only 30% of all blood need is currently being met.⁷

NATIONAL SOCIETY (TANZANIA RED CROSS)

Blood donor recruitment and retention activities are coordinated nationally by the National Society. They are funded by the blood service, the government or Ministry of Health and by private organisations.

Both paid staff and volunteers are used for donor recruitment programs such as school/university programs, Club 25 and corporate programs.

The Tanzania Red Cross Society:

- receives both technical assistance and financial support - AABB (through CDC) provided technical assistance in development and use of standard operating procedures at all levels of blood donor recruitment, collection and retention including management of donor clubs and mentorship
 - is planning to expand its current level of involvement in blood-related activities, to reach the target which was set to ensure all transfusing facilities in the regions of operations have sufficient safe blood - funds are required to implement this plan
- was until recently involved in blood at Level A - the National Society was involved in blood collection through the funding from CDC under the US President's Emergency Plan for AIDS Relief (PEPFAR), which ended in 2015. The collected blood was centrally processed by the National Blood Transfusion Service

The Tanzania Red Cross Society indicated that prior to 2016, they were operating at Level A (involved in operating a full blood service). The Blood Service:

- collected 100% VNRBD
- annually collected 5,000 units of whole blood (2015)
- supported a population of 4,500,000
- processed collected blood into components
- conducted screening testing of blood for infectious diseases and blood grouping
- did not conduct cross-matching for transfusion
- did not perform transfusions
- was not involved in the collection, processing or testing of cord blood stem cells, peripheral stem cells, bone marrow stem cells, bone, solid organs and corneas
- forwarded plasma to a fractionation facility

Providers of the nation's blood were:

- Ministry of Health – 65%
- Army – 10%
- Tanzania Red Cross Society – 25%

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Feb 13]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/tz.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2018 Feb 13]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Feb 13] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Feb 13] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Feb 13]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁶ Ambassadors for Safe Blood and Life Association. National Blood Transfusion Service [Internet] ASBLA 2017 [cited 2018 Feb 13]. Available from: <http://www.safebloodtanzania.com/national-blood-transfusion-service/>

⁷ Mama Ye! Evidence for action. Factsheet on Tanzania's blood services: 2015 [Internet] 2014 Jun [updated 2015 Jun. Cited 2018 Feb 13]. Available from: http://mamaye.org/sites/default/files/blogfiles/TZ%20blood%20factsheet_2015.pdf

⁸ Mama Ye! Evidence for action. Tanzania's blood services: Factsheet 2017 [Internet] Mama Ye! 2014 Jun [updated 2017 Jun. Cited 2018 Feb 13]. Available from: http://mamaye.org/sites/default/files/docs/tanzania_wbdd_factsheet_2017_final.pdf

⁹ Lugongo B. Tanzania: Relief Beckoning As Blood Services Set for Betterment. Tanzania Daily News [Internet] 2017 Dec 12 [cited 2018 Feb 13]. Available from: <http://allafrica.com/stories/201712120443.html>

TOGO



Togolese Red Cross:

- Level B - involved in the systematic/regular recruitment of voluntary non-remunerated blood donors but with no involvement in blood collection

NATIONAL CONTEXT

| | |
|--|----------------------------------|
| Location | Western Africa |
| Geographical size ranking¹ | 127 th |
| Population (world ranking)¹ | 7.9 million (99 th) |
| Median age¹ | 19.8 |
| Political system¹ | Presidential republic |
| GDP per capita (world ranking)¹ | \$1,600 (217 th) |
| HDI Index (world ranking)² | 0.487 - low (166 th) |
| Health Expenditure¹ | 5.2% of GDP |
| Population prevalence hepatitis B³ | High: ≥8% |
| Population prevalence hepatitis C⁴ | High: ≥5% |
| Population prevalence HIV⁵ | 2.1% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

The national requirement for blood in Togo is approximately 70,000 units per annum.⁶

Togo reported having achieved 100% VNRBD in 2008.⁷

A report in 2012 stated the National Centre for Blood Transfusion (CNTS) was struggling with debt.⁸

NATIONAL SOCIETY (TOGOLESE RED CROSS)

Blood donor recruitment and retention activities are coordinated nationally and by district/chapter by the National Society. They are funded by the blood service and the National Society.

Volunteers are used for donor recruitment programs, including school/university programs, Club 25 and community education/awareness programs.

The Togolese Red Cross:

- does not receive technical assistance for VNRBD activities from outside the country
- received financial support for VNRBD activities from IFRC, but for 2013/14 only
- is planning to expand its current level of involvement in blood-related activities to increase new donor recruitment by 50% in three years
- was previously involved in blood-related activities at Level A, but has not had any funding to pay staff since 1987

In 2014, the Togolese Red Cross recruited 1666 blood donors, however this decreased steadily to 310 in 2016.⁹

The 2015 Annual Report states the Togolese Red Cross mobilised 475 blood donors and collected 2,039 units of blood¹⁰ as part of the national blood donation campaign. Members of 14 Club 25 groups were educated on nutrition and healthy lifestyle for blood donation.

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Feb 13]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/to.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2018 Feb 13]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Feb 13] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Feb 13] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Feb 13]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁶ Vicarmelo. Togo/Health: National Blood Transfusion Center observes World Blood Donor Day. Togo Portail [Internet] 2017 Jun 14 [cited 2018 Feb 13]. Available from: <http://www.togoportail.net/2017/06/togosante-le-centre-national-de-transfusion-sanguine-observe-la-journee-mondiale-du-don-de-sang/>

⁷ World Health Organisation. Countries that reported having achieved 100% voluntary non-remunerated blood donation in 2008. [Internet] 2011 [cited 2018 Feb 13]. Available from: http://www.who.int/bloodsafety/voluntary_donation/countries_100pct_vnrbd_2011.pdf?ua=1

⁸ Godson K. Togo: National Center for Blood Transfusion, Finances in the Red and Shortage of Reagents and Blood Stocks. 27avril.com [Internet] 2012 Aug 10 [cited 2018 Feb 13]. Available from: <http://www.27avril.com/blog/culture-societe/sante/togo-centre-national-de-transfusion-sanguine-finances-dans-le-rouge-et-penurie-de-reactifs-et-de-stock-de-sang>

⁹ International Federation of Red Cross and Red Crescent Societies. Federation-Wide Databank and Reporting System. National Society Profiles – Togolese Red Cross. [Internet] 2016 [cited 2018 Feb 13]. Available from: <http://data.ifrc.org/fdrs/societies/togolese-red-cross>

¹⁰ Croix-Rouge Togolaise – Togolese Red Cross. Rapport D'Activites 2015 [Internet] Croix-Rouge Togolaise 2016 [cited 2018 Feb 13]. Available to download from: <http://data.ifrc.org/fdrs/societies/togolese-red-cross>

UGANDA



Uganda Red Cross Society:

- Level B - involved in the systematic/regular recruitment of voluntary non-remunerated blood donors but with no involvement in blood collection

NATIONAL CONTEXT

| | |
|--|----------------------------------|
| Location | East-Central Africa |
| Geographical size ranking¹ | 82 nd |
| Population (world ranking)¹ | 40 million (34 th) |
| Median age¹ | 15.8 |
| Political system¹ | Presidential republic |
| GDP per capita (world ranking)¹ | \$2,400 (200 th) |
| HDI Index (world ranking)² | 0.493 - low (163 rd) |
| Health Expenditure¹ | 7.2% of GDP |
| Population prevalence hepatitis B³ | High: ≥8% |
| Population prevalence hepatitis C⁴ | Low: 1.0% - <1.5% |
| Population prevalence HIV⁵ | 6.5% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

The Uganda Blood Transfusion Service (UBTS) is an independent, centrally coordinated organization in the Ministry of Health servicing all regions of the country.⁶ Serving as a reference centre for the provincial blood banks as well as other public and private hospitals, the blood bank headquarters is located in Nakasero.⁶ Blood safety is recognized by the 1999 National Health Policy as an essential component of the Ministry of Health's Minimum Health Care package and an effective HIV preventive measure.⁶

The UBTS aims to maintain an adequate and safe blood supply through voluntary blood donations in Uganda.⁶ UBTS works closely with the Uganda Red Cross Society (URCS) which recruits voluntary blood donors – a relationship which has been formalized through a Memorandum of Understanding.⁶

UBTS includes seven Regional Blood banks at Arua, Fort- Portal, Gulu, Kitovu, Mbale, Mbarara and Nakasero and six blood collection centers in Hoima, Jinja, Kabale, Rukungiri, Lira and Soroti.⁶ UBTS is planning to turn collection centers into blood distribution centers as well.⁶

The percentage of VNRBD gradually increased to 85% in 1999 and currently stands at 100%.⁶ Uganda is one of the countries that have reported having achieved 100% VNRBD in 2008.⁷

Annual blood collections at the UBTS increased from 106,996 units in 2004 to 202,939 units in 2011.⁸

In 2010/11, 173,735 units of blood were supplied to 200 health facilities⁹:

- 86,867 units (50%) to anaemic children (anaemia is induced by malaria)
- 52,120 units (30%) to pregnant mothers
- 34,748 units (20%) for other reasons⁹

An improved donor selection process has led to HIV sero-prevalence among blood donors reducing from 1.99% in June 2004 to 0.97% in April 2009 – considerably lower than the HIV prevalence in the general population.¹⁰

NATIONAL SOCIETY (UGANDA RED CROSS)

Activities provided by the Uganda Red Cross Society include:

- community mobilisation and motivation
- recruiting and retaining 100% VNRBD blood donors to the Ministry of Health – contributing to over half of the national blood collections
- pre- and post-donation counselling (i.e. after receiving positive results to infectious disease screening)

Blood donor recruitment and retention activities are coordinated nationally by the National Society, and are funded by the funding partners: Centers for Disease Control and Prevention (CDC) and the US President's Emergency Plan for AIDS Relief (PEPFAR).

Both paid staff and volunteers are used for donor recruitment programs, including school/university programs, corporate programs, Club 25 and blood donor clubs.

The Uganda Red Cross Society:

- receives technical assistance for VNRBD activities from outside the country
- is planning to expand its current level of involvement in blood-related activities, but not to Level A
- has not previously been involved in blood at Level A

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Feb 14]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/ug.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] 2016 [cited 2018 Feb 14]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Feb 14] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Feb 14] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Feb 14]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁶ Uganda Blood Transfusion Service. About us. [Internet] 2018 [cited 2018 Feb 14]. Available from: <http://www.ubts.go.ug/about-us.html>

⁷ World Health Organisation. Countries that reported having achieved 100% voluntary non-remunerated blood donation in 2008. [Internet] 2011 [cited 2018 Feb 14]. Available from: http://www.who.int/bloodsafety/voluntary_donation/countries_100pct_vnrbd_2011.pdf?ua=1

⁸ Centers for Disease Control and Prevention. Global health initiative Executive Director opens CDC-supported Uganda Blood Transfusion Service Headquarters. [Internet] 2010 Aug 4 [cited 2018 Feb 14]. Available from: <http://www.cdc.gov/globalaids/success-stories/uganda-blood-transfusion.html>

⁹ Our blood is safe, says Kyeyune. New vision. Uganda's Leading Daily. [Internet] 2013 Aug 17 [cited 2018 Feb 14]. Available from: http://www.newvision.co.ug/new_vision/news/1329371/blood-safe-kyeyune

¹⁰ Centers for Disease Control and Prevention. Global HIV/AIDS. Improving blood safety in Uganda. [Internet] 2010 Aug 4 [cited 2018 Feb 14]. Available from: <http://www.cdc.gov/globalaids/success-stories/blood-safety.html>

CAPE VERDE (CABO VERDE)



Red Cross of Cape Verde:

- Level C: National Society is involved in occasional community education/awareness programs that help promote voluntary non-remunerated blood donation (e.g. World Blood Donor Day), but no involvement in the systematic recruitment of donors or blood collection.

NATIONAL CONTEXT

| | |
|--|-------------------------------------|
| Location | Western African islands |
| Geographical size ranking¹ | 176 th |
| Population (world ranking)¹ | 561 thousand (173 rd) |
| Median age¹ | 25.4 |
| Political system¹ | Parliamentary republic |
| GDP per capita (world ranking)¹ | \$6,900 (160 th) |
| HDI Index (world ranking)² | 0.648 - medium (122 nd) |
| Health Expenditure¹ | 4.8% of GDP |
| Population prevalence hepatitis B³ | High: >8% |
| Population prevalence hepatitis C⁴ | Moderate: 1.5-3.5% |
| Population prevalence HIV⁵ | 0.8% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

Cape Verde increased the percentage of VNRD from 32% in 2004 to 80.8% in 2011. ⁶

In 2010, 87.1% of blood was separated into components. ⁷

NATIONAL SOCIETY (RED CROSS OF CAPE VERDE)

1,500 people donated blood with the assistance of the Red Cross of Cape Verde in both 2014 and 2015. ⁸

Blood donor recruitment and retention activities are coordinated nationally and funded by the National Society.

The Red Cross of Cape Verde:

- does not receive technical assistance or financial support for VNRBD activities from outside the country
- were previously involved at Level B, recruiting blood donors in hospitals and continuous blood donation campaigns
- are planning to expand their level of involvement in promotional and educational campaigns
- are looking to strengthen National Society activities in blood donation activities at all levels, taking into account the magnitude and frequency of disasters in the area

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Feb 14]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/cv.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] 2016 [cited 2018 Feb 14]. Available from: <http://hdr.undp.org/en>

³ Jia J. Global Epidemiology of HBV and HCV infection. Paper presented at: Capital Medical University; 2015 Sept 02; Glasgow (UK). PowerPoint presentation available from: <http://www.worldhepatitisummit.org/docs/default-source/default-document-library/2015/resources/state-of-the-art-epidemiological-overview.pdf?sfvrsn=4>

⁴ Health Protection Surveillance Centre. Infectious disease assessment for migrants hepatitis C [Internet] 2015 July [cited 2018 Feb 14]. Available from: <http://www.hpsc.ie/A-Z/SpecificPopulations/Migrants/Guidance/>

⁵ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Feb 14]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁶ Towards Self-Sufficiency in Safe Blood and Blood Products based on Voluntary Non-Remunerated Donation. Global status 2013. World Health Organisation [Internet] 2013 [cited 2018 Feb 14]. Available from: <http://www.transfusion.ru/2014/02-26-2.pdf>

⁷ Tapko JB, Toure B, Sambo LG. Status of blood safety in the WHO African Region – Report of the 2010 Survey. World Health Organization [Internet] 2014 [cited 2018 Feb 14]. Available from: <http://www.afro.who.int/sites/default/files/2017-06/status-of-blood-safety-in-the-who-african-region.pdf>

⁸ International Federation of Red Cross and Red Crescent Societies. Federation-Wide Databank and Reporting System. National Society Profiles – Red Cross of Cape Verde. [Internet] 2016 [cited 2018 Feb 14]. Available from: <http://data.ifrc.org/ids/societies/red-cross-of-cape-verde>

COMOROS



Comoros Red Crescent:

- Level C: National Society is involved in occasional community education/awareness programs that help promote voluntary non-remunerated blood donation (e.g. World Blood Donor Day), but no involvement in the systematic recruitment of donors or blood collection.

NATIONAL CONTEXT

| | |
|--|-----------------------------------|
| Location | Southern African islands |
| Geographical size ranking¹ | 180 th |
| Population (world ranking)¹ | 808 thousand (163 rd) |
| Median age¹ | 19.6 |
| Political system¹ | Federal presidential republic |
| GDP per capita (world ranking)¹ | \$1,600 (219 th) |
| HDI Index (world ranking)² | 0.497 - low (160 th) |
| Health Expenditure¹ | 6.7% of GDP |
| Population prevalence hepatitis B³ | High: >8% |
| Population prevalence hepatitis C⁴ | 1% |
| Population prevalence HIV³ | <0.5% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

Blood collection in Comoros is undertaken by the Ministry of Health.

In 2010, 15.7% of donations were VNRBD.⁵

NATIONAL SOCIETY (COMOROS RED CRESCENT)

In 2013, 450 people donated blood with the assistance of the Comoros Red Crescent.⁶

Participation in World Blood Donor Day (WBDD) is noted in the 2013 Annual Report⁶. The Red Crescent has approximately 5,000 volunteers who are called on to donate in a crisis.

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2017 October 30]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/cn.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] 2016 [cited 2017 October 30]. Available from: <http://hdr.undp.org/en>

³ Travel Medicine Inc. Destination Guide Comoros Islands [Internet] 2017 [cited 2017 October 30]. Available from: <https://www.travmed.com/pages/comoros-islands>

⁴ Lavanchy D. Evolving epidemiology of hepatitis C virus. Clinical Microbiology and Infection [Internet] 2011 Feb [cited 2017 October 30];17(2):107-115. Available from: <http://www.sciencedirect.com/science/article/pii/S1198743X14616487>

⁵ Tapko, JB Toure, B Sambo LG. Status of blood safety in the WHO African Region – Report of the 2010 Survey. World Health Organization [Internet] 2014 [cited 2017 October 30]. Available from: <http://www.afro.who.int/sites/default/files/2017-06/status-of-blood-safety-in-the-who-african-region.pdf>

⁶ The International Federation of Red Cross and Red Crescent Societies. The Comoros Red Crescent [Internet] 2016 [cited 2017 October 30]. Available from: <http://data.ifrc.org/fdrs/societies/the-comoros-red-crescent>

DJIBOUTI



Red Crescent Society of Djibouti:

- Level C: National Society is involved in occasional community education/awareness programs that help promote voluntary non-remunerated blood donation (e.g. World Blood Donor Day), but no involvement in the systematic recruitment of donors or blood collection.

NATIONAL CONTEXT

| | |
|--|-----------------------------------|
| Location | Eastern Africa |
| Geographical size ranking¹ | 151 st |
| Population (world ranking)¹ | 865 thousand (162 nd) |
| Median age¹ | 23.9 |
| Political system¹ | Semi-presidential republic |
| GDP per capita (world ranking)¹ | \$3,600 (186 th) |
| HDI Index (world ranking)² | 0.473 - low (172 nd) |
| Health Expenditure¹ | 10.6% of GDP |
| Population prevalence hepatitis B³ | High: ≥8% |
| Population prevalence hepatitis C⁴ | Low: 1.0% - <1.5% |
| Population prevalence HIV⁵ | 1.3% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

The blood transfusion system in Djibouti is based on a family donor system.⁶ Spontaneous donations from the police and military staff make up about 20% of the 2500 units collected annually.⁶

Screening amongst 9006 volunteer blood donors at the National Blood Bank from 1998 to 2000 found the prevalence of transfusion transmissible infections was low in comparison with neighbouring countries.⁷

NATIONAL SOCIETY (RED CRESCENT OF DJIBOUTI)

Blood donor recruitment and retention activities are coordinated nationally by the National Society. They are funded by the CICR (Comité International de la Croix-Rouge) with the logistical support of the Ministry of Health.

The Red Crescent Society of Djibouti:

- does not receive technical assistance or financial support for VNRBD activities from outside the country
- has not previously been involved as a Level A or Level B
- is planning to expand through volunteers and communities at a national level, to promote VNRBD on World Blood Donor Day

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Feb 14]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/dj.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] 2016 [cited 2018 Feb 14]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Feb 14] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Feb 14] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Feb 14]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁶ Osaro E and Charles AT. The challenges of meeting the blood transfusion requirements in Sub-Saharan Africa: the need for the development of alternatives to allogenic blood. J Blood Med. [Internet] 2011 Feb 6 [cited 2018 Feb 14]:2. Available from: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3262349/>

⁷ Dray X, Dray-Spira R, Bronstein JA and Mattera D. Prevalences of HIV, hepatitis B and hepatitis C in blood donors in the Republic of Djibouti. Med Trop (Mars) [Internet] 2005 [cited 2018 Feb 14]:65(1). Available from: <http://www.ncbi.nlm.nih.gov/pubmed/15903075>

ETHIOPIA



Ethiopian Red Cross Society:

- Level C: National Society is involved in occasional community education/awareness programs that help promote voluntary non-remunerated blood donation (e.g. World Blood Donor Day), but no involvement in the systematic recruitment of donors or blood collection.

NATIONAL CONTEXT

| | |
|--|-----------------------------------|
| Location | Eastern Africa |
| Geographical size ranking¹ | 28 th |
| Population (world ranking)¹ | 105.4 million (12 th) |
| Median age¹ | 17.9 |
| Political system¹ | Federal parliamentary republic |
| GDP per capita (world ranking)¹ | \$2,100 (206 th) |
| HDI Index (world ranking)² | 0.448 - low (174 th) |
| Health Expenditure¹ | 4.9% of GDP |
| Population prevalence hepatitis B³ | High Intermediate: 5% - 7% |
| Population prevalence hepatitis C⁴ | Low: 1.0% - <1.5% |
| Population prevalence HIV⁵ | 1.1% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

The National Blood Transfusion Service Centre (NBTS) in Ethiopia is located in Addis Ababa and has been funded by the US President's Emergency Plan for AIDS Relief (PEPFAR).⁶ The centre serves to increase access to blood transfusion services across Ethiopia, as well as being responsible for⁶:

- screening donated blood for HIV, HBV, HCV and syphilis
- blood typing
- processing blood components (concentrated red cells, fresh frozen plasma, platelets and cryoprecipitate)
- issuing blood to hospitals⁶

Responsibility for the NBTS was transferred from the Ethiopian Red Cross Society to the Federal Ministry of Health in 2010, for the purpose of improving efficiency, access to blood and quality of service.⁷ Previously the NBTS had been heavily reliant on family replacement donors, could only be accessed by hospitals in the regional capitals, and did not perform universal testing of blood.⁷

As a result of this changeover, the number of hospitals accessing safe blood increased from 48% in 2012 to >90% in 2014.⁷ The proportion of voluntary blood donation increased and HIV prevalence in blood donors dropped.⁷

Ethiopia currently has 24 regional blood banks and one national centre in Addis Ababa.⁸

The 25 blood banks serve 8 to 12 hospitals each, allowing approximately 90% of hospitals access to a safe blood supply.⁷ In 2014 there were 31 mobile blood collection teams working throughout the country, up from 4 in 2012.⁷

According to WHO, VNRBD rates have increased from 10% in 2011 to over 98% in 2016.⁸ It has been reported that the national requirement for blood in Ethiopia is 80,000-120,000 units per year, however only 43% of this need is met through collections.⁹

The Ethiopian Red Cross Society along with health associations such as the Ethiopian Public Health Association, Ethiopian Society of Obstetricians and Gynaecologists and Ethiopian Midwives Association promote blood donation in collaboration with the FMOH and other international organisations such as WHO and CDC.⁹

NATIONAL SOCIETY (ETHIOPIAN RED CROSS)

Level A blood services in Ethiopia were provided by the Ethiopian Red Cross Society from 1969 to 2010 through its 12 regional blood banks covering the requirements of 52% of the hospitals in the country.

The Ethiopian Red Cross Society currently:

- coordinates community education activities at a national level
- community education is funded by the blood service and the NS
- previously received technical assistance for VNRBD activities from CDC
- plans to expand activities in collaboration with the National Blood Bank Service in terms of donor mobilization, awareness creation and different campaigns

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Feb 13]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/et.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] 2016 [cited 2018 Feb 13]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Feb 13] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Feb 13] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Feb 13]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁶ Ethiopia to get its first National Blood Transfusion Service Centre. African News Agency. [Internet] 2016 May 5 [cited 2018 Feb 14]. Available from: <https://www.enca.com/africa/ethiopia-to-get-its-first-national-blood-transfusion-service-centre>

⁷ World Health Organisation. Ethiopia Country Office. Update Ethiopia. Blood Safety Progress in 2014. [Internet] 2015 Mar [cited 2018 Feb 14]. Available from: http://www.afro.who.int/sites/default/files/2017-05/ethiopia_update-sheet-on-blood-safety_2014_final.pdf

⁸ World Health Organization. Regional Office for Africa. Policy-makers in Ethiopia had a Forum to ensure an effective National Blood Transfusion System [Internet] 2017 July 19 [cited 2018 Feb 14]. Available from: <http://www.afro.who.int/news/policy-makers-ethiopia-had-forum-ensure-effective-national-blood-transfusion-system>

⁹ Arage G. Ibrahim S. Adimasu E. Blood donation practice and its associated factors among health professionals of University of Gondar Hospital, Northwest Ethiopia: a cross sectional study. BMC Res Notes [Internet] 2017 July 19 [cited 2018 Feb 14]:10(1). Available from: <https://www.ncbi.nlm.nih.gov/pubmed/28724447>

GABON



Gabonese Red Cross Society:

- Level C: National Society is involved in occasional community education/awareness programs that help promote voluntary non-remunerated blood donation (e.g. World Blood Donor Day), but no involvement in the systematic recruitment of donors or blood collection.

NATIONAL CONTEXT

| | |
|--|-------------------------------------|
| Location | Central Africa |
| Geographical size ranking¹ | 78 th |
| Population (world ranking)¹ | 1.8 million (153 rd) |
| Median age¹ | 18.6 |
| Political system¹ | Presidential republic |
| GDP per capita (world ranking)¹ | \$19,300 (91 st) |
| HDI Index (world ranking)² | 0.697 - medium (109 th) |
| Health Expenditure¹ | 3.4% of GDP |
| Population prevalence hepatitis B³ | High: ≥8% |
| Population prevalence hepatitis C⁴ | High: ≥5% |
| Population prevalence HIV⁵ | 3.6 % among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

The National Blood Transfusion Centre (CNTS) of Gabon is housed in the University Hospital of Libreville.⁶ 30% of donations are VNRBD.⁶

The CNTS uses a medical questionnaire and tests for HIV, HCV and HBV antibodies and surface antigens in order to select blood donors.⁷

NATIONAL SOCIETY (GABONESE RED CROSS)

Community education activities are coordinated by district/chapter by the National Society. They are funded by the government or Ministry of Health.

The Gabonese Red Cross:

- does not receive financial support for VNRBD activities from outside the country
- receives technical support in the form of training
- was not previously involved in blood at Level A or B
- is not planning to expand or scale back its current level of involvement in blood-related activities

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Feb 13]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/gb.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] 2016 [cited 2018 Feb 13]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Feb 13] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Feb 13] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Feb 13]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁶ Gabon – Blood bags: URGENT – The TSSA seeks donors! GL9News. [Internet] 2016 May 11 [cited 2018 Feb 13]. Available from: <http://www.gabonlibre.com/Gabon-Poches-de-sang-URGENT-Le-CNTS-cherche-donneurs-a31638.html>

⁷ Rerambiah LK, Rerambiah LE, Begone C, Djoba Siaway JF. The risk of transfusion-transmitted viral infections at the Gabonese National Blood Transfusion Centre. Blood Transfus. [Internet] 2014 Jul [cited 2018 Feb 23];12(3). Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4111813/>

GAMBIA



Gambia Red Cross Society:

- Level C - National society is involved in occasional community education/awareness programs that help promote voluntary non-remunerated blood donation (e.g. World Blood Donor Day), but no involvement in the systematic recruitment of donors or blood collection.

NATIONAL CONTEXT

| | |
|--|----------------------------------|
| Location | Western Africa |
| Geographical size ranking¹ | 166 th |
| Population (world ranking)¹ | 2 million (146 th) |
| Median age¹ | 21 |
| Political system¹ | Presidential republic |
| GDP per capita (world ranking)¹ | \$1,700 (216 th) |
| HDI Index (world ranking)² | 0.452 - low (173 rd) |
| Health Expenditure¹ | 7.3% of GDP |
| Population prevalence hepatitis B³ | High: ≥8% |
| Population prevalence hepatitis C⁴ | High moderate: 2.0% - <5.0% |
| Population prevalence HIV⁵ | 1.7% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

The National Blood Transfusion Services collected 11,513 units of blood in 2014 and 12,054 units in 2015.⁶ 25% is collected from VNRBD.⁷

Health has been given top priority in the government's development agenda, including the National Blood Transfusion Policy and Strategic Plan (2014-2020).⁸

NATIONAL SOCIETY (GAMBIA RED CROSS)

Gambia Red Cross Society:

- is involved in occasional community awareness and education programs to help promote voluntary non-remunerated blood donation
- community education activities are coordinated nationally and are funded by private organisations

- does not receive technical assistance or financial support for VNRBD activities from outside the country
- plans to expand its current level of involvement in blood-related activities and operate as Level A by constructing a blood bank and training volunteers in blood management
- has not previously been involved in blood at Level A
- conducts sensitization activities on the importance of blood donations and promotes Club 25⁹

In 2013, 423 people donated blood with the assistance of the Gambia Red Cross Society¹⁰. The strategic work plan 2013-17 includes the establishment of a Blood Bank at the Gambia Red Cross headquarters, with a timeline of 2013-14¹⁰.

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2017 October 02]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/ga.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] 2016 [cited 2018 Feb 01]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Feb 01] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2017 October 02] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2017 October 02]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁶ Faal M. Senghore S. Gambia: Donor Conference to Support Blood Transfusion Services Held. The Daily Observer (Banjul) [Internet] 2017 May 30 [cited 2017 October 02]. Available from: <http://allafrica.com/stories/201705300946.html>

⁷ Singateh S C. More Blood Donors Needed as Gambia Commemorate World Blood Donor Day. Foroyaa Newspaper [Internet] 2015 June 23 [cited 2017 October 02]. Available from: <http://www.foroyaa.gm/archives/5778>

⁸ Colley JP. Camara L M. Gambia: Health PS Highlights Significance of Blood Transfusion. The Daily Observer [Internet] 2014 January 31 [cited 2017 October 02]. Available from: <http://allafrica.com/stories/201401311287.html>

⁹ Marenah S. Media Practitioners Sensitised on Blood Donation. The Point. [Internet] 2009 Mar 16 [cited 2018 Feb 13]. Available from: <http://thepoint.gm/africa/gambia/article/media-practitioners-sensitised-on-blood-donation>

¹⁰ The International Federation of Red Cross and Red Crescent Societies. The Gambia Red Cross Society [Internet] 2016 [cited 2017 October 02]. Available from: <http://data.ifrc.org/fdrs/societies/the-gambia-red-cross-society>

LESOTHO

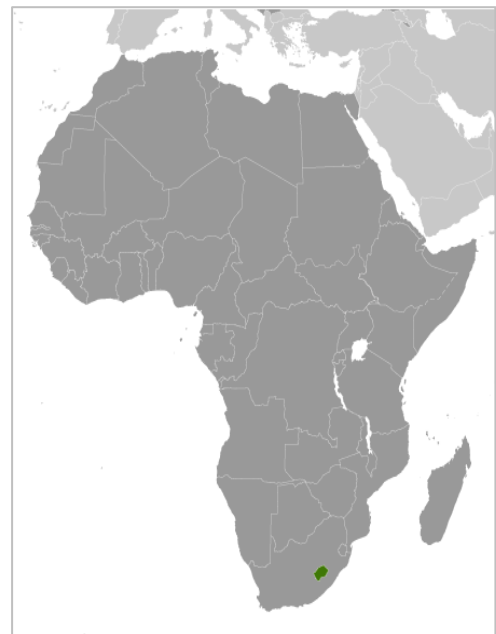


Lesotho Red Cross Society:

- Level C: National society is involved in occasional community education/awareness programs that help promote voluntary non-remunerated blood donation (e.g. World Blood Donor Day), but no involvement in the systematic recruitment of donors or blood collection.

NATIONAL CONTEXT

| | |
|--|--|
| Location | Southern Africa |
| Geographical size ranking¹ | 142 nd |
| Population (world ranking)¹ | 2 million (148 th) |
| Median age¹ | 24.2 |
| Political system¹ | Parliamentary constitutional monarchy |
| GDP per capita (world ranking)¹ | \$3,900 (180 th) |
| HDI Index (world ranking)² | 0.497 - low (160 th) |
| Health Expenditure¹ | 10.6% of GDP |
| Population prevalence hepatitis B³ | High Intermediate: 5% - 7% (Southern Africa) |
| Population prevalence hepatitis C⁴ | Low moderate: 1.5% - 2.0% |
| Population prevalence HIV⁵ | 25% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

In accordance with set national and international standards the Lesotho Blood Transfusion Service (LBTS), established in 1984 and under the Ministry of Health, is entrusted with supplying all hospitals of Lesotho with sufficient, cost effective and safe blood when required.⁶

Blood banks are located in Maseru, Leribe and Mochale's Hoek.⁷

The United States Government has provided support to the Government of the Kingdom of Lesotho to strengthen and expand safe blood transfusion services since 2010 through the US President's Emergency Plan for AIDS Relief (PEPFAR) under a cooperative agreement with the CDC in Lesotho.⁶

A large proportion of the blood collected in Lesotho is from school children.⁸ In 2016 the LBTS faced an acute blood shortage due to the temporary suspension of the school blood donation program.⁸ The suspension was a result of an outcry from the parents of the school children because their consent had not been sought to collect blood from their children.⁸ Without the donations from the

school children, most blood is donated by people who are doing so to assist a family member in need of a blood transfusion.⁸

This form of donation is not encouraged, as the majority of donors who are giving blood for a relative neglect to divulge their medical conditions.⁸ Negotiations to develop guidelines for school blood donations are in progress.⁸

In 2010, 93.8% of donations were VNRBD.⁹

NATIONAL SOCIETY (LESOTHO RED CROSS)

Lesotho Red Cross Society (LRCS) invites the National Blood Bank to LRCS events such as World Red Cross Day so that they can promote blood donations. Community education activities are therefore conducted by extension, and not by LRCS themselves.

The community education activities are funded by the blood service and by the National Society.

The Lesotho Red Cross Society:

- does not receive technical assistance or financial support for VNRBD activities from outside the country
- was previously involved in blood at Level B
- is not planning to expand or scale back its current level of involvement in blood-related activities

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Feb 13]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/lt.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] 2016 [cited 2018 Feb 13]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Feb 13] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Feb 13] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Feb 13]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁶ Seebregts S. Implementation of the Blood Safety Information System Donor Management Module at the Lesotho Blood Transfusion Service. Jembi Health Systems. [Internet] 2016 Apr 25 [cited 2018 Feb 13]. Available from: <http://www.jembi.org/implementation-blood-safety-information-system-donor-management-module-lesotho-blood-transfusion-service/>

⁷ Adults 'reluctant to donate' blood. Lesotho Times. Pressreader. [Internet] 2015 Dec 31 [cited 2018 Feb 13]. Available from: <https://www.pressreader.com/lesotho/lesotho-times/20151231/281573764704573>

⁸ Kabi P. Patients at risk as blood bank runs dry. Lesotho Times. [Internet]. 2016 Mar 19 [cited 2018 Feb 13]. Available from: <http://www.lesothotimes.com/patients-at-risk-as-blood-bank-runs-dry/>

⁹ Tapko, JB Toure, B Sambo LG. Status of blood safety in the WHO African Region – Report of the 2010 Survey. World Health Organization [Internet] 2014 [cited 2017 October 31]. Available from: <http://www.afro.who.int/sites/default/files/2017-06/status-of-blood-safety-in-the-who-african-region.pdf>

MAURITANIA



Mauritanian Red Crescent:

- Level C: National society is involved in occasional community education/awareness programs that help promote voluntary non-remunerated blood donation (e.g. World Blood Donor Day), but no involvement in the systematic recruitment of donors or blood collection.

NATIONAL CONTEXT

| | |
|--|-----------------------------------|
| Location | Western Africa |
| Geographical size ranking¹ | 30 th |
| Population (world ranking)¹ | 3.75 million (129 th) |
| Median age¹ | 20.3 |
| Political system¹ | Presidential republic |
| GDP per capita (world ranking)¹ | \$4,300 (175 th) |
| HDI Index (world ranking)² | 0.513 - low (157 th) |
| Health Expenditure¹ | 3.8% of GDP |
| Population prevalence hepatitis B³ | High: >8% |
| Population prevalence hepatitis C⁴ | Moderate: 1.5-3.5% |
| Population prevalence HIV⁵ | 0.50% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

A national strategy for the safety of blood transfusions has been implemented.⁶ Thirteen regional blood banks have been established to ensure systematic blood control.⁶ A national blood transfusion centre has also been established and facilitates the network of blood banks with the provision of trained personnel, management tools and coordinates a regular supply of reagents and consumables.⁶

Donor loyalty and blood collection are promoted through organised activities.⁶ Active campaigning resulted in an increase in blood donors from 6,802 in 2004 to 10,584 in 2008.⁶

While all donations are tested for hepatitis B, hepatitis C, syphilis and HIV, the majority of rejected donations are due to syphilis and hepatitis B. With improved donor selection and donor loyalty, this number is decreasing.⁶

In 2010, 31% of donations were VNRBD.⁷

NATIONAL SOCIETY (MAURITANIAN RED CRESCENT)

In 2013, 60 people donated blood with the assistance of the Mauritanian Red Crescent (MRC).⁸ Red Crescent volunteers donate blood when required. The MRC also undertakes education programs and public campaigns.

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2017 October 30]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/mr.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] 2016 [cited 2017 October 30]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2017 October 30] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2017 October 30] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2017 October 30]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁶ List of issues and questions in relation to the combined fourth and fifth periodic reports of Mauritania. Addendum, Replies of Mauritania [Internet] 2014 March 13 [cited 2017 October 30]. Available from: <http://docstore.ohchr.org/SelfServices/FilesHandler.ashx?enc=6QkG1d%2FPPrICAqhKb7yhsgOTxO5cLIZ0CwAvhyns%2B%2ByL73Se1Ck34GffsZTuUoU4oJU6LE7D7G7KKP2CkjtexbivY9DTfBpEkn7DHIHmB8g53ICVChCMhEhCxMjk4Jr%2B8MkOnO6zxFXBHjSJ4sWYJlQ%3D%3D>

⁷ Tapko, JB Toure, B Sambo LG. Status of blood safety in the WHO African Region – Report of the 2010 Survey. World Health Organization [Internet] 2014 [cited 2017 October 30]. Available from: <http://www.afro.who.int/sites/default/files/2017-06/status-of-blood-safety-in-the-who-african-region.pdf>

⁸ The International Federation of Red Cross and Red Crescent Societies. Mauritanian Red Crescent [Internet] 2016 [cited 2017 October 30]. Available from: <http://data.ifrc.org/fdrs/societies/mauritanian-red-crescent>

MOZAMBIQUE



Mozambique Red Cross Society:

- Level C: National society is involved in occasional community education/awareness programs that help promote voluntary non-remunerated blood donation (e.g. World Blood Donor Day), but no involvement in the systematic recruitment of donors or blood collection.

NATIONAL CONTEXT

| | |
|--|----------------------------------|
| Location | South-eastern Africa |
| Geographical size ranking¹ | 36 th |
| Population (world ranking)¹ | 26.6 million (50 th) |
| Median age¹ | 17.2 |
| Political system¹ | Presidential republic |
| GDP per capita (world ranking)¹ | \$1,300 (222 nd) |
| HDI Index (world ranking)² | 0.418 - low (181 st) |
| Health Expenditure¹ | 7% of GDP |
| Population prevalence hepatitis B³ | High: ≥8% |
| Population prevalence hepatitis C⁴ | Low: 1.0% - <1.5% |
| Population prevalence HIV⁵ | 12.3% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

The National Blood Transfusion Program (PNTS) was established in Mozambique by the Ministry of Health in 1975.⁶ In 2011 the National Blood Service (SENASA) was created by the Ministry of Health.⁶ SENASA is responsible for ensuring an adequate blood supply, and that quality standards are met.⁶

There are now 149 blood banks distributed across the country in central, provincial, general and district hospitals and health centres.⁶ Working together with the Mozambique Red Cross, the PNTS collects, processes, stores and issues blood to public and private health facilities.⁶

Since 2004, PNTS has tested all blood for transfusion transmissible infections (TTIs).⁶

In 2014 a National Blood Reference Centre in Maputo was established using funds provided by the US government via US President's Emergency Plan for AIDS Relief (PEPFAR), which now total US\$13 million.⁷ The Mozambican health service is still severely short of blood despite the increase in donations over the last ten years.⁷

56% of blood donations are from family replacement donors.⁸

NATIONAL SOCIETY (MOZAMBIQUE RED CROSS)

Community education activities are coordinated nationally and funded by the National Society.

The Mozambique Red Cross Society:

- does not receive technical assistance or financial support for VNRBD activities from outside the country
- was previously involved in blood at Level A – the National Society previously operated a blood service which collected blood from donors, and may also have been involved in processing blood into components and screening donations for infectious disease, however ceased involvement ten years ago due to limited skills and capacity
- is not planning to expand or scale back its current level of involvement in blood-related activities

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Feb 13]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/mz.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] 2016 [cited 2018 Feb 13]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Feb 13] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Feb 13] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Feb 13]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁶ 2012 Global AIDS Response Progress Report. National AIDS Council. Republic of Mozambique. [Internet] 2012 [cited 2018 Feb 13]. Available from: [http://files.unaids.org/en/dataanalysis/knowyourresponse/countryprogressreports/2012countries/ce_MZ_Narrative_Report\[1\].pdf](http://files.unaids.org/en/dataanalysis/knowyourresponse/countryprogressreports/2012countries/ce_MZ_Narrative_Report[1].pdf)

⁷ National Blood Centre Inaugurated. AIM Reports. Mozambique News Agency. [Internet] 2015 Jan 6 [cited 2018 Feb 13]. Available from: <http://www.poptel.org.uk/mozambique-news/newsletter/aim498.html#story8>

⁸ Strengthening Blood Transfusion Services in the Republic of Mozambique under the President's Emergency Plan for AIDS Relief (PEPFAR). Division of Global HIV/AIDS. Centre for Global Health. Centres for Disease Control and Prevention. [Internet] 2014 [cited 2018 Feb 23]. Available from: <https://www.cdc.gov/globalaids/global-hiv-aids-at-cdc/fy2015/CDC-RFA-GH15-1559.pdf>

NIGER



Red Cross Society of Niger:

- Level C: National society is involved in occasional community education/awareness programs that help promote voluntary non-remunerated blood donation (e.g. World Blood Donor Day), but no involvement in the systematic recruitment of donors or blood collection.

NATIONAL CONTEXT

| | |
|--|----------------------------------|
| Location | Western Africa |
| Geographical size ranking¹ | 23 rd |
| Population (world ranking)¹ | 19.2 million (60 th) |
| Median age¹ | 15.4 |
| Political system¹ | Semi-presidential republic |
| GDP per capita (world ranking)¹ | \$1,200 (223 rd) |
| HDI Index (world ranking)² | 0.353 - low (187 th) |
| Health Expenditure¹ | 5.8% of GDP |
| Population prevalence hepatitis B³ | High: ≥8% |
| Population prevalence hepatitis C⁴ | High: ≥5% |
| Population prevalence HIV⁵ | 0.4% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

The National Centre for Blood Transfusion is the only structure authorised by the health authorities to have a blood bank to collect and distribute blood to all health facilities, including private organisations.

In 2010, 36% donations were VNRBD and 7.2% of donations were separated into components.⁶

NATIONAL SOCIETY (RED CROSS OF NIGER)

The Red Cross Society of Niger is involved in the motivation and mobilisation of blood donors toward donating blood at the National Centre for Blood Transfusion (CNTS) on the celebration of the International Day of the Red Cross and Red Crescent Movement (8th May). The National Society mobilises nearly 50 volunteers each year to donate blood at this centre.

In 2013, 168 people donated blood with the assistance of the Red Cross Society of Niger.⁷

The Red Cross Society of Niger conducts blood donation activities at the CNTS in Niamey, Agadez, Diffa and Tillabéry.⁸

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Feb 13]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/ng.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] 2016 [cited 2018 Feb 13]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Feb 13] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Feb 13] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Feb 13]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁶ Tapko JB, Toure B, Sambo LG. Status of blood safety in the WHO African Region – Report of the 2010 Survey. World Health Organization [Internet] 2014 [cited 2018 Feb 13]. Available from: <http://www.afro.who.int/sites/default/files/2017-06/status-of-blood-safety-in-the-who-african-region.pdf>

⁷ International Federation of Red Cross and Red Crescent Societies. Federation-Wide Databank and Reporting System. National Society Profiles – Red Cross Society of Niger. [Internet] 2016 [cited 2018 Feb 13]. Available from: <http://data.ifrc.org/fdrs/societies/red-cross-society-of-niger>

⁸ Activity Report (2010-2013). Nigerian Red Cross National Executive Board General Assembly. [Internet] 2014 Jan [cited 2018 Feb 13]. Available from: http://data-api.ifrc.org/documents/NE/AR_Niger_2010-2013_FR.doc

NIGERIA



Nigerian Red Cross Society:

- Level C: National society is involved in occasional community education/awareness programs that help promote voluntary non-remunerated blood donation (e.g. World Blood Donor Day), but no involvement in the systematic recruitment of donors or blood collection.

NATIONAL CONTEXT

| | |
|---|----------------------------------|
| Location | Western Africa |
| Geographical size ranking¹ | 33 rd |
| Population (world ranking)¹ | 191 million (7 th) |
| Median age¹ | 18.4 |
| Political system¹ | Federal presidential republic |
| GDP per capita (world ranking)¹ | \$5,900 (164 th) |
| HDI Index (world ranking)² | 0.527 - low (152 nd) |
| Health Expenditure¹ | 3.7% of GDP |
| Population prevalence hepatitis B⁴³ | High: ≥8% |
| Population prevalence hepatitis C⁴ | High: ≥5% |
| Population prevalence HIV⁵ | 2.9% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

In 2006 Nigeria established a National blood transfusion policy.⁶ It outlined the structure of the blood transfusion services as follows⁶:

- the National Blood Transfusion Service (NBTS), responsible for blood donor recruitment
- regional blood service centres, responsible for the processing of blood
- local and state government blood service centres, responsible for the appropriate use of blood
- armed forces blood service, responsible for personnel and human resource development
- private and other NGO health establishments⁶

The NBTS operates a number of donor centers around the country but is not located in all areas of the country.⁷ Their long term plan is to be the blood service for the entire country but resources continue to be scarce and funding is limited.⁷

Nigeria has made little progress over the years with voluntary donor recruitment, with only 5% of blood donated from voluntary donors.⁸ The rest is donated by paid and family replacement donors.⁸

Whether for cultural or religious reasons, there are opinion leaders in Nigeria who are against blood donation.⁹ This combined with ignorance and scepticism around blood donation directly contributes to the lack of a voluntary blood donation culture.⁹

10% of worldwide maternal casualties are attributed to Nigeria, which has one of the highest maternal mortality rates in the developing world.¹⁰ Health professionals predict that an improved blood bank system will dramatically decrease the 23% of maternal deaths caused by haemorrhage.¹⁰

NATIONAL SOCIETY (NIGERIAN RED CROSS)

Community education activities are coordinated both nationally and by district/chapter by the National Society. They are funded by the government or Ministry of Health.

The Nigerian Red Cross Society:

- does not receive technical assistance or financial support for VNRBD activities from outside the country
- was previously involved in blood at Level B. It ceased involvement due to limited or no support from government and other agencies on VNRBD
- is planning to increase its current level of involvement in blood-related activities. The NRCS has held talks with the National Blood Transfusion Service to resume community mobilisation for VNRBD but requires technical and financial support to return to a level B and ensure the long term sustainability of their VNRBD activities in Nigeria

3,402 people were donating blood at or with the assistance of the Nigerian Red Cross Society in 2013 (up from 2,120 in 2012).¹¹

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Feb 12]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/ni.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] 2016 [cited 2018 Feb 12]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Feb 12] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Feb 12] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Feb 12]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁶ Aneke J. Okocha CE. Blood Transfusion Safety; current status and challenges in Nigeria. Asian Journal of Transfusion Science [Internet]. 2017 Jan-Jun [cited 2018 Feb 12]; 11(1). Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5345273/>

⁷ Schall, Tom. Re: question. Message to: Vandekerckhove, Philippe (GAP President) 2016 Mar 22 [cited 2018 Feb 14].

⁸ Benedict N, Augustina AO, Nosakhare BG. Blood Donation in Nigeria: Standard of the Donated Blood. J Lab Physicians. [Internet] 2012 Jul-Dec [cited 2018 Feb 14];4(2). Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3574505/>

⁹ Nigeria: Why blood donation is essential for Nigerians. This Day. [Internet] 2014 Feb 20 [cited 2018 Feb 14]. Available from: <http://allafrica.com/stories/201402200162.html>

¹⁰ Obinna C. Robust blood bank system'll reduce maternal mortality. Vanguard. [Internet] 2015 May 20 [cited 2018 Feb 14]. Available from: <http://www.vanguardngr.com/2015/05/robust-blood-bank-systemll-reduce-maternal-mortality/>

¹¹ International Federation of Red Cross and Red Crescent Societies. Federation-Wide Databank and Reporting System. National Society Profiles – Nigerian Red Cross Society. [Internet] 2016 [cited 2018 Feb 13]. Available from: <http://data.ifrc.org/fdrs/societies/nigerian-red-cross-society>

SENEGAL



Senegalese Red Cross Society:

- Level C: National society is involved in occasional community education/awareness programs that help promote voluntary non-remunerated blood donation (e.g. World Blood Donor Day), but no involvement in the systematic recruitment of donors or blood collection.

NATIONAL CONTEXT

| | |
|--|----------------------------------|
| Location | Western Africa |
| Geographical size ranking¹ | 89 th |
| Population (world ranking)¹ | 14.7 million (71 st) |
| Median age¹ | 18.8 |
| Political system¹ | Presidential republic |
| GDP per capita (world ranking)¹ | \$2,700 (197 th) |
| HDI Index (world ranking)² | 0.494 - low (162 nd) |
| Health Expenditure¹ | 4.7% of GDP |
| Population prevalence hepatitis B³ | High: ≥8% |
| Population prevalence hepatitis C⁴ | High: ≥5% |
| Population prevalence HIV⁵ | 0.4% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

In Senegal, there is a national blood bank which is responsible for all activities.

In 2012, there were 53,000 blood donations.⁶ 24,000 of these donations were collected at the Centre for Blood Transfusion.⁶

Senegal reported having achieved 100% VNRBD in 2008⁷, but this dropped to 79.4% in 2010.⁸

In 2010, 20.5% of donations were separated into components.⁸

NATIONAL SOCIETY (SENEGALESE RED CROSS)

The Red Cross organizes blood donor clinics from time to time with the technical support of the blood bank. In this regard, the Red Cross prepares and implements awareness-raising activities in the population and in the media.

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- ¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Feb 12]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/sg.html>
- ² United Nations Development Programme. Human Development Report 2016 [Internet] 2016 [cited 2018 Feb 12]. Available from: <http://hdr.undp.org/en>
- ³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Feb 12] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>
- ⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Feb 12] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>
- ⁵ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Feb 12]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>
- ⁶ Fall H. Business of blood in Senegal. World Newsde Harouna. [Internet] 2013 Mar 14 [cited 2018 Feb 12]. Available from: <http://fallharouna.blogspot.com.au/2013/03/buisness-of-blood-in-senegal.html>
- ⁷ World Health Organisation. Countries that reported having achieved 100% voluntary non-remunerated blood donation in 2008. [Internet] 2011 [cited 2018 Feb 12]. Available from: http://www.who.int/bloodsafety/voluntary_donation/countries_100pct_vnrbd_2011.pdf?ua=1
- ⁸ Tapko JB, Toure B, Sambo LG. Status of blood safety in the WHO African Region – Report of the 2010 Survey. World Health Organization [Internet] 2014 [cited 2018 Feb 12]. Available from: <http://www.afro.who.int/sites/default/files/2017-06/status-of-blood-safety-in-the-who-african-region.pdf>

SEYCHELLES



Seychelles Red Cross:

- Level C: National society is involved in occasional community education/awareness programs that help promote voluntary non-remunerated blood donation (e.g. World Blood Donor Day), but no involvement in the systematic recruitment of donors or blood collection.

NATIONAL CONTEXT

| | |
|--|----------------------------------|
| Location | Indian Ocean |
| Geographical size ranking¹ | 199 th |
| Population (world ranking)¹ | 94 thousand (198 th) |
| Median age¹ | 35.4 |
| Political system¹ | Presidential republic |
| GDP per capita (world ranking)¹ | \$28,900 (68 th) |
| HDI Index (world ranking)² | 0.782 - high (63 rd) |
| Health Expenditure¹ | 3.4% of GDP |
| Population prevalence hepatitis B³ | Low: <2% |
| Population prevalence hepatitis C⁴ | Very low: 0 - <1.0% |
| Population prevalence HIV⁵ | 0.4% |



NATIONAL BLOOD PROGRAM

The Blood Transfusion Unit (BTU) of the Ministry of Health is responsible for blood transfusion in Seychelles.⁶

In 2014, the Seychelles Ministry of Health received its first mobile blood donor van provided by the World Health Organisation.⁶

Each year, 1500 units of blood are donated in the Seychelles – about half of the country's requirement.⁶ The BTU relies heavily on family replacement donations, which make up the majority of the total donations.⁷ In case of emergency, an emergency group of donors made up of members of the army, police, fire brigade and other forces may be called.⁸ There is also a list of about 250 regular donors who may be called in case of emergency.⁸

NATIONAL SOCIETY (SEYCHELLES RED CROSS)

The Red Cross Society of Seychelles (RCSS) provides some assistance to the Ministry of Health for the promotion of blood donation, despite limited resources.⁹ In 2006 the RCSS launched a program to train Blood Donor Recruitment Officers from various organisations to help educate and motivate potential blood donors.¹⁰

Community education activities are coordinated nationally by the National Society. They are funded through projects submitted to donor organisations.

The Seychelles Red Cross:

- does not receive technical assistance or financial support for VNRBD activities from outside the country
- indicated in their survey response that they had not previously been involved in blood at Level A or B, however in previous GAP global mapping (2010) they were Level B
- is not planning to expand or scale back its current level of involvement in blood-related activities

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Feb 12]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/se.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] 2016 [cited 2018 Feb 12]. Available from: <http://hdr.undp.org/en>

³ Schweitzer A, Horn J, Mikolajczyk R, Krause G, Ott J. Estimations of worldwide prevalence of chronic hepatitis B virus infection: a systematic review of data published between 1965 and 2013. The Lancet. [Internet] 2015 Jul 28 [cited 2018 Feb 12];386(10003). Available from: <https://www.sciencedirect.com/science/article/pii/S014067361561412X?via%3Dihub>

⁴ World hepatitis Day July 28 2014 – Hepatitis: Think Again. Seychelles Nation. [Internet]. 2014 Jul 26 [cited 2018 Feb 12]. Available from: <http://www.nation.sc/article.html?id=242457>

⁵ Bovet P, Gédéon J, Louange M, Durasnel P, Aubry P, Gaüzère BA. Situation and health issues in the Seychelles in 2012. Tropical Medicine and Health. [Internet] 2013 Nov [cited 2018 Feb 12];23(3). Available from : https://www.researchgate.net/publication/258954058_Health_situation_and_issues_in_the_Seychelles_in_2012

⁶ Arrigo A. Give blood, save lives: Seychelles moving out to meet blood donors halfway. Seychelles News Agency. [Internet] 2014 Jun 15 [cited 2018 Feb 12]. Available from:

<http://www.seychellesnewsagency.com/articles/738/Give+blood,+save+lives+Seychelles+moving+out+to+meet+blood+donors+halfway>

⁷ World Blood Donor Day. Seychelles Nation. [Internet] 2017 June 23 [cited 2018 Feb 14]. Available from: <http://www.nation.sc/article.html?id=254580>

⁸ Bodwell A. Interview with Prosper Kinabo, Head of Laboratory Services at the Ministry of Health. Today in Seychelles. Facebook. [Internet] 2014 Dec 23 [cited 2018 Feb 12]. Available from: <https://www.facebook.com/todayinsey/posts/762142723823540:0>

⁹ Annual Report 2015. Seychelles Red Cross Society. [Internet] 2016 [cited 2018 Feb 14]. Available from: http://data-api.ifrc.org/documents/SC/AR_Seychelles_2015_EG_Draft.pdf

¹⁰ Red Cross to launch blood donor recruitment programme. Seychelles Nation. [Internet] 2006 Sept 28 [cited 2018 Feb 14]. Available from: <http://www.nation.sc/article.html?id=214757>

SOMALIA



Somali Red Crescent Society:

- Level C: National society is involved in occasional community education/awareness programs that help promote voluntary non-remunerated blood donation (e.g. World Blood Donor Day), but no involvement in the systematic recruitment of donors or blood collection.

NATIONAL CONTEXT

| | |
|--|----------------------------------|
| Location | Eastern Africa |
| Geographical size ranking¹ | 45 th |
| Population (world ranking)¹ | 11 million (83 rd) |
| Median age¹ | 17.9 |
| Political system¹ | Federal parliamentary republic |
| GDP per capita (world ranking)¹ | \$400 (230 th) |
| HDI Index (world ranking)² | n/a |
| Health Expenditure¹ | n/a |
| Population prevalence hepatitis B³ | High Intermediate: 5-7% |
| Population prevalence hepatitis C⁴ | Moderate: 1.5-3.5% |
| Population prevalence HIV⁵ | 0.40% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

In 2013, over 26,000 units of blood were donated through the blood transfusion networks supported by the World Health Organization in Somalia. ⁶ There are four blood banks and 25 blood transfusion units, mainly confined to urban areas. ⁶ There is a lack trained staff, proper equipment, routine supplies and basic amenities such as water in existing transfusion units. ⁶ Mothers account for almost 70% of donated blood used. ⁶

A youth group in Mogadishu, the Somali blood donor volunteers, provides critical support to hospitals in the city handling emergency medical cases. ⁷ The group has 5,000 registered members, including university and high school students, football players, businessmen, teachers, journalists and humanitarian workers. ⁷ 600 members have donated blood since the group formed in November 2015. ⁷ Contact details and blood groups of members are registered with local hospitals, who can call them in case of emergency. ⁷

NATIONAL SOCIETY (SOMALI RED CRESCENT)

In the 1990's the Red Cross was involved in the blood program however following the collapse of the central government, there was no longer an active blood program. The hospital blood banking is based on family replacement donors and few volunteers. The Somali Red Crescent Society currently has a strategy to have regular mobilisation of donors within the hospitals (both public and Red Crescent volunteers), as well as calling for donors in a crisis.

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2017 October 30]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/so.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2017 October 30]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2017 October 30] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2017 October 30] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2017 October 30]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁶ World Health Organisation, Somalia, Mothers in Somalia need more blood donations [Internet] World Health Organisation 2014 June 14 [cited 2017 October 30]. Available from: <http://www.emro.who.int/som/somalia-news/mothers-in-somalia-need-more-blood-donations.html>

⁷ Taysir C. Youth blood donors giving critical support to Somali hospitals. Radio Ergo. [Internet] 2016 July 04 [cited 2017 October 30]. Available from: https://www.radioergo.org/en/blog.php?article_id=2215

SUDAN



Sudanese Red Crescent:

- Level C: National society is involved in occasional community education/awareness programs that help promote voluntary non-remunerated blood donation (e.g. World Blood Donor Day), but no involvement in the systematic recruitment of donors or blood collection.

NATIONAL CONTEXT

| | |
|--|----------------------------------|
| Location | North-eastern Africa |
| Geographical size ranking¹ | 17 th |
| Population (world ranking)¹ | 37.3 million (37 th) |
| Median age¹ | 19.9 |
| Political system¹ | Presidential republic |
| GDP per capita (world ranking)¹ | \$4,600 (174 th) |
| HDI Index (world ranking)² | 0.490 - low (165 th) |
| Health Expenditure¹ | 8.4% of GDP |
| Population prevalence hepatitis B³ | High: ≥8% |
| Population prevalence hepatitis C⁴ | Low: 1.0% - <1.5% |
| Population prevalence HIV⁵ | 0.2% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

Sudan has a National Blood Transfusion Centre, and 49% of blood is VNRBD.⁶

A group of young people have developed an online database which helps to match patients with donors.⁷ The blood is collected at the National Public Health Laboratory in Khartoum.⁷

NATIONAL SOCIETY (SUDANESE RED CRESCENT)

Community education activities are coordinated nationally and by district/chapter by the National Society. They are funded by the blood service, by the National Society, by government or Ministry of Health and by private organisations. Campaigns are held as required, focusing more on rare groups.

The Sudanese Red Crescent:

- does not receive technical assistance or financial support for VNRBD activities from outside the country
- was not previously involved in blood at Level A or B
- is planning to expand its current level of involvement in blood-related activities if it receives funding to do so

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Feb 12]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/su.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] 2016 [cited 2018 Feb 12]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Feb 12] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Feb 01] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Feb 12]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁶ World Health Organisation. Sudan. Heads of UN agencies and development partners lead blood donation in Sudan. [Internet] 2012 Jun 12 [cited 2018 Feb 12]. Available from: <http://www.emro.who.int/sdn/sudan-news/blood-donation.html>

⁷ Middle East Extra Sudan Blood. AP Archive. [Internet] Khartoun: AP Television; 2015 Feb 7 [cited 2018 Feb 12]. Videocast about 6 minutes. Available from: <http://www.aparchive.com/metadata/Middle-East-Extra-Sudan-Blood/57fcaaf060ea1e604afc7a629350d462?query=MIDDLE+EAST+EXTRA¤t=14&orderBy=Relevance&hits=34&referrer=search&search=%2Fsearch%3Fquery%3DMIDDLE%2520EAST%2520EXTRA%26allFilters%3DSudan%3ALocations&allFilters=Sudan%3ALocations&productType=IncludedProducts&page=1&b=50d462>

ZAMBIA

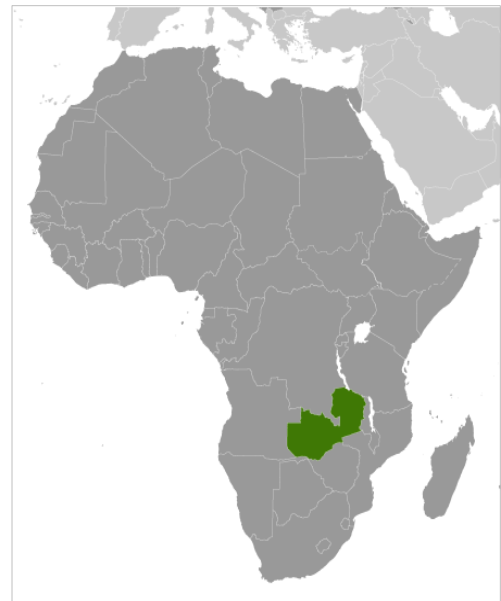


Zambia Red Cross Society:

- Level C: National society is involved in occasional community education/awareness programs that help promote voluntary non-remunerated blood donation (e.g. World Blood Donor Day), but no involvement in the systematic recruitment of donors or blood collection.

NATIONAL CONTEXT

| | |
|--|-------------------------------------|
| Location | Southern Africa |
| Geographical size ranking¹ | 40 th |
| Population (world ranking)¹ | 16 million (69 th) |
| Median age¹ | 16.8 |
| Political system¹ | Presidential republic |
| GDP per capita (world ranking)¹ | \$4,000 (179 th) |
| HDI Index (world ranking)² | 0.579 - medium (139 th) |
| Health Expenditure¹ | 5% of GDP |
| Population prevalence hepatitis B³ | High Intermediate: 5% - 7% |
| Population prevalence hepatitis C⁴ | Low: 1.0% - <1.5% |
| Population prevalence HIV⁵ | 12.4% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

Zambia National Blood Transfusion Service (ZNBTS) is the government unit, mandated by MOH to ensure the safety and adequacy of blood and blood products throughout Zambia.⁶

The ZNBTS is responsible for⁷:

- blood donor recruitment, selection and blood collection
- care for blood donors including counselling
- screening for infectious agents, serological blood grouping and storage of blood units
- the processing of blood components
- supplying blood to hospital blood banks ⁷

The proportion of VNRBD has increased from 73% in 2004 to 100% since 2007.⁶

109,000 units were collected in 2014, which is below the required number of 140,000 (68% of donors are male).⁸

In 2010, 2% of donations were separated into components.⁹

NATIONAL SOCIETY (ZAMBIA RED CROSS)

Community education activities are coordinated nationally and by district/chapter by the National Society. They are funded by the blood service and by private organisations.

The Zambia Red Cross Society:

- does not receive technical assistance or financial support for VNRBD activities from outside the country
- indicated in their survey response that they had not previously been involved in blood at Level A or B, however in previous GAP global mapping (2010) they were Level B
- is planning to expand its current level of involvement in blood-related activities - dependant on funds being made available, the Zambia Red Cross plans to come up with systematic blood recruitment programs to support the collection of blood by the ZNBTS

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Feb 12]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/za.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] 2016 [cited 2018 Feb 12]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Feb 12] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Feb 12] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Feb 12]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁶ Muyinda G. Strategy for Accelerated Establishment of Hospital Transfusion Committees in Zambia. Presented at: AfSBT Congress; 2012 Jun 4-7; Mauritius. Powerpoint presentation available from: <http://www.afsbtedu.org/mauritius2012/usb/day3/talk6/ppt.pdf>

⁷ University Teaching Hospital. Ministry of Health. Government of the Republic of Zambia. Blood bank and Zambia National Blood Transfusion Service. [Internet] 2015 [cited 2018 Feb 12]. Available from: http://www.uth.gov.zm/?page_id=1513

⁸ Malama B. World blood day: time to demystify blood donation. Zambia Daily Mail [Internet] 2015 Jun 14 [cited 2018 Feb 12]. Available from: <https://www.daily-mail.co.zm/?p=33070>

⁹ Tapko JB, Toure B, Sambo LG. Status of blood safety in the WHO African Region – Report of the 2010 Survey. World Health Organization [Internet] 2014 [cited 2018 Feb 12]. Available from: <http://www.afro.who.int/sites/default/files/2017-06/status-of-blood-safety-in-the-who-african-region.pdf>

ZIMBABWE



Zimbabwe Red Cross Society:

- Level C: National society is involved in occasional community education/awareness programs that help promote voluntary non-remunerated blood donation (e.g. World Blood Donor Day), but no involvement in the systematic recruitment of donors or blood collection.

NATIONAL CONTEXT

| | |
|--|----------------------------------|
| Location | Southern Africa |
| Geographical size ranking¹ | 62 nd |
| Population (world ranking)¹ | 13.8 million (72 nd) |
| Median age¹ | 20.0 |
| Political system¹ | Semi-presidential republic |
| GDP per capita (world ranking)¹ | \$2,300 (201 st) |
| HDI Index (world ranking)² | 0.516 - low (154 th) |
| Health Expenditure¹ | 6.4% of GDP |
| Population prevalence hepatitis B³ | High: ≥8% |
| Population prevalence hepatitis C⁴ | Low moderate: 1.5% - <2.0% |
| Population prevalence HIV⁵ | 13.5% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

The National Blood Transfusion Service (NBTS) was formed and registered as a non-profit making organization in May 1989 following the amalgamation of the existing Bulawayo Districts Blood Transfusion Service and the Harare Districts Blood Transfusion Service.⁶ The Service has a constitution that governs its operations as embodied in the Memorandum and Articles of Association.⁶ In 2006, the organization was renamed the National Blood Service Zimbabwe (NBSZ).⁶ The organisational objectives⁶ are:

- to increase accessibility and consistency of safe blood supplies
- to enhance financial management and funding mix
- to enhance marketing, brand awareness and customer satisfaction
- to build blood management capacity and appropriate use of products
- to increase organizational effectiveness and promote research
- to improve waste management, Quality and Safety⁶

NBSZ is geographically located in five areas, with the main site at Harare and regional centres in Bulawayo, Masvingo, Mutare and Gweru.⁶

The NBSZ developed its quality management system based on the ISO 9001:2008 standard and is certified to it by the Standards Association of Zimbabwe (SAZ).⁷ NBSZ is working towards accreditation to the Africa Society for Blood Transfusion standards.⁸

NBSZ operates under a National Blood Policy and Standards for blood donation, processing and clinical transfusion.⁹ The National Blood Policy aims to ensure access, affordability, quality and safety of blood, blood products and services to all who are in need in conformity with the International Society for Blood Transfusion (ISBT) Code of Ethics for Blood Transfusion Services.⁹

NBSZ maintains an activity based cost recovery model designed to implement full cost recovery based pricing policy.⁶

International Funding has been received by NBSZ from NGOs including¹⁰:

- the Swiss Red Cross
- an AIDS prevention organization
- several corporations¹⁰

NBSZ invested over \$4 million in infrastructure, staff development and equipment between 2010 and 2013, with the funds provided by the US President's Emergency Plan for AIDS Relief (PEPFAR).⁸

Zimbabwe achieved 100% VNRBD in 2008.¹¹

In 2015, NBSZ collected 59,837 units, but faced shortages, particularly of group O blood.⁷

In 2015 the following components were produced:

- 46527 red cells
- 388 paediatric red cells
- 7057 plasma
- 4075 platelets
- 83 single donor platelets collected on demand
- 1832 whole blood
- 259 paediatric whole blood
- 214 cryoprecipitate⁷

Most "Club 25" youth blood donation programs around the world are based on the NBSZ "Pledge 25", which began in 1989.¹² NBSZ asked students to pledge 25 blood donations before they turned 25, as it identified that most HIV infections were transmitted from unprotected sex under the age of 25.¹² The pledge encouraged students to conduct healthy a lifestyle, which included safe sex practices.¹² Pledge 25 was a great success: 70% of blood collected in Zimbabwe is from students.¹² While the HIV infection rate amongst the sexually active population was over 20% in 2005, HIV infection rates among blood donors was as low as 0.35%, down from 4.45% in 1989.¹² Pledge 25 club collections contributed 13.19% of collections in 2015.⁷

NATIONAL SOCIETY (ZIMBABWE RED CROSS)

Community education activities are coordinated by district/chapter by the National Society. They are funded by the National Society.

The Zimbabwe Red Cross Society:

- does not receive technical assistance or financial support for VNRBD activities from outside the country
- was previously involved in blood at Level B
- is not planning to expand or scale back its current level of involvement in blood-related activities

- ¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Feb 12]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/zi.html>
- ² United Nations Development Programme. Human Development Report 2016 [Internet] 2016 [cited 2018 Feb 12]. Available from: <http://hdr.undp.org/en>
- ³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Feb 12] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>
- ⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Feb 12] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>
- ⁵ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Feb 12]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>
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- ⁷ National Blood Service Zimbabwe. Annual Report 2016. [Internet] 2016 [cited 2018 Feb 20]. Available from: <http://www.nbsz.co.zw/annual-reports>
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- ¹⁰ MacPherson J. Blood Collections & Transfusion A Global Perspective 2014. Connecticut: The Marketing Research Bureau Inc: 2014. 203p.
- ¹¹ World Health Organisation. Countries that reported having achieved 100% voluntary non-remunerated blood donation in 2008. [Internet] 2011 [cited 2018 Feb 12]. Available from: http://www.who.int/bloodsafety/voluntary_donation/countries_100pct_vnrbd_2011.pdf?ua=1
- ¹² Club 25: Reaching young blood donors. World Blood Donor Day. World Health Organisation. [Internet] 2006 [cited 2018 Feb 26]. Available from: http://www.who.int/worldblooddonorday/campaignkit/WBDD_Club25_English.pdf

ANGOLA



Angola Red Cross:

- National society has no involvement at all, not even advocacy for voluntary non-remunerated blood donation

NATIONAL CONTEXT

| | |
|--|----------------------------------|
| Location | Southern Africa |
| Geographical size ranking¹ | 24 th |
| Population (world ranking)¹ | 29.3 million (46 th) |
| Median age¹ | 15.9 |
| Political system¹ | Presidential republic |
| GDP per capita (world ranking)¹ | \$6,800 (161 st) |
| HDI Index (world ranking)² | 0.533 - low (150 th) |
| Health Expenditure¹ | 3.3% of GDP |
| Population prevalence hepatitis B³ | High: ≥8% |
| Population prevalence hepatitis C⁴ | High: ≥5% |
| Population prevalence HIV⁵ | 1.9% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

The Ministry of Health (MOH) is the organisation responsible for blood safety in Angola.⁶ Within the MOH, the National Blood Centre (NBC) is responsible for developing national policies and guidelines for the delivery and implementation of blood safety interventions.⁶ The NBC is the only official national safe blood service provider in Angola.⁶

In 2013 the blood services remain disjointed.⁶ To improve the blood supply, the MOH/NBC together with the United States Government and private organisations are working to train blood service and medical staff in the areas of:

- quality management of blood donors
- materials handling
- testing for transmittable infections⁶

The US President's Emergency Plan for AIDS Relief (PEPFAR) Angola will be supporting that process providing on-ground technical support to help develop standardizations across blood centres and insure all blood centres are operating under the same regulations and guidelines.⁶

In 2011, Angola's National Blood Centre used family replacement donors for 90% of transfusions nationally.⁷ In the nation's capital, there are 8,000 VNRBD donors covering only 25% of transfusion requirements, whereas in the other provinces there are fewer VNRBD.⁷ A lack of blood in Luanda, Angola, has led to an underground market for blood, where doctors and nurses contact people who will donate blood for money.⁸

Collaborative efforts between the US CDC and Angola Blood Services have focused on evaluation of the current system of donor recruitment, blood collection and storage, and testing of the blood for pathogen contaminants.⁶ Recommendations have been made to expand the number of units collected; the proportion collected from voluntary, non-remunerated donors versus family replacement; the ability to fractionate units into components; and the testing of all units for HIV, Hepatitis B and C, and syphilis in a quality-assured manner.⁶

NATIONAL SOCIETY (ANGOLA RED CROSS)

Angola Red Cross Society is not involved in any blood related activities. It was previously involved in blood at Level C: Individual branches had previously raised small amounts of funding that allowed for community outreach to encourage people to donate blood in Cabinda, Luanda and Benguela province. This was done as recently as 2015. There has since been no financing for this activity.

In 2013, 308 people were donating blood at or with the assistance of the Angola Red Cross.⁹ In 2012 the number was 1,698.⁹

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Feb 12]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/ao.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] 2016 [cited 2018 Feb 12]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Feb 12] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Feb 12] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Feb 12]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁶ Angola Operational Plan Report. FY 2013. President's Emergency Plan for AIDS Relief. [Internet] 2014 [cited 2018 Feb 12]. Available from: <http://www.pepfar.gov/documents/organization/222150.pdf>

⁷ Radio Ecclesia. Centro Nacional de Sangue com redução de sangue (National Blood Centre with reduced blood). [Internet] 2011 Aug 28 [cited 2018 Feb 12]. Available from:

http://www.radioecclesia.org/index.php?option=com_flexicontent&view=items&cid=195:angola&id=7231:centro-nacional-de-sangue-com-reducao-de-sangue-&Itemid=715#.Vz7Owvi97RY

⁸ RA Sociedade. Venda clandestina de sangue em Luanda (Clandestine sale of blood in Luanda). [Internet] 2015 May 31 [cited 2018 Feb 12]. Available from: <http://www.redeangola.info/venda-clandestina-de-sangue-em-luanda/>

⁹ International Federation of Red Cross and Red Crescent Societies. Federation-Wide Databank and Reporting System. National Society Profiles – Angola Red Cross. [Internet] 2016 [cited 2018 Feb 12]. Available from: <http://data.ifrc.org/fdrs/societies/angola-red-cross>

MALI



Mali Red Cross Society:

- National society has no involvement at all, not even advocacy for voluntary non-remunerated blood donation

NATIONAL CONTEXT

| | |
|--|----------------------------------|
| Location | Interior Western Africa |
| Geographical size ranking¹ | 25 th |
| Population (world ranking)¹ | 17.9 million (64 th) |
| Median age¹ | 15.8 |
| Political system¹ | Semi-presidential republic |
| GDP per capita (world ranking)¹ | \$2,200 (203 rd) |
| HDI Index (world ranking)² | 0.442 - low (175 th) |
| Health Expenditure¹ | 6.9% of GDP |
| Population prevalence hepatitis B³ | High: ≥8% |
| Population prevalence hepatitis C⁴ | High: ≥5% |
| Population prevalence HIV⁵ | 1% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

The Centre National de Transfusion Sanguine (CNTS) provides blood transfusion services to the people of Mali.⁶ The CNTS headquarters are located in Bamako but there are services available in all regions under the regional hospitals.⁶

The Safe Blood for Africa Foundation™ (SBFA) completed Blood Safety Assessments and planning events in Mali since 2012.⁶ This organisation is committed to improving blood services so they are sustainable and adhere to the guidelines and recommendation of WHO.⁶ Funding to address long term needs is provided through the US President's Emergency Plan for AIDS Relief (PEPFAR) under a Cooperative Agreement with the US Centers for Disease Control and Prevention (CDC).⁶

In 2010, 30.4% of donations were VNRBD and 30.4% of donations were separated into components.⁷

NATIONAL SOCIETY (MALI RED CROSS)

There is no recent data available on people donating blood with the assistance of the Mali Red Cross Society.⁸

There is no mention of blood related activities in the 2015 Mali Red Cross Annual Report.⁹

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- ¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Feb 12]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/ml.html>
 - ² United Nations Development Programme. Human Development Report 2016 [Internet] 2016 [cited 2018 Feb 12]. Available from: <http://hdr.undp.org/en>
 - ³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Feb 12] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>
 - ⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Feb 12] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>
 - ⁵ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Feb 12]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>
 - ⁶ Safe Blood for Africa Foundation. Mali [Internet] 2017 [cited 2018 Feb 12]. Available from: <http://www.safebloodforafrica.org/index.php/mali>
 - ⁷ Tapko, JB Toure, B Sambo LG. Status of blood safety in the WHO African Region – Report of the 2010 Survey. World Health Organization [Internet] 2014 [cited 2018 Feb 12]. Available from: <http://www.afro.who.int/sites/default/files/2017-06/status-of-blood-safety-in-the-who-african-region.pdf>
 - ⁸ The International Federation of Red Cross and Red Crescent Societies. Mali Red Cross [Internet] 2016 [cited 2018 Feb 12]. Available from: <http://data.ifrc.org/fdrs/societies/mali-red-cross>
 - ⁹ Croix-Rouge Malienne. Rapport Annuel D'Activites. [Internet] 2015 [cited 2018 Feb 12]. Available from: http://data.ifrc.org/public/documents/ML/AR_Mali_2015_FR.pdf

MAURITIUS



Mauritius Red Cross Society:

- National society has no involvement at all, not even advocacy for voluntary non-remunerated blood donation

NATIONAL CONTEXT

| | |
|--|--|
| Location | Southern African island |
| Geographical size ranking¹ | 181 st |
| Population (world ranking)¹ | 1.4 million (156 th) |
| Median age¹ | 34.8 |
| Political system¹ | Parliamentary republic |
| GDP per capita (world ranking)¹ | \$21,600 (86 th) |
| HDI Index (world ranking)² | 0.781 - high (64 th) |
| Health Expenditure¹ | 4.8% of GDP |
| Population prevalence hepatitis B³ | Low: <2% |
| Population prevalence hepatitis C³ | Moderate: 1.5% - 3.5% |
| Population prevalence HIV⁴ | 1.2% among adults aged 15 to 49 (2012) |



NATIONAL BLOOD PROGRAM

National Blood Transfusion Service of Mauritius is a department of the Central Health Laboratory, Ministry of Health and Quality of Life, and is situated within the Victoria Hospital, Candos.⁵ It provides blood and blood components to all public and private health care institutions in Mauritius.⁵ Blood is collected at fixed sites as well as through a system of mobile blood collection throughout the island.⁵ The fixed points of blood collection are found at Blood Banks attached to the four regional hospitals:

- AG Jeetoo Hospital in Port Louis
- SSRN Hospital in the North
- Flacq Hospital
- Jawaharlal Nehru Hospital in Rose Belle South⁵

Regional Blood Banks are attached to the regional hospitals.⁵ Their main activity is to collect blood from the blood donors and to store and issue blood to the hospitals after pre transfusion testing.⁵ Currently, 85% of blood donations are VNRBD.⁶

Unlike mainland Africa where burden of infectious diseases is still high, non-communicable diseases such as diabetes and cardiovascular diseases are emerging as a major challenge for Mauritius.⁷ Almost 30% of the blood supply presently goes to treat anemia in end stage and renal failure patients.⁷

The Mauritian Blood Transfusion service has managed to keep pace with increased demands as reflected in the steady increase in the number of blood units collected, from 20 000 in 1998 to more than 45 000 in 2011.⁷

In 2010, 47.6% of donations were separated into components.⁸

A Blood Donor Association (NGO) is responsible for blood collections and educational campaigns.

NATIONAL SOCIETY (MAURITIUS RED CROSS)

In 2013 no people donated blood with the assistance of the Mauritius Red Cross Society.⁹

There is no mention of blood related activities in the 2012-2016 Mauritius Red Cross Society Strategic Plan 2013-2016.¹⁰

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2017 October 31]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/mp.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] 2016 [cited 2017 October 31]. Available from: <http://hdr.undp.org/en>

³ Ministry of Health and Quality of Life. Health Statistics Report 2014 Island of Mauritius and Island of Rodrigues [Internet] 2015 [cited 2017 October 31]. Available from: <http://health.govmu.org/English/Statistics/Health/Mauritius/Documents/annual%20report%202014.pdf>

⁴ UNICEF. At a glance: Mauritius [Internet] 2013 [cited 2017 October 31]. Available from: https://www.unicef.org/infobycountry/mauritius_statistics.html

⁵ Mauritius Blood Transfusion Service [Internet] 2017 [cited 2017 October 31]. Available from: <http://bts.health.govmu.org/English/Pages/default.aspx>

⁶ Blood Donors Association (Mauritius) <http://www.bdamauritius.com/home.php>

⁷ National Computer Board News. Mauritius hosts 6th International Congress of Africa Society for Blood Transfusion 5 June 2012. <http://www.ncb.mu/English/News/Pages/Mauritius-Hosts-6th-International-Congress-of-Africa-Society-for-Blood-Transfusion.aspx>

⁸ Tapko, JB Toure, B Sambo LG. Status of blood safety in the WHO African Region – Report of the 2010 Survey. World Health Organization [Internet] 2014 [cited 2017 October 31]. Available from: <http://www.afro.who.int/sites/default/files/2017-06/status-of-blood-safety-in-the-who-african-region.pdf>

⁹ The International Federation of Red Cross and Red Crescent Societies. Mauritius Red Cross Society [Internet] 2016 [cited 2017 October 31]. Available from: <http://data.ifrc.org/fdrs/societies/mauritius-red-cross-society>

¹⁰ Mauritius Red Cross Society. Strategic Plan 2013-2016 [Internet] [cited 2017 October 31]. Available from: http://data.ifrc.org/public/documents/MU/SP_Mauritius_2013-2016_eng.pdf

NAMIBIA



Namibia Red Cross:

- National society has no involvement at all, not even advocacy for voluntary non-remunerated blood donation

NATIONAL CONTEXT

| | |
|--|-------------------------------------|
| Location | Southern Africa |
| Geographical size ranking¹ | 35 th |
| Population (world ranking)¹ | 2.5 million (142 nd) |
| Median age¹ | 21.2 |
| Political system¹ | Presidential republic |
| GDP per capita (world ranking)¹ | \$11,500 (134 th) |
| HDI Index (world ranking)² | 0.640 - medium (125 th) |
| Health Expenditure¹ | 8.9% of GDP |
| Population prevalence hepatitis B³ | High: ≥8% |
| Population prevalence hepatitis C⁴ | Low moderate: 1.5% - <2.0% |
| Population prevalence HIV⁵ | 13.8% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

The Southwest Africa Blood Transfusion Service was formed in 1963, and renamed as the Blood Transfusion Service of Namibia (NAMBTS) on 1 January 1987 after Namibia declared independence.⁶ NAMBTS is a fully operational blood transfusion service with four fixed donation centres - two in Windhoek, one of which is the head office, Swakopmund and Walvis Bay.⁶ Mobile donation teams visit 147 different venues annually.⁷

Every donation is tested for HIV, Hepatitis B and C, and Syphilis.⁶

In 2012 approximately 25,000 units of blood were collected from less than 12,000 active blood donors.⁸

A National Blood Policy was developed in 2007, which includes that all blood must be obtained from VNRBD.⁹ Namibia achieved 100% VNRBD in 2008.¹⁰

NATIONAL SOCIETY (NAMIBIA RED CROSS)

The Namibia Red Cross is not involved in blood activities.

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- ¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Feb 12]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/wa.html>
- ² United Nations Development Programme. Human Development Report 2016 [Internet] 2016 [cited 2018 Feb 12]. Available from: <http://hdr.undp.org/en>
- ³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Feb 12] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>
- ⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Feb 12] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>
- ⁵ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Feb 12]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>
- ⁶ Namibia Blood Transfusion Service. About Us. [Internet]. 2018 [cited 2018 Feb 20]. Available from: <http://www.bts.com.na/about-us>
- ⁷ Namibia Blood Transfusion Service. Donation Clinics. [Internet] 2018 [cited 2018 Feb 12]. Available from: <http://www.bts.com.na/>
- ⁸ Radiowave. Charity of the Month. June 2013 – Namibian Blood Transfusion Service (NAMBTS). [Internet] 2013 [cited 2018 Feb 12]. Available from: <http://www.radiowave.com.na/charityofthemonth/119-2013-cotm/871-june-2013-namibian-blood-transfusion-service-nambts>
- ⁹ National Blood Policy. Republic of Namibia. Ministry of Health and Social Services. World Health Organisation. [Internet] 2008 Sept [cited 2018 Feb 12]. Available from: www.who.int/entity/bloodsafety/transfusion_services/NBPolicyNamibiaApril09.pdf
- ¹⁰ World Health Organisation. Countries that reported having achieved 100% voluntary non-remunerated blood donation in 2008. [Internet] 2011 [cited 2018 Feb 12]. Available from: http://www.who.int/bloodsafety/voluntary_donation/countries_100pct_vnrbd_2011.pdf?ua=1

SOUTH AFRICA



South African Red Cross:

- National society has no involvement at all, not even advocacy for voluntary non-remunerated blood donation

NATIONAL CONTEXT

| | |
|--|-------------------------------------|
| Location | Southern Africa |
| Geographical size ranking¹ | 26 th |
| Population (world ranking)¹ | 55 million (25 th) |
| Median age¹ | 27.1 |
| Political system¹ | Parliamentary republic |
| GDP per capita (world ranking)¹ | \$13,400 (116 th) |
| HDI Index (world ranking)² | 0.666 - medium (119 th) |
| Health Expenditure¹ | 8.8% of GDP |
| Population prevalence hepatitis B³ | High Intermediate: 5-7% |
| Population prevalence hepatitis C⁴ | Low moderate: 1.5% - <2.0% |
| Population prevalence HIV⁵ | 18.9% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

The South African National Blood Service (SANBS) operates across all of South Africa with the exclusion of the Western Cape which is serviced by the Western Province Blood Transfusion Service (WPBTS).^{6 7}

Both services are independent not for profit organisations and are accredited by the South African National Accreditation System.^{8 9}

SANBS has 84 blood banks in eight provinces.⁸ In the period 1 April 2014 to 31 March 2015, 484,498 donors gave 807,563 donations.⁸ There were 1,971 apheresis red cell and 27,344 apheresis platelet collections.⁸

WPBTS has blood banks in the three teaching hospitals in Cape Town, each regional branch, at a private hospital in Somerset West, and 90 emergency blood banks throughout the Western Cape.⁹ In the period 1 April 2014 to 31 March 2015, 71,620 donors gave 154,451 donations.⁹ There were 3,603 adult apheresis platelet and 1,522 infant apheresis platelet collections.⁹

South Africa has plasma fractionation facilities at the National BioProducts Institute (NBI).¹⁰ NBI is a private not-for-profit pharmaceutical manufacturer of human plasma-derived medicinal products.¹⁰ Approximately 157,000 litres of plasma from whole blood was sold to NBI in 2013.¹¹

NATIONAL SOCIETY (SOUTH AFRICAN RED CROSS)

The South African Red Cross is not involved in blood activities, and according to the results of the survey has not previously been involved in blood at any level, however GAP records for the South African Red Cross indicate that they were previously involved in Level C (2010).

The South African Red Cross may look at working with the South African Blood Transfusion Service and advocating for blood collection in the future.

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Feb 12]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/sf.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] 2016 [cited 2018 Feb 12]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Feb 12] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Feb 12] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Feb 12]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁶ South African National Blood Service. About Us. [Internet] 2016 [cited 2018 Feb 12]. Available from: <http://www.sanbs.org.za/>

⁷ Western Province Blood Transfusion Service. Home. [Internet] 2015 [cited 2018 Feb 12]. Available from: <http://www.wpblood.org.za/>

⁸ Annual Report 2015. South African National Blood Service [Internet] 2015 [cited 2018 Feb 12]. Available from: https://sanbs.org.za/wp-content/uploads/2016/09/SANBS_AR2015_DRAFT-82.pdf

⁹ Annual Report 2014/15. WP Blood Transfusion Service. [Internet] 2015 [cited 2018 Feb 12]. Available from: http://www.wpblood.org.za/sites/default/files/WP_5690_Annual%20Report_e-version_16C.PDF

¹⁰ National Bioproducts Institute South Africa. Profile. [Internet]. 2018 [cited 2018 Feb 12]. Available from: <http://www.nbisa.org.za/index.php/our-profile>

¹¹ MacPherson J. Blood Collections & Transfusion A Global Perspective 2014. Connecticut: The Marketing Research Bureau Inc: 2014. 203p.

SWAZILAND



Baphalali Swaziland Red Cross Society:

- National society has no involvement at all, not even advocacy for voluntary non-remunerated blood donation

NATIONAL CONTEXT

| | |
|--|----------------------------------|
| Location | Southern Africa |
| Geographical size ranking¹ | 159 th |
| Population (world ranking)¹ | 1.5 million (154 th) |
| Median age¹ | 21.7 |
| Political system¹ | Absolute monarchy |
| GDP per capita (world ranking)¹ | \$9,900 (140 th) |
| HDI Index (world ranking)² | 0.541 - low (148 th) |
| Health Expenditure¹ | 9.3% of GDP |
| Population prevalence hepatitis B³ | High: ≥8% |
| Population prevalence hepatitis C⁴ | Low moderate: 1.5% - <2.0% |
| Population prevalence HIV⁵ | 27.2% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

The Swaziland National Blood Transfusion Services supplies blood to 12 hospitals across the four regions of the country.⁶ Each year, between 10,000 and 11,000 units of blood are collected.⁶ The estimated requirement is 15,000 to 18,000 units of blood annually.⁶

The country's National Blood Transfusion Service Policy was drafted in 2010 and indicates that the Ministry of Health will establish the Swaziland National Blood Transfusion Service to administer the national blood program in accordance with the statutes of the Kingdom of Swaziland.⁷ The Service will be a semiautonomous department with its own identity, structure, building, staff and budget.⁷

Swaziland was reported as having achieved 100% VNRBD in 2008.⁸

Being one of the most HIV affected countries, blood transfusion safety is a priority and the following measures are undertaken⁶:

- HIV low risk group blood donors are targeted, particularly school children
- Donor education, confidential exclusion process and screening for HIV, hepatitis C, hepatitis B and syphilis
- Creation of a database of regular donors⁶

In 2010, 100% of donations were separated into components.⁹

NATIONAL SOCIETY (BAPHALALI SWAZILAND RED CROSS)

The Baphalali Swaziland Red Cross Society is not involved in any blood related activities. It was previously involved in blood at Level A and C. The NS had funding from the Swiss Red Cross from 1991 to 2000. The funding covered staffing, volunteers, and office costs as well as general office running costs.

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Feb 12]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/wz.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] 2016 [cited 2018 Feb 12]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Feb 01] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Feb 12] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Feb 12]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁶ Swaziland Government. Ministry of Health. The National Blood Transfusion Services. [Internet] 2018 [cited 2018 Feb 12]. Available from: http://www.gov.sz/index.php?option=com_content&view=article&id=567&Itemid=579

⁷ Swaziland Government. National Blood Transfusion Service Policy. A Draft. [Internet] 2010 Nov 30 [cited 2018 Feb 12]. Available from: https://www.k4health.org/sites/default/files/SWaziland_National_Blood_Transfusion_draft_policy.pdf

⁸ World Health Organisation. Countries that reported having achieved 100% voluntary non-remunerated blood donation in 2008. [Internet] 2011 [cited 2018 Feb 12]. Available from: http://www.who.int/bloodsafety/voluntary_donation/countries_100pct_vnrbd_2011.pdf?ua=1

⁹ Tapko, JB Toure, B Sambo LG. Status of blood safety in the WHO African Region – Report of the 2010 Survey. World Health Organization [Internet] 2014 [cited 2018 Feb 12]. Available from: <http://www.afro.who.int/sites/default/files/2017-06/status-of-blood-safety-in-the-who-african-region.pdf>

EQUATORIAL GUINEA



Red Cross of Equatorial Guinea did not respond to the GAP Global Mapping survey.

Information available indicates that it is involved in blood activities, but it is not clear at which level.

NATIONAL CONTEXT

| | |
|--|-------------------------------------|
| Location | Central Africa |
| Geographical size ranking¹ | 146 th |
| Population (world ranking)¹ | 778 thousand (164 th) |
| Median age¹ | 19.6 |
| Political system¹ | Presidential republic |
| GDP per capita (world ranking)¹ | \$34,900 (56 th) |
| HDI Index (world ranking)² | 0.592 - medium (135 th) |
| Health Expenditure¹ | 3.8% of GDP |
| Population prevalence hepatitis B³ | High Intermediate: 5-7% |
| Population prevalence hepatitis C⁴ | Moderate: 1.5-3.5% |
| Population prevalence HIV⁵ | 6.20% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

The Equatorial Guinea Health System has two regional and four provincial centres for blood transfusions.⁶

In 2010, 942 units were collected, none of which were VNRBD.⁷

NATIONAL SOCIETY (RED CROSS OF EQUATORIAL GUINEA)

In 2015, 20 people donated blood with the assistance of the Red Cross of Equatorial Guinea, this was a decrease from 28 people in 2014.⁸

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2017 October 30]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/ek.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] 2016 [cited 2017 October 30]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2017 October 30] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2017 October 30] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2017 October 30]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

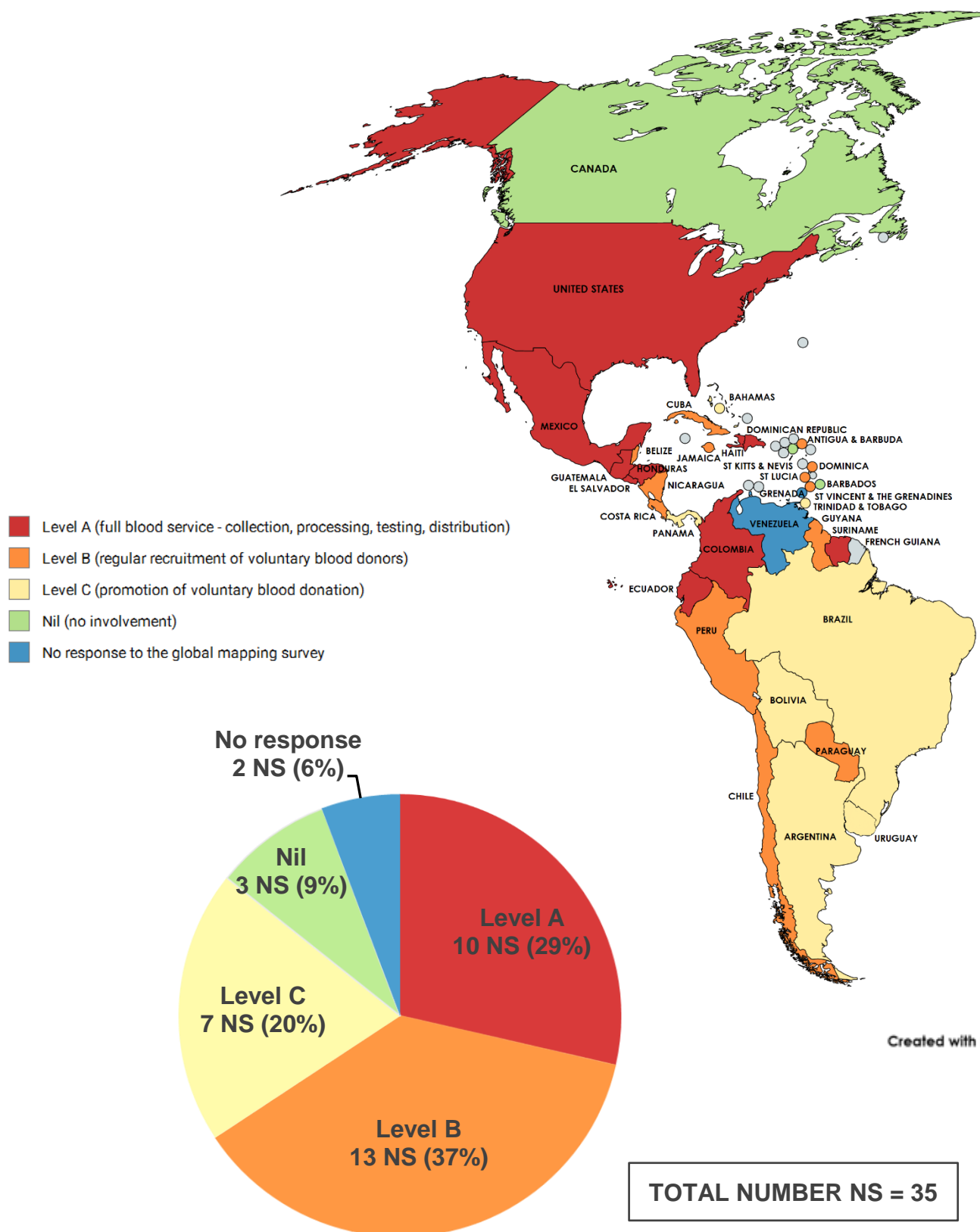
⁶ Andeme Ela MC. Equatorial Guinea Health System Powerpoint Presentation available from: www.egindc.com/presentations/8-8-14/3.pdf

⁷ Tapko, JB Toure, B Sambo LG. Status of blood safety in the WHO African Region – Report of the 2010 Survey. World Health Organization [Internet] 2014 [cited 2017 October 30]. Available from: <http://www.afro.who.int/sites/default/files/2017-06/status-of-blood-safety-in-the-who-african-region.pdf>

⁸ The International Federation of Red Cross and Red Crescent Societies. Red Cross of Equatorial Guinea [Internet] 2016 [cited 2017 October 30]. Available from: <http://data.ifrc.org/fdrs/societies/red-cross-of-equatorial-guinea>

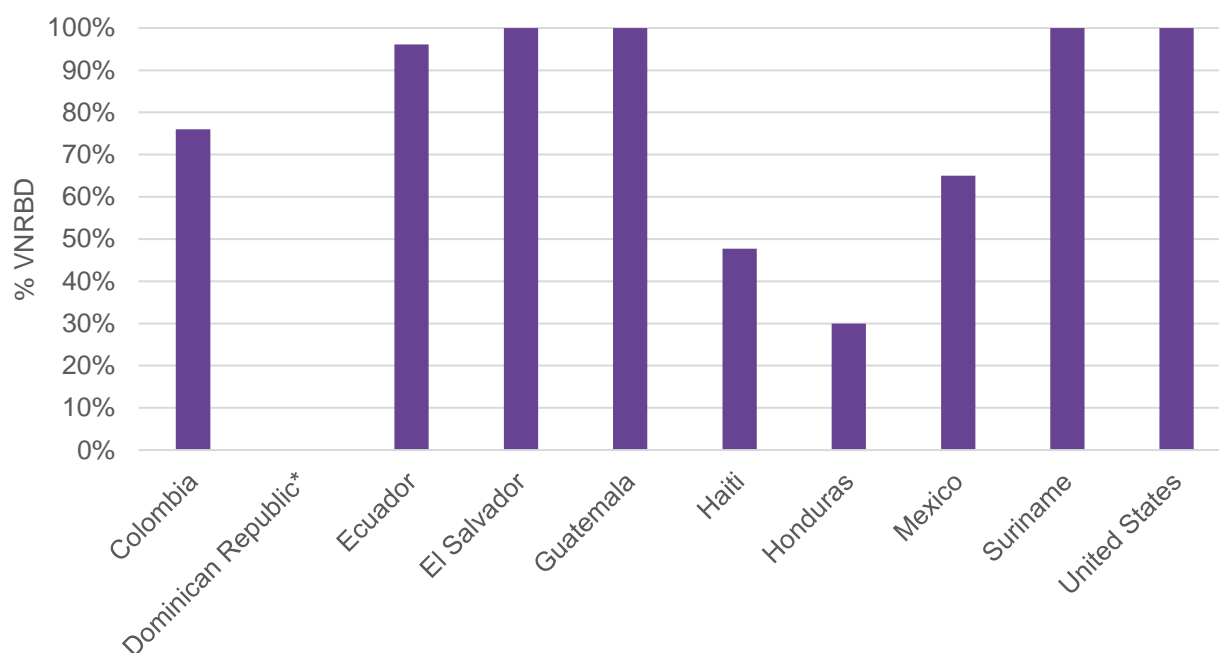
AMERICAS

NATIONAL SOCIETY (NS) INVOLVEMENT IN BLOOD PROGRAMS BY LEVEL



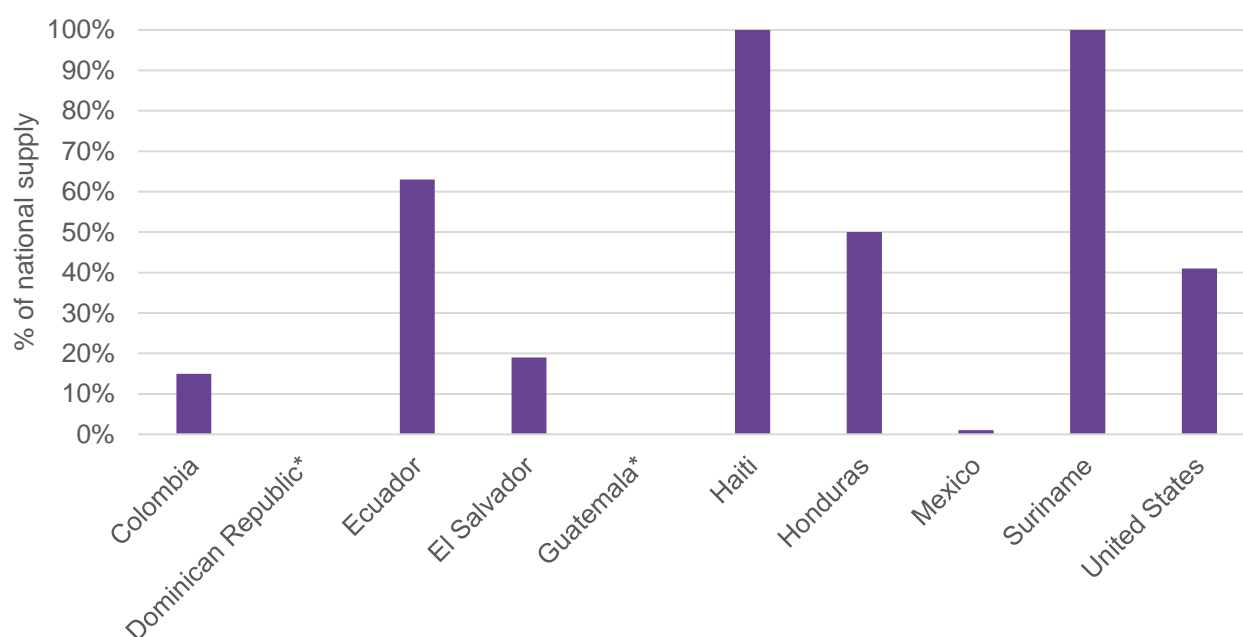
FOCUS ON **LEVEL A** NATIONAL SOCIETY BLOOD SERVICES IN THE REGION

4 out of 10 NSBS have achieved **100% VNRBD**



* Information unknown

2 out of 10 NSBS provide **100% of the national blood supply**



* Information unknown

COLOMBIA



Colombian Red Cross Society:

- Level A (undertakes full blood service provision)
- 15% of the national total blood collection
- 76% VNRBD

NATIONAL CONTEXT

| | |
|--|----------------------------------|
| Location | Northern South America |
| Geographical size ranking¹ | 27 th |
| Population (world ranking)¹ | 47.7 million (29 th) |
| Median age¹ | 30 |
| Political system¹ | Presidential republic |
| GDP per capita (world ranking)¹ | \$14,500 (113 th) |
| HDI Index (world ranking)² | 0.727 - high (95 th) |
| Health Expenditure¹ | 7.2% of GDP |
| Efficiency of Healthcare³ | 47 th of 51 countries |
| Population prevalence hepatitis B⁴ | Low intermediate: 2% - 4% |
| Population prevalence hepatitis C⁵ | Low: 1.0% - <1.5% |
| Population prevalence HIV⁶ | 0.4% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

In 2013, Colombia had 87 collection centres and 87 processing centres with an average annual processing per bank of 8,507 units.⁷

The major providers of blood in Colombia are:

- Colombian Red Cross (collects 15.5% of the national blood supply)
- Colombian Haematology Foundation (22%)
- Hemolife Blood Bank (7.1%)

In 2012/13, a responsible unit and a national policy and quality assurance program was in place, however a specific law, budget and national plan are yet to be implemented.⁷

Blood collection in Colombia is somewhat uncoordinated, with most donations coming from voluntary donors and the rest being collected from replacement donors.⁸ Hospital blood banks perform the majority of the collections, however there is an increasing number of for-profit organisations collecting blood by offering various incentives to the donors.⁸ There are concerns that donors may be unaware of the commercial interests of these new organisations.⁸

National statistics show that in 2013, 86.7% of blood units were from voluntary donors and the rest from family/replacement donors.⁷ In 2015, the Colombian Red Cross Blood Service reported their level of VNRBD as 76%.⁷

Hospitals and blood centres do not appear to promote repeat donations, prompting concerns that most donations are collected from first-time donors.⁸

In 2013, a total of 740,173 units of blood were collected in Colombia.⁷

The proportion of wastage was high: 40.8% for whole blood, 66.3% for FFP and 99.6% for frozen plasma.⁷

NATIONAL SOCIETY (COLOMBIAN RED CROSS)

The Colombian Red Cross:

- annually collects (2015):
 - 109,000 units of whole blood
 - 14,000 units of blood collected by apheresis
- supplies blood to 148 hospitals/clinics
- does not perform transfusions
- is not accredited
- does not receive technical assistance or financial support for VNRBD or blood service activities from outside the country
- is not involved in cord blood stem cells, peripheral stem cells, bone marrow stem cells or bone/solid organ transplants
- is involved in the collection, processing or testing of corneas

Blood donor recruitment and retention activities are coordinated via district/chapter by the National Society. They are funded by the blood service and the National Society. Paid staff are used to undertake school/university programs and other programs. Each blood service creates a different strategy for blood collection. A national strategy for blood collection is in development by the Coordination Network Blood Banks.

The Colombian Red Cross Blood Service does not forward plasma to a fractionation facility.

The Colombian Red Cross Blood Service is planning to consolidate the different blood banks within the Red Cross in order to improve market share and become more effective.

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Jan 25]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/co.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] 2016 [cited 2018 Jan 25]. Available from: <http://hdr.undp.org/en>

³ Bloomberg. Where Do You Get the Most for Your Health Care Dollar? [Internet] 2014 [cited 2018 Jan 25]. Available from: <https://www.bloomberg.com/graphics/infographics/most-efficient-health-care-around-the-world.html>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Jan 25]. Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁵ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Jan 25]. Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁶ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Jan 25]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁷ Pan American Health Organization (PAHO). Supply of Blood for Transfusion in Latin American and Caribbean Countries 2012 and 2013 [Internet] 2015 [cited 2018 Jan 25]. Available from: http://www.paho.org/hq/index.php?option=com_content&view=article&id=1466%3Adocumentos-tecnicos-publicaciones&catid=1163%3Ahss-blood-services-&Itemid=2163&lang=en

⁸ MacPherson J. Blood Collections & Transfusion A Global Perspective 2014. Connecticut: The Marketing Research Bureau Inc: 2014. 203p.

DOMINICAN REPUBLIC



Dominican Red Cross:

- Level A (undertakes full blood service provision)

NATIONAL CONTEXT

| | |
|--|----------------------------------|
| Location | Caribbean |
| Geographical size ranking¹ | 132 nd |
| Population (world ranking)¹ | 10.7 million (86 th) |
| Median age¹ | 28.1 |
| Political system¹ | Presidential republic |
| GDP per capita (world ranking)¹ | \$17,000 (104 th) |
| HDI Index (world ranking)² | 0.722 - high (99 th) |
| Health Expenditure¹ | 4.4% of GDP |
| Efficiency of Healthcare³ | 43 rd of 51 countries |
| Population prevalence hepatitis B⁴ | Low Intermediate: 2-4% |
| Population prevalence hepatitis C⁵ | Low: 1.0% - <1.5% |
| Population prevalence HIV⁶ | 1% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

In 2013, the Dominican Republic had 66 collection centres and 66 processing centres with an average annual processing of 1,678 per bank.⁷

In 2013 a specific law, responsible unit, national policy, national plan and a quality assurance policy was in place. However, there was no specific budget.⁷

In 2013, a total of 110,780 units of blood were collected in the Dominican Republic.⁷ Of these, 15.97% were from VNRBD donors, 2.85% from paid donors and the remainder (81.15%) from family/replacement donors.⁷

NATIONAL SOCIETY (DOMINICAN RED CROSS)

The Dominican Red Cross (DRC) is the major supplier of blood to the health care system, and intend to supply 100% of donation needs within the next four years.⁸ This amounts to approximately 400,000 units per year.⁸ The DRC performs collection, testing and distribution of blood to hospitals.⁸

Data provided to IFRC for 2013 indicates that 32,622 people were donating blood at or with the assistance of the Dominican Red Cross.⁹

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Jan 25]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/dr.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] 2016 [cited 2018 Jan 25]. Available from: <http://hdr.undp.org/en>

³ Bloomberg. Where Do You Get the Most for Your Health Care Dollar? [Internet] 2014 [cited 2018 Jan 25]. Available from: <https://www.bloomberg.com/graphics/infographics/most-efficient-health-care-around-the-world.html>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Jan 25] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁵ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Jan 25] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁶ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Jan 25]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁷ Pan American Health Organization. World Health Organisation. Regional Office for the Americas. Supply of Blood for Transfusion in Latin American and Caribbean Countries 2012 and 2013. [Internet] 2015 [cited 2018 Jan 25]. Available from: http://www.paho.org/hq/index.php?option=com_docman&task=doc_download&gid=31435&Itemid=270

⁸ Vanderkerckchove, Philippe (GAP President). Dominican Republic. Message to: GAP Secretariat (WA). 2016 Sep 7 [cited 2018 Feb 1].

⁹ International Federation of Red Cross and Red Crescent Societies. Dominican Republic Year Report 2012. [Internet] 2013 [cited 2018 Jan 25]. Available from <http://adore.ifrc.org/Download.aspx?FileId=44781>

ECUADOR



Ecuadorian Red Cross:

- Level A (undertakes full blood service provision)
- 63% of the national total blood collection
- 96% VNRBD

NATIONAL CONTEXT

| | |
|--|----------------------------------|
| Location | Western South America |
| Geographical size ranking¹ | 75 th |
| Population (world ranking)¹ | 15.9 million (68 th) |
| Median age¹ | 27.7 |
| Political system¹ | Presidential republic |
| GDP per capita (world ranking)¹ | \$11,200 (136 th) |
| HDI Index (world ranking)² | 0.739 - high (89 th) |
| Health Expenditure¹ | 9.2% of GDP |
| Efficiency of Healthcare³ | 13 th of 51 countries |
| Population prevalence hepatitis B⁴ | Low Intermediate: 2-4% |
| Population prevalence hepatitis C⁵ | Low: 1.0% - <1.5% |
| Population prevalence HIV⁶ | 0.3% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

In 2013, Ecuador had 21 collection centres and 21 processing centres with an average annual processing per bank of 10,906 units.⁷ In 2012/13 a specific law, a responsible unit, a specific budget, a national policy and a national quality assurance program was in place.⁷ However, a national plan is not in place.⁷

The Ecuador Red Cross is the main provider of blood services in Ecuador, collecting 63% of the nation's blood. Other providers are:

- Social Security and Minister of Health (5 blood banks) – (15.53% of blood collected)
- Solca and Junta de Beneficiencia (NGOs) - 4 blood banks (15.97% of blood collected)
- Private 5 blood banks in clinics and Hospitals (7.79% of blood collected)

In November 2012, the first national blood centre was established by the Ecuadorian Red Cross and funded by the Ministry of Public Health at a cost of 3 million dollars.⁸ The blood bank is a parent to other blood banks and is located in Carapung, north of the Capital⁸. It is committed to deliver 16,660 units of blood annually.⁸

In 2013, a total of 229,018 units of blood were collected in Ecuador.⁷ Of those, 57.05% were VNRBD and the rest from family/replacement donors.⁷

NATIONAL SOCIETY (ECUADORIAN RED CROSS)

The Ecuadorian Red Cross has been delivering blood to hospitals and clinics since 1947.⁹

The Ecuador Red Cross Blood Service:

- annually collects (2015):
 - 165,978 units of whole blood
 - 324 units of blood by apheresis
- supplies blood to 300 hospitals/clinics
- supports the national population
- processes collected blood into components
- conducts screening testing of blood for infectious diseases and blood grouping
- conducts cross-matching for transfusion
- forwards plasma to a fractionation facility
- does not perform transfusions
- is accredited to ISO9001-2008
- does not receive technical assistance or financial support for VNRBD or blood service activities from outside the country
- is not involved in the collection, processing or testing of cord blood stem cells, peripheral stem cells, bone marrow stem cells, bone, solid organs or corneas

Blood donor recruitment and retention activities are coordinated nationally and by district/chapter by the National Society. They are funded by the blood service. Paid staff and volunteers are used to undertake school/university programs, Club 25, corporate programs, programs at parks, commercial centres, fairs, events etc.

The Ecuadorian Red Cross Blood Service has changed its functional model from 29 blood banks of different size, capacities, costs and technologies to an integrated model of centers with different levels of processing:

- 14 centres that only collect volunteer blood donors and distribute blood components
- five centres that collect, process and distribute
- two blood banks that collect, process, screen and distribute - one of these is a blood centre (Hemocentro) that performs the screening for infectious diseases (molecular biology NAT and serological) and immunological screening of all donors of the Red Cross Blood System. This Hemocentro processed 96,000 donors and conducted more than a million screening tests in 2015

The April 2016 earthquake destroyed Portoviejo's Red Cross building, which provided blood services in the province of Manabi.¹⁰ With increased support from the Ecuadorian people, makeshift donation centres were set up in Guayaquil and received plenty of blood.¹⁰ The Ecuadorian Red Cross National Blood Centre coped well in the days following the earthquake, with many voluntary blood donors being turned away when demand was fully met.¹¹

- ¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Jan 25]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/ec.html>
- ² United Nations Development Programme. Human Development Report 2016 [Internet] 2016 [cited 2018 Jan 25]. Available from: <http://hdr.undp.org/en>
- ³ Bloomberg. Where Do You Get the Most for Your Health Care Dollar? [Internet] 2014 [cited 2018 Jan 25]. Available from: <https://www.bloomberg.com/graphics/infographics/most-efficient-health-care-around-the-world.html>
- ⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Jan 25] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>
- ⁵ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Jan 25] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>
- ⁶ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Jan 25]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>
- ⁷ Pan American Health Organization. World Health Organisation. Regional Office for the Americas. Supply of Blood for Transfusion in Latin American and Caribbean Countries 2012 and 2013. [Internet] 2015 [cited 2018 Jan 25]. Available from: http://www.paho.org/hq/index.php?option=com_docman&task=doc_download&gid=31435&Itemid=270
- ⁸ Latin America. Current events and news. Red Cross opens first national blood bank in Quito Ecuador. [Internet] 2012 Dec 9 [cited 2018 Jan 25]. Available from: <http://latinamericacurrentevents.com/red-cross-opens-first-national-blood-bank-in-quito-ecuador/24898/>
- ⁹ International Federation of Red Cross and Red Crescent Societies. Ecuador: Nationwide blood drive on World Blood Donor Day. [Internet] 2013 Jun 14 [cited 2018 Jan 25]. Available from: <http://www.ifrc.org/en/what-we-do/health/blood-services/world-blood-donor-day/ecuador-nationwide-blood-drive-on-world-blood-donor-day-62514/>
- ¹⁰ Ecuadorians show solidarity with earthquake victims. Al Jazeera News. [Internet] 2016 Apr 19 [cited 2018 Jan 25]. Available from: <http://www.aljazeera.com/news/2016/04/ecuadoreans-show-solidarity-quake-hit-victims-160418204017877.html>
- ¹¹ International Federation of Red Cross and Red Crescent Societies. Ecuadorian Red Cross Blood Bank Holding Steady in Aftermath of Earthquake. [Internet] 2016 Apr 27 [cited 2018 Jan 25]. Available from: <http://www.ifrc.org/en/news-and-media/news-stories/americas/ecuador/ecuadorian-red-cross-blood-bank-holding-steady-in-aftermath-of-earthquake-72171/>

EL SALVADOR



Salvadorian Red Cross:

- Level A (undertakes full blood service provision)
- 19% of the national total blood collection
- 100% VNRBD

NATIONAL CONTEXT

| | |
|--|-------------------------------------|
| Location | Central America |
| Geographical size ranking¹ | 153 rd |
| Population (world ranking)¹ | 6.2 million (108 th) |
| Median age¹ | 27.1 |
| Political system¹ | Presidential Republic |
| GDP per capita (world ranking)¹ | \$8,900 (144 th) |
| HDI Index (world ranking)² | 0.680 - medium (117 th) |
| Health Expenditure¹ | 6.8% of GDP |
| Population prevalence hepatitis B³ | Nil reports |
| Population prevalence hepatitis C⁴ | Low: 1.0% - <1.5% |
| Population prevalence HIV⁵ | 0.6% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

The major providers of blood in El Salvador are:

- Ministry of Health – 53%
- Salvadoran Social Security Institute – 26%
- Salvadorian Red Cross Society – 19%
- Military Hospital – 2%

El Salvador has substantially reduced its number of collection and processing centres.⁶ Whilst in 2012, there were 42 collection centres as well as 42 processing centres in El Salvador with an average annual processing of 2,250 per bank, by 2013, the numbers had reduced to 27 collection centres and 16 processing centres with an average annual processing of 6,131 per bank.⁶

In 2012/13 a responsible unit, national policy, national plan and national quality assurance program were in place, however there was no specific law, no specific budget and no quality assurance policy.⁶

In 2013, a total of 98,079 units of blood were collected in El Salvador, of these, 14.3% were from VNRBD donors and the remainder (85.7%) from family/replacement donors.⁶

NATIONAL SOCIETY (SALVADORIAN RED CROSS)

In 1975, the Salvadorian Red Cross (SRC) became involved in the promotion of VNRBD, and in 1981, the National Blood Program and Blood Centre at the SRC was established.⁷

The Salvadorian Red Cross:

- annually collects 8000 units of whole blood (2016)
- processes collected blood into components
- conducts screening of blood for infectious diseases and blood grouping
- conducts cross-matching for transfusion
- does not forward plasma to a fractionation facility
- does not perform transfusions
- is not involved in cord blood stem cells, peripheral stem cells, bone marrow stem cells, bone/solid organ transplants or corneas
- supports the national and private hospitals
- supplies blood to 80 hospitals and clinics
- is in the process of obtaining accreditation
- does not receive technical assistance or financial support for VNRBD or blood service activities from outside the country

Blood donor recruitment and retention activities are coordinated at a national level. They are funded by the blood service and the National Society. Paid staff and volunteers are used to undertake recruitment activities at schools, universities, club 25 and for corporate programs.

The SRC is planning to expand its current level of participation in activities related to blood.

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Jan 25]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/es.html>

² United Nations Development Program. Human Development Report 2016 [Internet] 2016 [cited 2018 Jan 25]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Jan 25] <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Jan 25] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Jan 25]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁶ Pan American Health Organization. World Health Organisation. Regional Office for the Americas. Supply of Blood for Transfusion in Latin American and Caribbean Countries 2012 and 2013. [Internet] 2015 [cited 2018 Jan 25]. Available from: http://www.paho.org/hq/index.php?option=com_docman&task=doc_download&gid=31435&Itemid=270

⁷ Salvadorian Red Cross. What is the blood center? [Internet] 2017 [cited 2018 Jan 25]. Available from: <http://www.cruzrojasal.org.sv/seccion.php?seccion=2&cat=21>

GUATEMALA



Guatemalan Red Cross:

- Level A (undertakes full blood service provision)
- 100% VNRBD

NATIONAL CONTEXT

| | |
|--|-------------------------------------|
| Location | Central America |
| Geographical size ranking¹ | 108 th |
| Population (world ranking)¹ | 15.5 million (70 th) |
| Median age¹ | 22.1 |
| Political system¹ | Presidential republic |
| GDP per capita (world ranking)¹ | \$8,200 (152 nd) |
| HDI Index (world ranking)² | 0.640 - medium (125 th) |
| Health Expenditure¹ | 6.2% of GDP |
| Population prevalence hepatitis B³ | Low: <2% |
| Population prevalence hepatitis C⁴ | Low: 1.0% - <1.5% |
| Population prevalence HIV⁵ | 0.5% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

In 2013, Guatemala had 61 collection centres and 61 processing centres with an average annual processing of 1,998 per bank.⁶

The major providers of blood in Guatemala are:

- National Hospital – 63%
- Guatemalan Red Cross – 37% (of total national VNRBD collections)

In 2012/13, a specific law for blood, a responsible unit, a specific budget and a national plan were in place.⁶ A national policy was partially in place.⁶ However, there was no quality assurance policy or national quality assurance program.⁶

In 2013, a total of 121,921 units of blood were collected in Guatemala.⁶ Of these, just 4.81% were from VNRBD donors, with the remainder from family/replacement donors.⁶

NATIONAL SOCIETY (GUATEMALAN RED CROSS)

The Guatemalan Red Cross:

- annually collects 2500 units of whole blood (2016)
- does not process collected blood into components
- does not conduct screening of blood for infectious diseases and blood grouping
- does not conduct cross-matching for transfusion
- does not forward plasma to a fractionation facility
- does not perform transfusions
- is not involved in cord blood stem cells, peripheral stem cells, bone marrow stem cells, bone/solid organ transplants or corneas
- supplies blood to 25 to 30 hospitals/clinics
- is not accredited
- does not receive technical assistance or financial support for VNRBD or blood service activities from outside the country

The draft Promotion of Voluntary Blood Donation supported by the Ministry of Public Health and Social Assistance is currently being implemented

Blood donor recruitment and retention activities are coordinated nationally. They are funded by Government or MOH. Paid staff / volunteers are used to undertake club 25 programs.

The Guatemalan Red Cross is not planning to expand or scale back the current level of involvement in blood-related activities.

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Jan 25]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/gt.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] 2016 [cited 2018 Jan 25]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Jan 25] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Jan 25] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Jan 25]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁶ Pan American Health Organization. World Health Organisation. Regional Office for the Americas. Supply of Blood for Transfusion in Latin American and Caribbean Countries 2012 and 2013. [Internet] 2015 [cited 2018 Jan 25]. Available from: http://www.paho.org/hq/index.php?option=com_docman&task=doc_download&gid=31435&Itemid=270

HAITI



Haiti Red Cross Society:

- Level A (undertakes full blood service provision)
- 100% of the national total blood collection
- 48% VNRBD

NATIONAL CONTEXT

| | |
|--|----------------------------------|
| Location | Caribbean |
| Geographical size ranking¹ | 148 th |
| Population (world ranking)¹ | 10.6 million (88 th) |
| Median age¹ | 23 |
| Political system¹ | Semi-presidential republic |
| GDP per capita (world ranking)¹ | \$1,800 (214 th) |
| HDI Index (world ranking)² | 0.493 - low (163 rd) |
| Health Expenditure¹ | 7.6% of GDP |
| Population prevalence hepatitis B³ | High: ≥8% |
| Population prevalence hepatitis C⁴ | Low: 1.0% - <1.5% |
| Population prevalence HIV⁵ | 2.1% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

In 2012/13 a specific law for blood, a responsible unit, a specific budget, a national policy and a national plan were in place.⁶ However, there was no quality assurance policy and a national quality assurance program was partially in place.⁶

In 2004, annual blood collections increased from less than 10,000 units to over 30,000 units in 2012 due to support from the Global Fund to Fight AIDS, Malaria and Tuberculosis and the US President's Emergency Plan for AIDS Relief (PEPFAR).⁷ In 2013, a total of 27,478 units of blood were collected in Haiti.⁶ Of these, 59.16% were from VNRBD donors, with the remainder from family/replacement donors.⁶

The American Red Cross has supplied blood to Haiti on at least two recent occasions - after the earthquake in 2010 (5305 units), and in 2015 (1000 units) after its automated blood testing equipment failed.⁸

NATIONAL SOCIETY (HAITIAN RED CROSS)

There has always been a strong focus on promoting voluntary blood donation since the Haitian Red Cross Society was established in 1932.⁹ In 1986, the Haitian state assigned a national directive to the Haiti Red Cross to maintain a well-stocked and secure blood bank.⁹

The Haiti Red Cross:

- annually collects 27,752 units of whole blood (2015)
- processes collected blood into components
- conducts screening of blood for infectious diseases and blood grouping
- conducts cross-matching for transfusion
- does not forward plasma to a fractionation facility
- does not perform transfusions
- is not involved in cord blood stem cells, peripheral stem cells, bone marrow stem cells, bone/solid organ transplants or corneas
- supports the national population
- supplies blood to 92 hospitals/clinics
- is accredited
- receives technical assistance and financial support for VNRBD and blood service activities from outside the country (Technical - PAHO/WHO, Swiss Red Cross: Financial – US President's Emergency Plan for AIDS Relief (PEPFAR), Global Fund, Swiss Red Cross, American Red Cross)

Blood donor recruitment and retention activities are coordinated nationally. They are funded by the Ministry of Health, with specific projects funded by PEPFAR, Global Fund, Swiss Red Cross and American Red Cross. Paid staff / volunteers are used to undertake school/university, club 25, corporate and church programs.

The Haiti Red Cross is planning to expand activities by extending the number of donor sites and extension of club 25.

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Jan 25]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/ha.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] 2016 [cited 2018 Jan 25]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Jan 25] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Jan 25] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Jan 25]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁶ Pan American Health Organization. World Health Organisation. Regional Office for the Americas. Supply of Blood for Transfusion in Latin American and Caribbean Countries 2012 and 2013. [Internet] 2015 [cited 2018 Jan 25]. Available from: http://www.paho.org/hq/index.php?option=com_docman&task=doc_download&gid=31435&Itemid=270

⁷ World Health Organisation. World Blood Donor Day. Blood donation success stories from countries. Haiti. Young people rise to the challenge. [Internet] 2012 [cited 2018 Jan 25]. Available from: http://www.who.int/worldblooddonorday/media/success_story/en/index1.html

⁸ American Red Cross. Red Cross working across borders to ensure Haiti's blood supply. [Internet] 2015 Feb 25 [cited 2018 Jan 25]. Available from: <http://www.redcross.org/news/article/Red-Cross-Working-across-Borders-to-Ensure-Haitis-Blood-Supply>

⁹ International Federation of Red Cross and Red Crescent Societies. Saving lives every day in Haiti through blood donation. [Internet] 2014 Jun 24 [cited 2018 Jan 25]. Available from: <http://www.ifrc.org/en/news-and-media/news-stories/americas/haiti/saving-lives-every-day-in-haiti-through-blood-donation-66207/>

HONDURAS



Honduran Red Cross:

- Level A (undertakes full blood service provision)
- 50% of the national total blood collection
- 30% VNRBD

NATIONAL CONTEXT

| | |
|--|-------------------------------------|
| Location | Central America |
| Geographical size ranking¹ | 104 th |
| Population (world ranking)¹ | 9 million (94 th) |
| Median age¹ | 22.6 |
| Political system¹ | Presidential republic |
| GDP per capita (world ranking)¹ | \$5,500 (170 th) |
| HDI Index (world ranking)² | 0.625 - medium (130 th) |
| Health Expenditure¹ | 8.7% of GDP |
| Population prevalence hepatitis B³ | Not available |
| Population prevalence hepatitis C⁴ | Low: 1.0% - <1.5% |
| Population prevalence HIV⁵ | 0.40% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

The Honduran Red Cross Blood Service is the main provider of blood services in the country, collecting 50% of the nation's blood (but testing more than this figure). The remaining 50% are collected by the Ministry of Health hospitals.

In 2013, Honduras had 25 collection centres and 19 processing centres with an average annual processing per bank of 3,636 units.⁶

A responsible unit and a specific budget are in place, but there is no specific law and no national plan or quality assurance program.⁶ A national policy is partially in place.⁶

In 2013, a total of 69,082 units of blood were collected in Honduras.⁶ Of those, 15% were VNRBD, 0.9% remunerated and 84.1% from family/replacement donors.⁶

Malaria is endemic in much of rural and regional Honduras.⁷ Combined with frequent outbreaks of dengue, up to 60% of donors may be deferred by history⁷ in hospital blood banks.

Blood demand has been increasing due to trauma from car accidents and violence, and improved access to health services, leading to shortages of blood.⁷

Plasma not transfused is discarded, as there are no fractionation facilities.⁷ In 2013, 24.2% of plasma was discarded nationally.⁶ The discard rate was 6.6% for packed red blood cells and 25.8% for platelets.⁶

NATIONAL SOCIETY BLOOD PROGRAM (HONDURAN RED CROSS)

The Honduran Red Cross Blood Service:

- annually collects 39,000 units of whole blood (2015)
- supplies blood to over 70 hospitals/clinics
- processes collected blood into components
- conducts screening testing of blood for infectious diseases and blood grouping
- conducts NAT testing for HIV, HBV and HCV since 2011
- does not conduct cross-matching for transfusion – this is conducted by hospitals, with the exception of special cases
- does not perform transfusions
- does not forward plasma to a fractionation facility
- is accredited to AABB (since 2005)⁷
- receives technical assistance from the Swiss Red Cross to develop an adequate governance structure, increase voluntary blood donation and improve blood cold chain
- does not receive any additional financial support for VNRBD or blood service activities from outside the country
- is not involved in the collection, processing or testing of cord blood stem cells, peripheral stem cells, bone marrow stem cells, bone, solid organs or corneas

The Blood Service is planning to expand – it is working to assume a mandate for 100% of all units collected in the country. The Blood Service is already testing units collected by most hospitals from the Ministry of Health (Approximately 7000 units a year).

Blood donor recruitment and retention activities are coordinated nationally by the National Society. They are funded by the blood service. Paid staff are used to undertake school/university programs, Club 25, corporate programs and programs at churches.

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2017 October 03]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/ho.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] 2016 [cited 2017 October 03]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2017 October 03] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2017 October 03] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2017 October 03]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁶ Pan American Health Organization. World Health Organisation. Regional Office for the Americas. Supply of Blood for Transfusion in Latin American and Caribbean Countries 2012 and 2013. [Internet] 2015 [cited 2017 October 03]. Available from: http://www.paho.org/hq/index.php?option=com_docman&task=doc_download&gid=31435&Itemid=270

⁷ MacPherson J. Blood Collections & Transfusion A Global Perspective 2014. Connecticut: The Marketing Research Bureau Inc: 2014. 203p.

MEXICO



Mexican Red Cross:

- Level A (undertakes full blood service provision)
- 1% of the national total blood collection
- 65% VNRBD

NATIONAL CONTEXT

| | |
|--|----------------------------------|
| Location | North America |
| Geographical size ranking¹ | 15 th |
| Population (world ranking)¹ | 125 million (11 th) |
| Median age¹ | 28.3 |
| Political system¹ | Federal presidential republic |
| GDP per capita (world ranking)¹ | \$19,500 (89 th) |
| HDI Index (world ranking)² | 0.762 - high (77 th) |
| Health Expenditure¹ | 6.3% of GDP |
| Efficiency of Healthcare³ | 12 th of 51 countries |
| Population prevalence hepatitis B⁴ | Low: <2% |
| Population prevalence hepatitis C⁵ | Low: 1.0% - <1.5% |
| Population prevalence HIV⁶ | 0.3% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

In both 2012 and 2013, Mexico had 556 collection centres.⁷

The majority of these were hospital based with the public sector responsible for most of the collections.⁸

The major providers of blood in Mexico are:

- Mexican Institute of Social Security – 38%
- National Blood Transfusion Centre (State Centres) – 20%
- Health Secretary – 15%
- Mexican Red Cross – 1%

National policies and regulations are developed by the National Blood Transfusion Center (CNTS), which forms part of the National Institutes of Health in Mexico.⁸ The largest public cord blood bank in Mexico, CordMX, is managed by the CNTS.⁸

In 2012/13, there was a specific law for blood, a responsible unit, a specific budget, a national policy, a national plan, a quality assurance policy and a national quality assurance program in place.⁷

In order to try and increase the quality of blood, the Mexican Ministry of Health released new regulations in December 2012.⁸ These also incorporated new rules for donor screening.⁸

In 2013, a total of 1,364,395 units of blood were collected in Mexico – a 23% reduction over the previous year (1,768,862 units).⁷ Of these, just 3.06% were from VNRBD donors – the lowest level in Latin America.⁷ The remainder of blood was from family/replacement donors.⁷

The proportion of Mexicans who donated yearly was approximately 1.5%.⁸

Deferral rates were as high as 33% for replacement donors and 25% for voluntary donors.⁷

NATIONAL SOCIETY (MEXICAN RED CROSS)

The Mexican Red Cross:

- annually collects (2017):
 - 14,269 units of whole blood
 - approximately 250 units by apheresis
- processes collected blood into components
- conducts screening of blood for infectious diseases and blood grouping
- conducts cross-matching for transfusion
- does not forward plasma to a fractionation facility
- performs transfusions for internal and makeup by patients only
- is not involved in cord blood stem cells, peripheral stem cells, bone marrow stem cells, bone/solid organ transplants or corneas
- supports mainly trauma / accident patients
- supplies blood to 180 hospitals/clinics
- is not accredited
- does not receive technical assistance or financial support for VNRBD or blood service activities from outside the country

Blood donor recruitment and retention activities are coordinated by district/chapter. They are funded by the blood service and National Society. Paid staff and volunteers are used to undertake school/university and corporate programs.

The Mexican Red Cross is planning to expand its current level of participation in activities related to blood by regaining the national coordination of transfusion medicine for national project development.

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Jan 25]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/mx.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] 2016 [cited 2018 Jan 25]. Available from: <http://hdr.undp.org/en>

³ Bloomberg. Where Do You Get the Most for Your Health Care Dollar? [Internet] 2014 [cited 2018 Jan 25]. Available from: <https://www.bloomberg.com/graphics/infographics/most-efficient-health-care-around-the-world.html>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Jan 25] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁵ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Jan 25] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁶ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Jan 25]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁷ Pan American Health Organization. World Health Organisation. Regional Office for the Americas. Supply of Blood for Transfusion in Latin American and Caribbean Countries 2012 and 2013. [Internet] 2015 [cited 2018 Jan 25]. Available from: http://www.paho.org/hq/index.php?option=com_docman&task=doc_download&gid=31435&Itemid=270

⁸ MacPherson J. Blood Collections & Transfusion A Global Perspective 2014. Connecticut: The Marketing Research Bureau Inc: 2014. 203p.

SURINAME



Suriname Red Cross:

- Level A (undertakes full blood service provision)
- 100% of the national total blood collection
- 100% VNRBD

NATIONAL CONTEXT

| | |
|--|-----------------------------------|
| Location | Northern South America |
| Geographical size ranking¹ | 93 rd |
| Population (world ranking)¹ | 600 thousand (172 nd) |
| Median age¹ | 29.8 |
| Political system¹ | Presidential republic |
| GDP per capita (world ranking)¹ | \$13,900 (114 th) |
| HDI Index (world ranking)² | 0.725 - high (97 th) |
| Health Expenditure¹ | 5.7% of GDP |
| Population prevalence hepatitis B³ | Low Intermediate: 2-4% |
| Population prevalence hepatitis C⁴ | Low: 1.0% - <1.5% |
| Population prevalence HIV⁵ | 1.02% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

Suriname Red Cross is the sole provider of blood services in the country with 100% of blood from VNRBD.

In 2013, Suriname had just one collection centre and one processing centre.⁶

In 2012/13 a specific law, responsible unit, specific budget, national policy and national plan were in place, however the quality assurance policy was only partially implemented.⁶

NATIONAL SOCIETY BLOOD PROGRAM (SURINAME RED CROSS)

The National Blood Bank of the Suriname Red Cross:

- annually collects 10,521 units of whole blood (2014)
- supplies blood to five hospitals/clinics
- has one fixed site collection centre
- collects 11% of blood supply from its four mobile sites
- processes collected blood into components

- conducts screening testing of blood for infectious diseases and blood grouping
- does not conduct cross-matching for transfusion – this is conducted by hospitals
- does not perform transfusions
- does not forward plasma to a fractionation facility
- is working towards accreditation using the Guide to the preparation, use and quality assurance of blood components (European Committee)
- receives technical assistance from a twinning facility with Sanquin Consulting Services 2014 – 2016.⁷ The Twinning facility Suriname-Nederland UTSN is a foundation funded by the Ministry of Foreign Affairs of the Netherlands.⁷ This Twinning project is designed to build capacity and educate blood bank employees.⁷ It includes building of a sustainable training program for NBB to improve quality of blood products and services.⁷
- does not receive financial support for VNRBD or blood service activities from outside the country
- is not involved in the collection, processing or testing of cord blood stem cells, peripheral stem cells, bone marrow stem cells, bone, solid organs or corneas

Blood donor recruitment and retention activities are coordinated nationally by the National Society. They are funded by the blood service. Paid staff and volunteers are used to undertake school/university programs, Club 25 and corporate programs.

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Jan 29]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/ns.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] 2016 [cited 2018 Jan 29]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Jan 29] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Jan 29] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Jan 29]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁶ Pan American Health Organization. World Health Organisation. Regional Office for the Americas. Supply of Blood for Transfusion in Latin American and Caribbean Countries 2012 and 2013. [Internet] 2015 [cited 2018 Jan 29]. Available from: http://www.paho.org/hq/index.php?option=com_docman&task=doc_download&gid=31435&Itemid=270

⁷ Sanquin. Twinning project capacity building Suriname Red Cross – Blood Bank [Internet] 2017 Jul 31. [cited 2018 Jan 29]. Available from: <https://www.sanquin.org/products-and-services/consulting-services/projects-and-consultations/suriname>

UNITED STATES OF AMERICA



American Red Cross:

- Level A (undertakes full blood service provision)
- 41% of the national total blood collection
- 100% VNRBD

NATIONAL CONTEXT

| | |
|--|---------------------------------------|
| Location | North America |
| Geographical size ranking¹ | 4 th |
| Population (world ranking)¹ | 327 million (3 rd) |
| Median age¹ | 38.1 |
| Political system¹ | Constitutional federal republic |
| GDP per capita (world ranking)¹ | \$59,500 (20 th) |
| HDI Index (world ranking)² | 0.920 - very high (10 th) |
| Health Expenditure¹ | 17.1% of GDP |
| Efficiency of Healthcare³ | 44 th of 51 countries |
| Population prevalence hepatitis B⁴ | Low: <2% |
| Population prevalence hepatitis C⁵ | Low: 1.0% - <1.5% |
| Population prevalence HIV⁶ | 0.29% (2013) |



NATIONAL BLOOD PROGRAM

In 2013, American Red Cross and American Blood Centres were collectively responsible for the collection of 13.1 million units, or 96.1% of the supply.⁷ The remaining 3.9% of units were collected by hospitals.⁷ This represents a significant decline of 12.1% from 2011.⁷

American Blood Centres operate as a trade organisation, representing 67 independent blood centres with more than 600 blood donation collection sites, providing approximately half of the nation's blood supply.⁸ American Red Cross Biomedical Services collects and processes approximately 40% of the blood supply.⁹

The Department of Defence has a separate blood collection system.¹⁰ The Armed Services Blood Program consists of approximately 20 blood banks and blood centres in the US and around the world.¹⁰

According to their website¹¹, the US Food & Drug Administration (FDA) Center for Biologics Evaluation and Research (CBER) is responsible for regulating the following aspects of the blood services:

- the collection of blood and blood components used for transfusion
- the manufacture of pharmaceuticals derived from blood and blood components, such as clotting factors
- establishes standards for the products themselves¹¹

FDA also regulates related products that are used to prepare blood products or to ensure the safety of the blood supply.¹¹ FDA develops and enforces quality standards, inspects blood establishments and monitors reports of errors, accidents and adverse clinical events.¹¹

NATIONAL SOCIETY (AMERICAN RED CROSS)

The American Red Cross began an early blood processing program in World War II in order to be able to supply blood on a large scale.⁹ This program became a civilian blood program after the war.⁹ Today, the American Red Cross is the only major supplier of blood and blood products in the United States, responsible for the collection, processing and distribution of approximately 41% of the blood supply for use in transfusion centres nationwide.⁹

The American Red Cross operates in a competitive environment for fresh blood product donors (whole blood and apheresis). It also operates in a competitive environment for plasma for fractionation/source plasma with organisations that compensate/renumerate donors.

In the 2015/16 financial year, 2.8 million people donated approximately 4.8 million units of blood.⁹

The American Red Cross:

- annually collects (2015/16)
 - 4.1 million units of whole blood
 - 700,000 units of blood collected by apheresis
- supplies blood to approximately 2,500 hospitals/clinics
- processes collected blood into components
- conducts screening testing of blood for infectious diseases and blood grouping
- conducts cross-matching for transfusion – this is also conducted by hospitals
- does not perform transfusions
- forwards plasma to a fractionation facility
- is accredited to FDA and AABB
- does not receive technical assistance or financial support for VNRBD or blood service activities from outside the country
- is involved in the collection, processing or testing of peripheral stem cells and bone marrow stem cells
- is not involved in the collection, processing or testing of cord blood stem cells, bone, solid organs or corneas

The American Red Cross is not planning to expand or scale back activities.

Blood donor recruitment and retention activities are coordinated nationally by the National Society. They are funded by the blood service. Paid staff and volunteers are used to undertake school/university programs and corporate programs.

- ¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Jan 29]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/us.html>
- ² United Nations Development Programme. Human Development Report 2016 [Internet] 2016 [cited 2018 Jan 29]. Available from: <http://hdr.undp.org/en>
- ³ Bloomberg. Where Do You Get the Most for Your Health Care Dollar? [Internet] 2014 [cited 2018 Jan 29]. Available from: <https://www.bloomberg.com/graphics/infographics/most-efficient-health-care-around-the-world.html>
- ⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Jan 29] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>
- ⁵ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Jan 29] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>
- ⁶ HIV Surveillance Report Volume 26. Diagnoses of HIV Infection in the United States and Dependent Areas, 2014. Centers for Disease Control and Prevention; 2015 [cited 2018 Jan 29]. Available from: <http://www.cdc.gov/hiv/library/reports/surveillance/>
- ⁷ Whitaker B, Rajbhandary S, Harris A. The 2013 AABB Blood Collection, Utilisation, and Patient Blood Management Survey Report. AABB; 2015 Dec 18 [cited 2018 Jan 29]. 88p. Available from: <http://www.aabb.org/research/hemovigilance/bloodsurvey/Documents/2013-AABB-Blood-Survey-Report.pdf>
- ⁸ American Blood Centres. What We Do. [Internet] 2018 [cited 2018 Jan 29]. Available from: <http://www.americasblood.org/>
- ⁹ American Red Cross. About Us. [Internet] 2018 [cited 2018 Jan 29]. Available from: <http://www.redcrossblood.org/>
- ¹⁰ Armed Services Blood Program. History. [Internet] 2018 [cited 2018 Jan 29]. Available from: <http://www.militaryblood.dod.mil/default.aspx>
- ¹¹ U.S. Food & Drug Administration. Blood & Blood Products. [Internet]. 2018 [cited 2018 Jan 29]. Available from: <http://www.fda.gov/BiologicsBloodVaccines/BloodBloodProducts/default.htm>

ANTIGUA AND BARBUDA



Antigua and Barbuda Red Cross Society:

- Level B - involved in the systematic/regular recruitment of voluntary non-remunerated blood donors but with no involvement in blood collection

NATIONAL CONTEXT

| | |
|--|---|
| Location | Caribbean |
| Geographical size ranking¹ | 201 st |
| Population (world ranking)¹ | 95 thousand (197 th) |
| Median age¹ | 31.9 |
| Political system¹ | Parliamentary democracy under a constitutional monarchy |
| GDP per capita (world ranking)¹ | \$26,300 (76 th) |
| HDI Index (world ranking)² | 0.786 - high (62 nd) |
| Health Expenditure¹ | 5.5% of GDP |
| Population prevalence hepatitis B³ | Nil reports |
| Population prevalence hepatitis C⁴ | Approx. 0.8% in the Caribbean |
| Population prevalence HIV⁵ | 0.61% (2014) |



NATIONAL BLOOD PROGRAM

The country has only one blood bank, which is located at Mount St John's Medical Centre.⁶

In 2010, there were two collection centres in Antigua and Barbuda.⁷

In 2010 no specific law for blood, responsible unit, specific budget, national policy, national plan or national quality assurance program was in place.⁷

In 2010, a total of 1,321 units of whole blood were collected in Antigua and Barbuda.⁸ 5% were from VNRBD donors with the remainder from family/replacement donors.⁸

NATIONAL SOCIETY (ANTIGUA AND BARBUDA RED CROSS)

Blood donor recruitment and retention activities are coordinated and funded nationally by the National Society. Volunteers are used for donor recruitment. The NS has a locally tailored program which piggy-backs off of the Club 25 principle.

The Antigua and Barbuda Red Cross Society:

- does not receive technical assistance or financial support for VNRBD activities from outside the country
- received financial support which has now come to an end - the ABRC launched a local initiative to promote a culture of voluntary blood donations to support the lone Public Hospital, which continues to operate at a huge deficit when it comes to blood demand and supply. This initiative was made possible by the Australian High Commission-Direct Aid Program out of Trinidad for the 2015 Calendar year. The Program is dubbed “Club Life” and the blood donors are identified as heroes.⁶
- has not previously been involved at Level A
- is planning to scale back its current level of involvement in blood-related activities now it has reached the end of the one year financial assistance - activities will be scaled back significantly as local support is minimal

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Jan 29]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/ac.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] 2016 [cited 2018 Jan 29]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Jan 29] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Jan 29] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ UNAIDS. Country Progress Report. Antigua and Barbuda January 2014 – December 2014. [Internet] 2015 [cited 2018 Jan 29]. Available from: http://www.unaids.org/sites/default/files/country/documents/ATG_narrative_report_2015.pdf

⁶ Joseph K. Red Cross initiates drive to boost blood bank's supplies. The Daily Observer. [Internet] 2014 Dec 29 [cited 2018 Jan 29]. Available from: <https://antiguaobserver.com/red-cross-initiates-drive-to-boost-blood-banks-supplies/>

⁷ Pan American Health Organization. World Health Organisation. Regional Office for the Americas. Supply of Blood for Transfusion in Latin American and Caribbean Countries 2010 and 2011. [Internet] 2013 [cited 2018 Jan 29]. Available from: http://www.paho.org/hq/index.php?option=com_docman&task=doc_view&gid=22468&Itemid=270

⁸ Pan American Health Organization. World Health Organisation. Regional Office for the Americas. Supply of Blood for Transfusion in Latin American and Caribbean Countries 2012 and 2013. [Internet] 2015 [cited 2018 Jan 29]. Available from: http://www.paho.org/hq/index.php?option=com_docman&task=doc_download&gid=31435&Itemid=270

BELIZE



Belize Red Cross Society:

- Level B - involved in the systematic/regular recruitment of voluntary non-remunerated blood donors but with no involvement in blood collection

NATIONAL CONTEXT

| | |
|--|---|
| Location | Central America |
| Geographical size ranking¹ | 152 nd |
| Population (world ranking)¹ | 360 thousand (177 th) |
| Median age¹ | 22.7 |
| Political system¹ | Parliamentary democracy under a constitutional monarchy |
| GDP per capita (world ranking)¹ | \$8,300 (151 st) |
| HDI Index (world ranking)² | 0.706 - high (103 rd) |
| Health Expenditure¹ | 5.8% of GDP |
| Population prevalence hepatitis B³ | Low intermediate: 2% - 4% |
| Population prevalence hepatitis C⁴ | Low: 1.0% - <1.5% |
| Population prevalence HIV⁵ | 1.8% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

In 2013, Belize had seven collection centres and one processing unit.⁶

In 2012/13 a responsible unit was in place, but there was no specific law, specific budget, national policy, national plan or quality assurance policy.⁶

In 2013, a total of 5,120 units of whole blood were collected in Belize.⁶ 13.8% were from VNRBD donors with the remainder from family/replacement donors.⁶

NATIONAL SOCIETY (BELIZE RED CROSS)

Blood donor recruitment and retention activities are coordinated by district/chapter by the National Society. They are funded by the National Society. Volunteers are used for donor recruitment. With the support of the Ministry of Health and the Blood Bank, the branch makes public calls for blood donations and on pre-scheduled days, along with the Blood Bank, carries out collections.

The Belize Red Cross Society:

- does not receive technical assistance or financial support for VNRBD activities from outside the country
- has not previously been involved at Level A
- is planning to expand. Presently advocacy is the focus of initiatives in blood collection. One of 8 branches more actively conducts events to recruit blood donors at least quarterly. The NS hopes to expand these events to every branch in the country.

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Jan 29]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/bh.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] 2016 [cited 2018 Jan 29]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Jan 29] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Jan 29] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Jan 29]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁶ Pan American Health Organization. World Health Organisation. Regional Office for the Americas. Supply of Blood for Transfusion in Latin American and Caribbean Countries 2012 and 2013. [Internet] 2015 [cited 2018 Jan 29]. Available from: http://www.paho.org/hq/index.php?option=com_docman&task=doc_download&gid=31435&Itemid=270

CHILE



Chilean Red Cross:

- Level B - involved in the systematic/regular recruitment of voluntary non-remunerated blood donors but with no involvement in blood collection

NATIONAL CONTEXT

| | |
|--|---------------------------------------|
| Location | Southern South America |
| Geographical size ranking¹ | 39 th |
| Population (world ranking)¹ | 17.8 million (65 th) |
| Median age¹ | 34.4 |
| Political system¹ | Presidential republic |
| GDP per capita (world ranking)¹ | \$24,600 (80 th) |
| HDI Index (world ranking)² | 0.847 - very high (38 th) |
| Health Expenditure¹ | 7.8% of GDP |
| Efficiency of Healthcare³ | 17 th of 51 countries |
| Population prevalence hepatitis B⁴ | Low: <2% |
| Population prevalence hepatitis C⁵ | Low moderate: 1.5% - <2.0% |
| Population prevalence HIV⁶ | 0.5% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

In 2007, there were 59 public organizations collecting, processing and testing blood in Chile.⁷ Each organization relied predominantly on replacement donors.⁷ The Ministry of Health (MINSAL) created a National Blood Commission (NBC) to support the national health authorities in establishing a National Service for Blood and Tissues.⁷

By 2013, Chile had 46 collection centres and 19 processing centres with an average annual processing of 12,100 per bank.⁸

Chile is one of the countries identified by PAHO as setting an example for the organization of blood services.⁸ In 2012/13 a responsible unit, specific budget, national policy, national plan and a quality assurance policy were in place.⁸ A specific law was partially in place.⁸

A 2010 journal article⁹ provides further insight into recent history of the National blood program in Chile: *“In recent years, the Chilean Health Ministry has developed a strategy in order to improve the safety and opportunity of the blood supply through the creation of a nationally coordinated blood transfusion service, centralizing collection management, production and testing in three Blood Centers along the country and promoting voluntary, regular, blood donation.”*

In 2013, a total of 229,911 units of blood were collected in Chile.⁸ Of these, 23.5% were from VNRBD donors, with the remainder from family/replacement donors.⁸

NATIONAL SOCIETY (CHILEAN RED CROSS)

Blood donor recruitment and retention activities are coordinated and funded by the National Society. The Chilean Red Cross:

- uses volunteers for donor recruitment programs (school and university programs, Club 25 and corporate programs)
- does not receive technical assistance or financial support for VNRBD activities from outside the country
- was previously involved at Level A (15 years ago)
- is planning to expand into social media if there is enough financial support.
- collected or assisted in the collection of blood from 334 people in 2015, up from 280 in 2014¹⁰

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Jan 29]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/ci.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] 2016 [cited 2018 Jan 29]. Available from: <http://hdr.undp.org/en>

³ Bloomberg. Where Do You Get the Most for Your Health Care Dollar? [Internet] 2014 [cited 2018 Jan 29]. Available from: <https://www.bloomberg.com/graphics/infographics/most-efficient-health-care-around-the-world.html>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Jan 29] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁵ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Jan 29] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁶ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Jan 29]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁷ Contreras M, Martínez C, Larrondo M and Cárdenas C. The steps taken for establishing a blood service in Chile. ISBT Science Series. [Internet] 2012 July [cited 2018 Jan 29];7(1):10-11. Available from: <http://onlinelibrary.wiley.com/doi/10.1111/j.1751-2824.2012.01591.x/abstract>

⁸ Pan American Health Organization. World Health Organisation. Regional Office for the Americas. Supply of Blood for Transfusion in Latin American and Caribbean Countries 2012 and 2013. [Internet] 2015 [cited 2018 Jan 29]. Available from: http://www.paho.org/hq/index.php?option=com_docman&task=doc_download&gid=31435&Itemid=270

⁹ Herrera C, Martínez C, Armanet L, Cárcamo A, Boye P, Lyng C. Blood donation in Chile: Replacement and volunteer donors. Biologicals [Internet] 2010 Jan;38(1):36-8. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/19926303>

¹⁰ The International Federation of Red Cross and Red Crescent Societies. Chilean Red Cross [Internet] 2016 [cited 2018 Jan 29]. Available from: <http://data.ifrc.org/fdrs/societies/chilean-red-cross>

COSTA RICA



Costa Rican Red Cross:

- Level B - involved in the systematic/regular recruitment of voluntary non-remunerated blood donors but with no involvement in blood collection

NATIONAL CONTEXT

| | |
|--|----------------------------------|
| Location | Central America |
| Geographical size ranking¹ | 130 th |
| Population (world ranking)¹ | 4.9 million (123 rd) |
| Median age¹ | 31.3 |
| Political system¹ | Presidential republic |
| GDP per capita (world ranking)¹ | \$17,200 (101 st) |
| HDI Index (world ranking)² | 0.776 - high (69 th) |
| Health Expenditure¹ | 9.3% of GDP |
| Population prevalence hepatitis B³ | Low: <2% |
| Population prevalence hepatitis C⁴ | Low: 1.0% - <1.5% |
| Population prevalence HIV⁵ | 0.4% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

In 2013, Costa Rica had 33 collection centres and 30 processing units with an average annual processing of 2,273 units (or 8.74 per working day).⁶

In 2012 there was no specific blood law, responsible unit, specific budget, national policy, national commission or quality assurance policy or program in place.⁶

The Costa Rican Seventh-day Adventist Church received acknowledgement from the National Blood Bank in 2013 for successfully organising the most blood donations.⁷

In 2013, a total of 68,209 units of whole blood were collected in Costa Rica.⁶ Approximately 68% were from VNRBD donors with the remainder from family/replacement donors.⁶

NATIONAL SOCIETY (COSTA RICAN RED CROSS)

Blood donor recruitment and retention activities are coordinated by district/chapter by the National Society. They are funded by the government or Ministry of Health.

Paid staff, volunteers and the community in general are used for donor recruitment at NS level in coordination of the National Blood Bank.

The Costa Rican Red Cross:

- does not receive technical assistance or financial support for VNRBD activities from outside the country
- has not previously been involved at Level A
- is planning to maintain its level of activities

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Jan 29]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/cs.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] 2016 [cited 2018 Jan 29]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Jan 29] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Jan 29] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Jan 29]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁶ Pan American Health Organization. World Health Organisation. Regional Office for the Americas. Supply of Blood for Transfusion in Latin American and Caribbean Countries 2012 and 2013. [Internet] 2015 [cited 2018 Jan 29]. Available from: http://www.paho.org/hq/index.php?option=com_docman&task=doc_download&gid=31435&Itemid=270

⁷ Cernas M. Costa Rica: Church recognised for outstanding contribution in obtaining blood donations. Seventh-day Adventist Church. Inter-American Division. [Internet] 2013 Jul 31 [cited 2018 Jan 29]. Available from: <http://www.interamerica.org/2013/08/05/costa-rica-church-recognized-for-outstanding-contribution-in-obtaining-blood-donations/>

CUBA



Cuban Red Cross:

- Level B - involved in the systematic/regular recruitment of voluntary non-remunerated blood donors but with no involvement in blood collection

NATIONAL CONTEXT

| | |
|--|----------------------------------|
| Location | Central American Island |
| Geographical size ranking¹ | 107 th |
| Population (world ranking)¹ | 11 million (80 th) |
| Median age¹ | 41.5 |
| Political system¹ | Communist state |
| GDP per capita (world ranking)¹ | \$11,900 (132 nd) |
| HDI Index (world ranking)² | 0.775 - high (66 th) |
| Health Expenditure¹ | 11.1% of GDP |
| Population prevalence hepatitis B³ | Low: <2% |
| Population prevalence hepatitis C⁴ | Low: 1.0% - <1.5% |
| Population prevalence HIV⁵ | 0.4% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

In 2013, Cuba had 120 collection centres and 46 processing centres with an average annual processing per bank of 8,946 units.⁶

In 2012/13 a specific law, a responsible unit, a national policy, a national plan and a national quality assurance program were in place.⁶ However, there was no specific budget for blood related activities.⁶

In 2013, a total of 411,545 units of blood were collected in Cuba.⁶ All (100%) of these were from VNRBD donors.⁶

NATIONAL SOCIETY (CUBAN RED CROSS)

Blood donor recruitment and retention activities are coordinated by district/chapter by the National Society, however these are not funded. Volunteers are used for donor recruitment. Club 25 and workplace recruitment programs are used.

The Cuban Red Cross:

- does not receive technical assistance or financial support for VNRBD activities from outside the country
- has not previously been involved at Level A
- is planning to maintain its level of activities

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Jan 29]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/cu.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] 2016 [cited 2018 Jan 29]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Jan 29] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Jan 29] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Jan 29]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁶ Pan American Health Organization. World Health Organisation. Regional Office for the Americas. Supply of Blood for Transfusion in Latin American and Caribbean Countries 2012 and 2013. [Internet] 2015 [cited 2018 Jan 29]. Available from: http://www.paho.org/hq/index.php?option=com_docman&task=doc_download&gid=31435&Itemid=270

DOMINICA



Dominica Red Cross Society:

- Level B - involved in the systematic/regular recruitment of voluntary non-remunerated blood donors but with no involvement in blood collection

NATIONAL CONTEXT

| | |
|--|----------------------------------|
| Location | Central American Island |
| Geographical size ranking¹ | 189 th |
| Population (world ranking)¹ | 74 thousand (202 nd) |
| Median age¹ | 33.5 |
| Political system¹ | Parliamentary republic |
| GDP per capita (world ranking)¹ | \$12,000 (130 th) |
| HDI Index (world ranking)² | 0.726 - high (96 th) |
| Health Expenditure¹ | 5.5% of GDP |
| Population prevalence hepatitis B³ | Nil reports |
| Population prevalence hepatitis C⁴ | Approx. 0.8% in the Caribbean |
| Population prevalence HIV⁵ | 0.75% |



NATIONAL BLOOD PROGRAM

In 2013, Dominica had one collection centre and one processing centre.⁶

In 2012/13 there was no specific law for blood, responsible unit, specific budget, national policy, national plan or national quality assurance program in place.⁶

In 2013, a total of 1,071 units of blood were collected in Dominica.⁶ 8.68% of these were from VNRBD donors, with the remainder from replacement donors.⁶

NATIONAL SOCIETY (DOMINICA RED CROSS)

Blood donor recruitment and retention activities are coordinated nationally and funded by the National Society. Paid staff and volunteers are used for donor recruitment programs (Club 25).

The Dominica Red Cross Society:

- does not receive technical assistance or financial support for VNRBD activities from outside the country
- has not previously been involved at Level A
- is planning to maintain its level of activities.

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Jan 29]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/do.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] 2016 [cited 2018 Jan 29]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Jan 29] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Jan 29] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ Males dominate HIV infection in Dominica. Dominica News Online. [Internet] 2013 Feb 27 [cited 2018 Jan 29]. Available from: <http://dominicanewsonline.com/news/homepage/news/health/males-dominate-hiv-infection-in-dominica/>

⁶ Pan American Health Organization. World Health Organisation. Regional Office for the Americas. Supply of Blood for Transfusion in Latin American and Caribbean Countries 2012 and 2013. [Internet] 2015 [cited 2018 Jan 29]. Available from: http://www.paho.org/hq/index.php?option=com_docman&task=doc_download&gid=31435&Itemid=270

GUYANA



Guyana Red Cross Society:

- Level B - involved in the systematic/regular recruitment of voluntary non-remunerated blood donors but with no involvement in blood collection

NATIONAL CONTEXT

| | |
|--|-------------------------------------|
| Location | Northern South America |
| Geographical size ranking¹ | 86 th |
| Population (world ranking)¹ | 738 thousand (166 th) |
| Median age¹ | 26.2 |
| Political system¹ | Parliamentary republic |
| GDP per capita (world ranking)¹ | \$8,300 (150 th) |
| HDI Index (world ranking)² | 0.638 - medium (127 th) |
| Health Expenditure¹ | 5.2% of GDP |
| Population prevalence hepatitis B³ | Nil reports |
| Population prevalence hepatitis C⁴ | Low: 1.0% - <1.5% |
| Population prevalence HIV⁵ | 1.6% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

Guyana's National Blood Transfusion Service (NBTS) was established in 1990 with the main objectives of "ensuring the safety of blood through comprehensive screening and testing for recognized infectious agents and to encourage regular voluntary donations towards ensuring the adequacy of blood and blood products, with the goal of eliminating the spread of HIV and other infectious diseases through blood and blood products."⁶ This first stand-alone blood bank was set up in partnership with the World Health Organisation (WHO) and the European Union (EU).⁶

Prior to 1990, there were several 'blood banks' at Georgetown Hospital, four regional hospitals and four private hospitals.⁶ By 2013, Guyana had five collection centres and one processing centre.⁷

In 2012/13 a responsible unit and a specific budget were in place, and a national plan was partially in place.⁷ However, there was no specific law, national policy, national plan or quality assurance policy.⁷

In 2013, a total of 11,148 units of blood were collected in Guyana.⁷ Of these, 95.79% were from VNRBD donors, with the remainder from replacement donors.⁷

NATIONAL SOCIETY (GUYANA RED CROSS)

Guyana Red Cross provided two sets of responses to the global mapping survey.

| 2015 | 2016 |
|--|--|
| Blood donor recruitment and retention activities are coordinated nationally | Blood donor recruitment and retention activities are coordinated By district/chapter |
| They are funded by the National Society, the government or Ministry of Health and by private organisations | They are funded by the National Society |
| Volunteers are used for donor recruitment programs (Club 25) | Both paid staff and volunteers are used for recruitment programs, such as school/university programs, Club 25, corporate programs and other (individuals, as well as current participants in Red Cross regular training programs). |
| The National Society receives both technical assistance and financial support for VNRBD or blood service activities from outside the country | The National Society received neither technical assistance nor financial support for VNRBD or blood service activities from outside the country |

The Guyana Red Cross Society:

- has not previously been involved at Level A
- is planning to expand its level of involvement in blood related activities - the National Society has been requested to increase the number of VNRBD, and hopes to widen the Club 25 aspect as well as reaching out to new groups of donor locations

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Jan 29]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/gy.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] 2016 [cited 2018 Jan 29]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Jan 29] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Jan 29] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Jan 29]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁶ Guyana poised to attain 100% voluntary blood donation by 2012. Kaieteur News online. [Internet] 2011 Oct 16 [cited 2018 Jan 29]. Available from: <http://www.kaieteurnews.com/2011/10/16/guyana-poised-to-attain-100-voluntary-blood-donation-by-2012/>

⁷ Pan American Health Organization. World Health Organisation. Regional Office for the Americas. Supply of Blood for Transfusion in Latin American and Caribbean Countries 2012 and 2013. [Internet] 2015 [cited 2018 Jan 29]. Available from: http://www.paho.org/hq/index.php?option=com_docman&task=doc_download&gid=31435&Itemid=270

JAMAICA



Jamaica Red Cross:

- Level B - involved in the systematic/regular recruitment of voluntary non-remunerated blood donors but with no involvement in blood collection

NATIONAL CONTEXT

| | |
|--|---|
| Location | Caribbean |
| Geographical size ranking¹ | 167 th |
| Population (world ranking)¹ | 3 million (138 th) |
| Median age¹ | 26 |
| Political system¹ | Parliamentary democracy under a constitutional monarchy |
| GDP per capita (world ranking)¹ | \$9,200 (143 rd) |
| HDI Index (world ranking)² | 0.730 - high (94 th) |
| Health Expenditure¹ | 5.4% of GDP |
| Population prevalence hepatitis B³ | Low Intermediate: 2-4% |
| Population prevalence hepatitis C⁴ | Low: 1.0% - <1.5% |
| Population prevalence HIV⁵ | 1.7% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

In 2013, Jamaica had ten collection centres^{6,7} and three processing centres with an average annual processing per bank of 10,226 units.⁶ In 2015, a mobile blood collection unit was added to the National Blood Transfusion Service to allow access to donors unable to reach collection centres.⁸

In 2012/13 a specific budget for blood related activities and a national policy were in place.⁶ However there was no specific law, responsible unit, national plan or national quality assurance program.⁶

In 2013, a total of 30,679 units of blood were collected in Jamaica.⁶ 16.58% of these were from VNRBD donors with the remainder from replacement donors.⁶

NATIONAL SOCIETY (JAMAICA RED CROSS)

Blood donor recruitment and retention activities are coordinated by district/chapter by the National Society. They are funded by the National Society. Paid staff are used for donor recruitment programs (Club 25 and JRC Care Program).

The Jamaican Red Cross:

- does not receive technical assistance or financial support for VNRBD activities from outside the country
- has not previously been involved at Level A
- is planning to expand its level of involvement in blood related activities by revamping the JRC Care Program to recruit additional blood donors and enhancing the Club 25 Program in institutions where it exists and seek to implement in other institutions going forward

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Jan 29]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/jm.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] 2016 [cited 2018 Jan 29]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Jan 29] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Jan 29] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Jan 29]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁶ Pan American Health Organization. World Health Organisation. Regional Office for the Americas. Supply of Blood for Transfusion in Latin American and Caribbean Countries 2012 and 2013. [Internet] 2015 [cited 2018 Jan 29]. Available from: http://www.paho.org/hq/index.php?option=com_docman&task=doc_download&gid=31435&Itemid=270

⁷ National Blood Transfusion Service – Government of Jamaica. Collection Centres. [Internet] 2018 [cited 2018 Jan 29]. Available from: <http://nbts.gov.jm/collection-centres/>

⁸ The Ministry of Health – Government of Jamaica. The National Blood Transfusion Service receives a much needed Mobile Blood Collection Unit. [Internet] 2015 Jan 3 [cited 2018 Jan 29]. Available from: <http://moh.gov.jm/the-national-blood-transfusion-service-receives-a-much-needed-mobile-blood-collection-unit/>

NICARAGUA



Nicaraguan Red Cross:

- Level B - involved in the systematic/regular recruitment of voluntary non-remunerated blood donors but with no involvement in blood collection

NATIONAL CONTEXT

| | |
|--|-------------------------------------|
| Location | Central America |
| Geographical size ranking¹ | 99 th |
| Population (world ranking)¹ | 6 million (111 th) |
| Median age¹ | 25.7 |
| Political system¹ | Presidential republic |
| GDP per capita (world ranking)¹ | \$5,800 (165 th) |
| HDI Index (world ranking)² | 0.645 - medium (124 th) |
| Health Expenditure¹ | 9% of GDP |
| Population prevalence hepatitis B³ | Low: <2% |
| Population prevalence hepatitis C⁴ | Low: 1.0% - <1.5% |
| Population prevalence HIV⁵ | 0.2% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

Until February 2016 and since 1986⁶, the Nicaraguan Red Cross was the national and sole provider of blood services in the country, utilising 100% of blood from voluntary donors.⁶ In 2012/13 a specific law, a specific budget, a national policy, a national plan and a national quality assurance program were in place.⁷

From 2016, the Ministry of Health (MINSa) assumed the responsibility of the blood service at its five locations in accordance with Law 369 on transfusion safety.^{6,8} All centres, staff and equipment were transferred to MINSa under the agreement, and the National Blood Service no longer operates under the name and emblem of the Nicaraguan Red Cross.⁶

The Nicaraguan Red Cross continues to support and cooperate with MINSa to promote and encourage voluntary blood donation at the National Blood Service.⁸

NATIONAL SOCIETY (NICARAGUAN RED CROSS)

The Nicaragua Red Cross Blood Service responded to the GAP Global Mapping survey as Level A in 2015, however since completing the survey has moved to Level B involvement.

Blood donor recruitment and retention activities are coordinated nationally by the National Society. They are funded by the blood service and by the government of MoH. Both paid staff and volunteers are used to undertake school/university programs, Club 25 and corporate programs.

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2017 October 31]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/nu.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2017 October 31]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2017 October 31] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2017 October 31] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2017 October 31]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁶ Torres C. Nicaraguan Blood Banks to move from the Red Cross to the Ministry of Health. La Prensa/Nationals [Internet] 2016 Jan 27 [cited 2018 Feb 08]. Available from: <https://www.laprensa.com.ni/2016/01/27/nacionales/1976380-banco-de-sangre-de-nicaragua-pasa-de-la-cruz-roja-al-ministerio-de-salud>

⁷ Pan American Health Organization (PAHO). Supply of Blood for Transfusion in Latin American and Caribbean Countries 2012 and 2013 [Internet] Pan American Health Organization 2015 [cited 2017 October 03]. Available from: http://www.paho.org/hq/index.php?option=com_content&view=article&id=1466%3Adocumentos-tecnicos-publicaciones&catid=1163%3Ahss-blood-services-&Itemid=2163&lang=en

⁸ Red Cross Nicaraguense realizes transfer of the Banco Nacional de Sangre al MINSA. Ministerio de Salud [Internet] Managua 2016 Jan 27 [cited 2018 Feb 08]. Available from: <http://www.minsa.gob.ni/index.php/105-noticias-2016/2405-cruz-roja-nicaraguense-realiza-traspaso-del-banco-nacional-de-sangre-al-minsa>

PARAGUAY



Paraguayan Red Cross:

- Level B - involved in the systematic/regular recruitment of voluntary non-remunerated blood donors but with no involvement in blood collection

NATIONAL CONTEXT

| | |
|--|-------------------------------------|
| Location | Central South America |
| Geographical size ranking¹ | 61 st |
| Population (world ranking)¹ | 6.9 million (104 th) |
| Median age¹ | 28.2 |
| Political system¹ | Presidential republic |
| GDP per capita (world ranking)¹ | \$9,800 (141 st) |
| HDI Index (world ranking)² | 0.693 - medium (110 th) |
| Health Expenditure¹ | 9.8% of GDP |
| Population prevalence hepatitis B³ | Nil reports |
| Population prevalence hepatitis C⁴ | Low moderate: 1.5% - <2.0% |
| Population prevalence HIV⁵ | 0.5% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

In 2013, Paraguay had 12 collection centres (down from 46 in 2012) and 7 processing centres (up from 5 in 2012) with an average annual processing of 12,293 units per bank.⁶

In 2012/13, there was a specific law for blood, a responsible unit, a specific budget, a national policy, a national plan, a quality assurance policy and a national quality assurance program in place.⁶

In 2013, a total of 86,056 units of blood were collected in Paraguay.⁶ 9.2% of the blood was collected from VNRBD donors, with the remainder from family/replacement donors.⁶

NATIONAL SOCIETY (PARAGUAYAN RED CROSS)

Blood donor recruitment and retention activities are coordinated by district/chapter by the National Society. Currently donor recruitment is done through the subsidiary Itapúa, sub -subsidiary of Fernando de la Mora and through the Reina Sofía Hospital, accompanying the work of the Ministry of Health and Welfare.

The Sub subsidiary of Fernando de la Mora has implemented the Club 25 in its activities, to carry out activities concerning the recruitment of voluntary blood donors.

Blood donor recruitment and retention activities are funded by the National Society. Volunteers at Itapúa and Fernando de la Mora and paid staff at the Reina Sofía Hospital are used for donor recruitment programs.

The Paraguayan Red Cross:

- does not receive technical assistance or financial support for VNRBD activities from outside the country
- has not previously been involved at Level A
- is planning to expand recruitment and retention activities at Reina Sofia Hospital, to expand Club 25 to more districts within Itapúa, and train more volunteers regarding these activities in Fernando de la Mora.

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Jan 29]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/pa.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] 2016 [cited 2018 Jan 29]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Jan 29] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Jan 29] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Jan 29]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁶ Pan American Health Organization. World Health Organisation. Regional Office for the Americas. Supply of Blood for Transfusion in Latin American and Caribbean Countries 2012 and 2013. [Internet] 2015 [cited 2018 Jan 29]. Available from: http://www.paho.org/hq/index.php?option=com_docman&task=doc_download&gid=31435&Itemid=270

PERU



Peruvian Red Cross:

- Level B - involved in the systematic/regular recruitment of voluntary non-remunerated blood donors but with no involvement in blood collection

NATIONAL CONTEXT

| | |
|--|----------------------------------|
| Location | Western South America |
| Geographical size ranking¹ | 21 st |
| Population (world ranking)¹ | 31 million (43 rd) |
| Median age¹ | 28 |
| Political system¹ | Presidential republic |
| GDP per capita (world ranking)¹ | \$13,300 (118 th) |
| HDI Index (world ranking)² | 0.740 - high (87 th) |
| Health Expenditure¹ | 5.5% of GDP |
| Efficiency of Healthcare³ | 36 th of 51 countries |
| Population prevalence hepatitis B⁴ | Low Intermediate: 2-4% |
| Population prevalence hepatitis C⁵ | Low: 1.0% - <1.5% |
| Population prevalence HIV⁶ | 0.3% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

In 2013, Peru had 89 collection and processing centres with an average annual processing of 2,300 units per bank.⁷

In 2012/13, there was a specific law for blood, a responsible unit, a specific budget, a national policy a quality assurance policy and a national quality assurance program was partially in place.⁷ There was no national plan.⁷

In 2013, a total of 204,871 units of blood were collected in Peru.⁷ 4.56% of the blood was collected from VNRBD donors, 0.005% from paid donors and the remainder (95.43%) from family/replacement donors.⁷

Deferral rates for paid donors were 79% with just 10 of the 47 interviewed accepted to donate.⁷ In comparison, deferral rates for both voluntary and replacement donors were still a high 30%.⁷

NATIONAL SOCIETY (PERUVIAN RED CROSS)

Blood donor recruitment and retention activities are coordinated nationally and at district/chapter level by the National Society. They are funded by the National Society.

The Peruvian Red Cross:

- uses volunteers for donor recruitment programs (school and university programs, Friends of Blood – Red Cross)
- does not receive technical assistance or financial support for VNRBD activities from outside the country
- has previously been involved at Level A
- is planning to expand activities

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Jan 29]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/pe.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] 2016 [cited 2018 Jan 29]. Available from: <http://hdr.undp.org/en>

³ Bloomberg. Where Do You Get the Most for Your Health Care Dollar? [Internet] 2014 [cited 2018 Jan 29]. Available from: <https://www.bloomberg.com/graphics/infographics/most-efficient-health-care-around-the-world.html>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Jan 29] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁵ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Jan 29] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁶ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Jan 29]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁷ Pan American Health Organization. World Health Organisation. Regional Office for the Americas. Supply of Blood for Transfusion in Latin American and Caribbean Countries 2012 and 2013. [Internet] 2015 [cited 2018 Jan 29]. Available from: http://www.paho.org/hq/index.php?option=com_docman&task=doc_download&gid=31435&Itemid=270

SAINT LUCIA



Saint Lucia Red Cross:

- Level B - involved in the systematic/regular recruitment of voluntary non-remunerated blood donors but with no involvement in blood collection

NATIONAL CONTEXT

| | |
|--|---|
| Location | Caribbean |
| Geographical size ranking¹ | 193 rd |
| Population (world ranking)¹ | 165 thousand (187 th) |
| Median age¹ | 34.8 |
| Political system¹ | Parliamentary democracy under a constitutional monarchy |
| GDP per capita (world ranking)¹ | \$13,500 (115 th) |
| HDI Index (world ranking)² | 0.735 - high (92 nd) |
| Health Expenditure¹ | 6.7% of GDP |
| Population prevalence hepatitis B³ | Nil reports |
| Population prevalence hepatitis C⁴ | Very low: <1.0% |
| Population prevalence HIV⁵ | 0.58% |



NATIONAL BLOOD PROGRAM

In 2012, Saint Lucia had two collection centres and one processing centre with an average annual processing per bank of 2,276 units.⁶

In 2012/13 a quality assurance policy was partially in place, however there was no specific law, responsible unit, specific budget, national policy or national plan.⁶

In 2013, a total of 2,174 units of blood were collected in Saint Lucia.⁶ 62.11% of these were from VNRBD donors with the remainder from replacement donors.⁶

NATIONAL SOCIETY (SAINT LUCIA RED CROSS)

The National Society joins the National Blood Service of the Ministry of Health to assist with education, donor recruitment and blood collection. All technical staff are from the National Blood Service.

Blood donor recruitment and retention activities are coordinated nationally by the National Society. They are funded by the government or Ministry of Health. Volunteers are used for donor recruitment programs (Club 25 and other).

The Saint Lucia Red Cross:

- does not receive technical assistance or financial support for VNRBD activities from outside the country
- has not previously been involved at Level A
- is not planning to expand or scale back its level of involvement in blood related activities

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Jan 29]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/st.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] 2016 [cited 2018 Jan 29]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Jan 29] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Lavanchy D. Evolving epidemiology of hepatitis C virus. Clinical Microbiology and Infection. [Internet] 2011 Feb [cited 2018 Jan 29]; 17(2). Available from: <http://www.sciencedirect.com/science/article/pii/S1198743X14616487>

⁵ Hamilton M and Musau S. Sustaining the HIV and AIDS Response in St. Lucia: Investment Case Brief. USAID. Health, Finance & Governance. 2014 Nov [cited 2018 Jan 29]. Available from: <https://www.hfgproject.org/sustaining-hiv-aids-response-st-lucia-investment-case/>

⁶ Pan American Health Organization. World Health Organisation. Regional Office for the Americas. Supply of Blood for Transfusion in Latin American and Caribbean Countries 2012 and 2013. [Internet] 2015 [cited 2018 Jan 29]. Available from: http://www.paho.org/hq/index.php?option=com_docman&task=doc_download&gid=31435&Itemid=270

SAINT VINCENT AND THE GRENADINES



Saint Vincent and the Grenadines Red Cross:

- Level B - involved in the systematic/regular recruitment of voluntary non-remunerated blood donors but with no involvement in blood collection

NATIONAL CONTEXT

| | |
|--|---|
| Location | Caribbean |
| Geographical size ranking¹ | 205 th |
| Population (world ranking)¹ | 103 thousand (195 th) |
| Median age¹ | 33 |
| Political system¹ | Parliamentary democracy under a constitutional monarchy |
| GDP per capita (world ranking)¹ | \$11,600 (133 rd) |
| HDI Index (world ranking)² | 0.722 - high (99 th) |
| Health Expenditure¹ | 8.6% of GDP |
| Population prevalence hepatitis B³ | 1.5% |
| Population prevalence hepatitis C⁴ | 2.1% in the Caribbean |
| Population prevalence HIV⁵ | 0.6% (2012 est.) |



NATIONAL BLOOD PROGRAM

In 2013, Saint Vincent and the Grenadines had one collection centre and one processing centre: the blood bank at Milton Cato Memorial Hospital in Kingstown.⁶

In 2013 there was no specific law, responsible unit, specific budget, national policy, national plan or quality assurance policy in place.⁶

In 2013, a total of 1,161 units of blood were collected in Saint Vincent and the Grenadines.⁶ Of these, 13.8% were from VNRBD donors, with the remainder from replacement donors.⁶

NATIONAL SOCIETY (SAINT VINCENT AND THE GRENADINES RED CROSS)

In a conversation with O. House, GAP delegate (IFRC General Assembly and Statutory meeting in Turkey, Nov 2017) a representative of the Saint Vincent and the Grenadines Red Cross Society indicated that they provide assistance to the Ministry of Health by mobilising the public and Red

Cross volunteers to donate (this occurs regularly but on a small scale) and also by providing VNRBD education programs in schools.

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Jan 30]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/vc.html>

² United Nations Development Program. Human Development Report 2016 [Internet] 2016 [cited 2018 Jan 30]. Available from: <http://hdr.undp.org/en>

³ PKIDS Online. Parents of Kids with Infectious Diseases. Hepatitis B. Global infection rates. [Internet] 2006 [cited 2018 Jan 30]. Available from: www.pkids.org/files/pdf/phr/02-09globalhvb.pdf

⁴ Hanafiah K, Groeger J, Flaxman A and Wiersma S. April 2013. Global epidemiology of hepatitis C virus infection. New estimates of age-specific antibody to HCV seroprevalance. Hepatology [Internet] [cited 2018 Jan 30];57(4):1333-1342. Available from: <http://onlinelibrary.wiley.com/doi/10.1002/hep.26141/full>

⁵ Pan American Health Organisation. Antiretroviral Treatment in the Spotlight: A Public Health Analysis in Latin America and the Caribbean 2012 [Internet] 2012 [cited 2018 Jan 30]. Available from: <http://apps.who.int/medicinedocs/documents/s20145en/s20145en.pdf>

⁶ Pan American Health Organization. World Health Organisation. Regional Office for the Americas. Supply of Blood for Transfusion in Latin American and Caribbean Countries 2012 and 2013. [Internet] 2015 [cited 2018 Jan 30]. Available from: http://www.paho.org/hq/index.php?option=com_docman&task=doc_download&gid=31435&Itemid=270

ARGENTINA



Argentine Red Cross:

- Level C: National society is involved in occasional community education/awareness programs that help promote voluntary non-remunerated blood donation (e.g. World Blood Donor Day), but no involvement in the systematic recruitment of donors or blood collection.

NATIONAL CONTEXT

| | |
|--|---------------------------------------|
| Location | Southern South America |
| Geographical size ranking¹ | 9 th |
| Population (world ranking)¹ | 44 million (31 st) |
| Median age¹ | 31.7 |
| Political system¹ | Presidential republic |
| GDP per capita (world ranking)¹ | \$20,700 (87 th) |
| HDI Index (world ranking)² | 0.827 - very high (45 th) |
| Health Expenditure¹ | 4.8% of GDP |
| Efficiency of Healthcare³ | 32 nd of 51 countries |
| Population prevalence hepatitis B⁴ | Low: <2% |
| Population prevalence hepatitis C⁵ | Low moderate: 1.5% - <2.0% |
| Population prevalence HIV⁶ | 0.4% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

In 2013, Argentina had 160 processing centres with an average annual processing of 6,038 units per processing centre.⁷

In 2012/13 there was a specific law, a specific budget, a responsible unit, a national plan, a national policy and a national quality assurance program in place.⁷

In 2013, a total of 966,059 units of blood were collected in Argentina.⁷ Of these, 38% were from VNRBD donors, with the remainder from replacement donors.⁷

NATIONAL SOCIETY (ARGENTINE RED CROSS)

Community education activities are coordinated by district / chapter by the National Society. They are funded by the National Society.

The Argentine Red Cross:

- does not receive technical assistance or financial support for VNRBD activities from outside the country
- has previously been involved at Level B
- is planning to expand its level of involvement in blood related activities - a relationship has been established with the National Blood Program of the Ministry of Health to assist in the promotion of voluntary blood donation

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Jan 29]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/ar.html>

² Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Jan 29]. Available from: <http://hdr.undp.org/en>

³ Bloomberg. Where Do You Get the Most for Your Health Care Dollar? [Internet] 2014 [cited 2018 Jan 29]. Available from: <https://www.bloomberg.com/graphics/infographics/most-efficient-health-care-around-the-world.html>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Jan 29] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁵ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Jan 29] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁶ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Jan 29]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁷ Pan American Health Organization. World Health Organisation. Regional Office for the Americas. Supply of Blood for Transfusion in Latin American and Caribbean Countries 2012 and 2013. [Internet] 2015 [cited 2018 Jan 29]. Available from: http://www.paho.org/hq/index.php?option=com_docman&task=doc_download&gid=31435&Itemid=270

BAHAMAS



Bahamas Red Cross Society:

- Level C: National society is involved in occasional community education/awareness programs that help promote voluntary non-remunerated blood donation (e.g. World Blood Donor Day), but no involvement in the systematic recruitment of donors or blood collection.

NATIONAL CONTEXT

| | |
|--|---|
| Location | Central American Islands |
| Geographical size ranking¹ | 161 st |
| Population (world ranking)¹ | 330 thousand (179 th) |
| Median age¹ | 32 |
| Political system¹ | Parliamentary democracy under a constitutional monarchy |
| GDP per capita (world ranking)¹ | \$25,100 (79 th) |
| HDI Index (world ranking)² | 0.792 - high (58 th) |
| Health Expenditure¹ | 7.7% of GDP |
| Population prevalence hepatitis B³ | Nil reports |
| Population prevalence hepatitis C⁴ | Low: 1.0% - <1.5% |
| Population prevalence HIV⁵ | 3.3% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

In 2013, The Bahamas had three collection centres and three processing centres with an average annual processing of 2,405 units per processing centre.⁶

In 2012/13 there was a national plan and a quality assurance policy in place, however there was no specific law, no responsible unit or specific budget.⁶ A national policy was partially in place.⁶

In 2013, a total of 7,214 units of blood were collected in The Bahamas.⁶ Of these, 41.93% were from VNRBD donors, with the remainder from replacement donors.⁶

NATIONAL SOCIETY (BAHAMAS RED CROSS)

The Bahamas Red Cross takes part in World Blood Donor Day as a partner of the local telecommunications company that promotes a blood drive.

The Bahamas Red Cross provide volunteers to assist blood donors to complete their donation questionnaires. The community education activities are funded by the Bahamas Telecommunications Corporation.

The Bahamas Red Cross Society:

- does not receive technical assistance or financial support for VNRBD activities from outside the country
- has not previously been involved at Level A or B
- is planning to expand its level of involvement in blood related activities. The National Society is exploring the possibility of forming a club of donors

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Jan 30]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/bf.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] 2016 [cited 2018 Jan 30]. Available from: <http://hdr.undp.org/en>

Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Jan 30] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Jan 30] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Jan 30]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁶ Pan American Health Organization. World Health Organisation. Regional Office for the Americas. Supply of Blood for Transfusion in Latin American and Caribbean Countries 2012 and 2013. [Internet] 2015 [cited 2018 Jan 30]. Available from: http://www.paho.org/hq/index.php?option=com_docman&task=doc_download&gid=31435&Itemid=270

BOLIVIA



Bolivian Red Cross:

- Level C: National society is involved in occasional community education/ awareness programs that help promote voluntary non-remunerated blood donation (e.g. World Blood Donor Day), but no involvement in the systematic recruitment of donors or blood collection.

NATIONAL CONTEXT

| | |
|--|-------------------------------------|
| Location | Central South America |
| Geographical size ranking¹ | 29 th |
| Population (world ranking)¹ | 11.1 million (81 st) |
| Median age¹ | 24.3 |
| Political system¹ | Presidential republic |
| GDP per capita (world ranking)¹ | \$7,500 (155 th) |
| HDI Index (world ranking)² | 0.674 - medium (118 th) |
| Health Expenditure¹ | 6.3% of GDP |
| Population prevalence hepatitis B³ | Low: <2% |
| Population prevalence hepatitis C⁴ | Low: 1.0% - <1.5% |
| Population prevalence HIV⁵ | 0.3% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

In 2013, Bolivia had 17 collection centres and 17 processing centres with an average annual processing of 6,009 units per processing centre.⁶

In 2012/13 there was a specific law, a responsible unit, a specific budget, a national policy, a national plan and a quality assurance policy in place.⁶

In 2013, a total of 102,146 units of blood were collected in Bolivia.⁶ Of these, 45.23% were from VNRBD donors, with the remainder from replacement donors.⁶

NATIONAL SOCIETY (BOLIVIAN RED CROSS)

Community education activities are coordinated nationally and by district/chapter by the National Society. They are funded by the National Society, the government or Ministry of Health and by private organisations.

The Bolivian Red Cross:

- does not receive technical assistance or financial support for VNRBD activities from outside the country
- was previously at Level B, when there was a Club 25 Project (2009-2010)
- is not planning to expand or scale back its current level of involvement in blood-related activities

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Jan 30]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/bl.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] 2016 [cited 2018 Jan 30]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Jan 30] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Jan 30] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Jan 30]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁶ Pan American Health Organization. World Health Organisation. Regional Office for the Americas. Supply of Blood for Transfusion in Latin American and Caribbean Countries 2012 and 2013. [Internet] 2015 [cited 2018 Jan 30]. Available from: http://www.paho.org/hq/index.php?option=com_docman&task=doc_download&gid=31435&Itemid=270

BRAZIL



Brazilian Red Cross:

- Level C: National society is involved in occasional community education/awareness programs that help promote voluntary non-remunerated blood donation (e.g. World Blood Donor Day), but no involvement in the systematic recruitment of donors or blood collection.

NATIONAL CONTEXT

| | |
|--|----------------------------------|
| Location | Eastern South America |
| Geographical size ranking¹ | 6 th |
| Population (world ranking)¹ | 207 million (5 th) |
| Median age¹ | 32 |
| Political system¹ | Federal presidential republic |
| GDP per capita (world ranking)¹ | \$15,500 (107 th) |
| HDI Index (world ranking)² | 0.754 - high (79 th) |
| Health Expenditure¹ | 8.3% of GDP |
| Efficiency of Healthcare³ | 50 th of 51 countries |
| Population prevalence hepatitis B⁴ | Low: <2% |
| Population prevalence hepatitis C⁵ | Low moderate: 1.5% - <2.0% |
| Population prevalence HIV⁶ | 0.6% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

In 2012 (latest available data), Brazil had 544 collection centres and 530 processing centres with an average annual processing of 6,293 units per processing centre.⁷

Blood collection centres across Brazil vary in their level of complexity, numbering as follows:

- 32 of greater complexity
- 65 of medium complexity
- 302 of low complexity
- 175 hospitals.⁸

In 2012/13 there was a specific law, a responsible unit, a specific budget, a national policy and a quality assurance policy in place.⁷ However, there is no national plan.⁷

The national network of blood banks together form SINASAN – the National System of Blood, Components and Derivatives.⁸ Through SINASAN and under the Unified Health System (SUS) a national blood policy was established in 2001.⁸

In 2013, a total of 3,335,035 units of blood were collected in Brazil.⁷ Of these, 59.52% were from VNRBD donors, with the remainder from replacement donors.⁷

The Brazilian Enterprise for Blood Products and Biotechnology (Hemobrás) received funding from the Brazilian Ministry of Health in 2012 to increase fractionation capacity to half a million litres.⁸ This was to be achieved by building a new factory in the state of Pernambuco near Recife, however completion has been delayed past the expected operational date of 2014.⁸

In February 2016, two cases of Zika infection through blood transfusion in Brazil were reported.⁹

NATIONAL SOCIETY (BRAZILIAN RED CROSS)

Community education activities are coordinated nationally and by district/chapter by the National Society. They are funded by the National Society and through agreements with health authorities.

The Brazilian Red Cross:

- does not receive technical assistance or financial support for VNRBD activities from outside the country
- was previously at Level B
- is planning to expand its level of activities to promote Club 25 education for blood donation

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Jan 30]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/br.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] 2016 [cited 2018 Jan 30]. Available from: <http://hdr.undp.org/en>

³ Bloomberg. Where Do You Get the Most for Your Health Care Dollar? [Internet] 2014 [cited 2018 Jan 30]. Available from: <https://www.bloomberg.com/graphics/infographics/most-efficient-health-care-around-the-world.html>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Jan 30] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁵ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Jan 30] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁶ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Jan 30]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁷ Pan American Health Organization. World Health Organisation. Regional Office for the Americas. Supply of Blood for Transfusion in Latin American and Caribbean Countries 2012 and 2013. [Internet] 2015 [cited 2018 Jan 30]. Available from: http://www.paho.org/hq/index.php?option=com_docman&task=doc_download&gid=31435&Itemid=270

⁸ MacPherson J. Blood Collections & Transfusion A Global Perspective 2014. Connecticut: The Marketing Research Bureau Inc: 2014. 203p.

⁹ Zika virus update: 2 cases of Zika infection through blood transfusion in Brazil. Parent Herald [Internet] 2016 Feb 4 [cited 2018 Jan 30]. Available from: <http://www.parentherald.com/articles/19380/20160204/zika-virus-blood-transfusion.htm>

PANAMA



Red Cross Society of Panama:

- Level C: National society is involved in occasional community education / awareness programs that help promote voluntary non-remunerated blood donation (e.g. World Blood Donor Day), but no involvement in the systematic recruitment of donors or blood collection.

NATIONAL CONTEXT

| | |
|--|----------------------------------|
| Location | Central America |
| Geographical size ranking¹ | 119 th |
| Population (world ranking)¹ | 3.8 million (130 th) |
| Median age¹ | 29.2 |
| Political system¹ | Presidential republic |
| GDP per capita (world ranking)¹ | \$24,300 (81 st) |
| HDI Index (world ranking)² | 0.788 - high (60 th) |
| Health Expenditure¹ | 8% of GDP |
| Population prevalence hepatitis B³ | Low: <2% |
| Population prevalence hepatitis C⁴ | Low: 1.0% - <1.5% |
| Population prevalence HIV⁵ | 0.8% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

In 2012, Panama had 27 collection centres and the same number of processing centres with an average annual processing of 2,141 units per bank.⁶

In 2012/13 a specific law for blood was in place, however there was no responsible unit, specific budget, national policy, national plan, quality assurance policy or national quality assurance program.⁶

In 2013, a total of 53,414 units of blood were collected in Panama (Hospital San Miguel Arcángel and Centro Médico Paitilla not included).⁶ This compares with 55,083 units in 2012, where there were no exclusions.⁶ In 2013, 5.79% of the blood was collected from VNRBD donors, 8.09% from paid donors and 85.90% from family/replacement donors.⁶

NATIONAL SOCIETY (RED CROSS OF PANAMA)

Community education activities are coordinated by district/chapter by the National Society. They are funded by the National Society and private organizations.

The Red Cross Society of Panama:

- does not receive technical assistance or financial support for VNRBD activities from outside the country
- was previously at Level B
- is not planning to expand its level of participation in activities

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Jan 30]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/pm.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] 2016 [cited 2018 Jan 30]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Jan 30] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Jan 30] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Jan 30]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁶ Pan American Health Organization. World Health Organisation. Regional Office for the Americas. Supply of Blood for Transfusion in Latin American and Caribbean Countries 2012 and 2013. [Internet] 2015 [cited 2018 Jan 30]. Available from: http://www.paho.org/hq/index.php?option=com_docman&task=doc_download&gid=31435&Itemid=270

TRINIDAD AND TOBAGO



Trinidad and Tobago Red Cross Society:

- Level C - National society is involved in occasional community education / awareness programs that help promote voluntary non-remunerated blood donation (e.g. World Blood Donor Day), but no involvement in the systematic recruitment of donors or blood collection.

NATIONAL CONTEXT

| | |
|--|----------------------------------|
| Location | Central American Islands |
| Geographical size ranking¹ | 174 th |
| Population (world ranking)¹ | 1.2 million (160 th) |
| Median age¹ | 36 |
| Political system¹ | Parliamentary republic |
| GDP per capita (world ranking)¹ | \$31,200 (62 nd) |
| HDI Index (world ranking)² | 0.780 - high (65 th) |
| Health Expenditure¹ | 5.9% of GDP |
| Population prevalence hepatitis B³ | Nil reports |
| Population prevalence hepatitis C⁴ | High moderate: 2.0% - <5.0% |
| Population prevalence HIV⁵ | 1.2% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

In 2012, Trinidad and Tobago had six collection centres and one processing centre with an average annual processing per bank of 21,300 units.⁶

The National Blood Transfusion Unit (NBTU), Ministry of Health is the only authorized blood collection agency.⁷

In 2012/13 there was no specific law, responsible unit, specific budget, national policy, quality assurance policy or national plan in place.⁶

In 2013, a total of 21,300 units of blood were collected in Trinidad and Tobago.⁶ According to the Ministry of Health and WHO recommendations, approximately 65,000 units of blood are required annually for the size of the country.⁷

In 2012, 100% of the blood collected was from family/replacement donors,⁶ despite a VNRBD system being introduced in 2010.⁷ VNRBD data was not reported to PAHO in 2013.⁶

NATIONAL SOCIETY (TRINIDAD AND TOBAGO RED CROSS)

In a conversation with O. House, GAP delegate (IFRC General Assembly and Statutory meeting in Turkey, Nov 2017) a representative from Trinidad and Tobago Red Cross indicated that they do not undertake any regular recruitment activities, however a small group of volunteers donate blood occasionally when required.

The Trinidad and Tobago Red Cross:

- does not receive technical assistance or financial support for VNRBD activities from outside the country
- is planning to expand its level of involvement to level A
- enjoys a very good partnership with the Ministry of Health

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Jan 29]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/td.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] 2016 [cited 2018 Jan 29]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Jan 29] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Lavanchy D. Evolving epidemiology of hepatitis C virus. Clinical Microbiology and Infection. [Internet] 2011 Feb [cited 2018 Jan 29]; 17(2). Available from: <http://www.sciencedirect.com/science/article/pii/S1198743X14616487>

⁵ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Jan 29]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁶ Pan American Health Organization. World Health Organisation. Regional Office for the Americas. Supply of Blood for Transfusion in Latin American and Caribbean Countries 2012 and 2013. [Internet] 2015 [cited 2018 Jan 29]. Available from: http://www.paho.org/hq/index.php?option=com_docman&task=doc_download&gid=31435&Itemid=270

⁷ Government of the Republic of Trinidad and Tobago. Ministry of Health. National Blood Transfusion Unit. [Internet] 2018 [cited 2018 Jan 29]. Available from: <http://www.health.gov.tt/sitepages/default.aspx?id=184>

URUGUAY



Uruguayan Red Cross Society:

- Level C - National society is involved in occasional community education / awareness programs that help promote voluntary non-remunerated blood donation (e.g. World Blood Donor Day), but no involvement in the systematic recruitment of donors or blood collection.

NATIONAL CONTEXT

| | |
|--|-----------------------------------|
| Location | Southern South America |
| Geographical size ranking¹ | 92 nd |
| Population (world ranking)¹ | 3.36 million (133 rd) |
| Median age¹ | 35 |
| Political system¹ | Presidential republic |
| GDP per capita (world ranking)¹ | \$22,400 (84 th) |
| HDI Index (world ranking)² | 0.795 - high (54 th) |
| Health Expenditure¹ | 8.6% of GDP |
| Population prevalence hepatitis B³ | Nil reports |
| Population prevalence hepatitis C⁴ | Low moderate: 1.5% - <2.0% |
| Population prevalence HIV⁵ | 0.6% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

By 2013, Uruguay had 61 collection centres and 51 processing centres with an average annual processing of 1,944 per bank.⁶

In 2012/13 a specific law for blood was in place.⁶ It was not recorded whether there was a responsible unit, a specific budget, a national policy, a national plan, a quality assurance policy or a national quality assurance program.⁶

In 2013, a total of 99,151 units of blood were collected in Uruguay.⁶ Of these, 46.48% were from VNRBD donors, with the remainder from family/replacement donors.⁶

NATIONAL SOCIETY (URUGUAYAN RED CROSS)

The Uruguayan Red Cross Society's 2014/15 Annual report indicates that the National Society has a strategic alliance with the National Blood Service for voluntary and altruistic donation of blood, is involved in activities on World Blood Donor Day and conducts blood donation campaigns, particularly targeting youth groups.⁷

The Uruguayan Red Cross occasionally supports State Government blood donor recruitment campaigns, however this is not a regular activity of the National Society.

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Jan 29]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/uy.html>

² United Nations Development Program. Human Development Report 2016 [Internet] 2016 [cited 2018 Jan 29]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Jan 29] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Jan 29] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Jan 29]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁶ Pan American Health Organization. World Health Organisation. Regional Office for the Americas. Supply of Blood for Transfusion in Latin American and Caribbean Countries 2012 and 2013. [Internet] 2015 [cited 2018 Jan 29]. Available from: http://www.paho.org/hq/index.php?option=com_docman&task=doc_download&gid=31435&Itemid=270

⁷ Cruz Roja Uruguayaya, Memoria Annual 2014-15 [Internet] 2015 [cited 2018 Jan 29]. Available from: http://data.ifrc.org/public/documents/UY/AR_Uruguay_2014-2015_Spanish.pdf

BARBADOS



Barbados Red Cross Society:

- National society has no involvement at all, not even advocacy for voluntary non-remunerated blood donation

NATIONAL CONTEXT

| | |
|--|---|
| Location | Caribbean |
| Geographical size ranking¹ | 202 nd |
| Population (world ranking)¹ | 292 thousand (180 th) |
| Median age¹ | 38.3 |
| Political system¹ | Parliamentary democracy under a constitutional monarchy |
| GDP per capita (world ranking)¹ | \$17,500 (98 th) |
| HDI Index (world ranking)² | 0.795 - high (54 th) |
| Health Expenditure¹ | 7.5% of GDP |
| Population prevalence hepatitis B³ | 1.4% |
| Population prevalence hepatitis C⁴ | 2.1% in the Caribbean |
| Population prevalence HIV⁵ | 1.30% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

In 2009 (no reports appear to have been made to PAHO for 2010-2013), Barbados had one collection centre.⁶ The Barbados National Blood Collecting Centre is located in St. Michael.⁶

In 2009 a national policy was in place; however there was no specific law for blood, responsible unit, specific budget, national plan or quality assurance policy.⁶

A total of 4,781 units of blood were collected in Barbados in 2009.⁶ 15% of these were from VNRBD donors, with the remainder from replacement donors.⁶

In 2012, a website and Facebook page called “Red Donor” was set up as a social enterprise to connect individuals in need of blood to blood donors in the Caribbean community.⁷ Blood donors donate for specific patients.⁷ Requests for blood for specific patients also appear on the Red Donor Facebook page and in the national news.⁸

NATIONAL SOCIETY (BARBADOS RED CROSS)

The Barbados Red Cross Society is not involved in any blood related activities.

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- ¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Jan 25]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/bb.html>
- ² United Nations Development Program. Human Development Report 2016 [Internet] 2016 [cited 2018 Jan 25]. Available from: <http://hdr.undp.org/en>
- ³ Schweitzer, A, Horn J, Mikolajczyk R, Krause G and Ott J. 2015. Estimations of worldwide prevalence of chronic hepatitis B virus infection: a systematic review of data published between 1965 and 2013. The Lancet. [Volume 386, No. 10003](#), p1546–1555, 17 October 2015. <http://www.thelancet.com/action/showFullTextImages?pii=S0140-6736%2815%2961412-X>
- ⁴ Hanafiah K, Groeger J, Flaxman A and Wiersma S. Global epidemiology of hepatitis C virus infection: New estimates of age-specific antibody to HCV seroprevalance. Hepatology [Internet]. 2013 Feb 4 [cited 2018 Jan 25];57(4). Available from: <http://onlinelibrary.wiley.com/doi/10.1002/hep.26141/full>
- ⁵ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Jan 25]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>
- ⁶ Pan American Health Organization (PAHO). Supply of Blood for Transfusion in Latin American and Caribbean Countries 2010 and 2011 [Internet] 2015 [cited 2018 Jan 25]. Available from: http://www.paho.org/hq/index.php?option=com_content&view=article&id=1466%3Adocumentos-tecnicos-publicaciones&catid=1163%3Ahss-blood-services-&Itemid=2163&lang=en
- ⁷ Red Donor. About. [Internet] 2013 [cited 2016 March 30]. Available from: <http://www.reddonor.com/about>.
- ⁸ Red Donor Facebook page. [Internet] 2013 [cited 2016 March 30]. Available from: <https://www.facebook.com/RedDonor/timeline>.

CANADA



Canadian Red Cross Society:

- National society has no involvement at all, not even advocacy for voluntary non-remunerated blood donation

NATIONAL CONTEXT

| | |
|--|---|
| Location | North America |
| Geographical size ranking¹ | 3 rd |
| Population (world ranking)¹ | 35.6 million (38 th) |
| Median age¹ | 42.2 |
| Political system¹ | Federal parliamentary democracy under a constitutional monarchy |
| GDP per capita (world ranking)¹ | \$48,100 (34 th) |
| HDI Index (world ranking)² | 0.920 - very high (10 th) |
| Health Expenditure¹ | 10.4% of GDP |
| Efficiency of Healthcare³ | 21 st of 51 countries |
| Population prevalence hepatitis B⁴ | Low: <2% |
| Population prevalence hepatitis C⁵ | Low: 1.0% - <1.5% |
| Population prevalence HIV⁶ | 0.21% (2014 est.) |



NATIONAL BLOOD PROGRAM

Canadian Blood Services (CBS) are a not-for-profit organisation that provides 77% of Canada's blood supply.⁷ Québec has its own separate blood system operated by Héma-Québec (HQ), supplying 23% of Canada's blood.⁷ CBS replaced the Canadian Red Cross as the operator of Canada's blood system in 1998.⁷

Blood safety and blood-borne pathogen monitoring is managed by the Canadian Ministry of Health.⁷

Canadian Blood Services (CBS):

In 2014–2015 CBS received 850,218 blood donations from 409,000 active blood donors.⁸ CBS supplied over one million units of blood and blood-derived products to 700 hospitals and clinics nationwide.⁸

Canadian Blood Services is responsible for manufacturing, acquiring and distributing about \$500 million worth of plasma protein products annually.⁸

CBS also operates Canada's OneMatch Stem Cell and Marrow Network (operates in all areas outside of Québec⁷), which had 360,000 registrants.⁸ There were 1,150 organ donors (from 555 living donors and 595 deceased donors) in Canada in 2014.⁸

The provinces and territories of Canada (outside Québec) provide funding to the CBS based on their population and product usage.⁷ Blood is provided to the hospitals at no charge.⁷

Héma-Québec (HQ):

Héma-Québec is a not-for-profit organisation founded in 1998.⁹ HQ is responsible for⁹:

- recruiting donors, collecting blood, testing and processing them and delivering the finished products to hospitals
- collecting, processing and distributing human tissues such as corneas, skin, bones, heart valves and tendons and represents the largest human tissue bank in Canada
- the Stem Cell Donor Registry for Québec (60,243 donors registered as of 2016-17)
- the first and largest Public Cord Blood Bank in operation in Canada
- the only Public Mothers' Milk Bank in Québec.⁹

HQ donation statistics (2016/17)⁹:

- 176,633 registered donors for all types of donation.
- 205,201 donations. All blood donations are tested for HIV, HCV, HBV, HTLV and syphilis. Positive results in donations were rare and have not changed significantly over the years, with 0 positive results for HIV, 13 for HCV, 10 for HBV, 1 for HTLV and 17 for syphilis.
- 212,705 red blood cells delivered to hospitals.
- 60,243 registered stem cell donors.
- 95,881 litres of plasma sent for fractionation. This provided 21% of Québec's need for intravenous immunoglobulin (IVIg).⁹

NATIONAL SOCIETY (CANADIAN RED CROSS)

The Canadian Red Cross was previously involved in blood at Level A. The Canadian Red Cross stopped managing all blood services on September 28, 1998. The Royal Commission of Inquiry on the Blood System in Canada was established in 1993 to investigate concerns about blood-borne diseases like HIV/AIDS and Hepatitis C and the contamination of the blood system. As a result the responsibility for blood services was transferred over to two new agencies.

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Jan 30]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/ca.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] 2016 [cited 2018 Jan 30]. Available from: <http://hdr.undp.org/en>

³ Bloomberg. Where Do You Get the Most for Your Health Care Dollar? [Internet] 2014 [cited 2018 Jan 30]. Available from: <https://www.bloomberg.com/graphics/infographics/most-efficient-health-care-around-the-world.html>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Jan 30] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁵ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Jan 30] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁶ CATIE. Canada's source for HIV and hepatitis C information. The epidemiology of HIV in Canada. [Internet] 2017 [cited 2018 Jan 30]. Available from: <http://www.catie.ca/en/fact-sheets/epidemiology/epidemiology-hiv-canada>

⁷ MacPherson J. Blood Collections & Transfusion A Global Perspective 2014. Connecticut: The Marketing Research Bureau Inc: 2014. 203p.

⁸ Canadian Blood Services Annual Report 2014–2015. Canadian Blood Services. [Internet] 2015 [cited 2018 Jan 30]. Available from: http://itsinyoutogive.ca/Annual/2015/pdfs/cbs_ar2015_en.pdf

⁹ Héma-Québec Annual Report 2016-2017. Héma-Québec. [Internet] 2017 [cited 2018 Jan 30]. Available from: http://www.hema-quebec.qc.ca/userfiles/file/media/anglais/publications/AR_2016-2017_EN.pdf

SAINT KITTS AND NEVIS



Saint Kitts and Nevis Red Cross Society:

- National society has no involvement at all, not even advocacy for voluntary non-remunerated blood donation

NATIONAL CONTEXT

| | |
|--|---|
| Location | Caribbean |
| Geographical size ranking¹ | 212 th |
| Population (world ranking)¹ | 53 thousand (207 th) |
| Median age¹ | 35 |
| Political system¹ | Federal parliamentary democracy under a constitutional monarchy |
| GDP per capita (world ranking)¹ | \$26,800 (74 th) |
| HDI Index (world ranking)² | 0.765 - high (74 th) |
| Health Expenditure¹ | 5.1% of GDP |
| Population prevalence hepatitis B³ | 2% (2006 est.) |
| Population prevalence hepatitis C⁴ | 2.1% in the Caribbean |
| Population prevalence HIV⁵ | 0.9% among adults aged 15 to 49 in 2010 |



NATIONAL BLOOD PROGRAM

In 2013, Saint Kitts and Nevis had two collection centres and two processing centres with an average annual processing of 166 units per processing centre.⁶

The St. Kitts/Nevis Blood Bank Service is responsible for all blood collected in the federation.⁷ There are two blood bank areas, one is located in Nevis at the Alexandra hospital and the other located in St. Kitts at the Joseph N France hospital.⁷ Both are attached to the hospitals' Pathology Laboratory and also operate through the Ministry of Health.⁷

The blood bank practises quality control measures and is involved in external quality assurance programs. The blood bank has become more visible to the public by organising blood drives and media appearances for public education on VNRBD.

In 2012/13 there was no specific law, responsible unit, specific budget, national policy or national plan in place.⁶ A quality assurance policy is partially in place.⁶ A national blood policy is in place.

In 2013, a total of 331 units of blood were collected in Saint Kitts and Nevis.⁶ Of these, 21.45% were from VNRBD donors, with the remainder from replacement donors.⁶

All blood was screened in 2013 for HIV, HBsAg and HCV.⁶

Due to a high demand for blood and blood products, a voluntary blood donor database is currently being developed.

NATIONAL SOCIETY (SAINT KITTS AND NEVIS RED CROSS)

The Saint Kitts and Nevis Red Cross Society is not involved in any blood related activities. They were previously operating at Level B, but this ceased 20 years ago.

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Jan 30]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/sc.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] 2016 [cited 2018 Jan 30]. Available from: <http://hdr.undp.org/en>

³ PKIDS Online. Parents of Kids with Infectious Diseases. Hepatitis B. Global infection rates. [Internet] 2006 [cited 2018 Jan 30]. Available from: www.pkids.org/files/pdf/phr/02-09globalhbv.pdf

⁴ Hanafiah K, Groeger J, Flaxman A and Wiersma S. Global epidemiology of hepatitis C virus infection: New estimates of age-specific antibody to HCV seroprevalance. Hepatology [Internet]. 2013 Feb 4 [cited 2018 Jan 30];57(4). Available from: <http://onlinelibrary.wiley.com/doi/10.1002/hep.26141/full>

⁵ Pan American Health Organization. Antiretroviral treatment in the spotlight: A public health analysis in Latin America and the Caribbean. Saint Kitts and Nevis. [Internet] 2012 [cited 2018 Jan 30]. Available from: http://www.paho.org/hq/index.php?option=com_docman&task=doc_download

⁶ Pan American Health Organization. World Health Organisation. Regional Office for the Americas. Supply of Blood for Transfusion in Latin American and Caribbean Countries 2012 and 2013. [Internet] 2015 [cited 2018 Jan 30]. Available from: http://www.paho.org/hq/index.php?option=com_docman&task=doc_download&gid=31435&Itemid=270

⁷ Archibald, Keita (Sasskya) (Red Cross volunteer and lab technician at JNF General Hospital). RE: FWD: Global Mapping Americas – Saint Kitts and Nevis Red Cross Society. Message to: GAP Secretariat (WA). 2015 Nov 4 [cited 2018 Feb 1].

GRENADA



Grenada Red Cross Society did not respond to the GAP Global Mapping survey. Information available indicates that it is probably not involved in blood activities.

NATIONAL CONTEXT

| | |
|--|-----------------------------------|
| Location | Caribbean |
| Geographical size ranking¹ | 208 th |
| Population (world ranking)¹ | 111 thousand (190 th) |
| Median age¹ | 30.9 |
| Political system¹ | Parliamentary democracy |
| GDP per capita (world ranking)¹ | \$14,700 (112 th) |
| HDI Index (world ranking)² | 0.754 - high (79 th) |
| Health Expenditure¹ | 6.1% of GDP |
| Population prevalence hepatitis B³ | Nil reports |
| Population prevalence hepatitis C⁴ | 2.1% in the Caribbean |
| Population prevalence HIV⁵ | 0.57% (2009 est.) |



NATIONAL BLOOD PROGRAM

In 2012, Grenada had one collection centre and one processing centre.⁶ This could be the blood bank at St. George's General Hospital, which has a modern blood banking and haematology department and a mobile blood bank.⁷

In 2012 there was no specific law for blood, responsible unit, specific budget, national policy or national plan in place.⁶ It was not recorded whether there was a quality assurance policy.⁶

In 2012, a total of 1,365 units of blood were collected in Grenada.⁶ Of these, 38.83% were from VNRBD donors, with the remainder from family/replacement donors.⁶

In 2010, all blood was screened for HIV, HBsAg and HCV.⁶

NATIONAL SOCIETY (GRENADA RED CROSS)

It appears that the Grenada Red Cross Society is not involved in blood.

Grenada Red Cross is a very small organisation with just three paid staff members.⁸

There is no data available regarding people donating blood with the assistance of the Grenada Red Cross Society.⁸

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- ¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Jan 30]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/gj.html>
- ² United Nations Development Program. Human Development Report 2016 [Internet] 2016 [cited 2018 Jan 30]. Available from: <http://hdr.undp.org/en>
- ³ Schweitzer, A, Horn J, Mikolajczyk R, Krause G and Ott J. 2015. Estimations of worldwide prevalence of chronic hepatitis B virus infection: a systematic review of data published between 1965 and 2013. The Lancet.[Internet] 2015 October 17 [cited 2018 Jan 30];386(10003):1546-1555. Available from: <http://www.thelancet.com/action/showFullTextImages?pii=S0140-6736%2815%2961412-X>
- ⁴ Hanafiah K, Groeger J, Flaxman A and Wiersma S. April 2013. Global epidemiology of hepatitis C virus infection. New estimates of age-specific antibody to HCV seroprevalance. Hepatology [Internet] 2013 February 04 [cited 2018 Jan 30];57(4):1333-1342. Available from: <http://onlinelibrary.wiley.com/doi/10.1002/hep.26141/full>
- ⁵ Minister of Health, Grenada. Grenada National HIV/AIDS Strategic Plan 2012-2016. [Internet] 2012 February 15 [cited 2018 Jan 30]. Available from: http://www.nationalplanningcycles.org/sites/default/files/planning_cycle_repository/grenada/grenada_nsp_2012-2016_1.pdf
- ⁶ Pan American Health Organization. World Health Organisation. Regional Office for the Americas. Supply of Blood for Transfusion in Latin American and Caribbean Countries 2012 and 2013. [Internet] 2015 [cited 2018 Jan 30]. Available from: http://www.paho.org/hq/index.php?option=com_docman&task=doc_download&gid=31435&Itemid=270
- ⁷ Ministry of Health. Government of Grenada. The General Hospital. [Internet] 2016 [cited 2018 Jan 30]. Available from: http://health.gov.gd/index.php?option=com_content&view=article&id=170&Itemid=601&lang=en.
- ⁸ The International Federation of Red Cross and Red Crescent Societies. Grenada Red Cross Society [Internet] 2016 [cited 2018 Jan 30]. Available from: <http://data.ifrc.org/fdrs/societies/grenada-red-cross-society>

VENEZUELA



Venezuelan Red Cross did not respond to the GAP Global Mapping survey. Information available indicates that it is involved in blood activities, but it is not clear at which level (A or B).

NATIONAL CONTEXT

| | |
|--|----------------------------------|
| Location | Northern South America |
| Geographical size ranking¹ | 34 th |
| Population (world ranking)¹ | 31.3 million (42 nd) |
| Median age¹ | 28.3 |
| Political system¹ | Federal presidential republic |
| GDP per capita (world ranking)¹ | \$12,400 (126 th) |
| HDI Index (world ranking)² | 0.767 - high (71 st) |
| Health Expenditure¹ | 5.3% of GDP |
| Efficiency of Healthcare³ | 39 th of 51 countries |
| Population prevalence hepatitis B⁴ | Low: <2% |
| Population prevalence hepatitis C⁵ | Low Moderate: 1.5% - <2.0% |
| Population prevalence HIV⁶ | 0.6% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

Venezuela's blood system is facilitated by hospital based centres collecting approximately 60% of the nation's supply.⁷ The remaining 40% comes through private for-profit, social security, and charitable hospitals.⁷

In 2012, Venezuela:

- had 319 collection centres and 316 processing centres with an average annual processing of 1,411 per bank
- had a total of 445,957 units of blood collected. Of these, 6.62% were from VNRBD donors, with the remainder from family / replacement donors
- had a specific law for blood, a specific budget and a national plan in place; a responsible unit, a quality assurance policy and a national quality assurance program were partially in place; however there was no national policy for blood
- screened 93.38% of blood units for disease markers HIV, HbsAg and HCV
- did not screen a total of 29,531 units of blood for infectious disease markers.⁷

Fractionation is performed within Venezuela, with the facility supplying the country's plasma protein requirements, with the exception of recombinant factor VIII concentrate.⁷

Hospitals share excess supply and though the actual red blood cell use and wastage is unknown, blood officials believe that blood demands are being met.⁷

NATIONAL SOCIETY (VENEZUELAN RED CROSS)

The Venezuelan Red Cross is involved in blood, but it is not clear at which level.

- The number of people donating blood at or with the assistance of the Venezuelan Red Cross was 580 in 2013 and 520 in 2012.⁸
- The 2015 Annual Report notes 1,285 blood donations, two blood banks, and celebration of World Blood Donor Day.⁹
- The 2014-19 strategic plan includes consolidation of the volunteer blood donor network, promotion and awareness of VNRBD through the Club 25, and community awareness of VNRBD.¹⁰
- The Hospital Carlos J Bello is included on the Venezuelan Red Cross Website. The hospital includes a Blood Bank.¹¹

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Jan 30]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/ve.html>

² United Nations Development Program. Human Development Report 2016 [Internet] 2016 [cited 2018 Jan 30]. Available from: <http://hdr.undp.org/en>

³ Bloomberg. Where Do You Get the Most for Your Health Care Dollar? [Internet] 2014 [cited 2018 Jan 30]. Available from: <https://www.bloomberg.com/graphics/infographics/most-efficient-health-care-around-the-world.html>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Jan 30] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁵ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Jan 30] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁶ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2018 Jan 30]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁷ Pan American Health Organization. World Health Organisation. Regional Office for the Americas. Supply of Blood for Transfusion in Latin American and Caribbean Countries 2012 and 2013. [Internet] 2015 [cited 2018 Jan 30]. Available from: http://www.paho.org/hq/index.php?option=com_docman&task=doc_download&gid=31435&Itemid=270

⁸ The International Federation of Red Cross and Red Crescent Societies. Venezuelan Red Cross [Internet] 2016 [cited 2018 Jan 30]. Available from: <http://data.ifrc.org/fdrs/societies/venezuelan-red-cross>

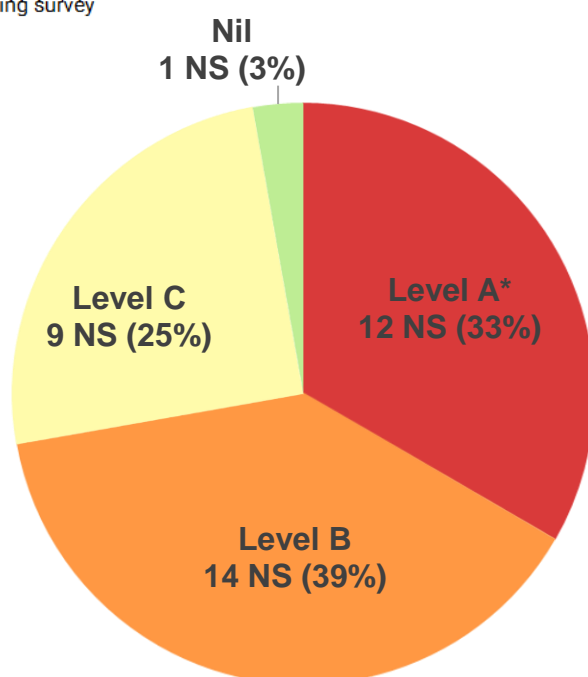
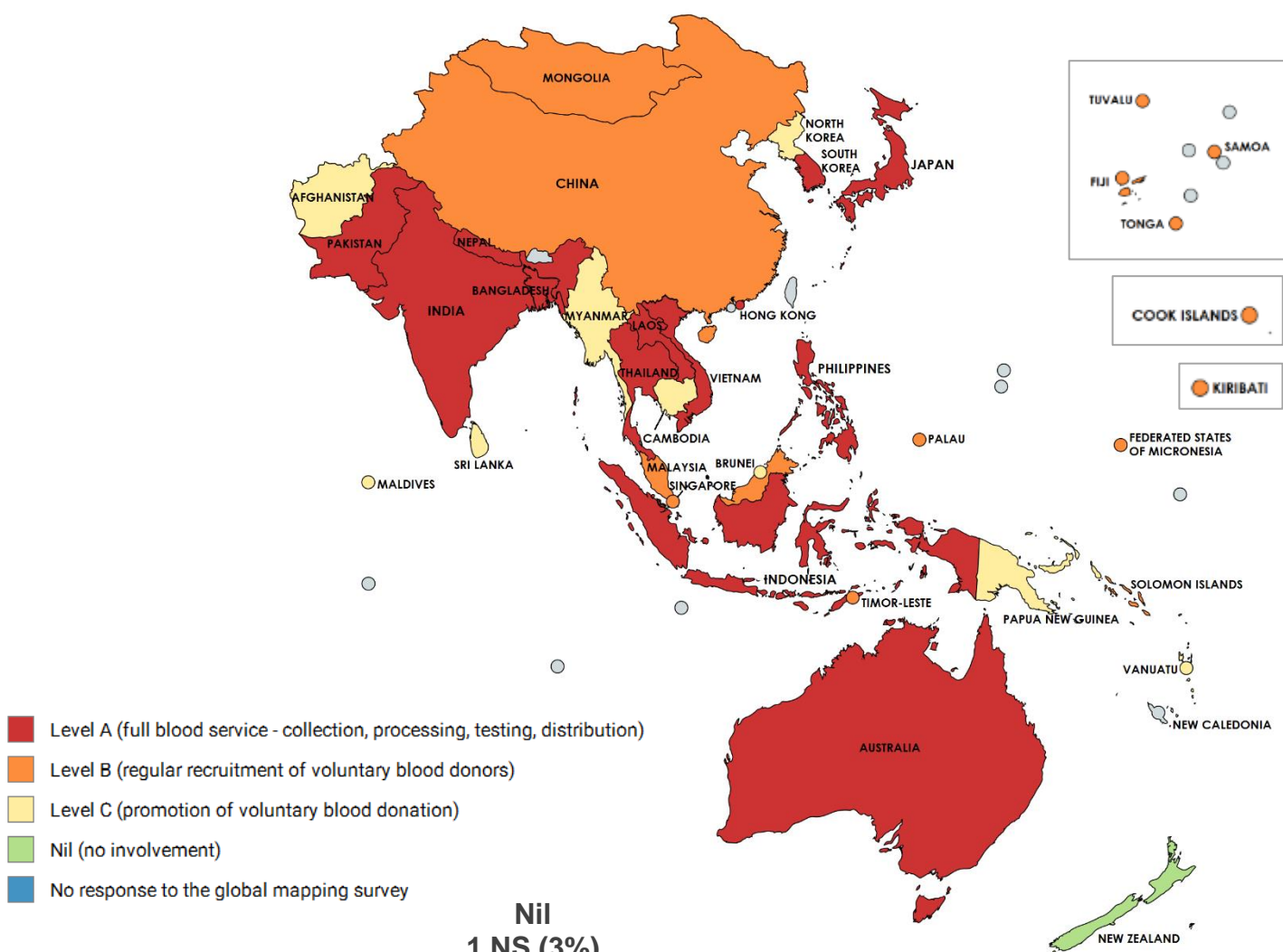
⁹ Sociedad Venezolana de la Cruz Roja. Informe Anual 2015 [Internet] 2016 [cited 2018 Jan 30]. Available from: http://data.ifrc.org/public/documents/VE/AR_Venezuela_2015_Spanish.pdf

¹⁰ Cruz Roja Venezolana. Plan Estratégico de Desarrollo (2014-2019) [Internet] 2014 [cited 2018 Jan 30] Available from: http://data.ifrc.org/public/documents/VE/SP_Venezuela_2014-2019_Spanish.pdf

¹¹ Cruz Roja Venezolana. Hospital Carlos J Bello [Internet] 2012 [cited 2018 Jan 30]. Available from: <https://www.cruzrojavenzolana.org/hospital.php>

ASIA PACIFIC

NATIONAL SOCIETY (NS) INVOLVEMENT IN BLOOD PROGRAMS BY LEVEL

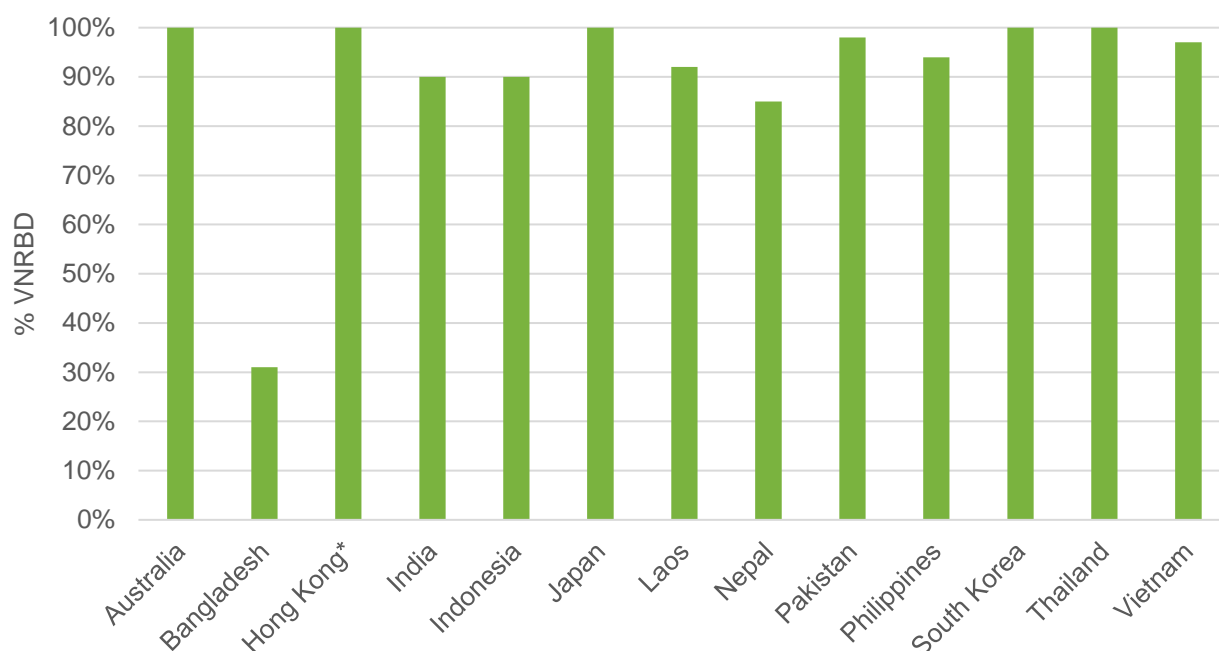


TOTAL NUMBER NS = 36

**Does not include the Hong Kong Red Cross, which operates a Level A Blood Service, but is a branch of the Red Cross Society of China*

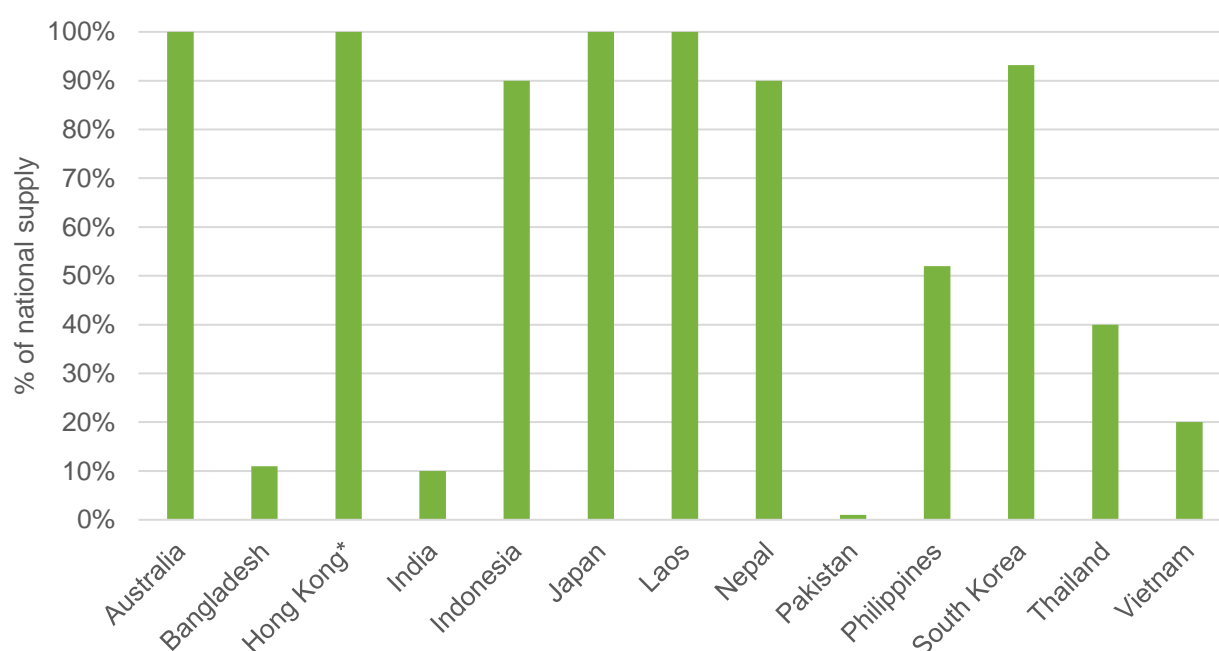
FOCUS ON **LEVEL A** NATIONAL SOCIETY BLOOD SERVICES IN THE REGION

5 out of 13 NSBS have achieved **100% VNRBD**



* The Hong Kong Red Cross is a branch of the Red Cross Society of China, and operates a Level A National Society Blood Service

4 out of 13 NSBS provide **100% of the national blood supply**



* The Hong Kong Red Cross is a branch of the Red Cross Society of China, and operates a Level A National Society Blood Service

AUSTRALIA



Australian Red Cross:

- Level A (undertakes full blood service provision)
- 100% of the national total blood collection
- 100% VNRBD

NATIONAL CONTEXT

| | |
|--|---|
| Location | Oceania |
| Geographical size ranking¹ | 7 th |
| Population (world ranking)¹ | 23.2 million (56 th) |
| Median age¹ | 38.7 |
| Political system¹ | Parliamentary democracy under a constitutional monarchy |
| GDP per capita (world ranking)¹ | \$49,900 (28 th) |
| HDI Index (world ranking)² | 0.939 - very high (2 nd) |
| Health Expenditure¹ | 9.4% of GDP |
| Efficiency of Healthcare³ | 6 th of 51 countries |
| Population prevalence hepatitis B⁴ | Low: <2% |
| Population prevalence hepatitis C⁵ | Low Moderate: 1.5% - <2.0% |
| Population prevalence HIV⁶ | 0.1% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

In Australia, a statutory agency within the Australian Government, called the National Blood Authority (NBA), manages and coordinates the arrangements for the supply of blood and blood products and services on behalf of the Australian Government and state and territory governments.⁷ A Deed of Agreement exists between the NBA and the Australian Red Cross specifying the Australian Red Cross Blood Service (the Blood Service) as the organisation that will undertake these activities.⁸

The Australian Red Cross has been the sole provider of blood components for transfusion in Australia since its establishment as a hospital transfusion service in 1929.⁹ In 1996, individual state and territory blood transfusion services operated by local Red Cross chapters amalgamated to form the Australian Red Cross Blood Service.⁹ As an operation under the Australian Red Cross, the Blood Service has a separate Board that reports to the Australian Red Cross Board, which has oversight and responsibility to appoint all Board members.¹⁰

The Therapeutic Goods Administration (TGA) is the regulatory body which licenses the Blood Service to manufacture blood and blood components in Australia and is responsible for administering the provisions of the Therapeutic Goods Act 1989.⁸

The Blood Service has four processing centres where processing and testing occur, and 96 blood donor centres (both fixed and mobile) across the country.¹¹ Mobile donor centres comprise self-contained vehicles, or community venues.¹¹

In 2015-16, the Blood Service supplied:

- 1,008,831 fresh blood products to customers, including:
 - 646,014 units of red cells (equivalent adult doses)
 - 130,877 units of platelets (equivalent adult doses)
 - 113,014 units of clinical fresh frozen plasma (equivalent adult doses)
- 601.2 tonnes of plasma to CSL Behring for fractionation into plasma products.⁷

Australia has experienced a reduction in red cell demand in the past decade; red cell supply has reduced from 801,296 in 2011-12 to 646,014 in 2015-16, a drop of over 19 per cent.⁷

NATIONAL SOCIETY (AUSTRALIAN RED CROSS)

The Australian Red Cross Blood Service is responsible for all blood collection in the country, of which 100 per cent is voluntary non remunerated blood donation. In 2015-16 1.3 million individual donations were made in blood donor centres.

The Blood Service:

- annually collects (2015-16):
 - 716,453 units of whole blood
 - 548,285 units of plasma and 31,651 units of platelets by apheresis
- supplies blood to 401 approved health providers (including hospitals)
- supports the entire Australian population of 23.2 million with blood components for transfusion
- processes collected blood into components
- conducts viral and serological blood donor screening
- forwards plasma for fractionation to a local fractionation facility
- is accredited by the Australian Government's Therapeutic Goods Administration to the Australian Code of Good Manufacturing Practice for human blood and blood components, human tissues and human cellular therapy products and the Council of Europe Guide to the Preparation, Use and Quality Assurance of Blood Components
- coordinates, delivers and funds nationally, all blood donor recruitment and retention activities using existing, paid staff
- is involved in the collection, processing or testing of cord blood stem cells, peripheral stem cells, bone marrow stem cells, bone, tissue and solid organs
- is seeking out new opportunities in research and development with potential expansion of its current level of involvement in blood-related activities, as well as exploring opportunities to contribute more broadly into healthcare that leverages our expertise and infrastructure.¹¹

Unlike some other blood operators in other parts of the world, the Blood Service:

- does not conduct cross-matching for transfusion – this is conducted by hospital laboratories
- does not perform transfusions
- does not receive technical assistance or financial support for VNRBD or blood service activities from outside the country
- is not involved in the collection, processing or testing of corneas

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Feb 16]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/as.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] 2016 [cited 2018 Feb 16]. Available from: <http://hdr.undp.org/en>

³ Bloomberg. Where Do You Get the Most for Your Health Care Dollar? [Internet] Bloomberg 2014 [cited 2018 Feb 16]. Available from: <https://www.bloomberg.com/graphics/infographics/most-efficient-health-care-around-the-world.html>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Feb 16] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁵ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Feb 16] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁶ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Feb 16]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁷ Australian Red Cross Blood Service. Australian Red Cross Blood Service Annual Report 2015/16 [Internet] Australian Red Cross Blood Service 2016 [cited 2018 Feb 16] Available from: <http://www.donateblood.com.au/sites/default/files/Annual%20Report%202015%20Online%20211215.pdf>

⁸ National Blood Authority Australia. What Blood Products are Supplied - National Product List [Internet] Commonwealth of Australia. [updated 2017 Jan 01; [cited 2018 Feb 16] Available from: <https://www.blood.gov.au/national-product-list>

⁹ Australian Red Cross Blood Service. History [Internet] Australian Red Cross Blood Service 2016 [cited 2018 Feb 16] Available from: <http://www.donateblood.com.au/page/history>

¹⁰ Australian Red Cross Blood Service. People [Internet] Australian Red Cross Blood Service 2016 [cited 2018 Feb 16] Available from: <http://www.donateblood.com.au/about/board>

¹¹ Australian Red Cross Blood Service. Australian Red Cross Blood Service Annual Report 2016/17 [Internet] Australian Red Cross Blood Service 2017 [cited 2018 Feb 16] <http://www.donateblood.com.au/sites/default/files/Annual-Report-2016-2017.pdf>

BANGLADESH



Bangladesh Red Crescent Society:

- Level A (undertakes full blood service provision)
- 11% of the national total blood collection
- 31% VNRBD¹

NATIONAL CONTEXT

| | |
|--|-------------------------------------|
| Location | Southern Asia |
| Geographical size ranking² | 95 th |
| Population (world ranking)² | 158 million (8 th) |
| Median age² | 26.7 |
| Political system² | Parliamentary republic |
| GDP per capita (world ranking)² | \$4,200 (177 th) |
| HDI Index (world ranking)³ | 0.579 - medium (139 th) |
| Health Expenditure² | 2.8% of GDP |
| Population prevalence hepatitis B⁴ | Low Intermediate: 2% - 4% |
| Population prevalence hepatitis C⁵ | Low: 1.0% - <1.5% |
| Population prevalence HIV⁶ | <0.01% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

Blood Transfusion Services were established in Bangladesh in 1950 at the Dhaka Medical College Hospital.^{7 8} In 1952 a Blood Transfusion Service Committee was established which acted as an advisory panel on donor selection criteria, blood safety matters and technical issues such as mandatory testing of blood,⁹ and in 1976 the National Council of Blood Transfusion was set up.⁷ Both were re-organised and re-formed in 1995 along with updates to the country by-laws.¹⁰

Until 2000, most of the country's blood supply was obtained by professional donors (47%).⁹ In 2000 the Bangladesh government, in collaboration with the United Nations Development Program (UNDP), began a blood screening program (the National Safe Blood Transfusion Program) in 97 centres around the country.^{8 9 10} This program led to the Safe Blood Transfusion Act being introduced as legislation in April 2002, and enforced from August 2004 as the regulatory law for blood transfusion centers.¹⁰ As well as introducing testing for transfusion transmissible infections, it also encouraged capacity building, provided training for medical staff and technicians and encouraged the promotion of voluntary non-remunerated blood donation (VNRBD) through improved donor motivation and promotional campaigns.^{9 10}

The Safe Blood Transfusion Act-2002, sets out the legal requirements for blood safety including setting up centres, management, blood collection, storage, testing and transfusion.^{9 10} Under this framework all Blood Transfusion Services in Bangladesh (public and private) are managed and regulated by the Ministry of Health and Family Welfare (MoH & FW).^{9 10} After the Act was introduced, the National Safe Blood Transfusion Council (NSBTC) was formed.¹ Safe Blood Transfusion Rules-2008 were gazetted on 17 June 2008 and the National Safe Blood Transfusion Expert Committee (NSBTEC) was formed under these rules.¹ A National Blood Policy was approved in November 2013. Despite the active legislations, there is no centralised blood collection system at a national level and no organisation that specifically supports and coordinates VNRBD.¹⁰

The major providers of blood in Bangladesh are:

- Government / private hospital based blood banks – 80%
- Bangladesh Red Crescent Society – 11%
- Shandhani, Medical college based voluntary organization – 5%
- Quantum and Badhan, private organization – 4%

According to the Blood Transfusion Society of Bangladesh, approximately 600,000 units of blood are required annually.⁸ 70% of these donations come from family relative donors, 30% from voluntary donors, with no paid donors.⁸

NATIONAL SOCIETY (BANGLADESH RED CRESCENT)

The Bangladesh Red Crescent Society Blood Service:

- annually collected 62,152 units of whole blood (2016)
- supplies blood to 332 hospitals/clinics, distributing approximately 75150 units of blood and components (2016)
- supports a regional population of 10 million people
- processes collected blood into components
- conducts screening of blood for infectious diseases and blood group testing
- conducts cross-matching for transfusion
- is not accredited
- receives technical assistance for VNRBD and blood service activities from GAP and IFRC
- receives financial support for VNRBD and blood service activities from Global Fund and IFRC
- is not involved in the collection, processing or testing of cord blood stem cells, peripheral stem cells, bone marrow stem cells, bone, solid organs or corneas
- does not forward plasma to a fractionation facility
- transfuses washed cells to thalassemia patients in its four blood centres in Dhaka, Sylhet, Chittagong and Jessore

The eight centres have their own blood donor recruitment and retention processes which are coordinated by the BDRCS blood program director.

Donor recruitment activities are funded by the blood service, the National Society, government or MoH and private organisations. Both paid staff and volunteers are used to undertake school/university programs and corporate programs.

The BDRCS is planning to expand its current level of involvement in blood-related activities by developing a five year strategic plan which will include increasing VNRBD, and establishing new centres, quality management and GMP.

- ¹ Mehedi T. Bangladesh Global Mapping Report (review of). Global Advisory Panel (GAP) on Corporate Governance and Risk Management of Blood Services in Red Cross and Red Crescent Societies; 2017 Jul. 3p.
- ² Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Feb 16]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/bg.html>
- ³ United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2018 Feb 16]. Available from: <http://hdr.undp.org/en>
- ⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Feb 16] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>
- ⁵ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Feb 16] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>
- ⁶ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Feb 16]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>
- ⁷ Blood Transfusion Society of Bangladesh. History [Internet] Blood Transfusion Society of Bangladesh 2017 [cited 2018 Feb 16]. Available from: <http://btsbd.org/history/>
- ⁸ Blood Transfusion Society of Bangladesh. Activity [Internet] Blood Transfusion Society of Bangladesh 2017 [cited 2018 Feb 16]. Available from: <http://btsbd.org/activity-2/>
- ⁹ Islam MB. Blood transfusion services in Bangladesh. Asian J Transfus Sci. 2009 Jul [cited 2018 Feb 16];3(2):108-110. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2920470/> DOI: [10.4103/0973-6247.53880](https://doi.org/10.4103/0973-6247.53880)
- ¹⁰ Mayr W, Wsolak M. GAP Preliminary Visit Report. Perth (WA): Global Advisory Panel (GAP) on Corporate Governance and Risk Management of Blood Services in Red Cross and Red Crescent Societies; 2014 Dec 11. 8p.

HONG KONG



Hong Kong Red Cross (Branch of the Red Cross Society of China):

- Level A (undertakes full blood service provision)
- 100% of the national total blood collection
- 100% VNRBD

NATIONAL CONTEXT

| | |
|--|---|
| Location | Eastern Asia |
| Geographical size ranking¹ | 184 th |
| Population (world ranking)¹ | 7.2 million (100 th) |
| Median age¹ | 44.4 |
| Political system¹ | Presidential limited democracy; a special administrative region of the People's Republic of China |
| GDP per capita (world ranking)¹ | \$61,000 (18 th) |
| HDI Index (world ranking)² | 0.917 - very high (12 th) |
| Efficiency of Healthcare³ | 2 nd of 51 countries |
| Population prevalence hepatitis B⁴ | High Intermediate: 5% - 7% |
| Population prevalence hepatitis C⁵ | Low: 1.0% - <1.5% |
| Population prevalence HIV⁶ | 0.12% |



NATIONAL BLOOD PROGRAM

The Hong Kong Red Cross Blood Transfusion Service (BTS) is the sole provider of blood to all public and private hospitals nationwide.⁷ Since 1991 the BTS has been managed by the Hospital Authority⁷, a public organisation which provides health services to public hospitals.⁸

The BTS first launched its blood program in 1952.⁹ All donations are received from non-remunerated donors.⁹ Currently the BTS operates:

- nine donor centres
- two university campus donor centres
- four mobile blood collection teams
- one medi-coach⁹

To adequately supply blood to all hospitals of Hong Kong the BTS requires 1,100 donors per day.⁹ The BTS estimates that the need for blood will continue to increase due to an aging population and the opening of several public and private hospitals.⁹

To meet this demand the BTS is proactively expanding its service network to recruit blood donors and strengthen the overall blood collection capacity.⁹ Young donors are being encouraged to donate regularly in an effort to stabilise the long term blood supply.⁹

NATIONAL SOCIETY (HONG KONG RED CROSS: BRANCH OF THE RED CROSS SOCIETY OF CHINA)

The Hong Kong Red Cross Blood Transfusion Service (BTS) is responsible for collection, processing, testing and distribution of all blood donated by 100% voluntary non-remunerated donors in Hong Kong.

In 2005, the BTS implemented a Quality-Environmental Management System which incorporates the principles of ISO9001, ISO14001 and cGMP (Code of Good Manufacturing Practice for Blood and Components) standards.⁷

The Hong Kong Red Cross Blood Transfusion Service:

- annually collects (2016):
 - 250,554 units of whole blood
 - 7,668 units by apheresis¹⁰
- supplies blood to 30 hospitals/clinics
- supports a regional population of 7.2 million people
- processes collected blood into components
- conducts screening testing of blood for infectious diseases and blood grouping
- does not conduct cross-matching for transfusion
- is accredited by US AABB
- does not receive technical assistance or financial support for VNRBD or blood service activities from outside the country
- is involved in the collection, processing or testing of cord blood stem cells and peripheral stem cells
- is not involved in the collection, processing or testing of bone marrow stem cells, bone, solid organs or corneas
- the Public Cord Blood Bank was established in 1998 and the Hong kong Bone Marrow Donor Registry in 2005
- forwards plasma to a fractionation facility

Blood donor recruitment and retention activities are coordinated nationally by the National Society. They are funded by the blood service. Paid staff are used to undertake school/university programs and corporate programs.

The Hong Kong Red Cross Blood Transfusion Service is planning to expand its current level of involvement in blood-related activities, but only to increase the volume of activities to meet increasing demand.

- ¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Feb 16]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/hk.html>
- ² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2018 Feb 16]. Available from: <http://hdr.undp.org/en>
- ³ Bloomberg. Where Do You Get the Most for Your Health Care Dollar? [Internet] Bloomberg 2014 [cited 2018 Feb 16]. Available from: <https://www.bloomberg.com/graphics/infographics/most-efficient-health-care-around-the-world.html>
- ⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Feb 16] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>
- ⁵ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Feb 16] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>
- ⁶ Department of Health. The Government of Hong Kong Special Administrative Region. Virtual AIDS office of Hong Kong. HIV surveillance and epidemiology [Internet] Department of Health 2007 [updated 2017 Aug 29] [cited 2018 Feb 16]. Available from: http://www.info.gov.hk/aids/english/surveillance/latest_stat.htm.
- ⁷ Hong Kong Red Cross. Hong Kong Red Cross Blood Transfusion Service. History and Background. [Internet] 2013 [cited 2018 Feb 16]. Available from: <http://www5.ha.org.hk/rcbts/enarticle.asp?bid=1&MenuID=1#.WoZR8dJluU>
- ⁸ Hospital Authority Hong Kong. About Us. Introduction. [Internet] 2018 [cited 2018 Feb 16]. Available from: http://www.ha.org.hk/visitor/ha_visitor_index.asp?Parent_ID=10004&Content_ID=10008&Ver=HTML
- ⁹ Concern over the continuously low level of blood stock in Hong Kong and excessively long waiting time for organ transplant. Annex II. Central and Western District Council. Committees Meetings Discussion Papers. [Internet] 2016 [cited 2018 Feb 5]. Available from: http://www.districtcouncils.gov.hk/central/doc/2016_2019/en/committee_meetings_doc/clsac/10123/20160922_CLSAC_Paper_29_2016_Annex_II.pdf
- ¹⁰ Hong Kong Red Cross. Hong Kong Red Cross Blood Transfusion Service. 2016 Key facts in Blood Collection and Usage [Internet] Hong Kong Red Cross 2017 [cited 2017 Oct 03]. Available from: <http://www5.ha.org.hk/rcbts/enarticle.asp?bid=86&MenuID=3#.WdMMgtlUm70>

INDIA



Indian Red Cross Society:

- Level A (undertakes full blood service provision)
- Provide approximately 10% of the national supply¹
- Approximately 90% VNRBD¹

NATIONAL CONTEXT

| | |
|--|-------------------------------------|
| Location | Southern Asia |
| Geographical size ranking² | 8 th |
| Population (world ranking)² | 1.28 billion (2 nd) |
| Median age² | 27.9 |
| Political system² | Federal parliamentary republic |
| GDP per capita (world ranking)² | \$7,200 (157 th) |
| HDI Index (world ranking)³ | 0.624 - medium (131 st) |
| Health Expenditure² | 4.7% of GDP |
| Population prevalence hepatitis B⁴ | Low: <2% |
| Population prevalence hepatitis C⁵ | Very Low: 0-<1.0% |
| Population prevalence HIV⁶ | 0.3% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

The national blood system in India is decentralised; there are 2760⁷ blood banks which are run by⁸:

- Ministry of Health (49.1% total collections)
- Private/commercial sector (32.4% total collections)
- NGO/not-for-profit (18.5% total collections).⁸

A national blood policy was adopted in India in 2002 which was followed with an Action Plan for Blood Safety to address priorities and objectives as stated in the blood policy.⁸

Licensing of blood banks is under the Drug Controller General of India (Drug & Cosmetics Act - 1945).⁹ To hold a license, blood banks must adhere to national minimum standards for operation which are defined by the Act as well as standards issued by the National AIDS Control Organisation (NACO).⁹

The National Blood Transfusion Council (NBTC) was formed in 1996; each state also has a State Blood Transfusion Council (SBTC).¹⁰ The NBTC formulates policy relating to all matters of blood centre operations, coordinates the SBTCs and ensures involvement of other government ministries and health programs.¹⁰

NACO, a division of the Indian Ministry of Health, has been largely responsible for making sure there is an adequate safe blood supply for use across the country since 1992.¹⁰ NACO set the service charge for blood components, also specifying that blood must be provided free for particular patients including those with thalassemia and haemophilia.¹¹ NACO provides support to 1131 blood banks through the provision of blood bags, reagents and testing kits.¹⁰

In 2015-2016, the number of units collected by NACO supported blood banks was 6,385,000 units (well below the national annual requirement of approximately 12.8 million units)¹⁰, 79% of these collections were from voluntary blood donors.¹⁰

Between 2007 and 2014-2015 the incidence of HIV sero-positivity in donors declined from 1.2% to 0.2% in NACO supported blood banks.¹²

Blood bank accreditation is conducted by the National Accreditation Board for Hospitals and Healthcare Providers (NABH), their assessment includes compliance to NABH and NACO standards and guidelines.¹³

Plasma fractionation in India is undertaken by a PlasmaGen Biosciences, a private facility in Bangalore (Karnataka) with a capacity of up to 60,000L annually¹⁴; and Reliance Life Sciences in Mumbai (Maharashtra).¹⁵ NACO also plans to set up a government run plasma fractionation centre in Chennai (Tamil Nadu) with a capacity of 150,000L of plasma per year.¹⁰

NATIONAL SOCIETY (INDIAN RED CROSS)

The Indian Red Cross Society started the first blood bank in the country in 1942 in Calcutta (West Bengal); the National Headquarters in New Delhi were opened in 1977.¹⁶

The Indian Red Cross Society has 166 blood banks which all operate independently, at a state based level, and provide approximately 5-10% of the national blood supply (approx. 800,000 units per year).¹⁷

The number of blood banks and the level of blood supply in each state is very variable, 14 states in the country have IRCS blood banks which provide a full blood service (collection, processing, distribution of blood).¹⁷ In the remaining states, the Indian Red Cross assists with promotion of voluntary blood donation and recruitment of donors.¹⁷

The IRCS National Headquarters blood bank in New Delhi (one of the largest IRCS blood banks in the country) provides approximately 40,000 units of blood per year to the Delhi area.¹⁷ VNRBD rates for this blood bank are 96%.¹⁸

The activities of the Indian Red Cross blood banks vary significantly across the country.¹⁸ As well as processing and distribution of blood, some blood banks conduct cross-matching and undertake transfusions (primarily for thalassaemia patients) within their facilities.¹⁸ In addition, some blood banks are accredited by the National Accreditation Board for hospitals and some forward plasma to a fractionation facility.¹⁸

¹ Strategic Development Plan (2014-2017). Indian Red Cross Society. Available from:

<http://www.indianredcross.org/publications/strategic-development-plan.pdf>

² Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Feb 16]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/in.html>

³ United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2018 Feb 16]. Available from: <http://hdr.undp.org/en>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Feb 16] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

- ⁵ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Feb 16] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>
- ⁶ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Feb 16]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>
- ⁷ National AIDS Control Organisation (NACO) Assessment of NACO Supported blood banks A Preliminary Report 2016 [Internet] NACO 2016 [cited 2018 Feb 16]. Available from: <http://naco.gov.in/sites/default/files/Assessment%20of%20NACO%20supported%20BBs%20in%20India.pdf>
- ⁸ National AIDS Control Organisation (NACO) Rapid Situation Assessment of Blood Transfusion Services in India [Internet] 2014 [cited 2018 Feb 16]. Available from: <http://naco.gov.in/sites/default/files/Rapid%20Situation%20Assessment%20of%20BTS%20in%20India%20pdf%20%281%29.pdf>
- ⁹ Central Drugs Standard Control Organisation, India. Regulatory Requirements of Blood and/or its Components Including Blood Products [Internet] Central Drugs Standard Control Organisation 2014 [cited 2017 Oct 17]. Available from: <http://www.cdsc.nic.in/forms/list.aspx?lid=1813&ld=1>
- ¹⁰ National AIDS Control Organization [Internet] NACO 2017 [Cited 2017 Dec 11]. Available from: <http://www.naco.gov.in/blood-transfusion-services>
- ¹¹ National AIDS Control Organization, Guidelines for Recovery of Processing Charges for Blood and Blood Components-reg [Internet] NACO 2017 [Cited 2017 Dec 8]. Available from: <http://www.naco.gov.in/sites/default/files/guidelines.pdf>
- ¹² NACO Annual Report 2015-2016. Department of AIDS Control. Ministry of Health & Family Welfare, Government of India. [Internet] NACO 2016. [cited 2017 Oct 16]. Available from: http://naco.gov.in/sites/default/files/Annual%20Report%202015-16_NACO.pdf
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INDONESIA



Indonesian Red Cross Society (Palang Merah Indonesia – PMI):

- Level A (undertakes full blood service provision)
- 90% of the national total blood collection
- 90% VNRBD (average for all centres)

NATIONAL CONTEXT

| | |
|--|-------------------------------------|
| Location | South-eastern Asia |
| Geographical size ranking¹ | 16 th |
| Population (world ranking)¹ | 261 million (4 th) |
| Median age¹ | 30.2 |
| Political system¹ | Presidential republic |
| GDP per capita (world ranking)¹ | \$12,400 (125 th) |
| HDI Index (world ranking)² | 0.689 - medium (113 th) |
| Health Expenditure¹ | 2.8% of GDP |
| Population prevalence hepatitis B³ | Low: <2% |
| Population prevalence hepatitis C⁴ | Very Low: 0 - <1.0% |
| Population prevalence HIV⁵ | 0.4% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

In Indonesia, 90% of the blood is supplied by the Indonesian Red Cross (PMI) with the remaining 10% being supplied by government run blood centres.⁶

While the majority of blood collected from PMI is from voluntary donors, government run hospital collections are predominantly replacement donations.⁷ In addition, government hospitals transfuse mostly whole blood.⁷

A number of national guidelines are in place in Indonesia, including a national blood policy for VNRBD and national technical standards for blood centres (including GMP).⁶

Blood is sold to hospitals on a fee-for-service basis; the patients are charged for the blood but they may claim the cost from government or private insurance.⁷ The Ministry of Health (MoH) mandates the cost recovery model which was approximately USD\$30 for a unit of blood in 2016.⁶

Currently in Indonesia, 80% of plasma is discarded each year across all PMI centres nationally.⁶ Plasma products are imported by hospitals from overseas suppliers.⁶ In 2019/2020, the Indonesian MoH is planning to open a plasma fractionation facility with the plasma supplied by the Indonesia Red Cross.⁶ The MoH has appointed PT Biofarm to construct this facility.⁶

In 2015, the government released regulations specific for plasma fractionation which requires PMI blood centres to be GMP accredited prior to providing plasma for fractionation.⁶

NATIONAL SOCIETY (INDONESIAN RED CROSS)

In 1873, the Dutch colonial government established the Red Cross organization in Indonesia with the name Het Rode Kruis Nederland-Indische (NIRK).⁸ The organisation was recognised by the International Committee of Red Cross in 1950.⁸

The Indonesian Red Cross Society:

- has 212 semi-autonomous blood centres. In addition, PMI has a number of blood banks (blood storage centres) in MoH hospitals.⁶
- collects (2015):
 - 2,776,202 units of whole blood annually
 - 8,844 units of blood collected by apheresis
- collects 62% of the blood via mobile sites
- transfuses 84% components, 16% whole blood (average across all centres)⁶
- supplies blood to 3,880 hospitals/clinics
- processes collected blood into components
- conducts screening testing of blood for infectious diseases and blood grouping
- conducts cross-matching for transfusion
- does not perform transfusions
- is not involved in the collection, processing or testing of cord blood stem cells, peripheral stem cells, bone marrow stem cells, bone, solid organs or corneas.

Some centres are working to become accredited to WHO GMP Blood establishment.⁶

Funding for the PMI blood program is provided by the national government (5-10%), local governments and the National Society.⁶ PMI does not receive financial support from international partners; however the blood service has received technical support from the Australian Red Cross to assist with the implementation of a quality system since 2012.⁶

Nationally, 85% of PMI blood centres use ELISA and 15% use a rapid test for infectious disease screening. In the capital Jakarta, the local government funds NAT screening for the PMI blood centres in this area.⁶

Blood donor recruitment and retention activities are coordinated by the National Society district/chapter and are funded by the blood service. Both paid staff and volunteers coordinate school/university and corporate donor recruitment programs.

Indonesia Red Cross is planning to expand its current level of involvement in blood-related activities by establishing or participating in a blood network with its neighbouring country.

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- ² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2018 Feb 16]. Available from: <http://hdr.undp.org/en>
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- ⁵ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Feb 16]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>
- ⁶ House O. GAP Visit to Indonesia. Perth (WA): Global Advisory Panel (GAP) on Corporate Governance and Risk Management of Blood Services in Red Cross and Red Crescent Societies; 2016 Sep 6p.
- ⁷ MacPherson J. Blood Collections & Transfusion A Global Perspective 2014. Connecticut: The Marketing Research Bureau Inc; 2014. 203p.
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JAPAN



Japanese Red Cross Society:

- Level A (undertakes full blood service provision)
- 100% of the national total blood collection
- 100% VNRBD

NATIONAL CONTEXT

| | |
|--|---------------------------------------|
| Location | Eastern Asia |
| Geographical size ranking¹ | 63 rd |
| Population (world ranking)¹ | 126 million (10 th) |
| Median age¹ | 47.3 |
| Political system¹ | Parliamentary constitutional monarchy |
| GDP per capita (world ranking)¹ | \$42,700 (41 st) |
| HDI Index (world ranking)² | 0.903 - very high (17 th) |
| Health Expenditure¹ | 10.2% of GDP |
| Efficiency of Healthcare³ | 4 th of 51 countries |
| Population prevalence hepatitis B⁴ | Low: <2% |
| Population prevalence hepatitis C⁵ | Low: 1.0% - <1.5% |
| Population prevalence HIV⁶ | 0.01% |



NATIONAL BLOOD PROGRAM

The Japanese Red Cross Society (JRCS) is the sole collector and provider of blood for transfusions in Japan. The donated blood from VNRB donors are supplied to medical institutions as blood products for transfusion after testing and manufacturing. Source plasma is collected and provided from JRCS to three domestic manufacturers for processing into plasma derivatives.

National regulatory standards are established and administered by the Ministry of Health, Labour and Welfare, and the Pharmaceutical and Medical Devices Agency.

Legal framework on blood program in Japan is governed by laws as follows:

- The Law on Securing a Stable Supply of Safe Blood Products - came into effect in 2003 with the basic principle of achieving domestic self-sufficiency.
- Act on Securing Quality, Efficacy and Safety of Pharmaceuticals, Medical Devices, Regenerative and Cellular Therapy Products, Gene Therapy Products, and Cosmetics (revised from amendments of Pharmaceutical Affairs Law) - came into full effect in 2005 via a new organization called the Blood Service Headquarters of JRCS, which was set up in keeping with the provisions of these laws and regulations, and was inaugurated in October 2004.⁷

NATIONAL SOCIETY (JAPANESE RED CROSS)

JRCS collects all of the nation's blood, which is from VNRB donors, and supports the entire Japanese population with blood components for transfusion.

The Japanese Red Cross Blood Service:

- recruit and retain blood donors nationally with the support of volunteers
- annually collects (2015):
 - 3,526,005 units of whole blood
 - 775,664 units of Platelet Rich Plasma for Platelet Concentrates
 - 581,918 units of Platelet Poor Plasma
- processes donated blood into blood products for transfusion
- conducts screening of blood for infectious diseases and blood grouping
- does not conduct cross-matching for transfusion – this is conducted by hospitals
- supplies blood to more than ten thousand hospitals/clinics
- forwards plasma to a fractionation facility. Japan Blood Products Organization (JBPO) was established in 2012 as a non-profit general incorporated association⁷
- does not perform any transfusions
- is involved in collection, processing and testing of cord blood stem cells, peripheral stem cells and bone marrow stem cells
- supplies blood to 10,363 approved hospitals/clinics
- is not accredited to international standards
- does not receive technical assistance or financial support for VNRBD or blood service activities from outside the country

The structure of the Blood Service is at three levels as follows:⁸

- National Headquarters of the JRCS (Blood Service Headquarters) – Oversight of all services
- Block Blood Centres - Seven locations nationwide and directly controlled by the national headquarters; responsible for testing, preparation and supply-demand management
- Blood Centres – comprising 47 blood centres nationwide supervised by each prefectural Chapter of the JRCS but belonging to the respective Block Blood Centres; responsible for promoting blood donations, collecting blood, and supplying products

Donor recruitment and retention activities are coordinated nationally and funded by the blood service using paid staff and volunteers. Recruitment programs include school/university programs and corporate programs. Promotional strategies include:

- commercials on TV, radio & cinema screen
- radio program & live events with musicians
- website, Facebook, Twitter, YouTube & pamphlets
- delivery seminar on life and/or blood donation for high school students
- on-site learning at blood centres and collection rooms for primary school pupils

There are no plans to either expand or scale back the current level of involvement in blood related activities.

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² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2018 Feb 16]. Available from: <http://hdr.undp.org/en>

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⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Feb 16] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

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⁶ UNAIDS. Report to UNAIDS—HIV/AIDS Trends In Japan [Internet] UNAIDS 2016 Ap [cited 2018 Feb 16]. Available from: <http://www.unaids.org/en/dataanalysis/knowyourresponse/countryprogressreports/2016countries/>

⁷ Japan Blood Products Organization. The purpose of establishment [Internet] Japan Blood Products Organization 2012 [cited 2017 May 23] Available from: <http://jbpo.or.jp/english/company/index.html>

⁸ Japanese Red Cross Society. Blood Services 2017 [Internet] Japanese Red Cross Society 2017 [cited 2017 Dec 18]. Available from: http://www.jrc.or.jp/english/pdf/Blood_Services_2017_web.pdf

LAOS



Lao Red Cross:

- Level A (undertakes full blood service provision)
- 100% of the national total blood collection
- 92% VNRBD

NATIONAL CONTEXT

| | |
|--|-------------------------------------|
| Location | South-eastern Asia |
| Geographical size ranking¹ | 85 th |
| Population (world ranking)¹ | 7.1 million (101 st) |
| Median age¹ | 23 |
| Political system¹ | Communist State |
| GDP per capita (world ranking)¹ | \$7,400 (156 th) |
| HDI Index (world ranking)² | 0.586 - medium (138 th) |
| Health Expenditure¹ | 1.9% of GDP |
| Population prevalence hepatitis B³ | High: ≥8% |
| Population prevalence hepatitis C⁴ | Low: 1.0% - <1.5% |
| Population prevalence HIV⁵ | 0.3% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

A National Blood Policy was entered into legislation in Laos in 1995, the same year that the Lao Red Cross Blood Transfusion Centre was created to manage the national blood service.^{6 7} The National Transfusion Committee was created three years later, the to oversee the blood program.⁷

There are branches of the National Blood Transfusion Centre in all 17 regions of Laos, with the main headquarters situated in Vientiane.^{6 7}

The National Blood Transfusion Centre is responsible for⁷:

- recruiting blood donors
- collecting blood
- processing and testing
- storage and distribution of blood to hospitals
- encouraging the safe and efficient use of blood products⁷

The blood transfusion service has progressed rapidly since the 1990's, with an increase in total donations from 500 in 1995 ⁷ to 45,735 in 2017. VNRBD has reached almost 100% VNRBD at central level (92%) and 52% at the regional level (2017). Mobile blood collections are the main source of

blood donations⁶, with mobile units frequenting schools, universities, government offices, the army and other businesses.⁷

Mandatory testing is performed on each donation, including ABO and Rh blood groups and antibody screening and testing for TTIs (HIV, HBV, HCV and syphilis).⁷ This testing is performed based on the World Health Organisation (WHO) guidelines.⁷

NATIONAL SOCIETY (LAO RED CROSS)

The Lao Red Cross:

- annually collects 45,735 units of whole blood (2017)
- processes collected blood into components
- conducts screening of blood for infectious diseases and blood grouping
- conducts cross-matching for transfusion
- does not forward plasma to a fractionation facility
- does not perform transfusions
- is not involved in cord blood stem cells, peripheral stem cells, bone marrow stem cells, bone/solid organ transplants or corneas
- supports the National / Regional population
- supplies blood to 49 hospitals/clinics
- is not accredited to an international standard
- receives technical assistance from IFRC, WHO, Swiss Red Cross (SRC) and Japanese Red Cross Society (JRCS), and financial support for VNRBD activities from the Global Fund.

Blood donor recruitment and retention activities are coordinated nationally. They are funded by the Blood Service, Government of MOH and private organisations. Paid staff and volunteers are used to undertake school/university, club 25 and corporate.

The Lao Red Cross is planning to expand its activities by conducting more blood campaigns in communities and government offices, with Youth Donor Club (YDC) and donor recruiter training.

The Lao Red Cross Blood Service is expecting to reach 100% VNRBD and collect 65,000 units of blood by 2020.

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² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2018 Feb 16]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Feb 16] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Feb 16] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

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⁶ World Health Organisation. Biregional Workshop on Blood Donor Management Meeting Report [Internet] WHO 2010 Jun 14-16 [cited 2017 Dec 19]. Available from: http://www.wpro.who.int/health_technology/documents/docs/MeetingReportBiregionalMeetingonBloodDonorManagement.pdf

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NEPAL



Nepal Red Cross Society:

- Level A (undertakes full blood service provision)
- 90% of the national total blood collection
- 85% VNRBD

NATIONAL CONTEXT

| | |
|--|-------------------------------------|
| Location | Southern Asia |
| Geographical size ranking¹ | 96 th |
| Population (world ranking)¹ | 29.4 million (45 th) |
| Median age¹ | 24.1 |
| Political system¹ | Federal parliamentary republic |
| GDP per capita (world ranking)¹ | \$2,700 (196 th) |
| HDI Index (world ranking)² | 0.558 - medium (144 th) |
| Health Expenditure¹ | 5.8% of GDP |
| Population prevalence hepatitis B³ | Low: <2% |
| Population prevalence hepatitis C⁴ | Low Moderate: 1.5% - <2.0% |
| Population prevalence HIV⁵ | 0.2% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

In 1991, when the National Policy for Blood Safety was first approved, the government of Nepal mandated the Nepal Red Cross Society as the sole authority in conducting blood programs in Nepal.⁶ ^{7 13} The National Blood Policy has since been revised in 2006 and 2012⁷, providing the regulations for ensuring the people of Nepal have access to a safe and adequate supply of blood and blood products.

There is a National Technical Advisory Committee (NTAC) which provides advice on blood technical matters, and falls under the National Steering Committee, part of the Ministry of Health and Population (MoHP).⁷ Under the MoHP, the National Public Health Laboratory (NPHL) functions as the reference centre and encourages all aspects of blood safety (policy, guidelines, protocols and SOP's).⁸

Voluntary blood collection was introduced in 1982.⁶ The central Blood Transfusion Service (BTS) in Kathmandu reached 90% VNRBD in 2009.¹³

The blood service consists of:

- a central BTS centre (BTSC)
- four regional BTSC
- 22 district BTSC
- 37 emergency BTSC
- 36 hospital units⁹

On the 25th April, 2015 a devastating earthquake hit Nepal, with aftershocks continuing for several weeks after the initial damage.^{7 10} The earthquakes caused significant damage to the blood service throughout Nepal, both in Kathmandu and 14 districts.¹¹ One staff member and two volunteers lost their lives while involved in a mobile blood collection at the time.¹² In Kathmandu, the Central Blood Transfusion Service building was considered unsafe due to the damage and the current temporary arrangements are inadequate to support even a rudimentary level of operation (in terms of collection, processing and testing capacity).⁷ Several externally funded projects are underway to support the Blood Transfusion Service re-establish itself.

NATIONAL SOCIETY (NEPAL RED CROSS)

The Nepal Red Cross Society was established in 1963 and three years later, in 1966, its Blood Transfusion Service was founded.¹³ The service began for the people of Kathmandu but has since been extended to 68 locations in the 48 districts of the country⁶ (though since the 2015 earthquake, 12 centres have been fully damaged and 19 centres partially damaged).⁷

The Nepal Red Cross Society:

- currently operates 105 Blood Transfusion Services in 72 of the 75 districts of Nepal¹⁴
- supplies blood to 200 hospitals/clinics
- supports a regional population of 30 million
- collected a total of 310,623 units of blood between 2016-2017¹⁴
- indicates blood donation to be at 85% VNRBD and 15% family replacement donation with the rate of national increase at 13% per year¹⁴
- does not perform transfusions
- does not forward plasma to a fractionation facility
- is not accredited
- receives technical support from Red Cross Partner National Societies (Finnish Red Cross, Japanese Red Cross, Belgian Red Cross – Flanders, Danish Red Cross, British Red Cross, American Red Cross, Australian Red Cross, Thai Red Cross and GAP), and also receives capacity support from bilateral partners, Sanquin Netherlands, for quality management
- receives financial support for VNRBD and blood service activities, with partial and intermittent support from WHO
- receives support for post-earthquake recovery from GAP
- is not involved in the collection, processing or testing of cord stem cells, peripheral stem cells, bone marrow stem cells, bone, solid organ or cornea

Blood donor recruitment and retention activities are coordinated nationally by the National Society and they are currently undertaking school/university, Club 25 and corporate programs. Donor recruitment activities are funded by the National Society. Paid staff are utilised for donor recruitment. Nepal Red Cross is planning to expand its current level of involvement in blood related activities by increasing collections and commencing an apheresis program.

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- ² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2018 Feb 16]. Available from: <http://hdr.undp.org/en>
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- ⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Feb 16] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>
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- ⁷ Rajkarnikar, M. Blood management post earthquake 25th April 2015. Transfus Apher Sci [Internet] 2016 [cited 2017 Dec 19];55;184-185. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/27692604>. doi:10.1016/j.transci.2016.09.006
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- ⁹ Rajkarnikar M (NRCS Central Blood Transfusion Service, Nepal). The Blood Program in Nepal. Paper presented at the Australian Red Cross Blood Service; 2015 Feb 1-5; Brisbane.
- ¹⁰ World Health Organization. Nepal Earthquake 2015 Country Update and Funding Request [Internet] 2015 [cited 2017 Dec 19]. Available from: <http://www.who.int/emergencies/nepal/nepal-donor-may.pdf>
- ¹¹ World Health Organization. Humanitarian crisis after Nepal earthquakes 2015 [Internet] 2015 May [cited 2017 Dec 19] Available from: http://www.searo.who.int/entity/emergencies/phra_nepal_may2015.pdf?ua=1
- ¹² Global Advisory Panel on Corporate Governance and Risk Management of Blood Services in Red Cross and Red Crescent Societies. Nepal [Internet] Global Advisory Panel on Corporate Governance and Risk Management of Blood Services in Red Cross and Red Crescent Societies 2017 [cited 2017 Dec 19]. Available from: <http://www.globaladvisorypanel.org/about-gap/activities/priority-country-activities/nepal>
- ¹³ World Health Organisation. Biregional Workshop on Blood Donor Management Meeting Report [Internet] WHO 2010 Jun 14-16 [cited 2017 Dec 19]. Available from: http://www.wpro.who.int/health_technology/documents/docs/MeetingReportBiregionalMeetingonBloodDonorManagement.pdf
- ¹⁴ Rajkarnikar M. Blood Transfusion Country Report Nepal. Nepal Red Cross Society Blood Transfusion Service 2017 [cited 2018 Jan 25] 3pp

PAKISTAN

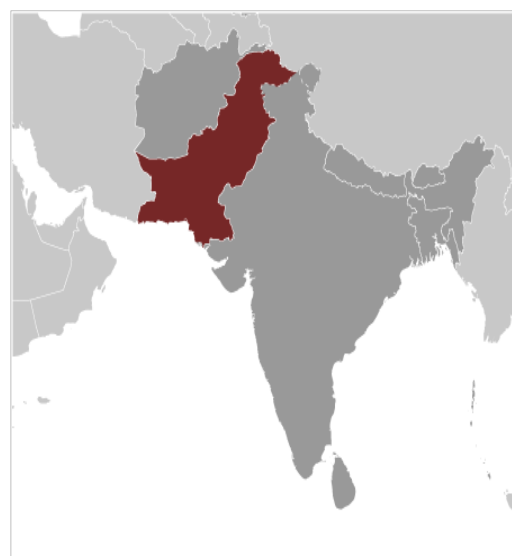


Pakistan Red Crescent Society:

- Level A (undertakes full blood service provision)
- <1% of the national total blood collection
- 98% VNRBD¹

NATIONAL CONTEXT

| | |
|--|-------------------------------------|
| Location | Southern Asia |
| Geographical size ranking² | 37 th |
| Population (world ranking)² | 204.9 million (6 th) |
| Median age² | 23.8 |
| Political system² | Federal parliamentary republic |
| GDP per capita (world ranking)² | \$5,400 (171 st) |
| HDI Index (world ranking)³ | 0.550 – medium (147 th) |
| Health Expenditure² | 2.6% of GDP |
| Population prevalence hepatitis B⁴ | Low Intermediate: 2-4% |
| Population prevalence hepatitis C⁵ | High: ≥5.0% |
| Population prevalence HIV⁶ | 0.1% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

Pakistan has a fragmented blood transfusion system with mostly hospital-based transfusion services, approximately 15% of donations are VNRBD and 85% replacement/family donations.⁷ It is estimated that the annual blood collection in Pakistan is 3.5 million units.⁸

The National Blood Policy and Strategic Framework 2008-2012 stated there were nearly 170 public and approximately 450 private/NGO blood banks in the country.⁹ However, other reports indicate that there may be up to 1800 blood centres in Pakistan, including many that are unregulated.¹⁰

The Safe Blood Transfusion Program (SBTP), a Pakistan national government program supported by the German government (GIZ), was established in 2010.¹¹ SBTP performs the role of “central coordinating body to oversee policy planning, provide strategic guidelines, set standards, monitor and evaluate programs, liaise with development partners and report on international commitments” to contribute to the improvement in blood safety standards in the country.⁷

Operational Documents on the SBTP website include:

- National Blood Donor Policy (which recommends VNRBD)
- Standards and Guidelines for Blood Banks and Transfusion Services. These include Blood Donor Selection, Blood Component Preparation and Storage, Testing of Blood Donations (including mandatory requirements for infectious disease testing and pre-transfusion testing).¹²

These are considered essential minimum standards for licensing of blood centres in Pakistan.¹²

The Islamabad Blood Transfusion Authority (IBTA) is an autonomous organisation established in 2005 and revived in 2013, to guide the development of blood transfusion services and regulate the system on internationally accepted models and providing technical advice.¹³

In 2015 in Islamabad there were 19 licensed blood banks including the Pakistan Red Crescent Society Blood Donor Centre.¹³ Blood Transfusion Authorities were then established in other provinces, including Punjab, Sindh, Khyber Pakhtunkhwa, Azad Jammu and Kashmir and Balochistan. Their role includes registration and inspection of blood banks, issuing licenses that fulfil minimum criteria, inspections, haemovigilance, surveillance, compliance and data management.¹⁴

NATIONAL SOCIETY (PAKISTAN RED CRESCENT)

The Pakistan Red Crescent (PRCS) Blood Transfusion Service has seven centres: four in Punjab, two in Sindh and one at Islamabad.

The PRCS Blood Donor Centre, National HQ, Islamabad:

- collects 3,075 units of whole blood annually (2015)
- supplies blood to more than 40 hospitals/clinics
- supports a population of 5 million of the cities of Rawalpindi & Islamabad
- processes collected blood into components
- conducts screening testing of blood for infectious diseases and blood grouping
- does not conduct cross-matching for transfusion
- does not perform transfusions
- does not forward plasma to a fractionation facility
- is licensed by the IBTA¹⁵
- does not receive technical assistance or financial support for VNRBD or blood service activities from outside the country
- is not involved in the collection, processing or testing of cord blood stem cells, peripheral stem cells, bone marrow stem cells, bone, solid organs or corneas.

The Blood Service is planning to expand its activities to include a thalassaemia treatment centre.

Blood donor recruitment and retention activities are coordinated by district/chapter by the National Society. They are funded by the blood service. Paid staff undertake school/university programs and corporate programs.

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² Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2017 May 22]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/pk.html>

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- ⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2017 May 23] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>
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- ¹¹ Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ). Safe blood transfusion in Pakistan [Internet] GIZ 2017 [cited 2017 May 23] Available from: <https://www.giz.de/en/worldwide/18027.html>
- ¹² Government of Pakistan. Safe Blood Transfusion Programme. [Internet] Safe Blood Transfusion Programme 2018 [cited 2018 January 22]. Available from: <http://www.sbtp.gov.pk/>
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PHILIPPINES



Philippine Red Cross:

- Level A (undertakes full blood service provision)
- 52% of the national total blood collection
- 94% VNRBD¹

NATIONAL CONTEXT

| | |
|--|-------------------------------------|
| Location | South-eastern Asia |
| Geographical size ranking² | 74 th |
| Population (world ranking)² | 104.3 million (13 th) |
| Median age² | 23.5 |
| Political system² | Presidential republic |
| GDP per capita (world ranking)² | \$8,200 (153 rd) |
| HDI Index (world ranking)³ | 0.682 - medium (116 th) |
| Health Expenditure² | 4.7% of GDP |
| Population prevalence hepatitis B⁴ | Low Intermediate: 2% - 4% |
| Population prevalence hepatitis C⁵ | Very Low: 0% - <1.0% |
| Population prevalence HIV⁶ | 0.1% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

In the Philippines, blood is collected by:

- the Philippine Red Cross (52%)
- government hospitals (20%)
- Philippine Blood Centre (13%)
- private hospitals (15%).

Blood donation in the Philippines is regulated under the Republic Act No. 7719 (RA 7719), also known as the National Blood Services Act of 1994, which promotes voluntary blood donation for a free and safe blood supply and regulates blood banks.⁷ The Philippines Department of Health website⁷ outlines five goals for the National Voluntary Blood Services Program (NVBSP):

- Development of a fully voluntary blood donation system.
- Strengthening of a nationally coordinated network to increase efficiency by centralized testing and processing of blood.
- Implementation of a quality management system including Good Manufacturing Practice and Management Information System.
- Maximum utilization of blood.
- Sustainable management and funding for the nationally coordinated blood network.⁷

In 2016, 920,000 units of blood were collected throughout the country, with Philippine Red Cross providing nearly half the supply (407,000 units), this however, falls below the WHO recommendation of blood donation from 1% of the total population.⁸

Many people turn to online groups to ask for direct blood donations to avoid being charged processing fees twice for blood coming to the hospitals from other collection centres, as allowed under RA 7719.⁸

NATIONAL SOCIETY (PHILIPPINE RED CROSS)

The Philippine Red Cross:

- annually collects (2015):
 - 355,000 units of whole blood
 - 2,500 apheresis units
- processes collected blood into components
- conducts screening tests of blood for infectious diseases and blood grouping.
- does not conduct cross-matching for transfusion
- does not forward plasma to a fractionation facility
- does not perform transfusions
- is not involved in the collection, processing or testing of cord blood stem cells, peripheral stem cells, bone marrow stem cells, bone, cornea or solid organs
- supplies 70-100 hospitals and dialysis units
- National Blood Centre is accredited to ISO 9001:2008 and other PRC facilities are working towards accreditation
- does not receive technical assistance or financial support for VNRBD or blood service activities from outside the country

Donor recruitment and retention activities are coordinated nationally and by district/chapter. Donor recruitment activities are funded by the blood service and the National Society. Both paid staff and volunteers are used for donor recruitment.

Current recruitment programs include school/university programs, Club 25, corporate programs, RC 143 community donor recruitment, police, military, media, civic organization and the church.

RC 143 stands for one leader + 43 members. The RC 143 volunteers in the Red Cross Blood Program are asked to become regular and standby donors when needed, recruit voluntary unpaid blood donation, and organise voluntary mass blood donations as required.⁹

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- ² Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Feb 16]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/rp.html>
- ³ United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2018 Feb 16]. Available from: <http://hdr.undp.org/en>
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- ⁵ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Feb 16] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>
- ⁶ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Feb 16]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>
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- ⁸ Francisco, K. Blood needed: With PH blood supply below target, patients seek help online. Rappler [Internet]. 2017 Sep 03 [cited 2018 Jan 29]. Available from: <https://www.rappler.com/newsbreak/in-depth/180446-blood-donation-online-networks-philippine-red-cross>
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REPUBLIC OF KOREA (SOUTH KOREA)



Republic of Korea National Red Cross:

- Level A (undertakes full blood service provision)
- 93% of the national total blood collection
- 100% VNRBD

NATIONAL CONTEXT

| | |
|--|---------------------------------------|
| Location | Eastern Asia |
| Geographical size ranking¹ | 110 th |
| Population (world ranking)¹ | 51.2 million (27 th) |
| Median age¹ | 41.8 |
| Political system¹ | Presidential republic |
| GDP per capita (world ranking)¹ | \$39,400 (45 th) |
| HDI Index (world ranking)² | 0.901 - very high (18 th) |
| Health Expenditure¹ | 7.4% of GDP |
| Efficiency of Healthcare³ | 5 th of 51 countries |
| Population prevalence hepatitis B⁴ | Low Intermediate: 2% - 4% |
| Population prevalence hepatitis C⁵ | Very Low: 0% - <1.0% |
| Population prevalence HIV⁶ | <0.1% |



NATIONAL BLOOD PROGRAM

Until 2002, the Republic of Korea Red Cross (KRC) was the sole blood service provider in the country.

⁷ At this time, the government allowed the establishment of non-Red Cross blood centres.⁷ The KRC undertakes 93.2% of the country's blood collection.⁸ Other providers of blood in Korea are the Hanmaeum Blood Centre (6.5%) and hospital blood banks such as the Jungang University Hospital (0.3%).⁹

VNRBD commenced in 1960 and a national policy of 100% VNRBD was implemented, eliminating paid blood donation, in 1974.⁹ The national rate of VNRBD in Korea is now 100%⁸, however donors may receive a small gift. Donors can choose a donation voucher equivalent to the value of the gift, one in 20 donors chose the donation voucher over the gift in 2014.⁹ To increase retention, Korea also provides a thank you card to first time donors and a gift to first time donors who return within six months.⁹

The Korea Centres for Disease Control and Prevention (KCDC) – Division of Human Blood Safety Surveillance is responsible for the evaluation of blood establishments and investigation of transfusion associated infections.¹⁰

The Division of Bioethics Policy at the Ministry of Health and Welfare (MoHW) is responsible for the national blood program¹¹ including overall blood supply-demand management, permission of establishment of blood centres and the determination of the price of blood products.^{10 11}

The Ministry of Food and Drug Safety is responsible for plasma fractionation management.^{10 11}

NATIONAL SOCIETY (REPUBLIC OF KOREAN NATIONAL RED CROSS)

The Korean Red Cross Blood Centre was established in 1958 and in 1981 was given the mandate by the government for the provision of the national blood supply.⁹ This was removed in 2002.⁷ In 1994, the Korean Red Cross was also entrusted by the government with management and supply of plasma fractionation products, and management of bone marrow donations.^{9 12}

In 2002, the KRC Blood Service Headquarters opened and they began simultaneous testing for HIV antigen/antibody.¹⁰ Additional NAT testing for Hepatitis B commenced in 2012.¹²

The Korean Red Cross Blood Services operates:

- Blood Service headquarters
- 15 blood centres
- 138 blood donation centres
- a Blood Transfusion Research Institute
- three blood laboratory centres
- a plasma fractionation plant.¹²

The Korean Red Cross:

- annually collect (2016):
 - 1,986,173 units of whole blood
 - 659,008 units of blood by apheresis⁹
- supplies blood to 2,717 hospitals/clinics
- does not perform transfusions
- is accredited to ISO-9001
- does not receive technical assistance or financial support for VNRBD or blood service activities from outside the country
- is not involved in cord stem cells, peripheral stem cells or bone/solid organ/corneal transplants
- recruits approximately 7,000 donors a year to the Korea Marrow Donor Program.⁷

Blood donor recruitment and retention activities are coordinated nationally by the National Society and they are currently undertaking school/university and corporate programs. Donor recruitment activities are funded by the blood service and the government. Both volunteers and paid staff are utilised for donor recruitment.

In 1991, the Blood Components Research Centre (now known as the Plasma Fractionation Centre) was opened.^{8 9} Operated by the Korean Red Cross, products are then sold to the Green Cross and SK Chemicals.⁷ In 2015, South Korea anticipates to be fully self sufficient to meet the national supply of plasma, with the exception of hyperimmune globulin products.⁹

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- ⁶ World Health Organization: World Health Statistics 2011 [Internet] France 2011 171p. [cited 2017 May 23]. Available from: http://www.who.int/gho/publications/world_health_statistics/en/
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- ⁸ Korean Red Cross. Blood Service Introduction. Key Figures [Internet] Korean Red Cross 2011 [cited 2018 Jan 29]. Available from: https://www.redcross.or.kr/eng/eng_activity/activity_blood_introduction.dohttps://www.redcross.or.kr/eng/eng_activity/activity_blood_keyfigures.do
- ⁹ Korean Red Cross Blood Services. Annual Report (2015). Seoul, Republic of Korea 2015 39p. Available from: https://www.redcross.or.kr/eng/eng_activity/activity_blood_resource.do
- ¹⁰ Korean Red Cross Blood Services. 2014. Powerpoint presentation available from: <http://fondzdrav.ru/upload/Korean%20Blood%20Services.pdf>
- ¹¹ Sinyoung K, Hyun Ok K, Moon Jung K, Sang Won L, Young Hack S, Young Sil C, Dong Han L. Performance review of the National Blood Safety Improvement Project in Korea (2004-2009). Blood Res [Internet]. 2013 Jun 25 [cited 2018 Jan 29];48(2):139-44. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3698400/pdf/br-48-139.pdf>
- ¹² Korean Red Cross. Blood Service Introduction [Internet] Seoul, Republic of Korea 2011 [cited 2017 May 29]. Available from: https://www.redcross.or.kr/eng/eng_activity/activity_blood_introduction.do

THAILAND



Thai Red Cross Society:

- Level A (undertakes full blood service provision)
- 40% of the national total blood collection
- 100% VNRBD

NATIONAL CONTEXT

| | |
|--|---|
| Location | South-eastern Asia |
| Geographical size ranking¹ | 52 nd |
| Population (world ranking)¹ | 68.4 million (20 th) |
| Median age¹ | 37.2 |
| Political system¹ | Constitutional monarchy with interim military-run government since May 2014 |
| GDP per capita (world ranking)¹ | \$17,800 (97 th) |
| HDI Index (world ranking)² | 0.740 - high (87 th) |
| Health Expenditure¹ | 6.5% of GDP |
| Efficiency of Healthcare³ | 28 th of 51 countries |
| Population prevalence hepatitis B⁴ | High Intermediate: 5% - 7% |
| Population prevalence hepatitis C⁵ | High Moderate: 2% - <5% |
| Population prevalence HIV⁶ | 1.1% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

In 1966, the Thai Government assigned the Thai Red Cross Society the task of initiating a National Blood Program.⁷ With assistance from the French Government, the National Blood Centre of the Thai Red Cross Society commenced operations in 1969.⁷ Tasks performed included:

- recruitment of blood donors
- collection of blood
- ABO typing and transmissible disease screening
- storage and distribution of blood.⁷

Initially the focus was on blood donor recruitment, establishment of regional blood services, and conversion of existing paid donors into non-remunerated ones.⁷ By the late 1980's and into the early 1990's, non-remunerated blood collections had strengthened and a pilot project was initiated

to fractionate plasma.⁷ Blood was being processed into specialised products for clinical use, and fractionated plasma products were regularly manufactured and issued for use.⁷

The first version of the National Blood Policy was established in 1989 and it has since been updated to the second version in 1989, third version in 2010 and a new version was due to be released in 2017.

The National Blood Centre of the Thai Red Cross currently collects approximately 30% of the nation's blood supply with the remainder being collected by government (60%), university and metropolitan hospitals (remaining 10%).⁸

The Ministry of Public Health has tasked the Thai Red Cross National Blood Centre with⁸:

- preparation and supply of collection bags and venepuncture sets for use in the country
- preparation and supply of blood group reagents
- supply of blood and blood components for hospitals in Bangkok and nearby provinces
- manufacture of albumin and immunoglobulin from human plasma
- reference laboratory for clinical problems
- setting up national guidelines/standards for blood collection and quality control
- a training centre for laboratory techniques.⁸

NATIONAL SOCIETY (THAI RED CROSS)

The Thai Red Cross became a member of the IFRC in 1921.⁹ The Thai Red Cross Blood Service commenced in 1952 and the National Blood Centre was established in 1969.⁸ The Thai Red Cross Blood Centre started making plasma-derived products since 1979 in a small-scale plasma fractionation plant, which produced albumin, HBIG, HRIG, heat treated dried cryoprecipitate and dried plasma. It imports products from other countries when required to make up any shortfall.¹⁰

Since 2015, the Thai Red Cross Society has been operating a new Plasma Fractionation Plant with industrial scale capacity of 200,000L of plasma annually for albumin, IVIG and Factor VIII productions. The plant was the first of its kind in all of South-east Asia.¹⁰

The responsibilities of the National Blood Centre are outlined in a five year Thai Red Cross Strategic Plan (2017-2021) with targets set as:

- Increase whole blood collections for blood supplied by the Thai Red Cross from 55.5% (1,081,400) in 2017 to 57.5% (1,164,040) in 2021
- Increase supply and coverage of plasma derived medicinal products from 55% in 2017 to 60% in 2021
- Increase the number of unrelated stem cell registered donors with HLA typing from 160,434 in 2017 to 84434 in 2021

The National Blood Centre, Thai Red Cross Society:

- annually collects (2015):
 - 908,413 units of whole blood (925,440 collected by the National Blood Centre and it's 12 regional blood centres, from 100% VNRBD)
 - 17,027 units by apheresis
- supplies blood to 757 hospitals/clinics
- supports the entire population of Thailand
- processes 100% of collected blood into components

- with the 12 Regional Blood Centres conduct screening testing of blood for infectious diseases, NAT and blood grouping for 90% share of blood screening, the remainder are tested in university hospitals and some high level tertiary government hospitals
- conducts cross-matching for transfusion in specific cases with complicated problems
- is accredited by official Thai regulatory agencies for ISO and GMP
- does not receive technical assistance or financial support for VNRBD or blood service activities from outside the country
- is involved in the collection, processing or testing of cord blood stem cells, peripheral stem cells, bone marrow stem cells and solid organs
- is not involved in the collection, processing or testing of bone or corneas
- forwards plasma to a fractionation facility
- does not perform transfusions
- ongoing expansion of blood collections and testing facilities in its Regional Blood Centres
- is not planning to expand or scale back its level of involvement in blood-related activities

Blood donor recruitment and retention activities are coordinated nationally by the National Society and are funded by the National Society. Paid staff undertake school/university programs, Club 25 and corporate programs.

Other professional activities include:

- manufacture and supply of collection bags and venepuncture sets for use in the National and Regional Blood Centres
- manufacture and supply blood testing reagents such as ABO, Rh blood grouping reagents, standard red cell and panel red cell reagents and some monoclonal antibody anti-sera i.e. Anti-E, anti-Mia, anti-M etc. for blood group identification
- advance laboratory services including red cell serology and genotyping, HLA and platelet immunology laboratories
- set up of the National Unrelated Stem Cell Registry Centre
- set up and updating of the National Blood Policy, National Guidelines/standards for blood services, Haemovigilance Guideline and Clinical Handbook for Appropriate Blood Use
- being a WHO collaborator on training programs in blood services for SERO and recognising as training centre for blood collection technique, management system, HLA, stem cell transplantation process and immunohaematology for medical staff in Thailand and overseas

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- ¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2017 Oct 27]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/th.html>
- ² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2017 Oct 27]. Available from: <http://hdr.undp.org/en>
- ³ Bloomberg. Where Do You Get the Most for Your Health Care Dollar? [Internet] Bloomberg 2014 [cited 2017 May 22]. Available from: <https://www.bloomberg.com/graphics/infographics/most-efficient-health-care-around-the-world.html>
- ⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2017 Oct 27] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>
- ⁵ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2017 Oct 27] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>
- ⁶ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2017 Oct 27]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>
- ⁷ Nuchprayoon C. Blood Transfusion Service in Thailand. Japanese Journal of Transfusion Medicine. [Internet] 1994 [cited 2018 Feb 5]; 40(5). Available from: https://www.jstage.jst.go.jp/article/jjtc1958/40/5/40_5_772/_pdf
- ⁸ The Thai Red Cross Society. National Blood Center [Internet] The Thai Red Cross Society Thailand, 2017 [cited 2017 Oct 27] Available from: <http://english.redcross.or.th/content/page/949>
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- ¹⁰ Making Plasma a Priority. Bangkok Post. [Internet] 2013 Jan 15 [cited 2018 Feb 5]. Available from: <https://www.bangkokpost.com/print/330843/>

VIETNAM



Red Cross of Vietnam:

- Level A (undertakes full blood service provision)
- 20% of the national total blood collection¹

NATIONAL CONTEXT

| | |
|--|-------------------------------------|
| Location | South-eastern Asia |
| Geographical size ranking² | 67 th |
| Population (world ranking)² | 96.1 million (15 th) |
| Median age² | 30.5 |
| Political system² | Communist state |
| GDP per capita (world ranking)² | \$6,900 (159 th) |
| HDI Index (world ranking)³ | 0.683 - medium (115 th) |
| Health Expenditure² | 7.1% of GDP |
| Population prevalence hepatitis B⁴ | High: ≥8% |
| Population prevalence hepatitis C⁵ | Low: 1.0% - <1.5% |
| Population prevalence HIV⁶ | 0.47% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

In the early 2000's, less than 15% of Vietnam's blood requirements were met, with the majority of the supply coming from paid and family replacement donors.⁷ The blood supplies were also of poor quality⁶ with some of the blood not even being tested for disease markers before transfusion.⁸

With an International Development Association (IDA) loan of US\$38.2 million and World Bank expertise, the government built the country's first four blood centres and upgraded local knowledge and skills for blood transfusion.⁷ By the end of the project's completion in 2009, Vietnam had:

- achieved 93% of donations from VNRBD
- collected 250,000 units of blood and meet the need of 30 public hospitals
- improved blood transfusion safety⁷

Total blood collections increased from approximately 776,000 in 2011 to almost 930,000 in 2013, and the number of paid donations in that time dropped by 30,000.⁹ The government has set a goal of 100% VNRBD by 2020¹. In 2015 VNRBD was at 97% for the nation.¹⁰

The Central Institute of Blood Transfusion and Haematology is the biggest blood bank in northern Vietnam, supplying blood to 120 hospitals in Hanoi and other provinces.¹¹

In January 2017, in an attempt to address blood supply shortages, the Ministry of Health introduced two options as draft law for approval by the National Assembly.¹² Option one was compulsory blood donation for all healthy Vietnamese at least once per year and option two was continue with voluntary donations with those donating eligible for free blood transfusions if needed, along with two days off work to give blood and recover.¹² The mandatory draft law was withdrawn after debate regarding the safety of compulsory blood donation.¹³

NATIONAL SOCIETY (RED CROSS OF VIETNAM)

Whilst the Vietnam Red Cross Society is generally involved in blood activities at Level B, the Red Cross Branch in Ho Chi Minh City has been not only recruiting blood donors but also collecting blood since 1994. The blood is transferred to the health sector for screening and manufacture of blood components.

Approximately 20% of the total blood supply is collected and provided by the Red Cross of Vietnam.¹ Community education activities are coordinated nationally by the National Society. They are funded by the government or Ministry of Health. Both paid staff and volunteers are used for donor recruitment programs, such as school/university programs and Club 25.

The National Society does not receive technical assistance for VNRBD or blood service activities from an international partner. Financial support for VNRBD or blood service activities is only provided by the government.

¹ MacPherson J. Blood Collections & Transfusion A Global Perspective 2014. Connecticut: The Marketing Research Bureau Inc: 2014. 203p.

² Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2017 Jan 30]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/vm.html>

³ United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2017 May 22]. Available from: <http://hdr.undp.org/en>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2017 May 23] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

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⁶ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2017 May 23]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁷ The World Bank. Vietnam: Regional Blood Transfusion Centers Project. [Internet] The World Bank Group 2013. [cited 2017 May 29]. Available from: <http://go.worldbank.org/C6CW58WK60>

⁸ World Health Organization. 2013. Towards Self-Sufficiency in Safe Blood and Blood Products based on Voluntary Non-Remunerated Donation. Global status 2013. Page 20.

⁹ World Health Organization. Global Status Report on Blood Safety and Availability 2016 [Internet]. Geneva World Health Organization 2017 [cited 2018 Jan 29]. Available from: <http://apps.who.int/iris/bitstream/10665/254987/1/9789241565431-eng.pdf>

¹⁰ Phuong, Ha. Vietnamese are not donating enough blood. VN Express International [Internet] 2016 June 13 [cited 2018 Feb 26]. Available from: <https://e.vnexpress.net/news/business/data-speaks/vietnamese-are-not-donating-enough-blood-3419005.html>

¹¹ Vietnam's major blood bank running dry. Thanhniien News [Internet]. 2015 June 23 [cited 2017 May 29]. Available from: <http://www.thanhniiennews.com/health/vietnams-major-blood-bank-running-dry-47010.html>

¹² Surely not: Compulsory blood donations tabled in Vietnam. VN Express [Internet] 2017 Jan 12 [cited 2018 Feb 26]. Available from: <https://e.vnexpress.net/news/news/surely-not-compulsory-blood-donations-tabled-in-vietnam-3526421.html>

¹³ Ministry of Health withdraws mandatory blood donation in draft law. Vietnam.net [Internet] 2017 Jan 12 [cited 2018 Feb 26]. Available from: <http://english.vietnamnet.vn/fms/society/171082/ministry-of-health-withdraws-mandatory-blood-donation-in-draft-law.html>

CHINA



Red Cross Society of China (Excluding the Hong Kong branch which is Level A):

- Level B - involved in the systematic/regular recruitment of voluntary non-remunerated blood donors but with no involvement in blood collection

NATIONAL CONTEXT

| | |
|--|----------------------------------|
| Location | Eastern Asia |
| Geographical size ranking¹ | 5 th |
| Population (world ranking)¹ | 1.38 billion (1 st) |
| Median age¹ | 37.4 |
| Political system¹ | Communist state |
| GDP per capita (world ranking)¹ | \$16,600 (106 th) |
| HDI Index (world ranking)² | 0.738 - high (90 th) |
| Health Expenditure¹ | 5.5% of GDP |
| Efficiency of Healthcare³ | 25 th of 51 countries |
| Population prevalence hepatitis B⁴ | High Intermediate: 5%-7% |
| Population prevalence hepatitis C⁵ | Low: 1.0% - <1.5% |
| Population prevalence HIV⁶ | 0.1% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

The Office of Medical and Blood Safety (under the Bureau of Medical Administration, NHFPC) is the only state-level agency that administers blood-related affairs across the country (the armed force is independent).⁷

China's blood system is public and decentralized.⁸

In 2013, there were a total of 452 blood banks in China^{7 9} (excluding Hong Kong, Macau or Taiwan):

- 32 blood centres (at provincial capitals; municipalities)
- 321 central blood stations (at prefecture-level cities)
- 99 central blood banks (at county level cities or counties)⁷

In addition, there were about 150 source plasma centres and seven cord blood banks.⁷

An outbreak of HIV-1 infection triggered by commercial plasma donation in the 1980s led to the ratification of the "Law of the People's Republic of China on blood donation" in 1998.¹⁰

From this point, China transitioned from paid and involuntary unpaid blood donation to VNRBD⁷, though the law still allows for directed donations to friends and family.¹¹ To encourage voluntary donation, the law provides volunteers with several days off work, a nutrition allowance, and priority

access to blood transfusion.¹¹ Provisions such as priority access and directed donations have been blamed for increasing the blood shortage in China and contributing to negative consequences such as access for those most in need of blood who do not meet minimum donation requirements.¹¹

In 2011, a total of 20.82 million blood donations (each 200 mL) were collected in China, 8.53 donations per 1000 population.⁷

In 2012, 109,042 blood donations (less than 1%) were involuntary (mobilised), family donations made up 3.83% of the blood supply and the rest of the blood donations were VNRBD.⁷

Excessive reliance on rural migrant workers and enrolled students is responsible for seasonal shortages of blood, leading to delays for scheduled surgeries and encouragement of family/replacement donations.⁷ In addition, traditional Chinese beliefs may discourage voluntary blood donation.¹²

Blood collection and processing techniques range widely throughout the country as the blood centres have traditionally been locally managed.⁷

Plasma fractionation is generally commercial and operates separately to the blood system. Product contamination in the 1990's led to the following rules⁸:

- Plasma from whole blood donations may not be used for fractionation.
- Source plasma obtained by apheresis cannot be used for transfusion⁸

NATIONAL SOCIETY (RED CROSS OF CHINA)

Blood donor recruitment and retention activities are coordinated by district/chapter by the National Society. They are funded by government of the Ministry of Health.

The Red Cross of China:

- uses volunteers for donor recruitment. "Routine publicity" is used for this
- receives both technical assistance and financial support from IFRC. The VNRBD project was implemented in RCSC Qingdao branch from Oct 2014 to March 2015, aiming to promote VNRBD among young people under 'Pledge 25' and increase the college RC volunteers' enthusiasm to participate in public welfare activities. Qingdao RC branch has designed and printed 29,565 copies of IEC materials. 24 training workshops were held for a total of 4,530 colleges and university students
- was previously been involved in blood at Level A, however in 1998 the Blood Donation Law was issued and accordingly the blood collecting work was transferred to Ministry of Health
- has no plan to expand or scale back its level of involvement in blood related activities

- ¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2017 May 22]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/ch.html>
- ² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2017 May 22]. Available from: <http://hdr.undp.org/en>
- ³ Bloomberg. Where Do You Get the Most for Your Health Care Dollar? [Internet] Bloomberg 2014 September 18 [cited 2017 May 22]. Available from: <https://www.bloomberg.com/graphics/infographics/most-efficient-health-care-around-the-world.html>
- ⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2017 May 23] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>
- ⁵ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2017 May 23] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>
- ⁶ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2017 May 23]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>
- ⁷ Yong-Hua Y, Chang-Qing L, Zhong L. Blood donation in China: sustaining efforts and challenges in achieving safety and availability. Transfusion [Internet]. 2015 October [cited 2017 May 29];55(10):2523-2530. DOI: 10.1111/trf.13130
- ⁸ MacPherson J. Blood Collections & Transfusion A Global Perspective 2014. Connecticut: The Marketing Research Bureau Inc: 2014. 203p.
- ⁹ World Health Organization. Global Status Report on Blood Safety and Availability 2016 [Internet]. Geneva World Health Organization 2017 [cited 2018 Jan 29]. Available from: <http://apps.who.int/iris/bitstream/10665/254987/1/9789241565431-eng.pdf>
- ¹⁰ Su Y. (Shenzhen Institute of Transfusion Medicine, Shenzhen, China). Securing Stable Supply of Safe Blood (III). Paper presented at the Eighth Red Cross and Red Crescent Symposium of Blood Programs in the Asian Region; 2017 Oct 18-20; Bangkok, Thailand.
- ¹¹ Xue R, Chen Y, Wen J. Correspondence. Blood donation shortages in China. The Lancet. [Internet] 2016 [cited 2017 May 29];387:1905. Available from: [http://www.thelancet.com/pdfs/journals/lancet/PIIS0140-6736\(16\)30417-2.pdf](http://www.thelancet.com/pdfs/journals/lancet/PIIS0140-6736(16)30417-2.pdf)
- ¹² Yu C, Holroyd E, Cheng Y, Tak Fai Lau, J. Institutional incentives for altruism: gifting blood in China. BMC Public Health [Internet] 2013 [cited 2017 May 29] 13:524. Available from: <https://bmcpublichealth.biomedcentral.com/articles/10.1186/1471-2458-13-524> DOI: 10.1186/1471-2458-13-524

COOK ISLANDS

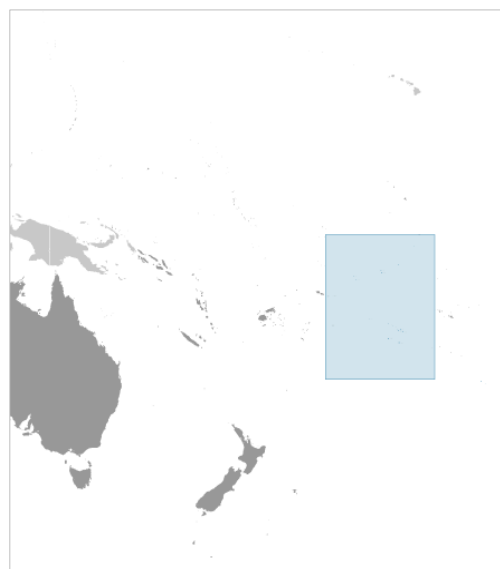


Cook Islands Red Cross Society:

- Level B - involved in the systematic/regular recruitment of voluntary non-remunerated blood donors but with no involvement in blood collection

NATIONAL CONTEXT

| | |
|--|---|
| Location | Oceania |
| Geographical size ranking¹ | 215 th |
| Population (world ranking)¹ | 10 thousand (225 th) |
| Median age¹ | 35.9 |
| Political system¹ | Self-governing parliamentary democracy in free association with New Zealand |
| GDP per capita (world ranking)¹ | \$12,300 (127 th) |
| HDI Index (world ranking)² | n/a |
| Health Expenditure¹ | 3.4% of GDP |
| Population prevalence hepatitis B | n/a |
| Population prevalence hepatitis C³ | 1.5% (2010) |
| Population prevalence HIV⁴ | 0.03% |



NATIONAL BLOOD PROGRAM

The Cook Island Blood Service is overseen by the Cook Islands Ministry of Health (CIMoH) and the Cook Islands Red Cross (CIRC)⁵. Until January 2015, the Cook Islands had been storing and transfusing only whole blood, now the blood is separated into red cell concentrates and fresh frozen plasma.⁶

In 2016, an MOU was signed between the MoH and the CIRC to improve health outcomes by providing and maintaining safe blood supply through VNRBD.⁷ CIRC conduct and organise all blood donor recruitment drives and the annual program of activities for blood donors⁸ and provide refreshments for the blood donors while the MOH provides assistance to the CIRC to plan and deliver the blood programs and provides technical assistance through collection, screening and processing activities.⁷

The Cook Islands use a bleed-on-demand process.⁶ The blood bank has a capacity of just 20 units and when blood stocks are low, donors from a panel are telephoned asking them to donate at the Red Cross hall within a few hours.⁶ On occasions, walk-in donors are also accepted at Rarotonga Hospital.⁶

According to WHO, 2% of the population are voluntary donors.⁹

The Cook Islands have a strong VNRBD culture, donating 100% of blood from VNRBD since 2009.¹⁰

NATIONAL SOCIETY (COOK ISLANDS RED CROSS)

Blood donor recruitment and retention activities are coordinated nationally by the National Society. They are funded by the Ministry of Health.

The Cook Islands Red Cross:

- uses both paid staff and volunteers for donor recruitment programs, such as school/university programs, corporate programs and community / public events blood drives
- does not receive technical assistance or financial support for VNRBD activities from outside the country
- has not previously been involved in blood at Level A
- plans to expand by working in collaboration with the laboratory staff within the Ministry of Health to promote its VNRBD program

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2017 May 22]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/cw.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2017 May 22]. Available from: <http://hdr.undp.org/en>

³ Lavanchy D. Evolving epidemiology of hepatitis C virus. Clin Microbiol Infect. 2011;17(2):107-115. DOI: 10.1111/j.1469-0691.2010.03432.x

⁴ Global AIDS Progress Report. Cook Islands. 2014 [Internet] UNAIDS; 2015 [cited 2017 May 29] 24p. Available from: http://www.unaids.org/sites/default/files/country/documents/COK_narrative_report_2015.pdf

⁵ Cook Islands Ministry of Health. Donate Blood [Internet] Cook Islands Ministry of Health 2018 [cited 2018 Jan 29]. Available from: <http://www.health.gov.ck/clientsconsumers/donate-blood/>

⁶ Tan S. Knowledge, attitudes and practice of blood donation in Rarotonga, Cook Islands. Paper presented at HAA Conference; 2015 October 18-21; Adelaide.

⁷ Cook Islands Red Cross Society. Facebook post [Internet] 2016 Sep 01 [cited 2018 Jan 30]. Available from: <https://www.facebook.com/cookislandsredcross/posts/1145134005557684>

⁸ UNAIDS. Global AIDS Progress Report Cook Islands 01 January - 31 December 2015 [Internet] UNAIDS 2016 [cited 2018 Jan 30]. Available from: http://www.unaids.org/sites/default/files/country/documents/COK_narrative_report_2016.pdf

⁹ World Health Organization. Blood donation success stories from countries, Cook islands, Changing the donor profile. [Internet] World Blood Donor Day 2012 Jun 14, updated 2018 [2018 Jan 30]. Available from: http://www.who.int/worldblooddonorday/media/success_story/en/

¹⁰ Call for blood donations to help shortage in the Pacific. ABC News [Internet]. 2013 June 14 [cited 2017 May 29]. Available from: <http://www.abc.net.au/news/2013-06-14/an-pacific-blood-shortage/4755308>

FIJI



Fiji Red Cross Society:

- Level B - involved in the systematic/regular recruitment of voluntary non-remunerated blood donors but with no involvement in blood collection

NATIONAL CONTEXT

| | |
|--|-----------------------------------|
| Location | Oceania |
| Geographical size ranking¹ | 157 th |
| Population (world ranking)¹ | 920 thousand (161 st) |
| Median age¹ | 28.6 |
| Political system¹ | Parliamentary republic |
| GDP per capita (world ranking)¹ | \$9,900 (139 th) |
| HDI Index (world ranking)² | 0.736 - high (91 st) |
| Health Expenditure¹ | 4.5% of GDP |
| Population prevalence hepatitis B³ | Low Intermediate: 2% - 4% |
| Population prevalence hepatitis C⁴ | Very Low: 1.0% - <1.5% |
| Population prevalence HIV⁵ | 0.10% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

WHO reported in 2014 that the Ministry of Health has initiated large-scale reform of the Fiji National Blood Service (FNBS) to be more responsive to patients' needs and more convenient for blood donors.⁶

WHO has been supporting the FNBS by⁶:

- developing and reviewing national blood policies and strategic plans
- reviewing and advising on donor selection guidelines
- training local blood services staff through a one-year distance education program based on WHO's Blood Safety modules⁶

VNRBD donations have increased from 53% in 2011 to 75% in 2013⁶ and 87% in 2014 with a target of 100% VNRBD in 2018.⁷

The FNBS collected 13,593 blood donations in 2013. By 2018, the blood service is aiming to collect 17,500 blood donations annually.⁸

A national blood and blood product transfusion policy was endorsed in 2010 with the aim of becoming standard practice adopted in all health facilities in Fiji, where blood transfusion takes place.⁹

In 2017, the Government of Japan donated funds to FNBS to purchase a new blood donor bus.¹⁰

NATIONAL SOCIETY (FIJI RED CROSS)

Blood Donor Advocacy & Recruitment has been a core program & mandate of the Fiji Red Cross Society since 2006 when the management of the Blood Service in Fiji was transferred to the Ministry of Health.

The Fiji Red Cross are actively involved in promoting and advocating for the importance of voluntary non remunerated blood donation.¹¹ They also conduct educational sessions and distribute information, education and communication materials to the general public to recruit voluntary blood donors, in particular young donors.¹¹ These materials are also distributed through the Fiji National Blood Service Blood Banks around the country including other NGOs involved in community service.¹¹

Blood donor recruitment and retention activities are coordinated nationally and by the district/chapter of the National Society. Programs include school/university, club 25 and corporate programs. Donor recruitment activities are funded by the National Society.

Fiji Red Cross:

- uses paid staff and volunteers for donor recruitment activities
- does not receive technical assistance for VNRBD activities from outside the country
- is planning to expand its current level of involvement in blood related activities by adding VNRBD services to additional branches (only 3 branches are currently active)

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2017 October 02]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/fj.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2017 October 02]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2017 October 02] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2017 October 02] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2017 October 02]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁶ WHO. Western Pacific Region. WHO Fiji and friends give blood [Internet] 2014 June 13 WPRO 2017 [cited 2017 October 02]. Available from: <http://www.wpro.who.int/southpacific/mediacentre/releases/2014/wbdd-2014/en/>

⁷ Ravulo A. 87% Voluntary Non-remunerated Blood donation achieved. Fiji Village [Internet] 2015 November 23 [cited 2017 October 02]. Available from: <http://fijivillage.com/news/87-Voluntary-Non-remunerated-Blood-donation-achieved-s925kr/>

⁸ Ministry of Health and Medical Services. Shaping Fiji's Health. Blood donation [Internet] Ministry of Health and Medical Services 2015 [cited 2017 October 02]. Available from: http://www.health.gov.fj/?page_id=1132

⁹ Ministry of Health and Medical Services. National Blood and Blood Product Transfusion Policy [Internet] Ministry of Health and Medical Services 2010 [cited 2017 October 02]. Available from: <http://www.health.gov.fj/wp-content/uploads/2014/05/Blood-Transfusion-Guideline.pdf>

¹⁰ Hanatani T. Speech at the Grant Contract Signing Ceremony for Fiji National Blood and Ambulance Services, Habitat for Humanity Fiji and Hilton Organization [Internet] Embassy of Japan 2017 Mar 03 [cited 2018 Jan 30]. Available from: <http://www.fj.emb-japan.go.jp/files/000235437.pdf>

¹¹ Argyle J. Fiji Red Cross Society. Review of the Fiji Red Cross HIV&AIDS and Blood IEC Materials [Internet] 2010 August [cited 2017 October 02]. [22p] Available from: <http://adore.ifrc.org/Download.aspx?FileId=83442&.pdf>

KIRIBATI



Kiribati Red Cross Society:

- Level B - involved in the systematic/regular recruitment of voluntary non-remunerated blood donors but with no involvement in blood collection

NATIONAL CONTEXT

| | |
|--|-------------------------------------|
| Location | Oceania |
| Geographical size ranking¹ | 187 th |
| Population (world ranking)¹ | 108,145 (191 st) |
| Median age¹ | 24.6 |
| Political system¹ | Presidential republic |
| GDP per capita (world ranking)¹ | \$1,900 (210 th) |
| HDI Index (world ranking)² | 0.588 - medium (137 th) |
| Health Expenditure¹ | 10.2% of GDP |
| Population prevalence hepatitis B³ | 8.00 - 14.99% |
| Population prevalence hepatitis C⁴ | 2% |
| Population prevalence HIV⁵ | Low (<100 people living with HIV) |



NATIONAL BLOOD PROGRAM

The National Blood Transfusion Service (NBTS) in Kiribati is run by the Ministry of Health and Medical Services and is overseen by the National Blood Transfusion Committee.⁶ The NBTS has three hospitals on the islands of South Tarawa, Christmas and Tabiteuea North.⁶ In 2015, 993 donations were collected at the Tungaru Central Hospital (South Tarawa), which is inhabited by half of the population of Kiribati.⁶ Defined donor selection algorithms and infectious disease testing are in place.⁶

A national blood policy was developed⁶ following the signing of the Melbourne Declaration in 2009.⁷ However, the national VNRBD rate in Kiribati is very low, approximately 13%.⁶

In 2014 the NBTS collected approximately 1,300 blood donations and tested them for HBsAg, syphilis, HIV and HCV.⁸

NATIONAL SOCIETY (KIRIBATI RED CROSS)

Blood donor recruitment and retention activities are coordinated by district/chapter by the National Society, mainly on the capital island of Kiribati. They are funded by the National Society.

The donor recruitment program consists of volunteers going around the island looking for donors. No payments are made for volunteers involved apart from allowances and refreshment costs.

The Kiribati Red Cross:

- does not receive technical assistance for VNRBD activities from outside the country - whilst the Kiribati Red Cross received some funding as part of an HIV program in 2014, there was no further funding from international partners in 2015
- is planning to expand its current level of involvement in blood related activities: *“To have volunteers trained to do blood pull and to have our own blood bank”*
- has not previously been involved in blood at Level A

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2017 Dec 12]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/kr.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2017 Dec 12]. Available from: <http://hdr.undp.org/en/countries/profiles/KIR>

³ WHO Western Pacific Region, Prevalence of chronic hepatitis B among adults in the Western Pacific Region [Internet] WHO 2016 [cited 2017 Dec 12]. Available from:

http://www.wpro.who.int/hepatitis/data/chronic_hepatitis_b_prevalence2.jpg?ua=1

⁴ Lavanchy D. Evolving epidemiology of hepatitis C virus. Clin Microbiol Infect. [Internet]. 2011 Feb [cited 2017 Dec 12];17(2):107-115. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/21091831>

⁵ UNAIDS. Country Factsheets Kiribati [Internet] UNAIDS 2017 [cited 2017 Dec 12]. Available from:

<http://www.unaids.org/en/regionscountries/countries/kiribati/>

⁶ Tauma, G. et al. Should Kiribati continue to aim for 100% voluntary non-remunerated blood donation as recommended by the WHO? Public Health Action. [Internet] 2016 Dec 21 [cited 2017 Dec 12];6(4):261-266. Available from:

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5176052/>

⁷ World Health Organisation. The Melbourne Declaration on 100% Voluntary Non-remunerated Donation of Blood and Blood Components [Internet] WHO 2009 [Cited on 2017 Dec 12]. Available from:

http://www.who.int/worldblooddonorday/Melbourne_Declaration_VNRBD_2009.pdf?ua=1

⁸ UNAIDS. Global AIDS Response Progress. Kiribati Country Progress Report 2015. [Internet] 2015 [cited 2018 Feb 5]. Available from: http://www.unaids.org/sites/default/files/country/documents/KIR_narrative_report_2015.pdf

MALAYSIA



Malaysian Red Crescent Society:

- Level B - involved in the systematic/regular recruitment of voluntary non-remunerated blood donors but with no involvement in blood collection

NATIONAL CONTEXT

| | |
|--|----------------------------------|
| Location | South-eastern Asia |
| Geographical size ranking¹ | 67 th |
| Population (world ranking)¹ | 31 million (43 rd) |
| Median age¹ | 28.2 |
| Political system¹ | Federal constitutional monarchy |
| GDP per capita (world ranking)¹ | \$28,900 (70 th) |
| HDI Index (world ranking)² | 0.789 - high (59 th) |
| Health Expenditure¹ | 4.2% of GDP |
| Efficiency of Healthcare³ | 27 th of 51 countries |
| Population prevalence hepatitis B⁴ | Low: <2% |
| Population prevalence hepatitis C⁵ | Low Moderate: 1.5 - <2.0% |
| Population prevalence HIV⁶ | 0.45% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

The National Blood Centre - NBC (Pusat Darah Negara) at Kuala Lumpur Hospital is responsible for the collection, screening, processing and supply of blood components in Malaysia.⁷ Blood services started in 1955 in Malaysia and have always been based on voluntary donations.⁸ The Malaysian Ministry of Health sets National Standards by which the blood service abides.⁹

In 2013, 636,481 whole blood donations were collected nationwide, all but 4 of these were from voluntary donors.¹⁰ Whole blood and apheresis collections are performed.^{10 11}

In 2013, there were 123 hospital based and 1 stand-alone blood centres in the country.¹⁰

The blood centres in Malaysia are hospital based.¹² Government hospital blood services collect blood from voluntary non-remunerated donors and provide it to government hospitals for free.¹² The private hospital BTS charge for collecting and processing the blood however the fee is heavily subsidised by the government.¹² Once recruited, donors are urged to donate regularly to help develop a pool of safe donors.¹²

The blood transfusion services in Malaysia rely heavily on mobile blood units, which collect approximately 70-80% of all blood donations.¹³ Mobile blood units actively recruit from universities, uniformed services, religious societies, non-government organisations and corporate bodies.¹³

As it is comprised of many different cultures and ethnicities, Malaysia observes many national and state holidays due to the regular celebration of significant religious and historic events.¹⁴ The resulting phenomenon is called 'balik kampung', which refers to the mass exodus of Malaysians to their hometowns, and it has contributed to acute seasonal blood shortages around the country.¹⁴ In an effort to counteract this phenomenon, in 2011 the National Blood Centre set up a Blood Action Team (BAT) who was to be responsible for the following¹⁴:

- implementation of blood forecasting
- discussion of issues related to blood mobiles
- development of measures for recruitment and retention of blood donors and the general promotion of blood donation
- monitoring of blood demand trends¹⁴

Since the implementation of the BAT, the NBC has successfully overcome its annual seasonal blood shortages.¹⁴

NATIONAL SOCIETY (MALAYSIAN RED CRESCENT)

The Malaysian Red Crescent Society began in 1948 as branches of the British Red Cross Society in Sabah and Sarawak (then British North Borneo) and later in other parts of Malaysia.¹⁵

Blood donor recruitment and retention activities are coordinated by district/chapter by the National Society. They are funded by private organisations.

The Malaysia Red Crescent:

- uses both staff and volunteers for donor recruitment programs, such as school/university programs and corporate programs
- does not receive technical assistance or financial support for VNRBD activities from outside the country
- has not previously been involved in blood at Level A
- has no plans to expand or scale back its level of involvement in blood related activities

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2017 May 22]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/my.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2017 May 22]. Available from: <http://hdr.undp.org/en>

³ Bloomberg. Where Do You Get the Most for Your Health Care Dollar? [Internet] Bloomberg 2014 September 18 [cited 2017 May 22]. Available from: <https://www.bloomberg.com/graphics/infographics/most-efficient-health-care-around-the-world.html>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2017 May 23] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁵ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2017 May 23] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁶ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2017 May 23]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁷ Pusat Darah Negara (PDN) National Blood Donor Centre [Internet] Pusat Darah Negara 2017 April 06 [cited 2017 May 30] Available from: www.pdn.gov.my/

⁸ Pusat Darah Negara. Early history [Internet] National Blood Center (PDN) 2015 Oct 28 [cited 2018 Jan 30]. Available from: http://pdn.gov.my/index.php?option=com_content&view=article&id=7&Itemid=128&lang=ms

⁹ Ayob, Dr Yasmin (President, Malaysian Blood Transfusion Society). Comments on the Application for the Addition of Whole Blood and Red Blood Cells to the WHO Model Essential Medicines List and the WHO Model Essential Medicines List for Children. Letter to: Office of the EML Secretariat, WHO. 2013 Feb 25 [cited 2018 Jan 30]. Available from: http://www.who.int/selection_medicines/committees/expert/19/applications/MBTS_Blood_comments.pdf

¹⁰ World Health Organization. Global Status Report on Blood Safety and Availability 2016 [Internet]. Geneva World Health Organization 2017 [cited 2018 Jan 30]. Available from: <http://apps.who.int/iris/bitstream/10665/254987/1/9789241565431-eng.pdf>

¹¹ Lim C W. Top 10 things you didn't know about blood donation. The Star Online [Internet]. 2014 August 02. [cited 2017 May 30] Available from: <http://www.thestar.com.my/news/community/2014/08/02/things-you-didnt-know-about-blood-donation-only-25-malaysians-are-donors/>

¹² Duraisamy Dr G. Blood Transfusion Service in Malaysia. Japanese Journal of Transfusion Medicine. [Internet] 1994 [cited 2018 Feb 5]:40(5). Available from: https://www.jstage.jst.go.jp/article/jjtc1958/40/5/40_5_776/pdf

¹³ Wooi Seong K. Overcoming blood supply challenges in multi-ethnic donor and patient populations: the Malaysia experience. ISBT Science Series. [Internet] 2016 Dec 2 [cited 2018 Feb 5]. Available from: <http://onlinelibrary.wiley.com/doi/10.1111/voxs.12329/full>

¹⁴ Wooi Seong K. Adopting a proactive approach to blood shortages: experience from the National Blood Centre, Malaysia. ISBT Science Series. [Internet] 2014 Jul 23 [cited 2018 Feb 5]. Available from: <http://onlinelibrary.wiley.com/doi/10.1111/voxs.12104/full>

¹⁵ Malaysian Red Crescent. Our History [Internet]. Malaysian Red Crescent 2017 [cited 2017 May 30]. Available from: <http://www.redcrescent.org.my/history/>

MICRONESIA, FEDERATED STATES OF

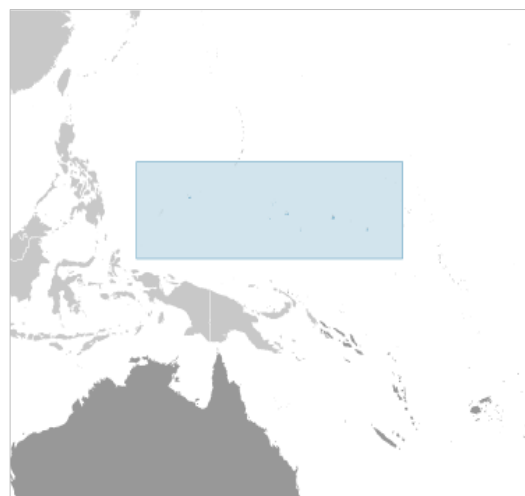


Micronesia Red Cross:

- Level B - involved in the systematic/regular recruitment of voluntary non-remunerated blood donors but with no involvement in blood collection

NATIONAL CONTEXT

| | |
|--|--|
| Location | Oceania |
| Geographical size ranking¹ | 191st |
| Population (world ranking)¹ | 105 thousand (194th) |
| Median age¹ | 24.7 |
| Political system¹ | Federal republic in free association with the US |
| GDP per capita (world ranking)¹ | \$3,400 (190 th) |
| HDI Index (world ranking)² | 0.638 - medium (127th) |
| Health Expenditure¹ | 13.7% of GDP |
| Population prevalence hepatitis B³ | 3.5% |
| Population prevalence hepatitis C⁴ | 2% |
| Population prevalence HIV⁵ | <0.01% |



NATIONAL BLOOD PROGRAM

A total of 1,919 blood donations were collected in 2013, with 169 from voluntary donors.⁶ The Micronesia Red Cross (MRC) developed a blood donation registry for hospitals to use when locating potential blood donors.⁷ In addition to providing a useful service to the hospitals, the registry is also valuable during disaster situations when blood donation is required.⁷

Since the success of the MRC blood-donation registry program depends on country-wide participation, the MRC aims to have the majority of its residents including foreign community members on the register.⁷

The U.S. Pacific Command and the Armed Services Blood Program supported a three day workshop on Blood Safety in Phonpei in July 2015, with the goal of developing infrastructure and knowledge for the blood banking program.⁸

NATIONAL SOCIETY (MICRONESIA RED CROSS)

Blood donor recruitment and retention activities are coordinated by district/chapter by the National Society. They are funded by the National Society and the Global Fund to Fight Aids, Tuberculosis and Malaria (GFATM) through IFRC Suva Office.

The Youth and Health Program Officer undertakes donor recruitment using the Blood Donor Registry.

Micronesia Red Cross:

- does not receive technical assistance for VNRBD activities from outside the country
- received funding from the Australian Red Cross for World Blood Donor Day previously, but this funding is no longer available
- is planning to expand its current level of involvement in blood related activities by trying to do more and reaching further, but with no funding
- has not previously been involved in blood at Level A

There were 30 people donating blood in 2013 with the assistance of the Micronesia Red Cross in 2013.⁹

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2017 May 22]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/fm.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2017 May 22]. Available from: <http://hdr.undp.org/en>

³ WHO Western Pacific Region, Hepatitis data and Statistics [Internet] 2016 [cited 2017 May 23]. Available from: http://www.wpro.who.int/hepatitis/data/hepatitis_data_statistics/en/

⁴ Lavanchy D. Evolving epidemiology of hepatitis C virus. Clin Microbiol Infect. 2011;17(2):107-115. doi: 10.1111/j.1469-0691.2010.03432.x

⁵ Federated States of Micronesia. Global AIDS Response Progress Report 2015. Government of the Federated States of Micronesia. 2016 [cited 2017 May 29] 22p. Available from: http://www.unaids.org/sites/default/files/country/documents/FSM_narrative_report_2016.pdf

⁶ World Health Organization. Global Status Report on Blood Safety and Availability 2016 [Internet]. Geneva World Health Organization 2017 [cited 2018 Jan 30]. Available from: <http://apps.who.int/iris/bitstream/10665/254987/1/9789241565431-eng.pdf>

⁷ Micronesia Red Cross. Partnerships in profile 2002-2003 [Internet] Micronesia Red Cross 2018 [cited 2018 Jan 30]. Available from: https://www.preventionweb.net/files/27083_ifrcprofilesmfmpprofile.pdf

⁸ Pellegrini J. Military Blood Program Supports Pacific Partnership 2015 [Internet] Armed Services Blood Program 2015 July 21 [cited 2017 November 28]. Available from: http://www.militaryblood.dod.mil/viewcontent.aspx?con_id_pk=1926

⁹ The International Federation of Red Cross and Red Crescent Societies. Micronesia Red Cross Society [Internet] IFRC 2016 [cited 2017 May 29]. Available from: <http://data.ifrc.org/fdrs/societies/micronesia-red-cross>

MONGOLIA



Mongolian Red Cross Society:

- Level B - involved in the systematic/regular recruitment of voluntary non-remunerated blood donors but with no involvement in blood collection

NATIONAL CONTEXT

| | |
|--|----------------------------------|
| Location | Northern Asia |
| Geographical size ranking¹ | 19 th |
| Population (world ranking)¹ | 3 million (138 th) |
| Median age¹ | 27.9 |
| Political system¹ | Semi-presidential republic |
| GDP per capita (world ranking)¹ | \$12,600 (122 nd) |
| HDI Index (world ranking)² | 0.735 - high (92 nd) |
| Health Expenditure¹ | 4.7% of GDP |
| Population prevalence hepatitis B³ | High: >8% |
| Population prevalence hepatitis C⁴ | High: >5% |
| Population prevalence HIV⁵ | 0.04% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

In 2008, the Government of Mongolia established a national blood program responsible for blood and blood products and their safe and appropriate use.⁶ The National Transfusiology Centre (NTC) manages the national blood program and is responsible for the nationwide planning, implementation, and monitoring of all blood activities.⁶

The Branch Professional Council on Transfusion Medicine is part of the Ministry of Health (MOH) and is the advisory panel for development of policy, laws and regulations, and essential decision-making in relation to blood.⁶

As of 2012, a National Blood Transfusion Authority (as recommended by WHO) has not yet been established.⁶

The Mongolian blood transfusion services consists of the National Transfusiology Centre in Ulaanbaatar and 26 branch blood banks located within hospitals.⁶

The following challenges have been identified with Mongolia's blood system⁶:

- only about 80% of the demand for blood is met
- a shortage of human, technological and financial resources

- lack of space and privacy as all blood banks are located on hospital premises with an average size of three to five rooms
- some facilities transfuse blood without screening for TTIs due to erratic supply of reagents
- there are no systematic reports on adverse reactions, limiting the ability to develop appropriate interventions
- lack of systematic screening of blood components for quality assurance⁶

Blood wastage is significant, as a lot of prospective donors are carrying the hepatitis virus, which affects approximately half of Mongolia's population.⁷

It was announced in December 2015 that the NTC will complete several system and equipment changes throughout 2017 as part of the Fifth Health Sector Development Project (FifHSDP), an affiliation between the Ministry of Health and Sports of Mongolia and the Asian Development Bank to improve health care services across Mongolia with the use of technology.⁸

According to figures presented at the Eighth Red Cross and Red Crescent Symposium on Blood in the Asian Region, Mongolia has reached 100% VNRBD with the exception of those patients who cannot afford the cost of blood, the family donates in lieu of payment.

NATIONAL SOCIETY (MONGOLIAN RED CROSS)

Under a law passed in 2000, Red Cross Mongolia has had sole responsibility for blood donor recruitment in the country, although its limited resources make this difficult.⁷ The Red Cross Mongolia website indicates that it recruits donors for approximately 60% of blood donations in Mongolia.⁹

Blood donor recruitment and retention activities are coordinated by district/chapter by the National Society. They are funded by the blood service and by private organisations.

The Mongolian Red Cross Society:

- uses volunteers for donor recruitment programs, such as school/university programs and Club 25
- does not receive technical assistance or financial support for VNRBD activities from outside the country
- has not previously been involved in blood at Level A
- has no plans to expand or scale back its level of involvement in blood related activities

- ¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2017 May 22]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/mg.html>
- ² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2017 May 22]. Available from: <http://hdr.undp.org/en>
- ³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2017 May 23] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>
- ⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2017 May 23] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>
- ⁵ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2017 May 23]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>
- ⁶ Fifth Health Sector Development Project. Subsector Analysis (Summary). Safe Blood Transfusion. Mongolia: Fifth Health Sector Development Project. 2012 November. [cited 2017 May 30]. 8p Report No.: RRP MON 45009. Available from: <http://www.adb.org/sites/default/files/linked-documents/45009-002-mon-oth-01.pdf>
- ⁷ International Federation of Red Cross and Red Crescent Societies. Mongolia blood donor recruitment faces serious funding shortage. IFRC News Stories [Internet] IFRC 2007 October 19 [cited 2017 May 30]. Available from: <http://www.ifrc.org/en/news-and-media/news-stories/asia-pacific/mongolia/mongolia-blood-donor-recruitment-faces-serious-funding-shortage/>
- ⁸ Cerus announces agreement with the National Transfusiology Center of Mongolia for the use of INTERCEPT platelets and plasma [Internet]. Business Wire; 2015 December 10 [cited 2017 May 30]. Available from: <http://www.businesswire.com/news/home/20151210005669/en/>
- ⁹ Red Cross Mongolia. Health Promotion Program [Internet]. Red Cross Mongolia. 2014 [cited 2015 March 15]. Available from: <http://www.redcross.mn/b/s/38-114>

PALAU



Palau Red Cross Society:

- Level B - involved in the systematic/regular recruitment of voluntary non-remunerated blood donors but with no involvement in blood collection

NATIONAL CONTEXT

| | |
|--|---|
| Location | Oceania |
| Geographical size ranking¹ | 198 th |
| Population (world ranking)¹ | 21 thousand (220 th) |
| Median age¹ | 33.3 |
| Political system¹ | Presidential republic in free association with the US |
| GDP per capita (world ranking)¹ | \$16,700 (105 th) |
| HDI Index (world ranking)² | 0.788 - high (60 th) |
| Health Expenditure¹ | 9% of GDP |
| Population prevalence hepatitis B³ | 2.9% |
| Population prevalence hepatitis C⁴ | 2% |
| Population prevalence HIV⁵ | 0.02% |



NATIONAL BLOOD PROGRAM

Palau operates a satellite health system, the Belau National Hospital is the main health facility in the country; four community health centres are strategically located and supported by four additional dispensaries.⁶

The Palau Ministry of Health helps screen, collect and store the blood for public use.

The Palau blood bank has the capacity to store up to thirty units of blood at a time, however finds it difficult to fulfil this quota from donors.⁷ There are a few residents who regularly donate blood, and on World Blood Donor Day the Palau Red Cross Society presents these people with Certificates of Appreciation for being regular donors.⁸

NATIONAL SOCIETY (PALAU RED CROSS)

The Palau Red Cross Society has 928 registered blood donors on their database. They recruit voluntary donors as and when blood is required by the Belau National Hospital.⁹

Blood donor recruitment and retention activities are coordinated nationally by the National Society. They are funded by the National Society. Both volunteers and paid staff are used for donor

recruitment. Whilst there do not seem to be specific programs such as school/university or corporate programs, the National Society uses a “Call on volunteers”.

The National Society also sponsors monthly blood drives, and plans on increasing this to bi-monthly blood drives by the end of 2018.

The Palau Red Cross Society:

- does not receive technical assistance or financial support for VNRBD activities from outside the country
- has not previously been involved at Level A
- is planning to expand by recruiting more donors from different nationalities and groups and to promote community education/ awareness programs

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2017 May 22]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/ps.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2017 May 22]. Available from: <http://hdr.undp.org/en>

³ WHO Western Pacific Region, Hepatitis data and Statistics [Internet] WHO 2016 [cited 2017 May 23]. Available from: http://www.wpro.who.int/hepatitis/data/hepatitis_data_statistics/en/

⁴ Lavanchy D. Evolving epidemiology of hepatitis C virus. Clin Microbiol Infect. 2011;17(2):107-115. DOI: 10.1111/j.1469-0691.2010.03432.x

⁵ 2014 Global AIDS Progress Report. Republic of Palau. HIV/AIDS & STI Program, Ministry of Health, Palau. 2015 March 31 [cited 2017 May 30]. 28p. Available from: http://www.unaids.org/sites/default/files/country/documents/PLW_narrative_report_2015.pdf

⁶ Country Cooperation Strategy at a glance. Palau. World Health Organization; 2014 [cited 2017 May 30]. 2p. Report No.: WHO/CCU/14.03/Palau. Available from: http://www.who.int/countryfocus/cooperation_strategy/ccsbrief_pak_en.pdf

⁷ Poso M L. Palau needs more blood donors. Marianas Variety. Regional News. [Internet] 2010 Jun 16 [cited 2018 Feb 5]. Available from: <http://www.mvariety.com/regional-news/27513-palau-needs-more-blood-donors>

⁸ Poso M L. PRR employees give 21 units of blood to the Hospital. Marianas Variety. Regional News [Internet]. 2010 September 20 [cited 2017 May 30]. Available from: <http://www.mvariety.com/regional-news/30297-prr-employees-give-21-units-of-blood-to-the-hospital>

⁹ Palau Red Cross Society. Blood Donor Recruitment [Internet] Palau Red Cross Society 2017 [cited 2018 Feb 19]. Available from: <http://palauredxcross.org/blood-donor-recruitment.html>

SAMOA



Samoa Red Cross Society:

- Level B - involved in the systematic/regular recruitment of voluntary non-remunerated blood donors but with no involvement in blood collection

NATIONAL CONTEXT

| | |
|--|-----------------------------------|
| Location | Oceania |
| Geographical size ranking¹ | 178 th |
| Population (world ranking)¹ | 199 thousand (185 th) |
| Median age¹ | 23.9 |
| Political system¹ | Parliamentary republic |
| GDP per capita (world ranking)¹ | \$5,700 (168 th) |
| HDI Index (world ranking)² | 0.704 - high (104 th) |
| Health Expenditure¹ | 7.2% of GDP |
| Population prevalence hepatitis B³ | 5.5% |
| Population prevalence hepatitis C⁴ | 0.75% |
| Population prevalence HIV⁵ | <0.01% |



NATIONAL BLOOD PROGRAM

The Samoa health system consists of the:

- National Health Service (NHS), concentrating mainly on the provision of health services. It manages 12 health facilities⁶
- Ministry of Health, which is now focusing on its new role in overseeing the health sector as whole⁷

The Laboratory Service of the NHS provides a national pathology and laboratory service and includes a blood bank.⁸ In 2013/14, there were 2,025 requests for blood for transfusion, less than the expected target of 2,400.⁸

The majority of blood provided is from family replacement donors.⁹ All blood donors are screened for HIV, syphilis, hepatitis B, and hepatitis C.⁹

NATIONAL SOCIETY (SAMOA RED CROSS)

Blood donor recruitment and retention activities are coordinated nationally by the National Society. They are funded by the National Society, by the government or Ministry of Health and by the Global

Fund. Both paid staff and volunteers are used for donor recruitment programs, such as school/university programs, Club 25 and activities in community/church groups.

The Samoa Red Cross Society:

- receives technical assistance for VNRBD activities from the Australian Red Cross, and receives financial support which funds part of VNRBD recruitment activities, especially on World Blood Donor Day and World AIDS Day
- has not previously been involved at Level A
- is planning to expand its level of involvement in blood related activities. Samoa's National Health Services is building a blood bank facility with space for donors to receive pre and post donation counselling, lounges to donate and a refreshment area. There will also be area for training

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2017 May 22]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/ws.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2017 May 22]. Available from: <http://hdr.undp.org/en>

³ WHO Western Pacific Region, Hepatitis data and Statistics [Internet] 2016 [cited 2017 May 23]. Available from: http://www.wpro.who.int/hepatitis/data/hepatitis_data_statistics/en/

⁴ Lavanchy D. Evolving epidemiology of hepatitis C virus. Clin Microbiol Infect. 2011;17(2):107-115. DOI: 10.1111/j.1469-0691.2010.03432.x

⁵ Government of Samoa. Global AIDS response progress report 2015. Samoa. UNAIDS, Ministry of Health Samoa 2015 [cited 2017 May 30]. 40p. Available from:

http://www.unaids.org/sites/default/files/country/documents/WSM_narrative_report_2015.pdf

⁶ National Health Services. Hospitals and facilities [Internet]. National Health Services; 2017 [cited 2016 May 18]. Available from: <http://www.nhs.gov.ws/index.php/features>.

⁷ Country Cooperation Strategy for Samoa 2013-2017. Geneva; World Health Organization WPRO; 2012 [cited 2017 May 30]. 46p. Available from: http://www.who.int/countryfocus/cooperation_strategy/ccsbrief_wsm_en.pdf

⁸ Government of Samoa. National Health Service Annual Report for the financial year July 2013 to June 2014. 2014 [cited 2018 Jan 30] 47p. Report No.: NHS Annual Report 2013/14. Available from: <http://nhs.gov.ws/wp-content/uploads/2017/10/Annual-Report-FY-2013-2014.pdf>

⁹ Government of Samoa. Global AIDS response progress report 2015. Samoa. UNAIDS, Ministry of Health Samoa 2015 [cited 2017 May 30]. 40p. Available from: http://www.unaids.org/sites/default/files/country/documents/WSM_narrative_report_2015.pdf

SINGAPORE



Singapore Red Cross Society:

- Level B - involved in the systematic/regular recruitment of voluntary non-remunerated blood donors but with no involvement in blood collection

NATIONAL CONTEXT

| | |
|--|--------------------------------------|
| Location | South-eastern Asia |
| Geographical size ranking¹ | 192 nd |
| Population (world ranking)¹ | 5.8 million (114 th) |
| Median age¹ | 34.3 |
| Political system¹ | Parliamentary republic |
| GDP per capita (world ranking)¹ | \$90,500 (7 th) |
| HDI Index (world ranking)² | 0.925 - very high (5 th) |
| Health Expenditure¹ | 4.9% of GDP |
| Efficiency of Healthcare³ | 1st of 51 countries |
| Population prevalence hepatitis B⁴ | 4.1% |
| Population prevalence hepatitis C⁵ | 1% |
| Population prevalence HIV⁶ | 0.09% |



NATIONAL BLOOD PROGRAM

The Singapore Red Cross was chosen as the national blood donor recruiter in April 2001.⁷ It works together with the Health Science Authority to collect blood from voluntary donors.⁷

Singapore is one of the countries that have reported having achieved 100% VNRBD in 2008.⁸

There are four blood banks operating across Singapore.⁹ Donations can also be made via mobile blood collection sites, which are often set up for organisations hosting large groups (140+) of donors.¹⁰ In 2015, 29.3% of the donations were via mobile blood collection sites.¹¹

The Health Sciences Authority Blood Services Group Laboratory provides¹²:

- blood processing and inventory
- blood group serology
- blood donor testing
- in-process control
- 24-hour cross-match laboratory
- tissue typing
- cell processing laboratory and research¹²

In 2015¹¹:

- 71,277 people (1.83% of Singapore's population) donated blood
- nearly two thirds (62%) of Singapore's blood donors were male
- there were 112,713 whole blood donations and 9,335 donations by apheresis
- over half the blood (54%) was used in general surgery, 31% in general medicine, 9% in haematology and 6% in accident and emergency
- 365,979 blood components were processed and over 1.2 million laboratory tests were conducted on blood components

NATIONAL SOCIETY (SINGAPORE RED CROSS)

The Singapore Red Cross¹³ focuses on three main functions in the National Blood Program:

- recruitment, retention and recognition of blood donors
- promotion and education on the importance of blood donations
- organisation of mobile blood donation drives in the community¹³

Blood donor recruitment and retention activities are coordinated nationally by the National Society. They are funded by the government or Ministry of Health. Paid staff are used for donor recruitment programs, such as school/university programs, corporate programs and the Youth Development Program.

The Singapore Red Cross:

- does not receive technical assistance for VNRBD activities from outside the country
- receives financial support through its partnership with the Blood Services Group of the Health Sciences Authority
- has not previously been involved at Level A
- is not planning to expand or scale back its level of involvement in blood related activities

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2017 May 22]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/sn.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2017 May 22]. Available from: <http://hdr.undp.org/en>

³ Bloomberg. Where Do You Get the Most for Your Health Care Dollar? [Internet] Bloomberg 2014 September 18 [cited 2017 May 22]. Available from: <https://www.bloomberg.com/graphics/infographics/most-efficient-health-care-around-the-world.html>

⁴ WHO Western Pacific Region, Hepatitis data and Statistics [Internet] 2016 [cited 2017 May 23]. Available from: http://www.wpro.who.int/hepatitis/data/hepatitis_data_statistics/en/

⁵ Lavanchy D. Evolving epidemiology of hepatitis C virus. Clin Microbiol Infect. 2011;17(2):107-115. DOI: 10.1111/j.1469-0691.2010.03432.x

⁶ Update on the HIV/AIDS situation in Singapore 2014 [Internet]. Ministry of Health, Singapore; 2015 June 02 [updated 2015 June 04; cited 2017 May 30]. Available from: https://www.moh.gov.sg/content/moh_web/home/statistics/infectiousDiseasesStatistics/HIV_Stats/update-on-the-hiv-aids-situation-in-singapore-2014.html

⁷ Blood Services. About the National Blood Program [Internet]. Health Sciences Authority; 2014 [updated 2016 February 25; cited 2016 March 18]. Available from: http://www.hsa.gov.sg/content/hsa/en/Blood_Services/Blood_Donation/Why_Should_I_Donate/About_the_National_Blood_Program.html

⁸ World Health Organisation. Countries that reported having achieved 100% voluntary non-remunerated blood donation in 2008. [Internet] 2011 [cited 2018 Feb 14]. Available from: http://www.who.int/bloodsafety/voluntary_donation/countries_100pct_vnrbd_2011.pdf?ua=1

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- ⁹ Singapore Red Cross. Where to donate blood? [Internet]. Singapore Red Cross Society 2017 [cited 2017 May 30]. Available from: <https://www.redcross.sg/give-blood/where-to-donate-today.html>.
- ¹⁰ Singapore Red Cross. How else can I help? [Internet]. Singapore Red Cross Society 2017 [cited 2017 May 30]. Available from: <https://www.redcross.sg/give-blood/how-else-can-i-help.html>.
- ¹¹ Health Sciences Authority. The big blood picture 2015 [Internet]. Health Sciences Authority 2016 [cited 2017 May 30]. Available from: <http://www.hsa.gov.sg/content/dam/HSA/bloodservices/Big%20Blood%20Picture%202015.pdf>
- ¹² Health Sciences Authority. Transfusion Medicine [Internet]. Health Sciences Authority 2014 [updated 2014 July 21; cited 2017 May 30]. Available from: http://www.hsa.gov.sg/content/hsa/en/Blood_Services/Transfusion_Medicine.html
- ¹³ Singapore Red Cross. Blood Donor Recruitment Program. [Internet]. Singapore Red Cross Society 2017 [cited 2017 May 30]. Available from: <https://www.redcross.sg/our-services/blood-donor-recruitment-Program.html>.

SOLOMON ISLANDS



Solomon Islands Red Cross:

- Level B - involved in the systematic/regular recruitment of voluntary non-remunerated blood donors but with no involvement in blood collection

NATIONAL CONTEXT

| | |
|--|---|
| Location | Oceania |
| Geographical size ranking¹ | 144 th |
| Population (world ranking)¹ | 635 thousand (169 th) |
| Median age¹ | 22.2 |
| Political system¹ | Parliamentary democracy under a constitutional monarchy |
| GDP per capita (world ranking)¹ | \$2,100 (207 th) |
| HDI Index (world ranking)² | 0.515 - low (156 th) |
| Health Expenditure¹ | 5.1% of GDP |
| Population prevalence hepatitis B³ | 18.8% |
| Population prevalence hepatitis C⁴ | 2% |
| Population prevalence HIV⁵ | <0.01% |



NATIONAL BLOOD PROGRAM

The Ministry of Health and Medical Services (MHMS) provides funding, regulation and health services, there are eight public hospitals and four private hospitals.⁶

The Solomon Islands Red Cross Society has included increasing VNRBD to 80% in its strategic framework for 2017-2020.⁷

One obstacle to a VNRBD program in a Melanesian society is the culture of blood line, the majority of people will only donate blood if the patient requiring blood is a family relative.⁸

A temporary suspension of the blood program by the Solomon Islands Red Cross in January 2015 exacerbated the blood shortage at the National Referral Hospital to a critical level.^{9 10}

Solomon Island's National Referral Hospital requires 25-35 units of blood daily, however, collections during blood drives are usually below 10 units.¹¹

In the Solomon Islands 45% of blood transfused is used for obstetric procedures, but there is only enough blood to meet 39% of requests.¹²

The AUSAID annual report for 2012-13 indicates that the Solomon Islands government is working to recruit at least 2,000 new blood donors and is embarking on a three-year plan to build a new blood donation facility that will improve services.¹³

NATIONAL SOCIETY (SOLOMON ISLANDS RED CROSS)

The main focus of blood donor recruitment and retention activities is in Honiara and the SIRC is beginning activities in two provincial areas.

Both paid staff and volunteers are used for donor recruitment programs, such as school/university programs, corporate programs, diplomatic missions and public events.

The Solomon Islands Red Cross (SIRC):

- does not receive technical assistance for VNRBD activities from outside the country
- receives financial support from the Australian Government Department of Foreign Affairs and Trade through Australian Red Cross
- has not previously been involved in blood related activities at Level A
- is planning to expand its level of involvement in blood related activities and is awaiting Solomon Islands Government endorsement of National Blood Policy. SIRC is looking at continuing awareness programs in two other provincial centres of the country

The SIRC program works closely with the Ministry of Health and Medical Services including the Laboratory and Clinical Services. Governance of the Program is provided by a Blood Program Stakeholders Committee which includes representation from the Hospital, SIRCS, DFAT, UNICEF, WHO, HIV services, Medical Research Unit. The Committee is currently seeking membership from a blood donor representative and a corporate sector representative.

- ¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2017 May 22]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/bp.html>
- ² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2017 May 22]. Available from: <http://hdr.undp.org/en>
- ³ WHO Western Pacific Region, Hepatitis data and Statistics [Internet] 2016 [cited 2017 May 23]. Available from: http://www.wpro.who.int/hepatitis/data/hepatitis_data_statistics/en/
- ⁴ Lavanchy D. Evolving epidemiology of hepatitis C virus. Clin Microbiol Infect. 2011;17(2):107-115. DOI: 10.1111/j.1469-0691.2010.03432.x
- ⁵ Solomon Islands Global AIDS response progress report 2016. Ministry of Health and Medical Services STI/HIV Division. 2016 April 08 [cited 2017 May 30]. 50p. Available from: http://www.unaids.org/sites/default/files/en/dataanalysis/knowyourresponse/countryprogressreports/2014countries/SLB_narrative_report_2014.pdf
- ⁶ Hodge N, Slatyer B, Skiller L. Solomon Islands Health System Review. (Health Systems in Transition, Vol. 5 No. 1 2015) Manila; World Health Organization 2015. 146p. Report No.: NLM Classification: WA 540 LM5. Available from: http://apps.who.int/iris/bitstream/10665/208212/1/9789290616931_eng.pdf?ua=1
- ⁷ Solomon Islands Red Cross Society. Strategic Plan 2017-2020 [Internet] Solomon Islands Red Cross Society 2016 [cited 2018 Jan 30]. Available from: <https://reliefweb.int/sites/reliefweb.int/files/resources/RC%20Solomon%20Islands%20Strategic%20Plan.pdf>
- ⁸ Monitoring international trends [Internet]. National Blood Authority (Australia). 2015 June [cited 2017 May 30]. Available from: https://www.blood.gov.au/system/files/documents/sector_monitoring_2015_june.pdf
- ⁹ Hospital in critical situation as blood bank runs out. Solomon Islands Broadcasting Corporation [Internet]. 2015 January 8 [cited 2017 May 30]. Available from: <http://www.sibconline.com.sb/hospital-in-critical-situation-as-blood-bank-runs-out/>
- ¹⁰ Red Cross pulls out service, blood bank dries up. Solomon Star [Internet]. 2015 January 8 [cited 2017 May 30]. Available from: <http://www.solomonstarnews.com/news/national/5442-red-cross-pulls-out-service-blood-bank-dries-up>
- ¹¹ Hospital blood bank runs out. Solomon Islands Broadcasting Corporation [Internet]. 2015 November 10 [cited 2017 May 30]. Available from: <http://www.sibconline.com.sb/hospital-blood-bank-runs-out/>
- ¹² World Blood Donor Day. Voluntary blood donors helping to save lives across the Pacific. Australian Red Cross News Archive [Internet]. 2012 June 13 [cited 2016 March 18]. Available from: <http://www.redcross.org.au/voluntary-blood-donors-helping-to-save-lives-across-the-pacific.aspx>
- ¹³ Australian Government. AusAID. AUSAID Annual Report 2012-13. Supporting blood supply in Solomon Islands.[Internet] 2013 [cited 2017 May 30]. Available from: https://dfat.gov.au/about-us/publications/corporate/annual-reports/ausaid-annual-report-2012-13/chapter_2_report_on_performance/casestudy_supporting_blood_supply_in_solomon_islands.html

TIMOR-LESTE



Timor-Leste Red Cross Society:

- Level B - involved in the systematic/regular recruitment of voluntary non-remunerated blood donors but with no involvement in blood collection

NATIONAL CONTEXT

| | |
|--|-------------------------------------|
| Location | South-eastern Asia |
| Geographical size ranking¹ | 160 th |
| Population (world ranking)¹ | 1.3 million (158 th) |
| Median age¹ | 18.8 |
| Political system¹ | Semi-presidential republic |
| GDP per capita (world ranking)¹ | \$5,000 (172 nd) |
| HDI Index (world ranking)² | 0.605 - medium (133 rd) |
| Health Expenditure¹ | 1.5% of GDP |
| Population prevalence hepatitis B³ | High Intermediate: 5-7% |
| Population prevalence hepatitis C⁴ | Very Low: 0% - <1.0% |
| Population prevalence HIV⁵ | 0.01% |



NATIONAL BLOOD PROGRAM

As of 2011, the national blood bank in the capital Dili collects around 1,500 units annually, with regional blood banks located in Baucau, Maliana and Oecusse where they collect and process a small number of blood units.⁶ The national blood bank performs blood component separation and encourages clinicians to use blood responsibly.⁶

In 2014, blood transfusions were only available at six referral hospitals (Dili, Baucau, Suai, Maliana, Oecusse and Maubisse), with seven districts lacking access to blood products, resulting in a high number of deaths each year.⁷

In order to fast-track the development of blood transfusion services, the Ministry of Health hosted a consultative workshop in the National Hospital in July 2014 to establish the country's first ever 'National Blood Policy' and 'National Blood Program Strategic Plan 2015-2019'.⁶

Blood supply is well below the demand for blood.⁸ In 2012 in Timor-Leste, 2,400 units of blood were required (mostly for the management of pregnancy related complications), but only 1,938 units were collected.⁸

In 2014, 63% of blood supplies were from VNRBD donors with the rest from patient's relatives.⁹ Blood drives only take place in the Dili district and blood is only collected when needed.⁹ For elective surgeries relatives are requested to bring donors. In emergencies defence and police personnel are asked to donate blood.⁹

NATIONAL SOCIETY (TIMOR-LESTE RED CROSS)

Blood donor recruitment and retention activities are coordinated nationally and funded by the National Society. Currently only staff costs are covered by the National Society.

Both paid staff and volunteers are used for donor recruitment programs, such as school/university programs, corporate programs and promotion of blood donations in public places.

Timor-Leste Red Cross Society (CVTL):

- commenced its blood program in 2016, engaging volunteer blood donors
- receives technical assistance through the participation of a VNRBD workshop in Seoul, Korea (April 2016) and the Australian Red Cross
- receives financial support from the Australian Red Cross and IFRC
- has not previously been involved at Level A
- is planning to expand its level of involvement in blood related activities: Timor-Leste Red Cross Society is waiting for funding from Australia Red Cross and IFRC to expand with the main objectives of increasing mobilization and socialization

CVTL has several MOU's in place with universities and organisations to donate blood regularly and work with the Department of Health to support mobile blood collections in and around Dili.⁹

834 donations were collected in 2016.⁹

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2017 May 22]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/tt.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2017 May 22]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2017 May 23] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2017 May 23] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ Republica Democratica de Timor-Leste. UNGASS 2010 Country progress report. Ministry of Health, Timor-Leste. 2010 [cited 2017 May 30]. Available from: http://data.unaids.org/pub/Report/2010/timorleste_2010_country_progress_report_en.pdf

⁶ Choudhury N. Blood Transfusion in borderless South Asia. Asian Journal of Transfusion Science. [Internet]. 2011 [cited 2018 Feb 6]; 5(2). Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3159238/>

⁷ WHO. Country Office for Timor-Leste. WHO bolster plans for blood transfusion service development in Timor-Leste. World Health Organization; 2014 June [cited 2017 May 30]. (WCO-TLS/PR036/06/14). Available from: http://www.searo.who.int/timorleste/pr_blood_transfusion_services_tl.pdf?ua=1

⁸ WHO. Country Office for Timor-Leste. Timor-Leste joins worldwide celebration of World Blood Donor Day. World Health Organization; 2014 June [cited 2017 May 30]. (WCO-TLS/PR032/06/14). Available from: http://www.searo.who.int/timorleste/mediacentre/pr_world_blood_donor_day2014.pdf

⁹ Soares I. Country report, Timor-Leste. In: The Eighth Red Cross and Red Crescent Symposium on Blood Programs in Asian Region "Securing Stable Supply of Safe Blood"; 2017 Oct 18-20; Bangkok, Thailand.

TONGA

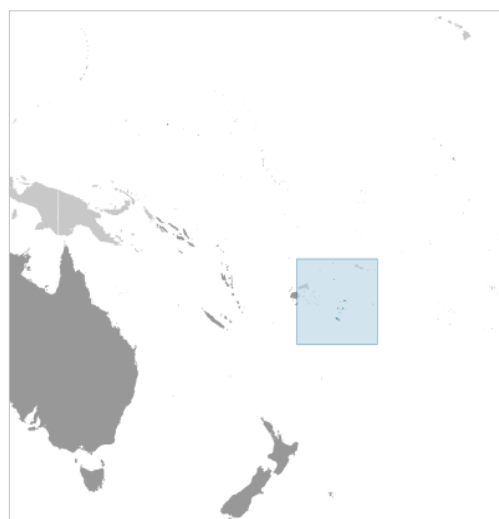


Tonga Red Cross Society:

- Level B - involved in the systematic/regular recruitment of voluntary non-remunerated blood donors but with no involvement in blood collection

NATIONAL CONTEXT

| | |
|--|------------------------------------|
| Location | Oceania |
| Geographical size ranking¹ | 190 th |
| Population (world ranking)¹ | 106 thousand (193 rd) |
| Median age¹ | 22.6 |
| Political system¹ | Constitutional monarchy |
| GDP per capita (world ranking)¹ | \$5,600 (169 th) |
| HDI Index (world ranking)² | 0.721 - high (101 st) |
| Health Expenditure¹ | 5.2% of GDP |
| Population prevalence hepatitis B³ | 14.8% |
| Population prevalence hepatitis C⁴ | 2% |
| Population prevalence HIV⁵ | <0.01% |



NATIONAL BLOOD PROGRAM

The Health sector is managed by the Ministry of Health.⁶ Vaiola Hospital is the only hospital providing advanced medical care.⁶ Vaiola Hospital has a blood bank and collects blood donations.⁷

In conjunction with the Tonga Red Cross, the Blood Transfusion and Immuno-haematology Service at Vaiola Hospital is responsible for⁸:

- the collection of blood from low risk donors
- screening donated blood for transfusion transmissible infections
- blood grouping
- antibody testing
- cross matching
- production blood products as required
- storage and distribution of blood products⁸

On average approximately 10 blood units are donated per week, however demand from the hospital is 30 per week.⁹

NATIONAL SOCIETY (TONGA RED CROSS)

Blood donors are recruited from workplaces, villages, churches youth, volunteer groups, tertiary schools and sports clubs. Donor retention is maintained through follow up contact. When funds become available the Tonga Red Cross Society (TRCS) plans to print out small blood donor cards to encourage and motivate the donors to come in when they are due. Donor information is recorded in a blood donor database.

The partnership with Ministry of Health is through a Memorandum of Understanding whereby the stakeholders from Ministry of Health alert TRCS with updates from the blood bank, and TRCS move into action and activate its blood donor stakeholders.

Funding for blood donor recruitment is no longer available. Previously there were two paid staff performing these duties. Currently a volunteer performs this task assisted by TRCS staff, maintaining volunteer blood donor recruitment in Tonga.

The Tonga Red Cross Society:

- does not receive technical assistance or financial support for VNRBD activities from outside the country
- has not previously been involved at Level A
- is planning to expand its level of involvement in blood related activities. The volunteer blood recruitment officer has incorporated community awareness into the recruitment process for places such as workplaces and villages, in addition to seeking funds from local business to purchase refreshments for the non-remunerated blood donors

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2017 May 22]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/tn.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2017 May 22]. Available from: <http://hdr.undp.org/en>

³ WHO Western Pacific Region, Hepatitis data and Statistics [Internet] 2016 [cited 2017 May 23]. Available from: http://www.wpro.who.int/hepatitis/data/hepatitis_data_statistics/en/

⁴ Lavanchy D. Evolving epidemiology of hepatitis C virus. Clin Microbiol Infect. 2011;17(2):107-115. doi: 10.1111/j.1469-0691.2010.03432.x

⁵ TONGA Global AIDS response progress report 2015. Kingdom of Tonga, Ministry of Health. 2015 April 15 [cited 2017 May 30]. 35p. Available from: http://www.unaids.org/sites/default/files/country/documents/TON_narrative_report_2015.pdf

⁶ Nishikawa K. Ex-Post Evaluation of Japanese ODA Grant Aid Project "The Project for Upgrading and Refurbishment of Vaiola Hospital". Ernst & Young Advisory Co.Ltd. 2011 [cited 2017 May 30]. 20p. Available from: https://www2.jica.go.jp/en/evaluation/pdf/2010_0408700_4.pdf

⁷ Tonga Red Cross Society. Staff of Tonga Red Cross Society met up at the Vaiola Hospital Laboratory donating blood to blood bank., 2014 December 15 [photograph on the Internet]. Nuku'alofa, Tonga Red Cross Society; 2014 [cited 2017 May 30]. Available from: <https://www.facebook.com/tongaredcross/posts/311228179085589>

⁸ Pacific Public Health Surveillance Network. Vaiola Hospital Laboratory Services 2002 Laboratory Handbook. [Internet] 2002 [cited 2018 Feb 6]. Available from: <https://www.pphsn.net/Services/LabNet/Laboratory-Handbook-Tonga.doc>

⁹ Tonga Marks World Blood Donor Day. Radio & TV Tonga. [Internet]. 2017 Jun 14 [cited 2018 Feb 6]. Available from: <http://www.tonga-broadcasting.net/?p=7933>

TUVALU



Tuvalu Red Cross:

- Level B - involved in the systematic/regular recruitment of voluntary non-remunerated blood donors but with no involvement in blood collection

NATIONAL CONTEXT

| | |
|--|---|
| Location | Oceania |
| Geographical size ranking¹ | 238 th |
| Population (world ranking)¹ | 11 thousand (223 rd) |
| Median age¹ | 25.5 |
| Political system¹ | Parliamentary democracy under a constitutional monarchy |
| GDP per capita (world ranking)¹ | \$3,800 (182 nd) |
| HDI Index ² | 0.58 (medium) in 1998 |
| Health Expenditure¹ | 16.5% of GDP |
| Population prevalence hepatitis B³ | 7.1% |
| Population prevalence hepatitis C⁴ | 2% |
| Population prevalence HIV⁵ | 0.1% |



NATIONAL BLOOD PROGRAM

Princess Margaret Hospital (PMH) located on the main island of Funafuti is the only hospital in Tuvalu and the primary provider of medical services for all of the islands of Tuvalu.⁶ Blood is not stored at the hospital, instead, the Tuvalu Red Cross (TRC) uses a 'Walking Blood Bank' - a register of potential donors and blood types.⁷ Red Cross volunteers coordinate donations and contact suitable donors in an emergency.⁷ Most donations are from the patient's family with education campaigns encouraging VNRBD donations.⁷

In 2009 the TRC and PMH coordinated a joint program for World Blood Donor Day in an attempt to raise awareness of the importance of donating blood while also increasing the number of voluntary donors.⁸ The week long campaign included radio spots and a blood donor recruiting drive.⁸ Blood group testing was conducted on the drive for interested donors, with more further testing to be performed later in the laboratory.⁸ The program was considered successful.⁸

NATIONAL SOCIETY (TUVALU RED CROSS)

The Tuvalu Red Cross became the 190th member of IFRC on 4th December 2015.⁹

Blood donor recruitment and retention activities are only run within the capital as most of the population reside there, and it is the location of the national hospital. Activities are funded by the National Society, by government or the Ministry of Health and by WHO.

Both volunteers and paid staff handle donor recruitment. Recruitment of donors occurs during community awareness activities when celebrating World Blood Donor Day. The Tuvalu Red Cross recruits blood donors and transports the donors to the laboratory. Donors are only called in as required when the laboratory asks for donors.

The Tuvalu Red Cross:

- does not receive technical assistance for VNRBD from outside the country
- has successfully applied for successive AU\$4,000 annual grants from the Australian Red Cross for the implementation of activities around World Blood Donor Day
- has experimentally been involved at Level A and with additional training would like to become involved in blood at Level A. The Tuvalu Red Cross and PMH collaborated to train two PMH staff members in blood collection and testing. Due to the training requirements, this task has remained with PMH at the only laboratory able to perform testing for the country
- is in the process of developing a Memorandum of Understanding with the Ministry of Health for interested Tuvalu Red Cross volunteers to be trained in phlebotomy work. The VNRBD program will benefit from the additional trained volunteers able to collect and test blood donations
- are hoping to expand services to the outer islands once all island health clinics have the facilities and technical personnel in place

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2017 May 22]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/tv.html>

² WHO. Western Pacific Region. Tuvalu. <http://hiip.wpro.who.int/portal/countryprofiles/Tuvalu.aspx>

³ WHO Western Pacific Region, Hepatitis data and Statistics [Internet] 2016 [cited 2017 May 23]. Available from: http://www.wpro.who.int/hepatitis/data/hepatitis_data_statistics/en/

⁴ Lavanchy D. Evolving epidemiology of hepatitis C virus. Clin Microbiol Infect. 2011;17(2):107-115. DOI: 10.1111/j.1469-0691.2010.03432.x

⁵ Ministry of Health Tuvalu. 2015. Global AIDS Progress Report of Tuvalu. Tuvalu Department of Public Health; 2015 March 31 [cited 2017 May 30]. 28p. Available from:

http://www.unaids.org/sites/default/files/country/documents/TUV_narrative_report_2015.pdf

⁶ Country Health Information Profiles Tuvalu. Geneva; World Health Organization 2011 [cited 2017 May 30]. 5p.

Available from: http://www.wpro.who.int/countries/tuv/34TUVpro2011_finaldraft.pdf

⁷ Unicef. Pacific Island Countries. Tuvalu [Internet]. Unicef [cited 2017 May 30] http://www.unicef.org/pacificislands/about_15924.html by selecting Part 2. Page 24.

⁸ WHO. World Blood Donor Day. Events. Tuvalu Red Cross World Blood Donor Day 2009. [Internet] 2009 [cited 2018 Feb 6]. Available from: <http://www.who.int/worldblooddonorday/events/Tuvalu.pdf>

⁹ Kumar N. Tuvalu Red Cross Society becomes 190th member of the IFRC. IFRC News Stories [Internet]. 2016 March 4 [cited 2017 May 30]. Available from: <http://www.ifrc.org/en/news-and-media/news-stories/asia-pacific/tuvalu/tuvalu-red-cross-society-becomes-190th-member-of-the-ifrc--71977/>

AFGHANISTAN



Afghan Red Crescent:

- Level C: National society is involved in occasional community education/awareness programs that help promote voluntary non-remunerated blood donation (e.g. World Blood Donor Day), but no involvement in the systematic recruitment of donors or blood collection.

NATIONAL CONTEXT

| | |
|--|----------------------------------|
| Location | Southern Asia |
| Geographical size ranking¹ | 41 st |
| Population (world ranking)¹ | 33 million (41 st) |
| Median age¹ | 18.6 |
| Political system¹ | Presidential Islamic republic |
| GDP per capita (world ranking)¹ | \$1,900 (211 th) |
| HDI Index (world ranking)² | 0.479 - low (169 th) |
| Health Expenditure¹ | 8.2% of GDP |
| Population prevalence hepatitis B³ | Low Intermediate: <2% |
| Population prevalence hepatitis C⁴ | Low: 1.0 - <1.5% |
| Population prevalence HIV⁵ | 0.04% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

The Afghanistan National Blood Safety and Transfusion Service (ANBSTS) is branch of the national health care system founded by the Ministry of Public Health (MoPH) to guarantee a safe and adequate national blood supply.⁶ The ANBSTS has five regional blood banks.⁶ ⁷ There are also transfusion services in many other public, private and NGO operated hospitals.⁷ In these transfusion services the hospital determines the quality and safety requirements rather than the national regulations and guidelines.⁷

Although operational progress has been made, blood transfusion services in Afghanistan require improvement to the quality of services: data information and quality assurance systems are not fully established and there is no formal legislative instrument to guide, manage and supervise operations of private blood banks.⁶

Though blood donation in Afghanistan relies largely on replacement donors, the national VNRBD rate was reported as being 60% at the Eighth Red Cross and Red Crescent Symposium on Blood programs in the Asian Region, held in October 2017.⁸

In Kabul blood bank, the percentage of VNRBD is 45%, however the percentage in other centres is likely to be lower.⁷ Donor selection and donor interviews are inefficient.⁷ The majority of the blood is administered as fresh whole blood.⁷

ANBSTS provides all blood transfusion services free of charge to the public hospitals.⁷ Some funding comes from the MoPH, however international donors remain the source for operational costs and activity expansion.⁷ Agence Francaise De Development (AFD) the French agency is a major provider for the ANBSTS aiming to rebuild the Afghanistan blood transfusion service.⁷

NATIONAL SOCIETY (AFGHAN RED CRESCENT)

Community education activities are coordinated by district/chapter by the National Society. They are funded by the IFRC.

The Afghan Red Crescent:

- does not receive technical assistance or financial support for VNRBD activities from outside the country
- has not previously been involved in blood at Level A or B
- is planning to expand its current level of involvement in blood-related activities by expanding Pledge 25 in the existing targeted areas

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2017 May 22]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/af.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2017 May 22]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2017 May 23] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2017 May 23] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2017 May 23]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁶ WHO. Regional Office for the Eastern Mediterranean. Afghanistan, Programme Areas, Blood Safety and Transfusion, [Internet]. World Health Organization 2017 [cited 2017 May 30]. Available from: <http://www.emro.who.int/afg/Programs/blood-safety-transfusion.html>

⁷ Cheraghali AM, Sanei Moghaddam E, Masoud A and Faisal H. Review. Current challenges and future achievements of blood transfusion service in Afghanistan. Transfusion and Apheresis Science 2012 [cited 2017 May 30];47:127–132. Available from: <http://www.ecobsn.com/main/index.php?lang=en&mode=page&mcode=2&cat=&id=82>

⁸ Sultani SM. Country report, Afghanistan. In: The Eighth Red Cross and Red Crescent Symposium on Blood Programs in Asian Region “Securing Stable Supply of Safe Blood”; 2017 Oct 18-20; Bangkok, Thailand.

BRUNEI DARUSSALAM



Brunei Darussalam Red Crescent Society:

- Level C: National society is involved in occasional community education/awareness programs that help promote voluntary non-remunerated blood donation (e.g. World Blood Donor Day), but no involvement in the systematic recruitment of donors or blood collection.

NATIONAL CONTEXT

| | |
|--|---------------------------------------|
| Location | South-eastern Asia |
| Geographical size ranking¹ | 173 rd |
| Population (world ranking)¹ | 436 thousand (175 th) |
| Median age¹ | 29.9 |
| Political system¹ | Absolute monarchy or sultanate |
| GDP per capita (world ranking)¹ | \$76,700 (10 th) |
| HDI Index (world ranking)² | 0.865 - very high (30 th) |
| Health Expenditure¹ | 2.6% of GDP |
| Population prevalence hepatitis B³ | Low: <2% |
| Population prevalence hepatitis C⁴ | Very Low: 0% - <1.0% |
| Population prevalence HIV⁵ | 0.015% |



NATIONAL BLOOD PROGRAM

The Blood Donation Centre at Raja Isteri Pengiran Anak Saleha (RIPAS) Hospital is the government agency responsible for maintaining a safe and adequate inventory of blood.⁶ It has been successful in sustaining a sufficient blood supply for patients in need.⁶

3.3% of Brunei's population donated blood in 2011.⁶ Of the total of 12,427 blood donors who registered at the Blood Donation Centre in 2011, 2,958 were first time donors - an increase of 40% from the 2,119 new donors in 2010.⁶

Brunei is one of the countries that have reported having achieved 100% VNRBD in 2008.⁷

There was a decreasing trend for HBV over the five years between 2005 and 2009, whereas the trend for syphilis and HIV was increasing.⁸

NATIONAL SOCIETY (BRUNEI DARUSSALAM RED CRESCENT)

Community education activities are coordinated by district/chapter by the National Society. They are funded by the National Society.

Brunei Darussalam Red Crescent Society:

- does not receive technical assistance or financial support for VNRBD activities from outside the country
- was previously involved in blood at Level B
- is planning to expand its current level of involvement in blood-related activities

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2017 May 22]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/bx.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2017 May 22]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2017 May 23] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2017 May 23] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ UNAIDS. Global AIDS progress reporting 2014 in Brunei Darussalam, 2014 [Internet]. 2014 March 31 [cited 2017 May 30]. Available from: http://www.unaids.org/sites/default/files/country/documents/BRN_narrative_report_2014.pdf

⁶ Ibrahim D. 3.3% of Brunei population donated blood last year. Orlando Sentinel [Internet] 2012 June 25 [cited 2017 May 30]. Available from: http://articles.orlandosentinel.com/2012-06-25/news/sns-mct-3.3-of-brunei-population-donated-blood-last-year-20120625_1_blood-donors-blood-last-year-blood-stocks

⁷ World Health Organization. Countries that reported having achieved 100% voluntary non-remunerated blood donation in 2008. World Health Organization [updated 2011 June; cited 2017 May 30]. Available from: http://www.who.int/bloodsafety/voluntary_donation/countries_100pct_vnrbd_2011.pdf?ua=1

⁸ Teo K, Saparudin M, Zaini Z, Morshidi M, Metassan N, Jaberudin R, Teo B, Yakup S, Abdullah Lim N. Transfusion transmissible infections in Brunei Darussalam: A blood donor study. Brunei Int Med J. 2011[cited 2017 May 30];7(6): 321-327. Available from: <http://www.bimjonline.com/PDF/Bimj%202011%20Volume%207,%20Issue%206/321-7.pdf>

CAMBODIA



Cambodian Red Cross Society:

- Level C: National society is involved in occasional community education/awareness programs that help promote voluntary non-remunerated blood donation (e.g. World Blood Donor Day), but no involvement in the systematic recruitment of donors or blood collection.

NATIONAL CONTEXT

| | |
|--|---------------------------------------|
| Location | South-eastern Asia |
| Geographical size ranking¹ | 90 th |
| Population (world ranking)¹ | 15.9 million (69 th) |
| Median age¹ | 24.9 |
| Political system¹ | Parliamentary constitutional monarchy |
| GDP per capita (world ranking)¹ | \$4,000 (178 th) |
| HDI Index (world ranking)² | 0.563 - medium (143 rd) |
| Health Expenditure¹ | 5.7% of GDP |
| Population prevalence hepatitis B³ | Low Intermediate: 2-4% |
| Population prevalence hepatitis C⁴ | High Moderate: 2.0-<5.0% |
| Population prevalence HIV⁵ | 0.64% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

Cambodia's National Blood Transfusion Centre (NBTC) is a department of the Ministry of Health within the Blood Safety Program.⁶ The Ministry of Health formally gave NBTC the responsibility of organising and supervising the collection and supply of blood throughout the country in 1991.⁷ The national blood system consists of the NBTC in Phnom Penh and 21 Provincial Blood Transfusion Centres (PBTCs) located in 21 provinces.⁶ The majority of PBTCs are under the responsibility of provincial referral hospitals.⁸

The National Blood Transfusion Centre is responsible for providing approximately 65% of the country's blood supply.⁹

A policy for VNRBD donations was adopted in 1994.⁶

The National Blood Policy and Priority Strategies for the Development of the National Blood Transfusion Services was developed in 2003⁷, and revised in 2014.¹⁰ The Health Minister approved a new prakas (regulation) on blood policy in 2016.¹¹

National guidelines for transfusion practice were developed in 2013.¹²

Approximately 60,000 blood donations are made annually in Cambodia with the NBTS working towards increasing the blood donation rate⁷. The national VNRBD rate, as reported at the Eighth Red Cross and Red Crescent Symposium on Blood Programs in the Asian Region, is 30%.⁶

The NBTS is working closely with a range of partners to ensure sustainability and the development of the Blood Safety Program.¹³

These include:

- Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM)
- World Health Organisation (WHO)
- United States Centre for Disease Control (US CDC)
- Nagasaki University of Japan
- US President's Emergency Plan for AIDS Relief (PEPFAR)
- American International Health Alliance (AIHA)
- Australian Red Cross and Blood Service¹³

Following extensive stakeholder engagement and a comprehensive assessment of the Cambodian Blood System conducted as part of the Task Order in 2011/12 by Australian Red Cross and the Australian Red Cross Blood Service, a five year strategic plan and work plan was developed to assist NBTC to deliver a safe and adequate supply of blood to meet Cambodia's needs.¹⁴ The strategic plan involves funding and technical assistance partners such as WHO and Global Fund, in order to provide an all-inclusive strategy for the blood service.¹⁴

NATIONAL SOCIETY (CAMBODIAN RED CROSS)

Community education activities are coordinated by district/chapter by the National Society. They are funded by the government or Ministry of Health.

The Cambodian Red Cross Society:

- promotes voluntary blood donors recruitment through youth club, volunteers, and motor taxi drivers
- receives technical assistance from the US CDC
- receives financial support for VNRBD activities from the Ministry of Health and Global Fund
- was previously involved in blood at Level B - during the civil war in Cambodia when the Ministry of Health had limited resources, the Red Cross needed to actively support these activities, however in 2006 the blood service and ambulance were handed over from the Cambodian Red Cross to the Ministry of Health. The CRC Branch Phnom Penh Municipality continues collaboration and support of blood donor recruitment with the Ministry of Health
- is not planning to expand or scale back its level of activities, planning to continue its current work and strengthen current activities

- ¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2017 May 22]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/cb.html>
- ² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2017 May 22]. Available from: <http://hdr.undp.org/en>
- ³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2017 May 23] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>
- ⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2017 May 23] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>
- ⁵ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2017 May 23]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>
- ⁶ Kimcheng H. Country report, Cambodia. In: The Eighth Red Cross and Red Crescent Symposium on Blood Programs in Asian Region “Securing Stable Supply of Safe Blood”; 2017 Oct 18-20; Bangkok, Thailand.
- ⁷ Kingdom of Cambodia. National Blood Policy and Priority Strategies for the Development of the National Blood Transfusion Services (2003-2007) [Internet] 2017 [cited 2017 November 28]. Available from: http://www.who.int/bloodsafety/transfusion_services/CambodiaNationalBloodPolicy2003_2007.pdf
- ⁸ Pannasastra University of Cambodia. Blood Donation [Internet] 2013 August 14 [cited 2017 November 28]. Available from: <http://www.puc.edu.kh/index.php/featured-article/103-announcements-events-activities/events-activities/265-blood-donation>
- ⁹ Business 2 business Cambodia. New Blood Banks Looks To Stock Up For National Needs [Internet] 2016 October 14 [cited 2017 November 28] Available from: <https://www.b2b-cambodia.com/articles/new-blood-bank-looks-to-stock-up-for-national-needs/>
- ¹⁰ The American International Health Alliance. Cambodia. [Internet] 2016 [cited 2017 November 28]. Available from: <http://www.aiha.com/our-projects/blood-safety/cambodia/>
- ¹¹ PEPFAR Cambodia Blood Safety Program 2013-2018 Final Project Report. Australian Red Cross Blood Service. 2018 February 19p.
- ¹² Kingdom of Cambodia. National guidelines for transfusion practice. Edition 2. July 2014. Ministry of Health, National Blood Transfusion Center, Cambodia. [cited 2017 May 30]. 84p. Available from: <http://www.cambodiablood.com/media/1ecfa385/GuidelinesEdition2.pdf>
- ¹³ The American International Health Alliance. Cambodia Blood Safety Project [Internet] 2016 [cited 2017 November 28]. Available from: <http://www.aiha.com/2017/02/23/cambodia-blood-safety/>
- ¹⁴ Technical Assistance Support for the Strengthening of Blood Transfusion Services in Cambodia. Mid Term Review. Terms of Reference. Australian Red Cross. 2015 September 16p.

DEMOCRATIC PEOPLE'S REPUBLIC OF KOREA (NORTH KOREA)



Red Cross Society of the Democratic People's Republic of Korea:

- Level C: National society is involved in occasional community education / awareness programs that help promote voluntary non-remunerated blood donation (e.g. World Blood Donor Day), but no involvement in the systematic recruitment of donors or blood collection.

NATIONAL CONTEXT

| | |
|--|--------------------------------|
| Location | Eastern Asia |
| Geographical size ranking¹ | 99 th |
| Population (world ranking)¹ | 25 million (51 st) |
| Median age¹ | 33.8 |
| Political system¹ | Communist State |
| GDP per capita (world ranking)¹ | \$1,700 (215 th) |
| HDI Index (world ranking)² | n/a |
| Health Expenditure¹ | n/a |
| Population prevalence hepatitis B³ | High Intermediate: 5% - 7% |
| Population prevalence hepatitis C⁴ | Low: 1.0% - <1.5% |
| Population prevalence HIV⁵ | <0.2% (est.) |



NATIONAL BLOOD PROGRAM

The Blood Service is nationally coordinated and centrally managed by the government under the ministry of health. ⁶

In 1999, WHO completed a study of the Blood Transfusion System in the Democratic People's Republic (DPR) of Korea.⁷ The study showed that approximately 25,000 volunteers donate blood every year without remuneration at the National Blood Centre in Pyongyang, out of a total pool of 40,000 blood donors.⁷ Despite occasional shortages, the blood supply is reported to be adequate for the country's demand.⁷ Donors who visit the blood centre give a pre-donation sample, which is tested for transfusion transmissible infections.⁷ They return later for their actual blood donation, which is not tested.⁷

The Blood Transfusion System in DPR Korea faces several challenges, including⁷:

- use of glass bottles instead of disposable blood bags, which are required to be washed and sterilised before use
- use of latex tubing sets at least 3 times before being discarded
- lack of financial resources
- limited staff training and development
- inadequate physical infrastructure
- absence of back-up generators for domestic refrigerators in regional blood banks and hospitals⁷

The results of this study resulting in an appeal being launched for US\$817,000 for 2002-2003 to improve the Blood Transfusion System in DPR Korea.⁷

NATIONAL SOCIETY (RED CROSS OF THE DEMOCRATIC PEOPLE'S REPUBLIC OF KOREA)

The country was founded in 1946 and the Red Cross Society was involved in the blood services including donor recruitment.⁶ However, from mid 1950s, the Red Cross stopped donor recruitment and Ministry of Public Health took over the responsibility.⁶

The Red Cross are heavily involved in VNRBD promotion and awareness. They are not directly involved in blood donor recruitment, however have provided assistance to the government by funding blood donor facilities.

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2017 May 22]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/kn.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2017 May 22]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2017 May 23] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2017 May 23] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ 2006 Report on the global AIDS epidemic, A UNAIDS 10th anniversary special edition. UNAIDS; 2006 [cited 2016 May 26] 629p. Available from: http://data.unaids.org/pub/report/2006/2006_gr_en.pdf

⁶ Choudhury, Nanajyoti. Blood Transfusion in borderless South Asia, Asian J Transfus Sci. 2011 Jul-Dec; 5(2):117-120. DOI: 10.4103/0973-6247.83234

⁷ WHO. News from DPR Korea. Safe Blood Transfusion. [Internet] 2002 Aug [cited 2018 Feb 6]. Available from: <http://apps.who.int/disasters/repo/8071.pdf>

MALDIVES

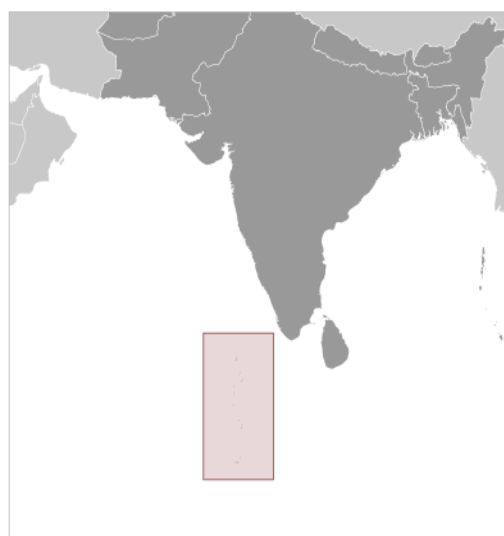


Maldivian Red Crescent:

- Level C: National society is involved in occasional community education/awareness programs that help promote voluntary non-remunerated blood donation (e.g. World Blood Donor Day), but no involvement in the systematic recruitment of donors or blood collection.

NATIONAL CONTEXT

| | |
|--|----------------------------------|
| Location | Southern Asia |
| Geographical size ranking¹ | 210th |
| Population (world ranking)¹ | 393 thousand (177th) |
| Median age¹ | 27.8 |
| Political system¹ | Presidential republic |
| GDP per capita (world ranking)¹ | \$19,200 (93 rd) |
| HDI Index (world ranking)² | 0.701 - high (105th) |
| Health Expenditure¹ | 13.7% of GDP |
| Population prevalence hepatitis B³ | Intermediate: 5-7% |
| Population prevalence hepatitis C⁴ | 1% |
| Population prevalence HIV⁵ | 0.01% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

Maldivian Blood Services (MBS) was formed on 1 November 2012 through a merger of the National Thalassaemia Centre (NTC) and the National Blood Transfusion Services (NBTS).⁶ The aim of MBS is to provide services to patients with Thalassaemia and other haematological disorders, and to provide safe blood to those who are in need.⁶

MBS is comprised of two main divisions, Thalassaemia and other Haemoglobinopathies Centre (TOHC) and Central Blood Bank (CBB).⁶ Both voluntary and direct donors are received by CBB.⁶ The CBB is responsible for blood collection, donor recruitment and retention, and processing of blood products.⁶ MBS has a common laboratory which caters for the needs of TOHC and CBB.⁶ The laboratory has facility to screen blood for Transfusion Transmissible Infections, cross-match blood for transfusion and Thalassaemia Screening.⁶

Prior to the formation of the MBS, the Indira Gandhi Memorial Hospital collected about 300 units per month and the blood bank attached to National Thalassaemia Center collects about 500 units per month.⁷ At this time, about 80% of blood units are collected by from family replacement donors and directed donors.⁷

NATIONAL SOCIETY (MALDIVIAN RED CRESCENT)

The Maldivian Red Crescent became a member of IFRC in November 2011.⁸

Community education activities are coordinated by both nationally and by district/chapter by the National Society. They are funded by the National Society.

The Maldivian Red Crescent:

- does not receive technical assistance or financial support for VNRBD or blood service activities from outside the country
- was not previously involved in blood at Level A or B
- is not planning to expand or scale back its level of activities
- takes part in some of the large scale blood donation awareness community activities such as awareness walks on World Blood Donor Day, organised by Ministry of Health. Staff and volunteers take part in blood donation camps organised by NGOs these duties are supportive only and not coordinated by the Maldivian Red Crescent. Blood services are not listed as a service area in the previous (2012 - 2015) or current (2016 - 2019) strategic plan for the organisation

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2017 May 22]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/mv.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2017 May 22]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2017 May 23] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Lavanchy D. Evolving epidemiology of hepatitis C virus. Clin Microbiol Infect. 2011;17(2):107-115. doi: 10.1111/j.1469-0691.2010.03432.x

⁵ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2017 May 23]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁶ Maldivian Blood Services. About us [Internet] Ministry of Health 2017 [cited 2017 May 29]. Available from: <http://mbs.gov.mv/about-us/>

⁷ Choudhury, Nanajyoti. Blood Transfusion in borderless South Asia, Asian J Transfus Sci. 2011 Jul-Dec; 5(2):117-120. DOI: 10.4103/0973-6247.83234

⁸ Lowry J. Maldivian Red Crescent officially joins the IFRC at the 18th General Assembly. International Federation of Red Cross and Red Crescent Societies [Internet]. 2011 November 23 [cited 2017 May 29]. Available from: <http://www.ifrc.org/en/news-and-media/news-stories/asia-pacific/maldives/maldivian-red-crescent-formally-recognized-at-ifrcs-general-assembly/>

MYANMAR (FORMERLY BURMA)



Myanmar Red Cross Society:

- Level C: National society is involved in occasional community education/awareness programs that help promote voluntary non-remunerated blood donation (e.g. World Blood Donor Day), but no involvement in the systematic recruitment of donors or blood collection.

NATIONAL CONTEXT

| | |
|--|-------------------------------------|
| Location | South-eastern Asia |
| Geographical size ranking¹ | 40 th |
| Population (world ranking)¹ | 57 million (25 th) |
| Median age¹ | 28.6 |
| Political system¹ | Parliamentary republic |
| GDP per capita (world ranking)¹ | \$6,300 (163 rd) |
| HDI Index (world ranking)² | 0.556 - medium (145 th) |
| Health Expenditure¹ | 2.3% of GDP |
| Population prevalence hepatitis B³ | Low Intermediate: 2% - 4% |
| Population prevalence hepatitis C⁴ | Low Moderate: 1.5% - <2.0% |
| Population prevalence HIV⁵ | 0.69% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

In 1945, a blood bank facility was established at Yangon General Hospital, now known as National Blood Centre (NBC).⁶ In 1962, a national blood bank committee was created and the following year a voluntary blood donation program was formalized.⁶ A national blood and blood product law was enacted in January 2003 with an aim to save patients' lives through blood transfusion of quality assured blood and blood products and to prevent transfusion transmissible infections through the promotion of VNRBD.⁶

The Department of Health manages the NBC which has two national blood banks at Yangon General hospital and at Mandalay General Hospital, with an annual demand of 180,000 units of blood.⁶ Nationally, there are 359 hospital-based blood banks with a demand of 200,000 units of blood.⁶ There are many voluntary organizations that assist in donor recruitment and blood donation.⁶ Nearly 100 hospitals of varying levels and more than 324 townships and station level hospitals perform regular blood transfusions.⁶

The NBC has earned the International Society of Blood Transfusion (ISBT) Developing Country Award 2014 with one of the achievements being a reduction in HIV positive screening rates.⁷

Myanmar's influential Buddhist monks play a key role in promoting VNRBD donation by discussing blood donation in sermons and acting as emergency blood donors.⁸ VNRBD increased from 25% in 2004 to 73.6% in 2011.⁹

NATIONAL SOCIETY (MYANMAR RED CROSS)

The Myanmar Red Cross Society (MRCS) initiated blood donation activities in 1961⁶ and currently works in partnership with the National Blood Centre in Yangon.¹⁰ MRCS works closely with the Ministry of Health and Sports for all blood donation activities across Myanmar.

Myanmar RCS originally responded as a Level B NS. However, since financial support from the Canadian Red Cross / IFRC has ceased, they are now operating at Level C.

Blood donor recruitment and retention activities are coordinated nationally by the National Society. They are funded by the National Society. Both paid staff and volunteers are used for donor recruitment, such as school/university programs and corporate programs. Red Cross volunteers engaged in blood donor recruitment form an important part of the donor pool.

The Myanmar Red Cross Society:

- does not receive technical assistance for VNRBD activities from outside the country
- until recently received financial support for VNRBD activities from the Canadian Red Cross/IFRC
- is planning to expand, but requires resources to do expand coverage. Branch Red Cross volunteers are still running regular blood related activities using their own resources. They have enough capacity to expand the community program.

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2017 May 22]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/bm.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2017 May 22]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2017 May 23] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2017 May 23] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2017 May 23]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁶ Aung T. Status report of the blood transfusion services in Myanmar. Asian J of Transfus Sci [Internet]. 2009 Jan; 3(1): 22–25. Available from: <http://www.ajts.org/text.asp?2009/3/1/22/45258> DOI: 10.4103/0973-6247.45258

⁷ Japan International Cooperation Agency. Myanmar National Blood Center: Receiving a Prestigious International Award [Internet]. 2014 June 1 [cited 2017 May 29]. Available from: <http://www.jica.go.jp/myanmar/english/office/topics/140601.html>

⁸ Schatz, J. Need blood? In Myanmar, call the monastery. Aljazeera America [Internet]. 2014 November 10 [cited 2017 May 29]. Available from: <http://america.aljazeera.com/articles/2014/11/10/myanmar-monks-donatingblood.html>

⁹ Towards Self-Sufficiency in Safe Blood and Blood Products based on Voluntary Non-Remunerated Donation. Global status. World Health Organisation. 2013. Page 20.

¹⁰ Myanmar Red Cross Society. Give blood [Internet] Myanmar Red Cross Society; 2015 [cited 2016 March 29] Available from: <http://www.redcross.org.mm/en/support/giveblood>

PAPUA NEW GUINEA



Papua New Guinea Red Cross Society:

- Level C: National society is involved in occasional community education/awareness programs that help promote voluntary non-remunerated blood donation (e.g. World Blood Donor Day), but no involvement in the systematic recruitment of donors or blood collection.

NATIONAL CONTEXT

| | |
|--|---|
| Location | Oceania |
| Geographical size ranking¹ | 55 th |
| Population (world ranking)¹ | 6.8 million (106 th) |
| Median age¹ | 22.9 |
| Political system¹ | Parliamentary democracy under a constitutional monarchy |
| GDP per capita (world ranking)¹ | \$3,800 (183 rd) |
| HDI Index (world ranking)² | 0.516 - low (154 th) |
| Health Expenditure¹ | 4.3% of GDP |
| Population prevalence hepatitis B³ | High: >8% |
| Population prevalence hepatitis C⁴ | Very Low: 0% - <1.0% |
| Population prevalence HIV⁵ | 0.72% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

The Blood Service was established in Port Moresby in 1961 by the Red Cross and Australian Administration, in the 1970s, blood banks were established in other towns.⁶ The Blood Service was managed by the Red Cross with funding from the government.⁶

In 2009, the management was taken over by the Health Department, and in 2010 the National Blood Transfusion Service (NBTS) was established within the Health Department.⁶

In 2014 the NBTS had one staff member, with no office set up and no national support staff.⁶ There were 32 blood centres, with staff employed by the individual hospitals and health facilities. Collections are approximately 30,000, but this falls very short of the WHO minimum recommendation for blood donation.⁶ The quality management system is poor, the VNRBD rate is 50% and the TTI rate is 25%.⁶

The goal is to establish a national blood service as an integral part of the national health system that will ensure provision of safe blood with the implementation of a National Blood Policy.⁶

Training has been conducted with funding and technical support provided by WHO and includes training for:

- donor management
- VNRBD recruitment
- quality management systems⁶

NATIONAL SOCIETY (PAPUA NEW GUINEA RED CROSS)

The Papua New Guinea Red Cross Society are currently involved in community awareness/education of VNRBD (Level C), however information received from the IFRC Pacific office in 2016 indicates that they are developing a strategic plan which includes an intention to expand activities to Level B.

Red Cross volunteers have been provided training on VNRBD recruitment.⁶

In 2012, 177 people donated blood with the assistance of the Papua New Guinea Red Cross Society.⁷

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2017 May 22]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/pp.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2017 May 22]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2017 May 23] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2017 May 23] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2017 May 23]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁶ Managing a Blood Service in Papua New Guinea – Challenges, Paper presented at: APEC Regional Blood Safety Workshop – Attaining a safe and Sustainable Blood Supply, 2014 Sep 30 – Oct 1: Manila (PH). Powerpoint presentation available from: http://mddb.apec.org/Documents/2014/LSIF/PD/14_Isif_pd_011.pdf

⁷ Papua New Guinea Red Cross Society. The International Federation of Red Cross and Red Crescent Societies. [cited 2017 May 29]. Available from: <http://data.ifrc.org/fdrs/societies/papua-new-guinea-red-cross-society>

SRI LANKA



Sri Lanka Red Cross Society:

- Level C: National society is involved in occasional community education/awareness programs that help promote voluntary non-remunerated blood donation (e.g. World Blood Donor Day), but no involvement in the systematic recruitment of donors or blood collection.

NATIONAL CONTEXT

| | |
|--|----------------------------------|
| Location | Southern Asia |
| Geographical size ranking¹ | 122 nd |
| Population (world ranking)¹ | 22 million (57 th) |
| Median age¹ | 32.5 |
| Political system¹ | Presidential republic |
| GDP per capita (world ranking)¹ | \$13,000 (121 st) |
| HDI Index (world ranking)² | 0.766 - high (73 rd) |
| Health Expenditure¹ | 3.5% of GDP |
| Population prevalence hepatitis B³ | Low Intermediate: 2% - 4% |
| Population prevalence hepatitis C⁴ | Low: 1% - <1.5% |
| Population prevalence HIV⁵ | 0.03% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

The National Blood Transfusion Service (NBTS) is part of the Ministry of Health, and is the sole provider of blood and blood products to all government hospitals and a large proportion of private hospitals.⁶ There are 90 hospital based blood banks and two standalone blood centres.⁶

The International Society of Blood Transfusion acknowledged the achievements of the NBTS among developing countries, in providing safe and quality blood and blood products to completely meet the requirements of public and private hospitals.⁷

NBTS has well-structured administrative and organizational systems in place, supported by national blood policies and regulations, including a national policy for VNRBD.⁷ Political commitment has also played a major role as the uninterrupted provision of quality health services, including safe blood and blood products, is one of the mandates of the government.⁷ There are regulations on the importation or exportation of blood and blood products as well as estimations of the demand and supply of blood and blood products at national level.⁷

Self-sufficiency in blood and blood products has progressively improved over the years, NBTS has doubled total blood collections from 190,000 in 2004⁶ to more than 380,000 in 2014 with 100% being collected from VNRBD since 2013.⁶ A substantial increase in mobile blood collections (from 53% of

total blood collected in 2005⁶ to 92% in 2014⁶) has contributed to this result. Sri Lanka has achieved an overall donation rate of 1.6 %.⁶

In 2014, over 380,000 units of blood were collected, from 100% VNRBD (replacement collections were phased out in 2012).⁶

The NBTS has a well-established haemovigilance system covering donor, process and recipient adverse events.⁶

NATIONAL SOCIETY (SRI LANKA RED CROSS)

Blood donor recruitment and retention activities are coordinated by district/chapter by the National Society. They are funded by the National Society.

The Sri Lanka Red Cross Society:

- receives financial support for VNRBD activities from IFRC
- has not previously been involved at Level A or B
- is not planning to expand or scale back its level of involvement in blood related activities.

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2017 May 22]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/ce.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2017 May 22]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2017 May 23] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2017 May 23] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2017 May 23]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁶ Medical Statistics Unit. Annual Health Bulletin 2014. Colombo, Ministry of Health, Nutrition and Indigenous Medicine. 2016 [cited 2017 May 29]. 221p Available from: <http://www.health.gov.lk/enWeb/publication/AHB2014/AHB2014.pdf>

⁷ Towards Self-Sufficiency in Safe Blood and Blood Products based on Voluntary Non-Remunerated Donation. Global status. World Health Organisation. 2013. Page 64-66.

VANUATU



Vanuatu Red Cross Society:

- Level C: National society is involved in occasional community education/awareness programs that help promote voluntary non-remunerated blood donation (e.g. World Blood Donor Day), but no involvement in the systematic recruitment of donors or blood collection.

NATIONAL CONTEXT

| | |
|--|-------------------------------------|
| Location | Oceania |
| Geographical size ranking¹ | 164 th |
| Population (world ranking)¹ | 277 thousand (183 rd) |
| Median age¹ | 21.7 |
| Political system¹ | Parliamentary republic |
| GDP per capita (world ranking)¹ | \$2,800 (195 th) |
| HDI Index (world ranking)² | 0.597 - medium (134 th) |
| Health Expenditure¹ | 5% of GDP |
| Population prevalence hepatitis B³ | 17.5% |
| Population prevalence hepatitis C⁴ | 2% |
| Population prevalence HIV⁵ | <0.01% |



NATIONAL BLOOD PROGRAM

Managed by the Ministry of Health, the central blood collection, blood bank and blood transfusion centre within Vanuatu was established at Vila Central Hospital in the 1960's.⁶

Programs to increase voluntary blood donation have been attempted to varying success, mainly due to ongoing funding constraints.⁶

NATIONAL SOCIETY (VANUATU RED CROSS)

Community education activities are coordinated by district/chapter by the National Society. They are funded by the blood service, by the government or Ministry of Health and by private organisations.

The Vanuatu Red Cross Society:

- does not receive technical assistance or financial support for VNRBD activities from outside the country
- was previously involved in blood at Level B, but ceased several years ago due to concerns around the safety of the collection and lack of VRCS technical capacity at the time
- is planning to expand its level of activities to Level B and is in the process of finalising a memorandum of understanding with the local MOH in order to support the Vanuatu Red Cross Society with recruitment as well as technical and systems capacity

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2017 May 22]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/nh.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2017 May 22]. Available from: <http://hdr.undp.org/en>

³ WHO Western Pacific Region, Hepatitis data and Statistics [Internet] 2016 [cited 2017 May 23]. Available from: http://www.wpro.who.int/hepatitis/data/hepatitis_data_statistics/en/

⁴ Lavanchy D. Evolving epidemiology of hepatitis C virus. Clin Microbiol Infect. 2011;17(2):107-115. DOI: 10.1111/j.1469-0691.2010.03432.x

⁵ Global AIDS Response Progress Report. Country: Vanuatu. 2014. Ministry of Health, UNAIDS, World Health Organization, UNICEF, European Centre for Disease Prevention and Control. 2015 [cited 2017 May 23]. 125p Available from: http://www.unaids.org/sites/default/files/country/documents/file_94777.es..pdf

⁶ Vila Central Hospital Blad Bank. Blad Bank VCH Vanuatu [Internet] [cited 2016 March 17] Available from: https://www.facebook.com/Bladbankvchvanuatu/info?tab=page_info

NEW ZEALAND



New Zealand Red Cross Society:

- National society has no involvement at all, not even advocacy for voluntary non-remunerated blood donation

NATIONAL CONTEXT

| | |
|--|---|
| Location | Oceania |
| Geographical size ranking¹ | 76th |
| Population (world ranking)¹ | 4.5 million (126th) |
| Median age¹ | 37.8 |
| Political system¹ | Parliamentary democracy under a constitutional monarchy |
| GDP per capita (world ranking)¹ | \$38,500 (47th) |
| HDI Index (world ranking)² | 0.915 - very high (13th) |
| Health Expenditure¹ | 11% of GDP |
| Population prevalence hepatitis B³ | Low Intermediate: 2 - 4% |
| Population prevalence hepatitis C⁴ | Low Moderate: 1.5 - <2.0% |
| Population prevalence HIV⁵ | <0.01% |



NATIONAL BLOOD PROGRAM

The Health Amendment Act 1998 appointed the New Zealand Blood Service (NZBS) as the sole provider of blood services in New Zealand.⁶ The NZBS is a statutory corporation with the Ministers of Health and Finance as shareholders.⁶ NZBS is based on VNRBD and is responsible for all blood, from collection to distribution to clinician.⁶

NZBS operates under four strategic areas:

- Blood collection – six main sites, three smaller donation centres and flexible mobile blood drive teams exist to service local communities
- Processing of blood donations - four sites collectively handling around 147,000 donations per year
- Accreditation testing of blood donations - blood grouping and screening for infectious markers is performed in two sites
- Blood banking - NZBS operates six blood banks in six cities, and another 28 District Health Board Blood Bank laboratories also perform pre-transfusion testing in line with defined quality standards⁶

Medsafe, a division of the Ministry of Health, is the regulator for blood in New Zealand.⁷

In the 2015/16 year, NZBS:

- collected 119,967 units of whole blood
- collected 52,026 units of apheresis plasma
- had 310 mobile blood drives
- produced 17,917 adult doses of platelets
- supplied 67,152kg of source plasma to CSL Behring for fractionation manufacturing⁸

NATIONAL SOCIETY (NEW ZEALAND RED CROSS)

In 1915, the New Zealand Branch of the British Red Cross was formed.⁸ In 1932, a government proclamation officially recognised the New Zealand Red Cross National Society, which was soon followed by recognition from the International Committee of the Red Cross.⁸

The New Zealand Red Cross is not involved in any blood related activities.

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2017 May 22]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/nz.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2017 May 22]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2017 May 23] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2017 May 23] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ New Zealand AIDS Foundation. HIV in New Zealand [Internet]. New Zealand AIDS Foundation [cited 2016 March 14]. Available from: <https://www.nzaf.org.nz/hiv-aids-stis/hiv-aids/hiv-in-new-zealand/>

⁶ NZ Blood. Creation of NZBS [Internet]. New Zealand Blood Service. [updated 2014 February 27; cited 2017 May 29] Available from: <https://www.nzblood.co.nz/about-nzbs/creation-of-nzbs/>

⁷ Medsafe. About Medsafe [Internet] 2012 June 25 [updated 2015 September 29; cited 2017 May 29]. Available from: <http://www.medsafe.govt.nz>

⁸ New Zealand Red Cross. Our History [Internet]. New Zealand Red Cross 2016 [cited 2016 March 14]. Available from: <https://www.redcross.org.nz/about-us/our-history/>

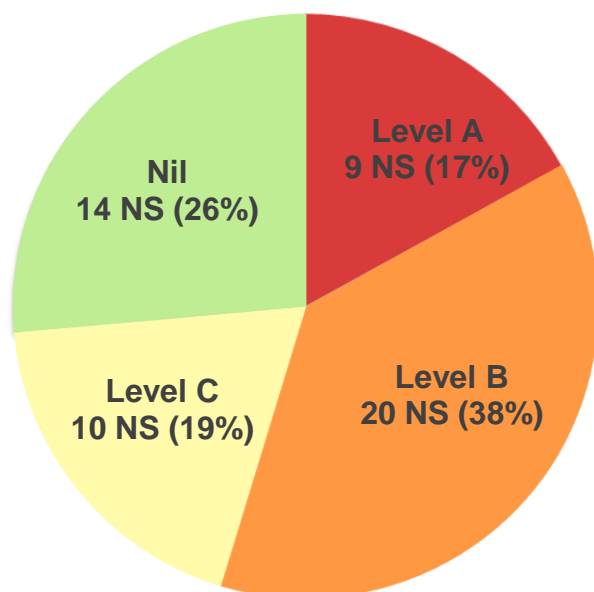
EUROPE AND CENTRAL ASIA

NATIONAL SOCIETY (NS) INVOLVEMENT IN BLOOD PROGRAMS BY LEVEL



Created with mapchart.net ©

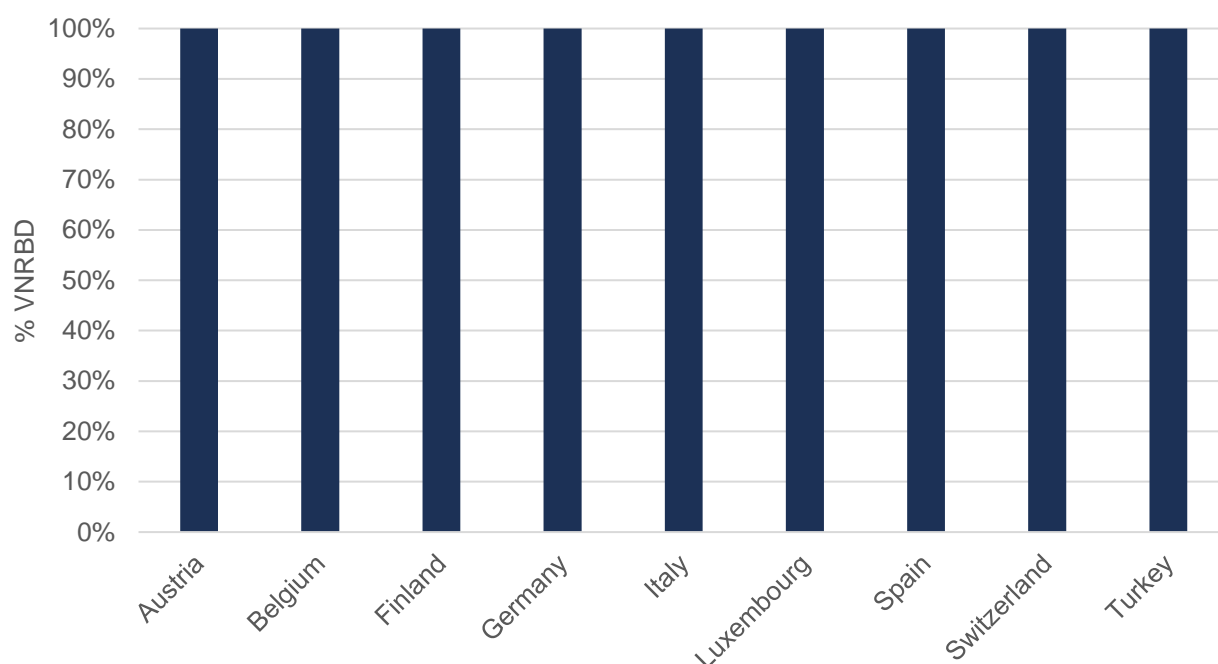
- Level A (full blood service - collection, processing, testing, distribution)
- Level B (regular recruitment of voluntary blood donors)
- Level C (promotion of voluntary blood donation)
- Nil (no involvement)
- No response to the global mapping survey



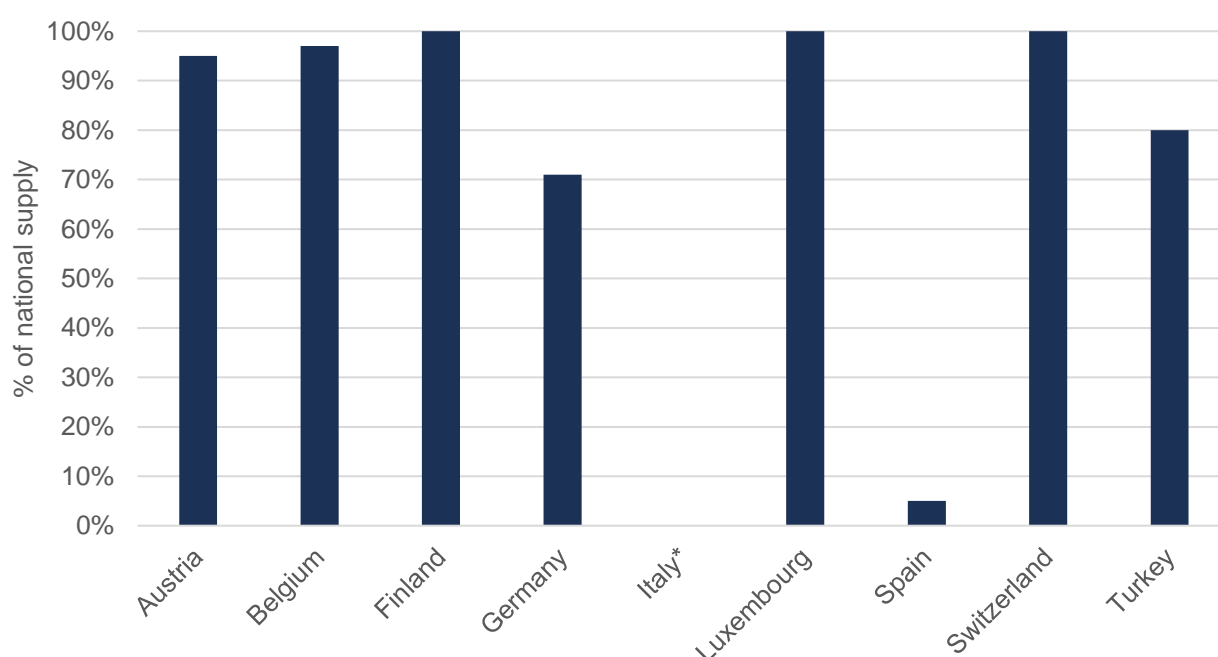
TOTAL NUMBER NS = 53

FOCUS ON **LEVEL A** NATIONAL SOCIETY BLOOD SERVICES IN THE REGION

9 out of 9 NSBS have achieved **100% VNRBD**



3 out of 9 NSBS provide **100% of the national blood supply**



*Information unknown

AUSTRIA



Austrian Red Cross:

- Level A (undertakes full blood service provision)
- 95% of the national total blood collection
- 100% VNRBD

NATIONAL CONTEXT

| | |
|--|--------------------------------------|
| Location | Central Europe |
| Geographical size ranking¹ | 115 th |
| Population (world ranking)¹ | 8.7 million (95 th) |
| Median age¹ | 44 |
| Political system¹ | Federal parliamentary republic |
| GDP per capita (world ranking)¹ | \$49,200 (33 rd) |
| HDI Index (world ranking)² | 0.893- very high (24 th) |
| Health Expenditure¹ | 11.2% of GDP |
| Efficiency of Healthcare³ | 35 th of 51 countries |
| Population prevalence hepatitis B⁴ | Low: <2% |
| Population prevalence hepatitis C⁵ | Very Low: 0 - <1.0% |
| Population prevalence HIV⁶ | Low (approx. 0.1%) |



NATIONAL BLOOD PROGRAM

The Austrian Red Cross Blood Service collects approximately 95% of the nation's whole blood (all of which is from voluntary blood donors), with the remainder being provided by three hospitals.⁷

The seven Red Cross blood centres in Austria operate independently.⁷ Four of these (in Vienna, Lower Austria & Burgenland; Upper Austria; Carinthia; and Vorarlberg) undertake collection, testing, production and distribution activities.⁸ Three others (in Styria, Salzburg and Tyrol) are responsible for blood collection and distribution in conjunction with the Regional University Hospitals.⁸

The coordination of the Austrian Red Cross Blood Services is undertaken by the blood centre in Vienna⁸, where approximately 40% of all blood products are used.⁷

NATIONAL SOCIETY BLOOD PROGRAM (AUSTRIAN RED CROSS)

The Austrian Red Cross:

- annually collects (2016):
 - 355,000 units of whole blood
 - 15,000 units of platelet concentrates by apheresis
- supplies blood to approximately 200 hospitals/clinics
- processes collected blood into components
- conducts screening testing of blood for infectious diseases and blood grouping
- conducts cross-matching for transfusion (this is also undertaken by hospitals)
- is accredited to ISO 9001:2008
- does not receive technical assistance or financial support for VNRBD or blood service activities from outside the country
- is involved in the collection, processing or testing of cord blood stem cells, peripheral stem cells and bone marrow stem cells
- is not involved in the collection, processing or testing of bone, solid organs or corneas

Blood donor recruitment and retention activities are coordinated both nationally and by district/chapter by the National Society. They are funded by the blood service. Paid staff are used to undertake school/university programs and corporate programs.

The Austrian Red Cross Blood Service forwards plasma to a fractionation facility. Red Cross annually sells approximately 65,000 litres of recovered plasma to various commercial fractionators.

The Austrian Red Cross is not planning to expand or scale back its current level of involvement in blood-related activities.

Austrian Red Cross Blood Services cooperate directly with the neighbouring Principality of Liechtenstein to provide blood collection, processing and distribution support services for the country. (Refer also country report Liechtenstein).

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2017 Dec 12]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/au.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2017 Dec 12]. Available from: <http://hdr.undp.org/en/countries/profiles/AUT>

³ Bloomberg. Where Do You Get the Most for Your Health Care Dollar? [Internet] Bloomberg 2014 September 18 [cited 2017 Dec 12]. Available from: <https://www.bloomberg.com/graphics/infographics/most-efficient-health-care-around-the-world.html>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2017 Dec 12] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁵ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2017 Dec 12] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁶ Network of low HIV prevalence countries in Central and South East Europe (NeLP). Testing country in profile in 2015 – Austria. [Internet] NeLP 2016 [cited 2017 Dec 12]. Available from: <http://www.nelp-hiv.org/countries/AT>

⁷ MacPherson J. Blood Collections & Transfusion A Global Perspective 2014. Connecticut: The Marketing Research Bureau Inc: 2014. 203p.

⁸ European Blood Alliance. Austria [Internet] European Blood Alliance 2017 [cited 2017 Dec 12]. Available from: <http://www.europeanbloodalliance.eu/membership/austria/>

BELGIUM



Belgian Red Cross:

- Level A (undertakes full blood service provision)
- 97% of the national total blood collection (Flanders 100%; Wallonian 92%)
- 100% VNRBD

NATIONAL CONTEXT

| | |
|--|---|
| Location | Western Europe |
| Geographical size ranking¹ | 141 st |
| Population (world ranking)¹ | 11.4 million (77 th) |
| Median age¹ | 41.4 |
| Political system¹ | Federal parliamentary democracy under a constitutional monarchy |
| GDP per capita (world ranking)¹ | \$46,300 (35 th) |
| HDI Index (world ranking)² | 0.896 - very high (22 nd) |
| Health Expenditure¹ | 10.6% of GDP |
| Efficiency of Healthcare³ | 41 st of 51 countries |
| Population prevalence hepatitis B⁴ | Low: <2% |
| Population prevalence hepatitis C⁵ | Very Low: 0 - <1.0% |
| Population prevalence HIV⁶ | 0.2% (2011 est.) |



NATIONAL BLOOD PROGRAM

The Belgian Red Cross (divided into the southern Wallonian section and the northern Flanders section) undertakes 97% of the country's blood collection (Flanders 100%; Wallonian 92%).

Other providers are:

- ASBL La Transfusion Charleroi – 6%
- CHU UCL Namur Site Godinne – 2%

The Federal Agency for Medicines and Health Products (FAMHP) under the Ministry of Health is the regulatory agency for blood activities.⁷

Their responsibilities include:

- marketing approval
- approval of new blood products
- inspections
- haemovigilance
- approval of national drug pricing, which includes blood⁷

NATIONAL SOCIETY (BELGIAN RED CROSS)

| Flanders | Wallonian |
|---|--|
| Annually collects (2015): <ul style="list-style-type: none"> ○ 250,000 units of whole blood ○ 100,000 units by apheresis | Annually collects (2015): <ul style="list-style-type: none"> ○ 156,000 units of whole blood ○ 26,000 units by apheresis |
| Processes collected blood into components | Processes collected blood into components |
| Conducts screening testing of blood for infectious diseases and blood grouping | Conducts screening testing of blood for infectious diseases and blood grouping |
| Conducts cross-matching for transfusion (this is also undertaken by hospitals) | Does not conduct cross-matching for transfusion |
| Forwards plasma to a fractionation facility | Forwards plasma to a fractionation facility |
| Does not perform transfusions | Does not perform transfusions |
| Is involved in the collection, processing or testing of cord blood stem cells, peripheral stem cells, bone marrow stem cells as well as bone, solid organs and corneas. | Is involved in the collection, processing or testing of bone marrow stem cells. Is not involved in the collection, processing or testing of peripheral stem cells, cord blood stem cells, bone, solid organs or corneas. |
| Supports a population of 6.5 million | Supports a population of 4.5 million |
| Supplies blood to 64 hospitals/clinics | Supplies blood to 43 hospitals/clinics |
| Is accredited to EUBIS, ISO 9001, ISO 15189 | Is accredited to ISO 9001 and ISO 15189 |
| Does not receive technical assistance or financial support for VNRBD or blood service activities from outside the country | Does not receive technical assistance or financial support for VNRBD or blood service activities from outside the country |
| Blood donor recruitment and retention activities are coordinated both nationally and by district/chapter by the National Society. They are funded by the blood service. Both paid staff and volunteers are used to undertake school/university programs and corporate programs. | Blood donor recruitment and retention activities are coordinated by district/chapter by the National Society. They are funded by the blood service. Both paid staff and volunteers are used to undertake school/university programs, corporate programs and mobile collections at villages blood drives. |

The Central Fractionation Unit, a not-for-profit corporation that is owned by LFB (France), receives approximately 85% of plasma from whole blood and nearly all plasma from plasmapheresis.⁷ In 2016, 190,000 litres of plasma was sent to the Central Fractionation Unit.⁷

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Mar 13]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/be.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2018 Jan 15]. Available from: . <http://hdr.undp.org/en>

³ Bloomberg. Where Do You Get the Most for Your Health Care Dollar? [Internet] Bloomberg 2014 September 18 [cited 2018 Jan 15]. Available from: <https://www.bloomberg.com/graphics/infographics/most-efficient-health-care-around-the-world.html>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Jan 15] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁵ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Jan 15] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁶ World Health Organization. Regional Office for Europe. Key facts on HIV epidemic in Belgium and progress in 2011. [Internet] World Health Organization 2013 [cited 2018 Jan 15]. Available from: http://www.euro.who.int/_data/assets/pdf_file/0006/191067/Belgium-HIVAIDS-Country-Profile-2011-revision-2012-final.pdf?ua=1

⁷ MacPherson J. Blood Collections & Transfusion A Global Perspective 2014. Connecticut: The Marketing Research Bureau Inc: 2014. 203p.

FINLAND



Finnish Red Cross:

- Level A (undertakes full blood service provision)
- 100% of the national total blood collection
- 100% VNRBD

NATIONAL CONTEXT

| | |
|--|---------------------------------------|
| Location | Northern Europe |
| Geographical size ranking¹ | 66 th |
| Population (world ranking)¹ | 5.5 million (117 th) |
| Median age¹ | 42.5 |
| Political system¹ | Parliamentary republic |
| GDP per capita (world ranking)¹ | \$44,000 (37 th) |
| HDI Index (world ranking)² | 0.895 - very high (23 rd) |
| Health Expenditure¹ | 9.7% of GDP |
| Efficiency of Healthcare³ | 19th of 51 countries |
| Population prevalence hepatitis B⁴ | Not available |
| Population prevalence hepatitis C⁵ | Very Low: 0 - <1.0% |
| Population prevalence HIV⁶ | 0.1% |



NATIONAL BLOOD PROGRAM

The Finnish Red Cross Blood Service is the national blood service provider in Finland.

The Finnish Red Cross Blood Service was founded in 1948 and has always been based on voluntary, unpaid blood donation. ⁷

Blood Service operations are subject to the Finnish Blood Service Act (197/2005) and other regulations, including the EU Blood Safety Directive, and are supervised by the National Agency for Medicines. ⁷

The Blood Service is an independent, non-profit section of the Finnish Red Cross.⁸ Operational and development costs are covered by selling blood, products and services to the Finnish healthcare system ⁸. It costs on average approximately US\$180 for one RBC unit. ⁹

Many functions of the Blood Service (including testing, quality control, administrative support functions, research and development) are carried out at the Helsinki Blood Centre in Kivihaka.¹⁰ In addition, there are ten donor centres.¹⁰

NATIONAL SOCIETY (FINNISH RED CROSS)

The Finnish Red Cross Blood Service is responsible for:

- annually collects (2014):
 - 216,485 units of whole blood
 - 4,495 units by apheresis: plasmapheresis 3152, plateletpheresis 1343
- testing donated blood
- manufacturing blood products
- blood cross-matching
- testing for coagulation factor and thrombocyte assays⁸
- blood group and blood group antibody tests for all pregnant women in Finland¹⁰
- testing required for organ, tissue and stem cell transplants⁸
- the Finnish Stem Cell Registry, which provides stem cell grafts for all stem cell transplantations performed in Finland⁸

In addition, the Finnish Red Cross Blood Service:

- supplies blood products to 60 hospitals / clinics:
 - 194,320 red blood cell units were supplied to hospitals in 2016, a decrease of 1.5% over the previous year¹¹
 - 34,850 units of platelet products were supplied to hospitals in 2016, a decrease of 8.3% over the previous year. Despite platelet usage decreasing, Finland still uses more than the European average¹¹
- does not perform transfusions
- is accredited to EN ISO 15189, EN ISO/IEC 17025, FACT
- does not receive technical assistance or financial support for VNRBD or blood service activities from outside the country
- is not involved in cornea collection, processing or testing

Blood donor recruitment and retention activities are coordinated nationally by the blood service. Activities include school/university programs as well as enterprises, communities and other interest groups. Donor recruitment activities are funded by the blood service. Both volunteers and paid staff are utilised for donor recruitment.

- ¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Jan 15]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/fi.html>
- ² United Nations Development Programme. Human Development Report 2016 [Internet] 2016 [cited 2018 Jan 15]. Available from: <http://hdr.undp.org/en>
- ³ Bloomberg. Where Do You Get the Most for Your Health Care Dollar? [Internet] United Nations Development Programme 2014 [cited 2018 Jan 15]. Available from: <https://www.bloomberg.com/graphics/infographics/most-efficient-health-care-around-the-world.html>
- ⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Jan 15] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>
- ⁵ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Jan 15] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>
- ⁶ World Health Organization. World Health Statistics 2011 [Internet] World Health Organization 2011 [cited 2018 Jan 15]. [171p]. Available from: http://www.who.int/gho/publications/world_health_statistics/EN_WHS2011_Full.pdf?ua=1
- ⁷ Finnish Red Cross Blood Service. About Us [Internet] Finnish Red Cross Blood Service 2016 November 17 [cited 2017 October 02]. Available from: <https://www.bloodservice.fi/about-us>
- ⁸ Finnish Red Cross Blood Service. The Blood Service in the Finnish Healthcare system [Internet] Finnish Red Cross Blood Service 2017 [cited 2017 October 02]. Available from: <http://vuosikertomus.veripalvelu.fi/en>
- ⁹ MacPherson J. Blood Collections & Transfusion A Global Perspective 2014. Connecticut: The Marketing Research Bureau Inc: 2014. 203p.
- ¹⁰ European Blood Alliance. Finland [Internet] European Blood Alliance 2017 [cited 2017 August 21]. Available from: <http://www.europeanbloodalliance.eu/membership/finland/>
- ¹¹ Finnish Red Cross Blood Service. Annual Report 2016 pdf [Internet] Finnish Red Cross Blood Service 2016 [cited 2018 Jan 15]. Available from: http://vuosikertomus.veripalvelu.fi/media/vuosikertomukset/spr_veripalvelu_vsk_2016_en.pdf

GERMANY



German Red Cross:

- Level A (undertakes full blood service provision)
- 71% of the national total blood collection
- 100% VNRBD

NATIONAL CONTEXT

| | |
|--|--------------------------------------|
| Location | Central Europe |
| Geographical size ranking¹ | 64 th |
| Population (world ranking)¹ | 81 million (19 th) |
| Median age¹ | 47.1 |
| Political system¹ | Federal parliamentary republic |
| GDP per capita (world ranking)¹ | \$50,200 (27 th) |
| HDI Index (world ranking)² | 0.926 - very high (4 th) |
| Health Expenditure¹ | 11.3% of GDP |
| Efficiency of Healthcare³ | 23rd of 51 countries |
| Population prevalence hepatitis B⁴ | Low: <2% |
| Population prevalence hepatitis C⁵ | Very Low: 0 - <1.0% |
| Population prevalence HIV⁶ | 0.2% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

According to statistics by the Paul Ehrlich Institute (PEI), there were over 4 million allogeneic whole blood donations and almost 3 million apheresis donations in 2016.⁷

The proportions of whole blood donations provided were:

- 72.7 % by the German Red Cross
- 19.5% by state-run, non-profit limited liability donation services, services at municipal or private hospitals, German Army
- 7.8% by private donation centres (this figure has risen from just 2.1%)⁷

Below is a list of the number of manufacturers involved in collection, production, imports and exports of blood and blood products in Germany in 2015 by type of organisation (as at 20 May 2016).⁷

- state-run, municipal or private hospitals, non-profit limited liability company – 69
- Red Cross – 12
- plasma processing industry – 19

- private donation centre – 26
- Bundeswehr (German army) – 1
- facilities collecting autologous blood, manufacturing blood components from directed donations or hematopoietic stem cell preparations - 101

There were 2,581 organisations using blood, including 1382 hospitals, the German Army, 974 panel doctors / dialysis centres / surgeries and 224 other medical facilities.⁷

In Germany, the PEI is the competent higher authority for blood products.⁸ Considered as medicinal products, both blood components for transfusion and plasma derivatives are regulated under the German Drug Law.⁸ The Transfusion Act of 1998 regulates a range of blood service technical and quality requirements.⁹

The PEI supervises approvals of new blood products, performs inspections and enforces EU requirements.⁹ Blood component usage and guidelines on blood collection are managed by the German Medical Association (BÄK) in cooperation with the PEI.⁹

Hospitals reimburse the German Red Cross for the blood products.¹⁰

Whilst the German Red Cross, government-run institutions and the military collect 100% of donations from VNRBD, various combinations of whole blood, platelets and plasma are purchased by commercial blood centres.⁹

Nationally in 2010, 80% of whole blood and red blood cell donations were VNRBD.¹¹

NATIONAL SOCIETY (GERMAN RED CROSS)

The German Red Cross has seven blood transfusion services including 28 donation centres and institutes. Some of these offer plasmapheresis.¹²

The German Red Cross:

- annually collects (2014):
 - 3.15 million units of whole blood
 - 2.5 million units by apheresis
- supplies blood to approximately 350 hospitals/clinics
- processes collected blood into components
- conducts screening testing of blood for infectious diseases and blood grouping
- conducts cross-matching for transfusion (this is also undertaken by hospitals)
- performs transfusions - in some transfusion centres, outpatients receive transfusions
- is accredited
- does not receive technical assistance or financial support for VNRBD or blood service activities from outside the country
- is involved in the collection, processing or testing of cord blood stem cells, peripheral stem cells, bone marrow stem cells, bone, solid organs and corneas

Blood donor recruitment and retention activities are coordinated by district/chapter by the National Society. They are funded by the blood service. Both paid staff and volunteers are used to undertake school/university programs and corporate programs.

The German Red Cross Blood Service forwards plasma to a fractionation facility. In 2008 the plasma fractionation operation in Springe was sold by the German red Cross to Octapharma.⁹

The German Red Cross is not planning to expand or scale back its current level of involvement in blood-related activities.

- ¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Jan 15]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/gm.html>
- ² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2018 Jan 15]. Available from: <http://hdr.undp.org/en>
- ³ Bloomberg. Where Do You Get the Most for Your Health Care Dollar? [Internet] Bloomberg 2014 [cited 2018 Jan 15]. Available from: <https://www.bloomberg.com/graphics/infographics/most-efficient-health-care-around-the-world.html>
- ⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Jan 15] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>
- ⁵ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Jan 15] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>
- ⁶ Trading Economics. Germany - Female adults with HIV (% of population ages 15+ with HIV) [Internet] Trading Economics 2017 [cited 2018 Jan 15]. Available from: <https://tradingeconomics.com/germany/female-adults-with-hiv-percent-of-population-ages-15-with-hiv-wb-data.html>
- ⁷ Henseler O. Report on notifications pursuant to Section 21 TFG (German Transfusion Act) for 2016. [Internet] Paul-Ehrlich Institute 2017 [cited 2017 October 02]. Available from: <http://www.pei.de/EN/information/blood-supply/reports/report-blood-supply-2012-2016-21tfg-content.html>
- ⁸ Seitz R. PEI Working for Blood Safety. [Internet] Paul-Ehrlich-Institut 2017 [cited 2017 October 03]. Available from: http://www.pei.de/SharedDocs/Downloads/EN/who/who-praesentation-seitz-en.pdf?__blob=publicationFile&v=2
- ⁹ MacPherson J. Blood Collections & Transfusion A Global Perspective 2014. Connecticut: The Marketing Research Bureau Inc: 2014. 203p.
- ¹⁰ Deutsches Rotes Kreuz. DRK-Blutspendedienste. Versorgung und Finanzierung. [Internet] Deutsches Rotes Kreuz 2017 [cited 2017 October 03]. Available from: <https://www.drk-blutspende.de/blutspendedienste/versorgung-und-finanzierung.php>
- ¹¹ Council of Europe. Report of the survey on blood supply management organised by the TS003 Working Group in member states and observer states of the Council of Europe. [Internet] Council of Europe 2014 [cited 2017 October 09]. Available from: https://www.edqm.eu/medias/fichiers/report_survey_on_blood_supply_management_2012.pdf
- ¹² European Blood Alliance. Germany [Internet] European Blood Alliance 2017 [cited 2017 October 03]. Available from: <http://www.europeanbloodalliance.eu/membership/germany>

ITALY



Italian Red Cross:

- Level A (undertakes full blood service provision)
- 100% VNRBD

NATIONAL CONTEXT

| | |
|--|---------------------------------------|
| Location | Southern Europe |
| Geographical size ranking¹ | 73 rd |
| Population (world ranking)¹ | 62 million (23 rd) |
| Median age¹ | 45.5 |
| Political system¹ | Parliamentary republic |
| GDP per capita (world ranking)¹ | \$38,000 (49 th) |
| HDI Index (world ranking)² | 0.887 - very high (26 th) |
| Health Expenditure¹ | 9.2% of GDP |
| Efficiency of Healthcare³ | 3rd of 51 countries |
| Population prevalence hepatitis B⁴ | Low intermediate: 2% - 4% |
| Population prevalence hepatitis C⁵ | High moderate: 2.0% - <5.0% |
| Population prevalence HIV⁶ | 0.3% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

The National Blood Centre in Italy was established by decree in April 2007.⁷ It is part of the National Health Service with the Ministry of Health responsible for legislation, coordination and supervision.^{8,9} Transfusion services are delocalised.⁹ Regional Health Services deliver blood and blood component collection, processing, testing, storage and distribution, and all transfusion medicine activities.^{8,9}

The National Blood Centre (Centro Nazionale Sangue – CNS) is responsible for national coordination as well as scientific and technical control of the national blood service.^{8,9} It also maintains a register of qualified blood inspectors, provides training and regularly assesses their skills.⁸ With the support of the National Transplant Centre, CNS also coordinates the Italian Cord Blood Network (ITCBN) and also collaborates with the National Medicines Agency in regards to the evaluation of plasma for fractionation and plasma-derived medicinal products.⁷

Technical direction is provided to accredited donor associations for outsourced blood collection ensuring compliance with national regulation and self-sufficiency, quality and safety plans.⁹

With explicit regional approval and accreditation these blood collection units are run by the following four main blood donor organisations:

- Association of Voluntary Italian Blood Donors (AVIS)
- Italian Federation of Blood Donors (FIDAS)
- FRATRES
- Italian Red Cross⁷

100% of blood donation in Italy is VNRBD.¹⁰

In 2017 almost 830,000 kilograms of plasma was collected for fractionation.¹¹

NATIONAL SOCIETY (ITALIAN RED CROSS)

The Italian Red Cross is involved in blood activities at Level A:

- Blood is mentioned several times in the 2013 Annual report, including awareness-raising activities, organizing information days, and Club 25.¹²
- The website of the Italian Red Cross states that “We promote and actively support the donation of blood and blood products...”, and in addition, the Italian Red Cross promotes the donation of bone marrow, organs, tissues and cells.¹³

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Jan 19]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/it.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2018 Jan 19]. Available from: <http://hdr.undp.org/en>

³ Bloomberg. Where Do You Get the Most for Your Health Care Dollar? [Internet] Bloomberg 2014 [cited 2018 Jan 19]. Available from: <https://www.bloomberg.com/graphics/infographics/most-efficient-health-care-around-the-world.html>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Jan 19] Available from: <http://www.wnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁵ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Jan 19] Available from: <http://www.wnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁶ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Jan 19]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁷ Centro Nazionale Sangue. CNS [Internet] Centro Nazionale Sangue 2018 [cited 2018 Feb 20]. Available from: <http://www.centronazionalesangue.it/node/6>

⁸ European Blood Alliance. Membership. Italy. [Internet] European Blood Alliance 2017 [cited 2018 Jan 19]. Available from: <http://www.europeanbloodalliance.eu/membership/italy/>

⁹ Centro Nazionale Sangue. The transfusions system in Italy [Internet] Centro Nazionale Sangue 2018 [cited 2018 Feb 20]. Available from: <http://www.centronazionalesangue.it/node/1>

¹⁰ World Health Organisation. Countries that reported having achieved 100% voluntary non-remunerated blood donation in 2008. [Internet] World Health Organisation 2011 [cited 2018 Jan 19]. Available from: http://www.who.int/bloodsafety/voluntary_donation/countries_100pct_vnrbd_2011.pdf?ua=1

¹¹ Grazzini, G. Italian policies for blood and blood product self-sufficiency and safety. Paper presented at: The International Federation of Blood Donor Organizations; 2012, June 23; San Marino. PowerPoint presentation available from: http://www.avis.it/attachments/5773_documento.pdf Centro Nazionale Sangue. In 2017 collected almost 830 thousand kilos of plasma [Internet] Centro Nazionale Sangue 2018 [cited 2018 Feb 20]. Available from: <http://www.centronazionalesangue.it/node/656>

¹² Croce Rossa Italiana. Annual Report 2013. [Internet] Croce Rossa Italiana 2014 [cited 2018 Jan 19]. Available at: http://data.ifrc.org/public/documents/IT/AR_Italy_2013_Italian.pdf

¹³ Croce Rossa Italiana. Activity. Promotion of voluntary blood donation. [Internet] Croce Rossa Italiana 2017 [cited 2018 Jan 19]. Available from: <http://www.cri.it/flex/cm/pages/ServeBLOB.php/L/IT/IDPagina/21066>.

LUXEMBOURG



Luxembourg Red Cross:

- Level A (undertakes full blood service provision)
- 100% of the national total blood collection
- 100% VNRBD

NATIONAL CONTEXT

| | |
|--|---------------------------------------|
| Location | Western Europe |
| Geographical size ranking¹ | 179 th |
| Population (world ranking)¹ | 594 thousand (171 st) |
| Median age¹ | 39.3 |
| Political system¹ | Constitutional monarchy |
| GDP per capita (world ranking)¹ | \$109,100 (5 th) |
| HDI Index (world ranking)² | 0.898 - very high (20 th) |
| Health Expenditure¹ | 6.6% of GDP |
| Population prevalence hepatitis B³ | Low: <2% |
| Population prevalence hepatitis C⁴ | Very low: 0 - <1.0% |
| Population prevalence HIV⁵ | 0.3% (in adults 15-49 years) |



NATIONAL BLOOD PROGRAM

The Red Cross is involved in blood services at Level A and collects 100% of the national blood supply in Luxembourg.

The Ministry of Health oversees blood activities in the country and performs annual inspections of blood banks.⁶ All hospitals must have a transfusion committee which is responsible for blood safety and haemovigilance.⁶

The pricing for blood is also defined by the MoH; a red cell unit costs approximately US\$309.⁶

NATIONAL SOCIETY (LUXEMBOURG RED CROSS)

The Luxembourg Red Cross:

- has ten fixed sites (approximately 70% of donations are collected at a central collection centre)⁶
- annually collects (2015):
 - 20,200 units of whole blood
 - 3,550 units by apheresis

- processes collected blood into components
- conducts screening of blood for infectious diseases and blood grouping. National testing is also conducted by the German Red Cross in Frankfurt
- conducts cross-matching for transfusion (as do hospitals)
- forwards plasma to a fractionation facility (Octapharma)⁶
- does not perform transfusions
- is not involved in cord blood stem cells, peripheral stem cells, bone marrow stem cells, bone/solid organ transplants or corneas
- supplies blood to five hospitals/clinics
- is accredited to ISO 9001 V2008 and ISO 15189 V2012
- is largely (95%) funded by the sale of blood products - the Ministry of Health provides the remaining 5% of the budget.
- does not receive technical assistance for VNRBD or blood service activities from outside the country, however some financial support is received from international partners
- donor recruitment and retention activities (mainly school/university programs) are coordinated nationally, are undertaken by volunteers and are funded by the blood establishment in firms and donor associations

There are nine 'Associations of Blood Donors' in Luxembourg who are involved in blood donor education and recruitment activities and maintain a link between the public, the government and the Luxembourg Red Cross blood service.⁷ These groups recruit 300-400 new donors each year through information stalls at public events.⁷

The Luxembourg Red Cross does not have plans to either expand or scale back the current level of involvement in blood related activities.

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2017 Dec 11]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/lu.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2017 Dec 11]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2017 Dec 11] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2017 Dec 11] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ World Health Organization: World Health Statistics 2011 [Internet] World Health Organization 2011 [cited 2017 Dec 11]. Available from : http://www.who.int/gho/publications/world_health_statistics/EN_WHS2011_Full.pdf?ua=1

⁶ MacPherson J. Blood Collections & Transfusion A Global Perspective 2014. Connecticut: The Marketing Research Bureau Inc: 2014. 203p

⁷ Croix-rouge luxembourgeoise. Blood donor associations [Internet] Croix-rouge luxembourgeoise 2017 [cited 2017 Dec 11] Available from : <http://www.croix-rouge.lu/en/associations-de-donneurs-de-sang/>

SPAIN



Spanish Red Cross:

- Level A (undertakes full blood service provision)
- 5% of the national total blood collection
- 100% VNRBD

NATIONAL CONTEXT

| | |
|--|---------------------------------------|
| Location | South-western Europe |
| Geographical size ranking¹ | 53 rd |
| Population (world ranking)¹ | 48 million (28 th) |
| Median age¹ | 42.7 |
| Political system¹ | Parliamentary constitutional monarchy |
| GDP per capita (world ranking)¹ | \$38,200 (48 th) |
| HDI Index (world ranking)² | 0.884 - very high (27 th) |
| Health Expenditure¹ | 9% of GDP |
| Efficiency of Healthcare³ | 14th of 51 countries |
| Population prevalence hepatitis B⁴ | Low: <2% |
| Population prevalence hepatitis C⁵ | Low moderate: 1.5- <2.0% |
| Population prevalence HIV⁶ | 0.4% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

The Red Cross blood centre operates in Madrid. Each of the 17 autonomous communities (AC or local government) in Spain has its own public blood program.⁷

Despite their autonomous operations management, every Regional Blood Transfusion Service is fully incorporated into a unique and common Public National Health System, ensuring a blood supply based on 100% VNRBD.⁸

As of 2013, in addition to the 24 blood centres operating in the AC there were 341 transfusion services in hospitals that used blood.⁷

The Spanish Blood Transfusion Committee under the Public Health Directorate of the Ministry of Health ensures that there is a safe and adequate blood supply.⁸

The Scientific Committee for Blood Safety makes proposals to the authorities about safety issues and disseminate / publish their own studies, reports, recommendations etc. to the Spanish Blood Transfusion organisation.⁸

Major providers of blood in Spain are:

- Andalucía Regional Blood Service (16%)
- Cataluña Regional Blood Service (15%)
- Valencia Regional Blood Service (10%)
- Spanish Red Cross Blood Service (5%)

Hospitals pay for the blood, with some price variation (approved by the AC Ministry) between ACs.

In 2012:

- there were 1,769,471 blood donations in Spain from 2.17 million “active donors”
- 376,000 litres of plasma was sent for fractionation to Grifols, a global plasma fractionation plant located near Barcelona⁷

NATIONAL SOCIETY (SPANISH RED CROSS)

The Spanish Red Cross:

- collected 88,522 whole blood donations in 2014, with 115,000 whole blood donations forecast for 2015
- supports the community of Madrid (6.4 million people)
- does not process blood into components – this is performed by the Ministry of Health / government
- does not conduct screening tests of blood for infectious diseases and blood grouping. – this is performed by the Ministry of Health / government
- does not conduct cross-matching for transfusion – this is performed by hospitals
- does not forward plasma to a fractionation facility
- does not perform transfusions
- is not involved in the collection, processing or testing in cord blood stem cells, peripheral stem cells, bone marrow stem cells, bone, cornea or solid organs
- is not accredited
- does not receive technical assistance or financial support for VNRBD or blood service activities from outside the country

There are no plans to either expand or scale back the current level of involvement in blood related activities.

Donor recruitment and retention activities are coordinated by district/chapter by the National Society. Paid staff are used for donor recruitment programs, such as school/university programs and corporate programs. The recruitment and retention activities are funded by the blood service.

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- ¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Jan 15]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/sp.html>
- ² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2018 Jan 15]. Available from: <http://hdr.undp.org/en>
- ³ Bloomberg. Where Do You Get the Most for Your Health Care Dollar? [Internet] Bloomberg 2014 [cited 2018 Jan 15]. Available from: <https://www.bloomberg.com/graphics/infographics/most-efficient-health-care-around-the-world.html>
- ⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Jan 15] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>
- ⁵ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Jan 15] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>
- ⁶ Central Intelligence Agency. The World Factbook [Internet] Central Intelligence Agency 2016 [cited 2018 Jan 15] Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>
- ⁷ MacPherson J. Blood Collections & Transfusion A Global Perspective 2014. Connecticut: The Marketing Research Bureau Inc: 2014. 203p
- ⁸ European Blood Alliance. Spain. [Internet] European Blood Alliance 2018 [cited 2018 Jan 15] Available from: <http://www.europeanbloodalliance.eu/membership/spain/>

SWITZERLAND



Swiss Red Cross:

- Level A (undertakes full blood service provision)
- 100% of the national total blood collection
- 100% VNRBD

NATIONAL CONTEXT

| | |
|--|--------------------------------------|
| Location | Central Europe |
| Geographical size ranking¹ | 136 th |
| Population (world ranking)¹ | 8.2 million (98 th) |
| Median age¹ | 42.4 |
| Political system¹ | Federal republic |
| GDP per capita (world ranking)¹ | \$61,400 (17 th) |
| HDI Index (world ranking)² | 0.939 - very high (2 nd) |
| Health Expenditure¹ | 11.7% of GDP |
| Efficiency of Healthcare³ | 16 th of 51 countries |
| Population prevalence hepatitis B⁴ | Low: <2% |
| Population prevalence hepatitis C⁵ | Low moderate: 1.5% - <2.0% |
| Population prevalence HIV⁶ | 0.35% among adults 15-49 years |



NATIONAL BLOOD PROGRAM

The Swiss Confederation mandates that the Swiss Transfusion SRC along with the regional blood transfusion services safeguard the supply of blood products to hospitals and clinics across the country.⁷

Swiss Transfusion SRC Inc. is an autonomous, non-for-profit public limited company within the Swiss Red Cross (SRC).⁷ Most of its shares are held by the SRC; the remainder are owned by the 11 regional blood transfusion services.⁷ Both the umbrella organisation, Swiss Transfusion SRC, and the regional blood transfusion services are non-profit organisations.⁷

Swiss Transfusion SRC works in close partnership with the competent agencies of the federal administration, the Federal Office of Public Health (FOPH) and the Swiss Agency for Therapeutic Products, Swissmedic.⁷

Blood products are purchased by hospitals, the price for which is set by the national government.⁸

In 2016, there were 295,015 blood donations.⁷

NATIONAL SOCIETY (SWISS RED CROSS)

The Swiss Red Cross Blood Service:

- annually collects (2015):
 - 310,000 units of whole blood
 - 20,000 donations by apheresis
- processes collected blood into components
- conducts screening of blood for infectious diseases and blood grouping
- conducts cross-matching for transfusion (cross-matching is also conducted by hospitals)
- forwards plasma to several fractionation facilities
- does not perform transfusions
- is involved in cord blood stem cells, peripheral stem cells, bone marrow stem cells
- is not involved in the collection, processing or testing bone/solid organ transplants or corneas
- supplies blood to 200 hospitals/clinics
- is accredited to ISO
- does not receive technical assistance or financial support for VNRBD or blood service activities from outside the country

There are no plans to either expand or scale back the current level of involvement in blood related activities.

Donor recruitment and retention activities are coordinated both nationally and by district/chapter by the National Society. Paid staff as well as volunteers are used for donor recruitment programs, such as school/university programs and corporate programs. The recruitment and retention activities are funded by the blood service.

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Jan 15]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/sz.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2018 Jan 15]. Available from: <http://hdr.undp.org/en>

³ Bloomberg. Where Do You Get the Most for Your Health Care Dollar? [Internet] Bloomberg 2014 [cited 2018 Jan 15]. Available from: <https://www.bloomberg.com/graphics/infographics/most-efficient-health-care-around-the-world.html>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Jan 15] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁵ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Jan 15] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁶ Central Intelligence Agency. The World Factbook [Internet] Central Intelligence Agency 2016 [cited 2018 Jan 15] Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁷ Transfusion CRS Suisse. Swiss transfusion SRC at a glance. [Internet] Transfusion CRS Suisse 2017 [cited 2018 Jan 15] Available from: <http://en.blutspende.ch/swissttransfusion.php>

⁸ MacPherson J. Blood Collections & Transfusion A Global Perspective 2014. Connecticut: The Marketing Research Bureau Inc: 2014. 203p

TURKEY



Turkish Red Crescent Society:

- Level A (undertakes full blood service provision)
- 80% of the national total blood collection
- 100% VNRBD

NATIONAL CONTEXT

| | |
|--|---|
| Location | South-eastern Europe and South-western Asia |
| Geographical size ranking¹ | 38 th |
| Population (world ranking)¹ | 80 million (18 th) |
| Median age¹ | 30.9 |
| Political system¹ | Parliamentary republic |
| GDP per capita (world ranking)¹ | \$26,500 (75 th) |
| HDI Index (world ranking)² | 0.767 - high (71 st) |
| Health Expenditure¹ | 5.4% of GDP |
| Efficiency of Healthcare³ | 30 th of 51 countries |
| Population prevalence hepatitis B⁴ | Low Intermediate: 2-4% |
| Population prevalence hepatitis C⁵ | Very low: 0 - <1.0% |
| Population prevalence HIV⁶ | Low: <0.1% |



NATIONAL BLOOD PROGRAM

The Ministry of Health oversees blood banking and transfusion medicine services and is responsible for legislation, registration and monitoring of blood banks.⁷

The first law regarding blood services was issued in 1983 and updated in 2007; the national blood policy includes an aim for VNRBD and self-sufficiency in the national blood supply.⁷ A national Transfusion Committee (MoH) develops specific requirements for blood safety including for collection, processing and storage of blood.⁸

National laws require blood banks to follow quality control programs; accreditation is undertaken by the Joint Commission International (JCI).⁷ As well as national recommendations, WHO and Council of Europe guidelines are used nationally.⁷

While there are references which state that the Turkish Red Crescent became the sole provider of blood services in the country in 2007, when the law for a centralized national blood system was passed⁸, their global mapping survey response indicates that they collect 80% of the national blood supply. The remaining 20% is collected by hospital blood banks.

Blood is provided for a fee to hospitals; the price per unit is set by the government and is approximately US\$65 per unit of RBC.⁸

In 2014, Turkey imported all its therapeutic plasma products as there was no plasma fractionation facility in the country.⁸ In 2013 it was announced that the Red Crescent and the Ministry of Health were considering the construction of a plasma fractionation plant in Turkey.⁸

NATIONAL SOCIETY (TURKISH RED CRESCENT)

The Turkish Red Crescent has 17 Regional Blood Centres, 65 Blood Donation Centres and over 150 mobile units.⁹ The majority of collections are from mobile drives and are from male donors.⁸

The Turkish Red Crescent Society:

- annually collects (2016):
 - 1,904,609 whole blood donations
 - 33,367 blood donations collected by apheresis
- processes collected blood into components
- conducts screening tests of blood for infectious diseases and blood grouping
- does not cross-match for transfusion – this is conducted by hospitals.
- does not forward plasma to a fractionation facility
- does not perform transfusions
- is accredited to Joint Commission International (JCI)
- supplies blood to 1,235 hospitals/clinics
- is not involved in the collection, processing or testing of cord blood stem cells, peripheral stem cells and bone marrow stem cells, bone, solid organs or corneas
- does not receive technical assistance or financial support for VNRBD or blood service activities from outside the country
- supports a population of 75 million people

There are no plans to either expand or scale back the current level of involvement in blood related activities.

Donor recruitment and retention activities are coordinated nationally by the National Society. Paid staff, as well as volunteers, are used for donor recruitment programs, such as school/university programs, Club 25 and corporate programs. The recruitment and retention activities are funded by the government or Ministry of Health.

- ¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2017 Dec 11]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/tu.html>
- ² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2017 Dec 11]. Available from: <http://hdr.undp.org/en/countries>
- ³ Bloomberg. Where Do You Get the Most for Your Health Care Dollar? [Internet] 2 Bloomberg 014 [cited 2017 Dec 11]. Available from: <https://www.bloomberg.com/graphics/infographics/most-efficient-health-care-around-the-world.html>
- ⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2017 Dec 11] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>
- ⁵ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2017 Dec 11] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>
- ⁶ Anadolu Agency. HIV/AIDS cases in Turkey reaches 1,734 in 2016 [Internet] Anadolu Agency 30 November 2016.[cited 2017 Dec 11]. Available from: <http://aa.com.tr/en/health/hiv-aids-cases-in-turkey-reaches-1-734-in-2016/696419>
- ⁷ World Health Organization. Regional Office for Europe. Country profile: Blood services in Turkey. [Internet] Anadolu Agency 2017 [Cited 2017 Dec 11]. Available from: <http://www.euro.who.int/en/health-topics/Health-systems/blood-safety/archive/turkey/country-profile-blood-services-in-turkey>
- ⁸ MacPherson J. Blood Collections & Transfusion A Global Perspective 2014. Connecticut: The Marketing Research Bureau Inc: 2014. 203p
- ⁹ Turkish Red Crescent. Blood Services [Internet] Turkish Red Crescent 2017 [cited 2017 Dec 11]. Available from: <http://www.kizilay.org.tr/what-we-do/blood-services>

ALBANIA



Albanian Red Cross:

- Level B - involved in the systematic/regular recruitment of voluntary non-remunerated blood donors but with no involvement in blood collection

NATIONAL CONTEXT

| | |
|--|----------------------------------|
| Location | South-eastern Europe |
| Geographical size ranking¹ | 145 th |
| Population (world ranking)¹ | 3 million (136 th) |
| Median age¹ | 32.9 |
| Political system¹ | Parliamentary republic |
| GDP per capita (world ranking)¹ | \$12,500 (124 th) |
| HDI Index (world ranking)² | 0.764 - high (75 th) |
| Health Expenditure¹ | 5.9% of GDP |
| Population prevalence hepatitis B³ | High Intermediate: 5 – 7% |
| Population prevalence hepatitis C⁴ | Low: 1 - <1.5% |
| Population prevalence HIV⁵ | 0.1% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

Albania has a national policy on blood with responsibility delegated to the Ministry of Health.⁶

The National Blood Transfusion Service (NBTS) is funded by the government through the Ministry of Health. The NBTS includes:

- the National Blood Transfusion Centres (NBTC)
- 32 hospital blood banks⁶

Blood donors are recruited through the Red Cross and the Organisation of Voluntary Blood Donors.⁶

In 2009, 29,232 blood donations were collected:

- 64% were family replacement
- 26% were VNRBD
- 10% were paid⁶

Albania has a history of paid blood donation with 80% of blood donations being paid for in 1994.⁷ “Professional donors” have been organised in a Paid Blood Donor National Organisation, which has become a powerful lobby group standing in the way of VNRBD.⁷ VNRBD was first implemented in 1994 with the support of the IFRC. The first law on blood came into effect in 1995, but did not emphasise the principle of voluntary donation.⁷

Whilst VNRBD donations are increasing through the efforts of the Red Cross, in 2015, 66% of blood donated was from donors who donated blood only for a family member or friend.⁷ The rate of VNRBD is 10.5 per 1000 population.⁷

Challenges to move towards 100% VNRBD include:

- lack of tradition/culture of VNRBD in rural areas
- 70% of donors being male
- lack of budget to promote VNRBD
- existing Paid Blood Donor National Organisation acting as a powerful lobby group against VNRBD⁷

NATIONAL SOCIETY (ALBANIAN RED CROSS)

Blood donor recruitment and retention activities are coordinated nationally by the National Society. They are funded by the government or Ministry of Health. Paid staff are used for donor recruitment. Recruitment programs include school/university programs, Club 25 and corporate programs.

Since 2007, Norway Red Cross has supported the Albanian Red Cross Society providing both technical assistance (Club 25) and financial support.

Albania Red Cross has not previously been involved at Level A.

In 2015, a proposal was sent to the Health and Care Coordinator in Budapest for the further development of the National Blood Program in Albania.

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Jan 15]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/al.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2018 Jan 15]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Jan 15] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Jan 15] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ Central Intelligence Agency. The World Factbook [Internet] Central Intelligence Agency 2016 [cited 2018 Jan 15] Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁶ Durro V. Increasing blood availability and providing the highest donor and patient safety in transfusion therapy in emergency special circumstances. Situation in Albania. 2014 Jul 7-9; Bucharest. Presentation available from: http://www.azus.gov.rs/wp-content/uploads/2014/07/Country-Presentation_Albania_Vjollca-Durro.pdf

⁷ Deliana, A. Report of Albanian Red Cross Blood Program for Global Advisory Panel. Albanian Red Cross; 2015.

AZERBAIJAN



Red Crescent Society of Azerbaijan:

- Level B - involved in the systematic/regular recruitment of voluntary non-remunerated blood donors but with no involvement in blood collection

NATIONAL CONTEXT

| | |
|--|----------------------------------|
| Location | South-western Asia |
| Geographical size ranking¹ | 114 th |
| Population (world ranking)¹ | 9.9 million (90 th) |
| Median age¹ | 31.3 |
| Political system¹ | Presidential republic |
| GDP per capita (world ranking)¹ | \$17,400 (99 th) |
| HDI Index (world ranking)² | 0.759 - high (78 th) |
| Health Expenditure¹ | 6% of GDP |
| Efficiency of Healthcare³ | 49 th of 51 countries |
| Population prevalence hepatitis B⁴ | Low Intermediate: 2-4% |
| Population prevalence hepatitis C⁵ | High moderate: 2.0 - <5.0% |
| Population prevalence HIV⁶ | 0.1% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

The Blood Transfusion Service of Azerbaijan was created by the former Soviet Union and was made up of a central institute for blood transfusion in Baku and four regional blood transfusion stations located in Sheki, Gandja, Kuba, and Nakhichevan.⁷

Blood services in Azerbaijan are overseen by the Research Institute on Haematology and Transfusiology, which contains the central blood bank, and there are interregional blood banks in the cities of Gyandzhe, Sheki and Gube, and in the independent republic of Nakhchivan.⁷

In 2008, a VNRBD law was passed allowing only non-paid blood donors, and there is no remuneration for donors other than travel expenses in special cases.⁷

In 2010, 45,149 blood donations were collected in Azerbaijan.⁸

NATIONAL SOCIETY (RED CRESCENT OF AZERBAIJAN)

In 2004, the Azerbaijan Red Crescent Society, supported by the Norwegian Red Cross Society, initiated "Development of Blood donation in Azerbaijan" program, whose aim is to recruit VNRBD donors.⁷

Blood donor recruitment and retention activities are coordinated by district/chapter by the National Society. They are funded by the National Society and small scale events are funded by the AzRC, while expanded via AzRC plus partners.

Volunteers are used for donor recruitment. Recruitment programs include school/university programs and Club 25.

The Red Crescent Society of Azerbaijan:

- does not receive technical assistance or financial support for VNRBD activities from outside the country
- would like to strengthen non-remunerated blood donor recruitment and attract more volunteer blood donors by organizing public/promotion activities, creating Pledges-25, and plan to establish close contacts with blood banks in the country and with other partners within and outside the country
- has not previously been involved at Level A

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Jan 15]. Available from <https://www.cia.gov/library/publications/the-world-factbook/geos/aj.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2018 Jan 15]. Available from: <http://hdr.undp.org/en>

³ Bloomberg. Where Do You Get the Most for Your Health Care Dollar? [Internet] Bloomberg 2014 [cited 2018 Jan 15]. Available from: <https://www.bloomberg.com/graphics/infographics/most-efficient-health-care-around-the-world.html>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Jan 15] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁵ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Jan 15] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁶ Central Intelligence Agency. The World Factbook [Internet] Central Intelligence Agency 2016 [cited 2018 Jan 15] Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁷ Economic Cooperation Organisation. Blood Safety Network. Republic of Azerbaijan [Internet] Economic Cooperation Organisation 2012 [cited 2018 Jan 15] Available from: <http://www.ecobsn.com/main/index.php?lang=en&mode=page&mcode=1&cat=&id=4>

⁸ Economic Cooperation Organisation. Blood Safety Network. Azerbaijan Country Report [Internet] Economic Cooperation Organisation 2015 [cited 2018 Jan 15] Available from: <http://www.ecobsn.com/main/index.php?lang=en&mode=page&mcode=7&cat=&id=166>

BOSNIA AND HERZEGOVINA



Red Cross Society of Bosnia and Herzegovina:

- Level B - involved in the systematic/regular recruitment of voluntary non-remunerated blood donors but with no involvement in blood collection

NATIONAL CONTEXT

| | |
|--|----------------------------------|
| Location | South-eastern Europe |
| Geographical size ranking¹ | 129 th |
| Population (world ranking)¹ | 3.9 million (128 th) |
| Median age¹ | 42.1 |
| Political system¹ | Parliamentary republic |
| GDP per capita (world ranking)¹ | \$11,400 (135 th) |
| HDI Index (world ranking)² | 0.750 - high (81 st) |
| Health Expenditure¹ | 9.6% of GDP |
| Population prevalence hepatitis B³ | Low: <2% |
| Population prevalence hepatitis C⁴ | Low: 1.0 - <1.5% |
| Population prevalence HIV⁵ | <0.1% |



NATIONAL BLOOD PROGRAM

The blood transfusion service in Bosnia and Herzegovina is decentralized and divided into three parts: Federation of Bosnia and Herzegovina, the Republic of Srpska and Brcko District.⁶

The Institute of Transfusion Medicine FBiH is the largest and best equipped transfusion institution.⁶ Four transfusion centres operate in Tuzla, Mostar-East, Mostar –West and Zenica. In addition, there are eight hospital departments for transfusion.⁶

A Law on Blood and Blood Components was implemented in 2010, which regulates the organisation of transfusion services, conditions and quality standards, security and surveillance in the collection, testing, processing, storage, distribution, issuance and use of human blood and blood components in Bosnia and Herzegovina.⁶

Collection, testing, processing, storage, distribution and use of blood and blood components in the Federation, shall be in accordance with EU directives, the WHO recommendations, the recommendations of the CoE, good laboratory, manufacturing and clinical practice, as well as other regulations in this field.⁶

Each year, 70,000 to 80,000 units of blood are collected, with 1.8% of the population donating.⁶

NATIONAL SOCIETY (RED CROSS OF BOSNIA AND HERZEGOVINA)

Blood donor recruitment and retention activities are coordinated nationally by the National Society. They are funded by the blood service, the National Society and by private organisations.

Volunteers are used for donor recruitment. Recruitment programs include school/university programs and corporate programs.

The Red Cross Society of Bosnia and Herzegovina:

- does not receive technical assistance or financial support for VNRBD activities from outside the country
- is planning to expand (no details provided)
- has not previously been involved in blood at Level A

Red Cross Society of Bosnia and Herzegovina 2012 annual report describes the printing and distribution of booklets for blood donors, thank you letters and posters, as well as awards and celebrations for world blood donor day.⁷

The number of people donating blood at or with the help of the Red Cross Society of Bosnia and Herzegovina was 5000 in both 2012 and 2013.⁸

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Jan 15]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/bk.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2018 Jan 15]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Jan 15] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Jan 15] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ World Health Organization: HIV/AIDS country profile 2011: Bosnia and Herzegovina [Internet] World Health Organization 2013 [cited 2018 Jan 15] Available from: <http://www.euro.who.int/en/countries/bosnia-and-herzegovina/publications2/hiv-aids-country-profile-2011-bosnia-and-herzegovina>

⁶ Djozo A, Ljuca A. Blood transfusion service in Bosnia & Herzegovina; 2014 Jul; Bucharest. Presentation available from: http://www.azus.gov.rs/en/wp-content/uploads/2012/10/Country-Presentation_BiH_Aida-Djozo.pdf

⁷ The Red Cross Society of Bosnia and Herzegovina. 2012 Annual Report [Internet] The Red Cross Society of Bosnia and Herzegovina 2016 [cited 2018 Jan 15] Available from: <http://adore.ifrc.org/Download.aspx?FileId=41937>

⁸ The Red Cross Society of Bosnia and Herzegovina. [Internet] The Red Cross Society of Bosnia and Herzegovina 2016 [cited 2018 Jan 15] Available from: <http://data.ifrc.org/fdrs/societies/the-red-cross-society-of-bosnia-and-herzegovina>

CROATIA



Croatian Red Cross:

- Level B - involved in the systematic/regular recruitment of voluntary non-remunerated blood donors but with no involvement in blood collection

NATIONAL CONTEXT

| | |
|--|---------------------------------------|
| Location | South-eastern Europe |
| Geographical size ranking¹ | 128 th |
| Population (world ranking)¹ | 4.2 million (127 th) |
| Median age¹ | 43 |
| Political system¹ | Parliamentary republic |
| GDP per capita (world ranking)¹ | \$24,100 (82 nd) |
| HDI Index (world ranking)² | 0.827 - very high (45 th) |
| Health Expenditure¹ | 7.8% of GDP |
| Population prevalence hepatitis B³ | Low Intermediate: 2-4% |
| Population prevalence hepatitis C⁴ | Low: 1.0-<1.5% |
| Population prevalence HIV⁵ | <0.1% |



NATIONAL BLOOD PROGRAM

The Croatian Institute of Transfusion Medicine (CITM) is responsible for approximately 55% of the national blood supply, with the remaining collections undertaken by eight hospital based blood banks.⁶

The CITM provides a reference center service to the Croatian Ministry of Health.⁷

There are a number of laws which regulate the functioning of blood services in the country and the Ministry of Health (with a transfusion member board of experts) provides oversight.⁸ There are also national standards for blood bank procedures.⁸

A national blood policy was drafted in 2007.⁸ Approximately 180,000 blood units are collected in the country each year, all from voluntary donors.^{8 9}

The Agency for Medicinal Products and Medical Devices is responsible for blood service licensing and the Agency of Accreditation performs laboratory accreditation.⁸

Croatia has a pharmaceutical plant which performs plasma fractionation for the preparation of albumin and immunoglobulins.⁸

NATIONAL SOCIETY (CROATIAN RED CROSS)

The Croatian Red Cross provides education on voluntary blood donation, recruits blood donors and undertakes blood drives, and provides recognition to donors (such as awards).

Blood donor recruitment and retention activities are coordinated nationally by the National Society. They are funded by the government or Ministry of Health.

Paid staff are used for donor recruitment programs, such as corporate programs.

The Croatian Red Cross:

- does not receive technical assistance or financial support for VNRBD activities from outside the country
- has not previously been involved at Level A
- the Croatian Red Cross has indicated that they would like to expand their services to Level A

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2017 Dec 12]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/hr.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2017 Dec 12]. Available from: <http://hdr.undp.org/en/countries/profiles/HRV>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2017 Dec 12] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2017 Dec 12] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ UNAIDS. Country Factsheets Croatia [Internet] UNAIDS 2017 [cited 2017 Dec 12]. Available from: <http://www.unaids.org/en/regionscountries/countries/croatia/>

⁶ Council of Europe, European Directorate for the Quality of Medicines & HealthCare of the Council of Europe (EDQM). Report of the survey on blood supply management organised by the TS003 Working Group in member states and observer states of the Council of Europe [Internet] Council of Europe 2012 [cited 2017 Dec 12] Available from: https://www.edqm.eu/medias/fichiers/report_survey_on_blood_supply_management_2012.pdf

⁷ European Blood Alliance. Membership Croatia [Internet] European Blood Alliance 2017 [cited 2017 Dec 12] Available from: <http://www.europeanbloodalliance.eu/membership/croatia/>

⁸ World Health Organisation Europe. Blood Services in South-Eastern Europe Current Status and Challenges. [Internet] World Health Organisation Europe 2007 [cited 2017 Dec 12]. Available from: http://www.euro.who.int/_data/assets/pdf_file/0014/90401/E90300.pdf

⁹ Croatian Red Cross. Voluntary blood donation [Internet] Croatian Red Cross 2017 [cited 2017 Dec 12] Available from: <http://www2.hck.hr/en/category/-voluntary-blood-donation-61>

CYPRUS



Cyprus Red Cross Society:

- Level B - involved in the systematic/regular recruitment of voluntary non-remunerated blood donors but with no involvement in blood collection

NATIONAL CONTEXT

| | |
|--|---------------------------------------|
| Location | Mediterranean Island |
| Geographical size ranking¹ | 170 th |
| Population (world ranking)¹ | 1.2 million (159 th) |
| Median age¹ | 36.8 |
| Political system¹ | Presidential democracy |
| GDP per capita (world ranking)¹ | \$36,600 (52 nd) |
| HDI Index (world ranking)² | 0.856 - very high (33 rd) |
| Health Expenditure¹ | 7.4% of GDP |
| Population prevalence hepatitis B³ | Low Intermediate: 2-4% |
| Population prevalence hepatitis C⁴ | Very low: 0 - <1.0% |
| Population prevalence HIV⁵ | 0.06% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

In Cyprus, 7-8% of the population are active blood donors, which is almost double the proportion of active blood donors in other European countries.⁶

In Cyprus, 60,000 units of blood are donated and 120,000 blood products are transfused every year.⁷ Cyprus has created a good VNRBD tradition and is able to cover all its blood related needs through VNRBD.⁸

NATIONAL SOCIETY (CYPRUS RED CROSS)

There are six branches in the Cyprus Red Cross Society: Nicosia, Limassol, Famagusta, Larnaca, Paphos and Kyrenia. The Limassol Branch is the most active one in terms of Blood Donation and has a great cooperation with schools/universities. The other Branches have very limited or no involvement at all in Blood donation.

Initiated in 1969, the blood donation scheme of the Limassol Branch continues with great success. The blood is collected in Limassol and Limassol District Schools, and is offered to the Blood Bank of

the General Limassol Hospital. Members and volunteers of the Branch offer to all blood donors a sandwich with a bottle of water after their donation.

Also, certificates and ID card are issued to each donor. Once a year, a prize is given to the school which offered the most blood units. Approximately 4000 units are collected every year for the Blood Bank.

Blood donor recruitment and retention activities are coordinated by district/chapter by the National Society. They are funded by the National Society (Limassol Branch).

Volunteers are used for donor recruitment programs, such as school/university programs.

The Cyprus Red Cross (Limassol Branch):

- receives technical assistance from the Limassol General Hospital
- does not receive financial support for VNRBD activities from outside the country
- is not planning to expand or scale back its current level of involvement in blood-related activities
- has not previously been involved at Level A

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Jan 15]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/cy.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2018 Jan 15]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Jan 15] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Jan 15] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ Central Intelligence Agency. The World Factbook [Internet] Central Intelligence Agency 2016 [cited 2018 Jan 15] Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁶ Evripidiou, S. A leading light in blood donation. Cyprus Mail [Internet] 2014 Jun 13 [cited 2018 Jan 15] Available from: <http://cyprus-mail.com/2014/06/13/a-leading-light-in-blood-donation/>

⁷ Cyprus tops European blood donor table. Cyprus Mail [Internet] 2016 Jun 14 [cited 2018 Jan 15] Available from: <http://cyprus-mail.com/2016/06/14/cyprus-tops-european-blood-donor-table/>

⁸ Cyprus Red Cross Society. What We Do. Blood donation. [Internet] Cyprus Red Cross Society 2018 [cited 2018 Jan 15] Available from : <http://www.redcross.org.cy/en/what-we-do/blood-donation>

CZECHIA (CZECH REPUBLIC)



Czech Red Cross:

- Level B - involved in the systematic/regular recruitment of voluntary non-remunerated blood donors but with no involvement in blood collection

NATIONAL CONTEXT

| | |
|--|---------------------------------------|
| Location | Central Europe |
| Geographical size ranking¹ | 117 th |
| Population (world ranking)¹ | 10.6 million (87 th) |
| Median age¹ | 42.1 |
| Political system¹ | Parliamentary republic |
| GDP per capita (world ranking)¹ | \$35,200 (55 th) |
| HDI Index (world ranking)² | 0.878 - very high (28 th) |
| Health Expenditure¹ | 7.4% of GDP |
| Efficiency of Healthcare³ | 18th of 51 countries |
| Population prevalence hepatitis B⁴ | Low: <2% |
| Population prevalence hepatitis C⁵ | Very low: 0 - <1.0% |
| Population prevalence HIV⁶ | 0.02% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

The Czech Blood Transfusion Service is comprised of 53 blood transfusion centres which collect and process blood into components, the overwhelming majority of these (50) are hospital based with the remaining three being independent centres.⁷ The independent centres support regional hospitals and there are an additional 29 collection and autologous centres located in smaller hospitals.⁷ Blood components may be utilised in the given hospital or distributed to blood banks of other hospitals.⁷

127 blood banks perform cross-matching and issue blood components to clinical wards as either part of a hospital blood establishment, through the blood collection centre of a hospital or as an independent department of the hospital.⁷ Only the smallest hospitals do not have their blood bank.⁷

National coordination is indirect but there are common rules and principals observed and a common system of financing.⁷ The cost of blood components is compensated by a Health Insurance Company to the hospital and the blood establishment charges the hospital by blood components delivered and distributed.⁷

NATIONAL SOCIETY (CZECH RED CROSS)

Czech Red Cross closely cooperates with blood transfusion centres and participates in recruiting and appreciation of blood donors.

The 2014 annual report describes the following projects:

- non-renumerated blood donation – recruit donors, promote and publicise the project
- Student Blood Harvest – aimed at high school and university students
- donate blood only as if – familiarise secondary school students with blood donation
- award ceremonies, concerts and balls⁸

In 2014, 29,291 blood donors received a range of awards for donating blood at least ten times.

In 2013, 270,800 people were donating blood with the help of the Czech Red Cross.⁹

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Jan 16] Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/ez.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2018 Jan 16]. Available from: <http://hdr.undp.org/en>

³ Bloomberg. Where Do You Get the Most for Your Health Care Dollar? [Internet] Bloomberg 2014 [cited 2018 Jan 16]. Available from: <https://www.bloomberg.com/graphics/infographics/most-efficient-health-care-around-the-world.html>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Jan 16] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁵ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Jan 16] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁶ Country Progress Report. The Czech Republic. Global AIDS Response Progress Report 2015 [Internet] 2016 [cited 2018 Jan 16] Available from: <http://www.unaids.org/en/regionscountries/countries/czechrepublic>

⁷ Council of Europe. European Directorate for the Quality of Medicines & HealthCare of the Council of Europe (EDQM). Report of the survey on blood supply management organised by the TS003 Working Group in member states and observer states of the Council of Europe [Internet] Council of Europe 2012 [cited 2018 Jan 25] Available from: https://www.edqm.eu/medias/fichiers/report_survey_on_blood_supply_management_2012.pdf

⁸ Czech Red Cross. 2014 Annual report; [Internet] Czech Red Cross 2016 [cited 2018 Jan 16]. 40 p. Available at: http://data-api.ifrc.org/documents/CZ/AR_Czech%20Republic_2014_English.pdf

⁹ International Federation of Red Cross and Red Crescent Societies. Federation-wide databank and reporting system. Czech Red Cross [Internet] International Federation of Red Cross and Red Crescent Societies 2016 [cited 2018 Jan 16] Available from: <http://data.ifrc.org/fdrs/societies/czech-red-cross>

GEORGIA



Red Cross Society of Georgia:

- Level B - involved in the systematic/regular recruitment of voluntary non-remunerated blood donors but with no involvement in blood collection

NATIONAL CONTEXT

| | |
|--|----------------------------------|
| Location | South-western Asia |
| Geographical size ranking¹ | 122 nd |
| Population (world ranking)¹ | 4.9 million (124 th) |
| Median age¹ | 37.9 |
| Political system¹ | Semi-presidential republic |
| GDP per capita (world ranking)¹ | \$10,600 (137 th) |
| HDI Index (world ranking)² | 0.769 - high (70 th) |
| Health Expenditure¹ | 7.4% of GDP |
| Population prevalence hepatitis B³ | Low intermediate: 2-4% |
| Population prevalence hepatitis C⁴ | High: ≥5% |
| Population prevalence HIV⁵ | 0.5% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

Prior to the early 90's when Georgia was part of the Soviet system, voluntary blood donations were collected by regional blood centres and some hospital-based centres led by the National Blood Transfusion Centre in Georgia's capital Tbilisi.⁶ As part of the government's privatization plan, between 2007 and 2010 the standalone blood centres of Georgia (including the National Centre, which is now the Georgian Central Blood Bank) were purchased by private firms, these private firms mostly paid donors for blood donations.⁶ By 2012, just 10% of blood was collected from VNRBD donors with the remainder from paid donors, and most of the collected blood was from six facilities in Tbilisi.⁶

The private centres collect blood based on hospital orders and both the centres and hospitals only have small reserves, RBCs and platelets are often not available in emergencies.⁶ Red Cross volunteers are called on to donate during blood shortages.⁷

Blood policy and regulations are managed by the National Centre for Disease Control and Public Health under Georgia's Ministry of Labour, Health and Social Affairs, however, there is a lack of compliance inspections, formal regulations or approval of blood products.⁶

The main products issued are whole blood and red cells, although implementation of apheresis collections in two blood centres in Georgia was planning to start in 2014.⁶

Four cases of transfusion-associated HIV transmission were discovered in 2012, but the date of the transfusions is uncertain.⁶

NATIONAL SOCIETY (RED CROSS OF GEORGIA)

Blood donor recruitment and retention activities are coordinated nationally by the National Society. They are funded by the IFRC and participating National Societies – bilaterally by the Norwegian Red Cross blood program.

Since 2009, a VNRBD project has been running in Georgia with the support of the Norwegian Red Cross with the aim of increasing VNRBD donations amongst youth aged 18-30.⁸ In 2015, workshops reached 594 volunteers and 3022 young people.⁸ 571 young people, ready to donate blood, were mobilized, of those, 321 people (including 35 Red Cross Society of Georgia volunteers) donated blood in 2015.⁸

Both paid staff and volunteers are used for donor recruitment programs, such as school/university programs and corporate programs.

The Red Cross Society of Georgia:

- has not previously been involved in blood activities at Level A
- is planning to expand its current level of involvement in blood-related activities:
 - blood donor recruitment activities being implemented in six of the 33 local branches
 - additional financial support - it plans to widen the coverage and involve as many branches as possible to raise the proportion of VNRBD

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Jan 16]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/gg.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2018 Jan 16]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Jan 16] <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Jan 16] <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Jan 16]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁶ MacPherson J. Blood Collections & Transfusion A Global Perspective 2014. Connecticut: The Marketing Research Bureau Inc: 2014. 203p.

⁷ Anca A. Georgia: Red Cross volunteers donate blood to save mothers. International Federation of Red Cross and Red Crescent Societies [Internet] 2014 Sept 3 [cited 2018 Jan 16]. Available from: <http://www.ifrc.org/en/news-and-media/news-stories/europe-central-asia/georgia/world-blood-donation-day-66970/>

⁸ Georgia Red Cross Society. Annual Report 2015. [Internet] Georgia Red Cross Society 2015 [cited 2018 Jan 16]. Available from: <http://www.redcross.ge/ge/component/k2/item/336>

HUNGARY



Hungarian Red Cross:

- Level B - involved in the systematic/regular recruitment of voluntary non-remunerated blood donors but with no involvement in blood collection

NATIONAL CONTEXT

| | |
|--|----------------------------------|
| Location | Central Europe |
| Geographical size ranking¹ | 111 th |
| Population (world ranking)¹ | 9.9 million (92 nd) |
| Median age¹ | 42.3 |
| Political system¹ | Parliamentary republic |
| GDP per capita (world ranking)¹ | \$28,900 (69 th) |
| HDI Index (world ranking)² | 0.769 - high (70 th) |
| Health Expenditure¹ | 7.4% of GDP |
| Efficiency of Healthcare³ | 38 th of 51 countries |
| Population prevalence hepatitis B⁴ | Low: <2% |
| Population prevalence hepatitis C⁵ | Very low: 0 - <1.0% |
| Population prevalence HIV⁶ | 0.1% |



NATIONAL BLOOD PROGRAM

All of Hungary's blood and stem cell services are provided by the Hungarian National Blood Transfusion Service (OVSZ), founded in 2000.^{7,8} Since 2007 the OVSZ has also provided all organ procurement processes, in accordance with Government Decree.^{7,8} The OVSZ operates under the direction of the Hungarian Ministry of Health's National Haematology and Blood Transfusion Institute, which was established in 2000.⁹

All regional activity is coordinated by the national centre in Budapest⁸, which along with five regional blood centres with 20 linked local centres comprises the blood operations of the OVSZ.⁹

The OVSZ and the Hungarian Red Cross work very closely, with the Red Cross having recruited voluntary donors since 1959⁸. Around 400,000 blood donations take place annually – an average of 1.6 blood donations for each active donor.¹⁰ All blood donors are unpaid.⁹

In 2012, approximately 71,500 litres of plasma was sent for fractionation by Human Bioplazma.⁹

NATIONAL SOCIETY (HUNGARIAN RED CROSS)

Blood donor recruitment and retention activities are coordinated nationally by the National Society. They are funded by the blood service.

Both paid staff and volunteers are used for donor recruitment programs, such as school/university programs.

The Hungarian Red Cross:

- does not receive technical assistance or financial support for VNRBD activities from outside the country
- is not planning to expand or scale back its current level of involvement in blood-related activities
- has not previously been involved at Level A

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Jan 16]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/hu.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2018 Jan 16]. Available from: <http://hdr.undp.org/en>

³ Bloomberg. Where Do You Get the Most for Your Health Care Dollar? [Internet] Bloomberg 2014 [cited 2018 Jan 16]. Available from: <https://www.bloomberg.com/graphics/infographics/most-efficient-health-care-around-the-world.html>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Jan 16]. Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁵ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Jan 16]. Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁶ World Health Organization: World Health Statistics 2010 [Internet] World Health Organization 2010 [cited 2018 Jan 16]. Available from: http://www.who.int/gho/publications/world_health_statistics/EN_WHS10_Full.pdf

⁷ Hungarian National Blood Transfusion Service. Hungarian National Blood Transfusion Service [Internet] 2012 Jun 13 [cited 2018 Feb 19]. Available from: <http://www.hnbts.hu/>

⁸ Hungarian National Blood Transfusion Service. Blood Donation "Giving is Good" [Internet] Hungarian National Blood Transfusion Service 2012 [cited 2018 Feb 19]. Available from: http://www.ovsz.hu/sites/ovsz.hu/files/ovsz_dokumentum/csatolmanyok/the_hnbts_has_three_main_missions/hnbts_introduction.pdf

⁹ MacPherson J. Blood Collections & Transfusion A Global Perspective 2014. Connecticut: The Marketing Research Bureau Inc: 2014. 203p.

¹⁰ European Blood Alliance. Membership. Hungary. [Internet] European Blood Alliance 2018 [cited 2018 Jan 16]. Available from: <http://www.europeanbloodalliance.eu/membership/hungary/>

KAZAKHSTAN



Kazakh Red Crescent:

- Level B - involved in the systematic/regular recruitment of voluntary non-remunerated blood donors but with no involvement in blood collection

NATIONAL CONTEXT

| | |
|--|----------------------------------|
| Location | Central Asia |
| Geographical size ranking¹ | 10 th |
| Population (world ranking)¹ | 18.5 million (62 nd) |
| Median age¹ | 30.6 |
| Political system¹ | Presidential republic |
| GDP per capita (world ranking)¹ | \$26,100 (77 th) |
| HDI Index (world ranking)² | 0.794 - high (56 th) |
| Health Expenditure¹ | 4.4% of GDP |
| Population prevalence hepatitis B³ | High Intermediate: 5-7% |
| Population prevalence hepatitis C⁴ | High moderate: 2.0% - <5.0% |
| Population prevalence HIV⁵ | 0.20% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

Blood services in Kazakhstan are very fragmented and mostly hospital based with no national coordination.⁶ There are 23 blood centres: Scientific Production Centre of Blood Transfusion in Astana, Republican Blood Centre in Almaty, 14 regional and 7 city centres, as well as 21 blood transfusion units, each working within a defined geographical area.⁷

Ministries of Health regulate all blood service activities, but there is a lack of adequate laws, regulations, policies, and strategies on blood services.⁶ Blood centres provide medical facilities with blood and blood products.⁶

Blood safety is a concern in Kazakhstan, in a region in Southern Kazakhstan, 143 children aged one month to three years were diagnosed with HIV and the transfusion of blood was identified as a significant risk factor for HIV transmission.⁶

In 2009, a total of 280,861 units of blood were collected in Kazakhstan, of which 79% were whole blood donations and 21% plasmapheresis donations.⁶

During 2000-2011, the proportion of VNRBD donations decreased from 97.6% in 2000 to 77.9% in 2011.⁷ In the same period, the proportion of VNRBD plasma donations decreased from 60.1% to 29.8%.⁷

Whilst the average number of blood donations per 1,000 population reduced from 19.8 (2000) to 16.8 (2011), plasma donations increased from 1.4 to 3.1 in the same period.⁷

NATIONAL SOCIETY (KAZAKH RED CRESCENT)

Blood donor recruitment and retention activities are coordinated nationally by the National Society. They are funded by the National Society and participating National Societies.

Volunteers are used for donor recruitment programs, such as school/university programs, Club 25 and corporate programs.

The Kazakh Red Crescent Society:

- receives technical assistance from CDC
- does not receive financial support for VNRBD activities from outside the country
- is planning to expand its current level of involvement in blood-related activities by expanding promotion of VNRBD into all branches
- has not previously been involved at Level A

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Jan 16]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/kz.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2018 Jan 16]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Jan 16] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Jan 16] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Jan 16]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁶ Economic Cooperation Organization. Blood Safety Network. Kazakhstan. [Internet] Economic Cooperation Organization 2015 [cited 2018 Jan 16]. Available from: <http://www.ecobsn.com/Library/kazakh.pdf>

⁷ Igissinov N, Kulmirzayeva D, Magzumova R, Sibinga D, Alpeissova S. Trends in blood and plasma donations in Kazakhstan: 12-years retrospective analysis. Iran Journal of Public Health. 2014 May; 43(5): 601-609. Available from: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4449408/>

LATVIA



Latvian Red Cross:

- Level B - involved in the systematic/regular recruitment of voluntary non-remunerated blood donors but with no involvement in blood collection

NATIONAL CONTEXT

| | |
|--|---------------------------------------|
| Location | Eastern Europe |
| Geographical size ranking¹ | 125 th |
| Population (world ranking)¹ | 1.9 million (149 th) |
| Median age¹ | 43.6 |
| Political system¹ | Parliamentary republic |
| GDP per capita (world ranking)¹ | \$27,300 (73 th) |
| HDI Index (world ranking)² | 0.830 - very high (44 th) |
| Health Expenditure¹ | 5.9% of GDP |
| Population prevalence hepatitis B³ | No current data available |
| Population prevalence hepatitis C⁴ | High moderate: 2.0 - <5.0% |
| Population prevalence HIV⁵ | 0.8% among adults aged 15 to 49. |



NATIONAL BLOOD PROGRAM

Administration and coordination of the Latvian Blood Donor Service is from the State Blood Centre in Riga.⁶ There are eight blood establishments and 52 hospital blood banks which must comply with legislation and mutual agreements, and are certified by the State Agency of Medicine.⁶

All Latvian patients receive blood components and plasma free of charge.⁶

The functions of the State Blood Centre are to:

- promote human blood and blood components for Latvian self-sufficiency
- ensure that blood and blood components are free donation
- protect public health and prevent the transmission of infectious diseases⁷

In 2014, the blood centre produced:

- 33,346 units of packed red cells
- 33,346 units of fresh frozen plasma
- 4,465 platelets
- 6631 cryoprecipitate⁷

NATIONAL SOCIETY (LATVIAN RED CROSS)

The purpose of the Latvian Red Cross is to promote voluntary non-remunerated blood donation in Latvia, as well as recruiting donors to provide blood for those who need it.⁸ In 2013, 11,653 people were donating blood at or with the help of the Latvian Red Cross.⁹

Blood donor recruitment and retention activities are coordinated both nationally and by district/chapter by the National Society. They are funded by the blood service, the National Society and by government / Ministry of Health.

Both paid staff and volunteers are used for donor recruitment programs, such as school/university programs and corporate programs.

The Latvian Red Cross:

- does not receive technical assistance for VNRBD activities from outside the country
- receives financial support for VNRBD activities
- is not planning to expand or scale back its current level of involvement in blood-related activities

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Jan 16]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/lg.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2018 Jan 16]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Jan 16]. Available from <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Jan 16]. Available from <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ World Health Organization: World Health Statistics 2010 [Internet] World Health Organization 2010 [cited 2018 Jan 16]. Available from: http://www.who.int/gho/publications/world_health_statistics/EN_WHS10_Full.pdf

⁶ European Blood Alliance. Membership. Latvia [Internet] European Blood Alliance 2018 [cited 2018 Jan 16]. Available from: <http://www.europeanbloodalliance.eu/membership/latvia/>

⁷ Valsts asinsdonoru centra. 2014 Gada Publiskais Pārskats [2014 annual report of the Latvian National Blood Service - in Latvian] [cited 2018 Jan 16]. Available from: https://www.vadc.lv/data/gada_parskati/vadc-publiskais-parskats-2014.pdf

⁸ Latvijas Sarkanais Krusts [Latvian Red Cross]. Blood donors movement. [Internet] Latvijas Sarkanais Krusts 2018 [cited 2018 Jan 16]. Available from: <http://www.redcross.lv/en/what-we-do-2/health-promotion/blood-donors-movement/>

⁹ International Federation of Red Cross and Red Crescent Societies. Federation-wide databank and reporting system. Latvian Red Cross [Internet] International Federation of Red Cross and Red Crescent Societies 2016 [cited 2018 Jan 16] Available from: <http://data.ifrc.org/fdrs/societies/latvian-red-cross>

LIECHTENSTEIN



Liechtenstein Red Cross:

- Level B - involved in the systematic/regular recruitment of voluntary non-remunerated blood donors but with no involvement in blood collection

NATIONAL CONTEXT

| | |
|--|---------------------------------------|
| Location | Central Europe |
| Geographical size ranking¹ | 219 th |
| Population (world ranking)¹ | 38,244 (213 th) |
| Median age¹ | 43.2 |
| Political system¹ | Constitutional monarchy |
| GDP per capita (world ranking)¹ | \$139,100 (1 st) |
| HDI Index (world ranking)² | 0.912 - very high (15 th) |
| Health Expenditure¹ | n/a |
| Population prevalence hepatitis B³ | Low: <2.0% |
| Population prevalence hepatitis C⁴ | Very low: <1.0% |
| Population prevalence HIV | N/A |



NATIONAL BLOOD PROGRAM

In a report on trends and observations on the collection, testing and use of blood and blood components in Europe, it states that no data could be obtained for Liechtenstein as blood transfusion activities are run by operators acting under the responsibility of control authorities from neighbouring countries. ⁵

Currently there are about seven blood drives per year. Production, testing and distribution are the responsibility of the Austrian Red Cross. There are only about 2000 donations a year and Liechtenstein Red Cross is involved in 50% of them. The other 50% are made in a local hospital with no Red Cross involvement.

NATIONAL SOCIETY (LIECHTENSTEIN RED CROSS)

The Liechtenstein Red Cross works in cooperation with the Blood Transfusion Service of the Austrian Red Cross. ⁶ The Liechtenstein Red Cross is involved in motivation and recruitment. Additionally they help at the mobile drives but they are not responsible for the collection, production and distribution.

Currently there are seven annual blood donation drives annually in Liechtenstein collecting around 500 litres of blood. These are organised by the local Samaritan clubs in cooperation with the Austrian Red Cross.⁷

In 2013, 974 people were donating blood at or with the help of the Liechtenstein Red Cross.⁸

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Jan 16]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/ls.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2018 Jan 16]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Jan 16] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Jan 16] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ Janssen M.P, Behr-Gross M.-E. Trends and observations on the collection, testing and use of blood and blood components in Europe. 2001-2008 report. Council of Europe. [cited 2018 Jan 16]. 92 p. Available from: https://www.edqm.eu/medias/fichiers/trends_and_observations_on_the_collection_testing_and_use_of_blood_and_blood_components_in_europe.pdf

⁶ Liechtensteinisches Rotes Kreuz. Jahresbericht über das Geschäftsjahr 2014 des Liechtensteinischen Roten Kreuzes [2014 Annual report in German] [cited 2018 Jan 16]. Available from: http://data-api.ifrc.org/documents/LI/AR_Liechtenstein_2014_German.pdf or <http://www.rotekreuz.li/>

⁷ Liechtensteinisches Rotes Kreuz. Blutspenden.[Liechtenstein Red Cross. Blood Donations] [Internet] Liechtensteinisches Rotes Kreuz [cited 2018 Jan 16]. Available from: <https://www.rotekreuz.li/blutspenden/>

⁸ International Federation of Red Cross and Red Crescent Societies. Federation-wide databank and reporting system. Liechtenstein Red Cross [Internet] International Federation of Red Cross and Red Crescent Societies 2016 [cited 2018 Jan 16]. Available from: <http://data.ifrc.org/fdrs/societies/liechtenstein-red-cross>

MACEDONIA



Red Cross of the Former Yugoslav Republic of Macedonia:

- Level B - involved in the systematic/regular recruitment of voluntary non-remunerated blood donors but with no involvement in blood collection

NATIONAL CONTEXT

| | |
|--|----------------------------------|
| Location | South-eastern Europe |
| Geographical size ranking¹ | 150 th |
| Population (world ranking)¹ | 2.1 million (145 th) |
| Median age¹ | 37.9 |
| Political system¹ | Parliamentary republic |
| GDP per capita (world ranking)¹ | \$15,200 (109 th) |
| HDI Index (world ranking)² | 0.748 - high (82 nd) |
| Health Expenditure¹ | 6.5% of GDP |
| Population prevalence hepatitis B³ | No data |
| Population prevalence hepatitis C⁴ | Low: 1.0%-<1.5%% |
| Population prevalence HIV⁵ | <0.1% |



NATIONAL BLOOD PROGRAM

The National Institute for Transfusion Medicine (NITM) is the major organisation in Macedonia responsible for transfusion service.⁶ The NITM comprises three regional centres (in Stip, Tetovo and Bitola) and services in 18 hospitals.⁷ NITM services have been nationally coordinated since 2011, prior to this they were state based.⁷

The NITM is the responsibility of the Macedonian Ministry of Health and is financed by a Health Insurance Fund, state budget and a fee for service to hospitals.⁸

A number of laws regulate blood service activities, the National Blood Policy was developed by the National Commission for blood transfusion.⁸

In 2013/2014 the European Union IPA project “Strengthening the blood safety system” supported the implementation of a quality system for the NITM and national guidelines for blood safety as well as strengthening the capacity of health professionals.⁶

In 2004, 54,758 units of whole blood and 170 apheresis platelets were collected.⁸

NATIONAL SOCIETY (MACEDONIAN RED CROSS)

The Macedonian Red Cross are the main partner of the NITM for blood donor recruitment.⁸

Blood donation in Macedonia is based on the principles of VNRBD.⁹

Blood donor recruitment and retention activities are coordinated nationally by the National Society. They are funded by the National Society and the government or Ministry of Health.

Volunteers are used for donor recruitment programs, such as school/university programs, Club 25, corporate programs and other.

The Macedonian Red Cross:

- does not receive technical assistance or financial support for VNRBD activities from outside the country
- is not planning to expand or scale back its current level of involvement in blood-related activities
- has not previously been involved at Level A

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2017 Dec 12]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/mk.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2017 Dec 12]. Available from: <http://hdr.undp.org/en/countries>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2017 Dec 12] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2017 Dec 12] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ UNAIDS. Country Factsheets Macedonia [Internet] UNAIDS 2017 [cited 2017 Dec 12]. Available from: <http://www.unaids.org/en/regionscountries/countries/theformeryugoslavrepublicofmacedonia>

⁶ Grubovic RM. Et al. Strengthening of the Blood Safety System in the National Blood Transfusion Service – Implementation of the European Union IPA Project – at the Institute for Transfusion Medicine of the Republic of Macedonia. Macedonian Journal of Medical Sciences. 2014 Sep 15; 7(3):506-509. <http://dx.doi.org/10.3889/MJMS.1857-5773.2014.0423>

⁷ National Institute of Transfusion Medicine, History – Blood donations in Macedonia through times [Internet] National Institute of Transfusion Medicine 2016 [cited 2017 December 14] Available from: <http://itm.org.mk/en/%D0%B8%D1%81%D1%82%D0%BE%D1%80%D0%B8%D1%98%D0%B0%D1%82/>

⁸ World Health Organisation Europe. Blood Services in South-Eastern Europe Current Status and Challenges. [Internet] World Health Organisation 2007 [cited 2017 Dec 14]. Available from: http://www.euro.who.int/_data/assets/pdf_file/0014/90401/E90300.pdf

⁹ Macedonian Red Cross. Blood donation [Internet] Macedonian Red Cross 2016 [cited 2017 Dec 12] Available from: <http://ckrm.org.mk/en/d0-ba-d1-80-d0-b2-d0-be-d0-b4-d0-b0-d1-80-d0-b8-d1-82-d0-b5-d0-bb-d1-81-d1-82-d0-b2-d0-be/>

MONTENEGRO



Red Cross of Montenegro:

- Level B - involved in the systematic/regular recruitment of voluntary non-remunerated blood donors but with no involvement in blood collection

NATIONAL CONTEXT

| | |
|--|---|
| Location | South-eastern Europe |
| Geographical size ranking¹ | 162 nd |
| Population (world ranking)¹ | 642,550 (168 th) |
| Median age¹ | 40.7 |
| Political system¹ | Parliamentary republic |
| GDP per capita (world ranking)¹ | \$17,400 (100 th) |
| HDI Index (world ranking)² | 0.807 - very high (48 th) |
| Health Expenditure¹ | 6.4% of GDP |
| Population prevalence hepatitis B³ | Not readily available |
| Population prevalence hepatitis C⁴ | 2.4% in Central Europe (including Montenegro) |
| Population prevalence HIV⁵ | 0.02% |



NATIONAL BLOOD PROGRAM

Montenegro has recently received support from the European Union (EU) and the World Health Organisation (WHO) to introduce and apply European blood transfusion standards in Montenegro.⁶ The new Law on Blood supply was adopted by Parliament on 9 January 2014, and entered into force on 17 January 2014.⁷

WHO has also provided support to develop:

- a communication strategy for donor promotion
- a plan for human resources in transfusion medicine for the period 2013-2022
- occupational standards for staff
- a quality model and manual for the blood service⁷

The EU provided funds to provide laboratory equipment (including consumables), furniture, IT equipment and technical support for the new Blood Transfusion Institute in Montenegro which was officially opened in September 2015.⁸

In Montenegro, blood donors make about 2.7% of the total population – which is only two thirds of the required level of 4%.⁹

In 2014 the proportion of VNRBD donors in Montenegro was just 32%.¹⁰

NATIONAL SOCIETY (RED CROSS OF MONTENEGRO)

Red Cross of Montenegro is the organization who is responsible for motivation, promotion and raising awareness activities in the area of Voluntary Blood Donation.

Blood donor recruitment and retention activities are coordinated nationally and by district/chapter by the National Society. They are funded by the National Society and the government or Ministry of Health.

Both volunteers and paid staff are used for donor recruitment programs, such as school/university programs, Club 25 and VBD clubs which are under the Red Cross Branches.

The Red Cross of Montenegro:

- does not receive technical assistance or financial support for VNRBD activities from outside the country
- is planning to expand its current level of involvement in blood-related activities by raising awareness activities and promotion of VBD
- has not previously been involved at Level A

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Jan 16]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/mj.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2018 Jan 16]. Available from: <http://hdr.undp.org/en>

³ Schweitzer A, Horn J, Mikolajczyk R, Krause G, Ott J. Estimations of worldwide prevalence of chronic hepatitis B virus infection: a systematic review of data published between 1965 and 2013. The Lancet. 2015; 386(10003): 1546-1555. Available from: <http://www.sciencedirect.com/science/article/pii/S014067361561412X?via%3Dihub>

⁴ Hanafiah K, Groeger J, Flaxman A and Wiersma S. Global epidemiology of hepatitis C virus infection. New estimates of age-specific antibody to HCV seroprevalance. Hepatology. 2013; 57(4): 1333-1342. Available from: <http://onlinelibrary.wiley.com/doi/10.1002/hep.26141/full>

⁵ UNAIDS. Country progress report. Montenegro [Internet] UNAIDS 2014 [cited 2018 Jan 16]. Available from: http://www.unaids.org/sites/default/files/country/documents/file_94668_es..pdf

⁶ World Health Organization Europe. Promotion of voluntary blood donation in Montenegro. [Internet] World Health Organization 2014 [cited 2018 Jan 16]. Available from: <http://www.euro.who.int/en/health-topics/Health-systems/blood-safety/news/news/2014/12/promotion-of-voluntary-blood-donation-in-montenegro>

⁷ World Health Organization. Regional Office for Europe. Country work. [Internet] World Health Organization 2018 [cited 2018 Jan 16]. Available from: <http://www.euro.who.int/en/health-topics/Health-systems/blood-safety/country-work>

⁸ EU Director Paquet and PM Djukanovic open the Blood Transfusion Institute of Montenegro. European Union. Delegation of the European Union to Montenegro. [Internet]. 2015 Sept 14 [cited 2018 Jan 16]. Available from: <http://www.delme.ec.europa.eu/code/navigate.php?id=3179>

⁹ Societe Generale Montenegro. Blood donor activity. Humanitarian action of employees of Societe Generale Banka Montenegro. [Internet] Societe Generale Montenegro 2015 [cited 2018 Jan 16]. Available from: <http://www.societegenerale.me/en/novosti/davanjekrvi>

¹⁰ World Health Organization Europe. Progress towards improved blood transfusion system in Montenegro [Internet] World Health Organization 2014 [cited 2018 Jan 16]. Available from: <http://www.euro.who.int/en/health-topics/Health-systems/blood-safety/news/news/2014/08/progress-towards-improved-blood-transfusion-system-in-montenegro>

NORWAY



Norwegian Red Cross:

- Level B - involved in the systematic/regular recruitment of voluntary non-remunerated blood donors but with no involvement in blood collection

NATIONAL CONTEXT

| | |
|--|---------------------------------------|
| Location | Northern Europe |
| Geographical size ranking¹ | 69 th |
| Population (world ranking)¹ | 5.3 million (120 th) |
| Median age¹ | 39.2 |
| Political system¹ | Parliamentary constitutional monarchy |
| GDP per capita (world ranking)¹ | \$70,600 (12 th) |
| HDI Index (world ranking)² | 0.949 - very high (1 st) |
| Health Expenditure¹ | 9.7% of GDP |
| Efficiency of Healthcare³ | 11 th of 51 countries |
| Population prevalence hepatitis B⁴ | Low: <2% |
| Population prevalence hepatitis C⁵ | Very low: <1.0% |
| Population prevalence HIV⁶ | 0.15% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

All blood banks in Norway are owned by regional health trusts and incorporated with the hospitals.⁷ Three quarters of blood is collected by 14 blood banks, despite the fact that there are approximately 50 blood centres and the 14 larger blood banks provide plasma to a commercial company for fractionation.⁷

Blood donors are defined under national legislation as patients, and blood and blood products are defined as drugs.⁸ The competent authority for blood, tissue, organs, cells and medical devices is the Norwegian Directorate of Health (under the Ministry of Health), however they are not the authority for drugs.⁸

In 2012, just over 100,000 donors contributed to 213,031 blood donations (all leukoreduced), 14,447 by apheresis, in addition, a small amount of blood was collected at private hospitals.⁸

Donors are tested pre-donation for disease markers which reduces the rate of donations testing positive.⁸

NATIONAL SOCIETY (NORWEGIAN RED CROSS)

The majority (80%) of blood donors are recruited by the Norwegian Red Cross.⁸

Blood donor recruitment and retention activities are coordinated nationally by the National Society. They are funded by an earlier provision or fund.

Volunteers and one manager (paid by the National Society via the provision or fund mentioned above) are used for donor recruitment programs. Recruitment programs include stands arranged by local Red Cross branches. The National Society operates social media (Facebook) and internet.

The Norway Red Cross:

- does not receive technical assistance or financial support for VNRBD activities from outside the country. On two occasions, support has been received from national governments to acquire more blood donors
- has previously been involved at Level A blood activities - the Red Cross provided Norway's largest blood bank until 1996 when it was transferred to Oslo University Hospital, and the earmarked funds are now being used for activities currently provided

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Jan 16]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/no.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2018 Jan 16]. Available from: <http://hdr.undp.org/en>

³ Bloomberg. Where Do You Get the Most for Your Health Care Dollar? [Internet] Bloomberg 2014 [cited 2018 Jan 16]. Available from: <https://www.bloomberg.com/graphics/infographics/most-efficient-health-care-around-the-world.html>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Jan 16] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁵ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Jan 16] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁶ Index Mundi. Norway HIV/AIDS – adult prevalence rate.[Internet] Index Mundi 2014 [cited 2018 Jan 16]. Available from: https://www.indexmundi.com/norway/hiv_aids_adult_prevalence_rate.html

⁷ European Blood Alliance. Norway [Internet] European Blood Alliance 2018 [cited 2018 Jan 16]. Available from: <http://www.europeanbloodalliance.eu/membership/norway/>

⁸ MacPherson J. Blood Collections & Transfusion A Global Perspective 2014. Connecticut: The Marketing Research Bureau Inc: 2014. 203p.

POLAND



Polish Red Cross:

- Level B - involved in the systematic/regular recruitment of voluntary non-remunerated blood donors but with no involvement in blood collection

NATIONAL CONTEXT

| | |
|--|---------------------------------------|
| Location | Central Europe |
| Geographical size ranking¹ | 71 st |
| Population (world ranking)¹ | 38.5 million (36 th) |
| Median age¹ | 40.7 |
| Political system¹ | Parliamentary republic |
| GDP per capita (world ranking)¹ | \$29,300 (66 th) |
| HDI Index (world ranking)² | 0.855 - very high (36 th) |
| Health Expenditure¹ | 6.4% of GDP |
| Efficiency of Healthcare³ | 21 st of 51 countries |
| Population prevalence hepatitis B⁴ | Low: <2% |
| Population prevalence hepatitis C⁵ | Very low: 0 - <1.0% |
| Population prevalence HIV⁶ | 0.07% among adults aged 15 to 49 |



NATIONAL BLOOD SYSTEM

In Poland, the National Blood Centre in Warsaw helps coordinate activities among the 21 regional blood centres which manage over 150 collection sites.⁷ Blood centres are also operated by the Ministry of Interior and the military, however these represent less than 5% of total blood collected in Poland.⁷

Whilst all blood donations are VNRBD, incentives are provided via income tax deductions for each litre of whole blood and plasma donated.⁷

In 2012, the regional centres issued 1,089,418 RBCs to hospitals, produced over 300,000 units of platelets and more than 200,000 litres of FFP.⁷

NATIONAL SOCIETY (POLISH RED CROSS)

Blood donor recruitment and retention activities are coordinated nationally by the National Society. They are funded by the National Society and private organisations.

Both paid staff and volunteers are used for donor recruitment programs – corporate programs.

The Polish Red Cross:

- does not receive technical assistance from outside the country
- receives financial support for VNRBD activities
- is not planning to expand or scale back its current level of involvement in blood related activities
- was previously involved at Level A, however stopped collecting blood in 1958

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Jan 17]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/pl.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2018 Jan 17]. Available from: <http://hdr.undp.org/en>

³ Bloomberg. Where Do You Get the Most for Your Health Care Dollar? [Internet] Bloomberg 2014 [cited 2018 Jan 17]. Available from: <https://www.bloomberg.com/graphics/infographics/most-efficient-health-care-around-the-world.html>

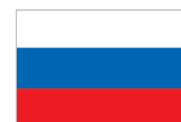
⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Jan 17] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁵ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Jan 17] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁶ Index Mundi. Poland HIV/AIDS – adult prevalence rate.[Internet] Index Mundi 2014 [cited 2018 Jan 17]. Available from: https://www.indexmundi.com/poland/hiv_aids_adult_prevalence_rate.html

⁷ MacPherson J. Blood Collections & Transfusion A Global Perspective 2014. Connecticut: The Marketing Research Bureau Inc: 2014. 203p

RUSSIA



Russian Red Cross Society:

- Level B - involved in the systematic/regular recruitment of voluntary non-remunerated blood donors but with no involvement in blood collection

NATIONAL CONTEXT

| | |
|--|----------------------------------|
| Location | North Asia |
| Geographical size ranking¹ | 1 st |
| Population (world ranking)¹ | 142 million (9 th) |
| Median age¹ | 39.6 |
| Political system¹ | Semi-presidential federation |
| GDP per capita (world ranking)¹ | \$27,900 (71 st) |
| HDI Index (world ranking)² | 0.804 - high (49 th) |
| Health Expenditure¹ | 7.1% of GDP |
| Efficiency of Healthcare³ | 51st of 51 countries |
| Population prevalence hepatitis B⁴ | Low Intermediate: 2-4% |
| Population prevalence hepatitis C⁵ | High moderate: 2.0 - <5.0% |
| Population prevalence HIV⁶ | 1% |



NATIONAL BLOOD PROGRAM

In 2007 there were 181 publically-funded blood centres in Russia, however this number decreased to 130 in 2012.⁷ Hospital-based transfusion departments (blood banks) also decreased in this time and numbered 386 in 2012.⁷ Hospitals receive blood free of charge.⁷

In 2012, approximately 4.15 million whole blood donations were made with roughly 82% of whole blood donors unpaid.⁷ The ratio of donors in Russia is only 14-17 per 100,000.⁸

In 2013, the law on “donation of blood and blood components” came into force, which prohibited donating large amounts of blood.⁹ The law also limited payment for donations to rare blood components and blood groups, and specified the exclusive function of the Russian Red Cross in the promotion of voluntary blood donation.⁸ The new law led to fears of a shortage of blood.⁹

Despite the law outlining that donor benefits be restricted to intangible benefits⁹, there are several incentives still offered to donors in Russia:

- they may be offered two days off work for donating⁷
- receive an award and 9,959 roubles (approximately 142 EUR) once they reach 40 whole blood or 60 plasma donations⁹
- many plasma donors receive payment of approximately 1,128 roubles per donation⁷

In 2008 Russia lifted the deferral of men having sex with men, however with a rise in the HIV epidemic in Russia the rate of HIV positive donors increased by over 50% which brought questions over whether the ban should be reinstated.⁷

NATIONAL SOCIETY (RUSSIAN RED CROSS)

The Global Mapping survey was completed for both Levels B and C. It appears that some branches act at Level B and others at Level C.

Only 24 of the Russian Red Cross regional branches are working in the field of non-remunerated blood donation. These branches provide an information campaign on blood donation and some of them are involved in the recruitment of donors.

Blood donor recruitment and retention activities are coordinated by district/chapter by the National Society. Some branches are funded by the blood service.

Volunteers are used for donor recruitment programs, such as Club 25.

Financial support was provided by the Federation for the implementation of the club 25 project at the St Petersburg branch. All other branches of the RRC are working without financial support.

The Russian Red Cross Society has not previously been involved in blood at Level A and is not planning to expand or scale back its current level of involvement in blood related activities.

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Jan 17]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/rs.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2018 Jan 17]. Available from: <http://hdr.undp.org/en>

³ Bloomberg. Where Do You Get the Most for Your Health Care Dollar? [Internet] Bloomberg 2014 [cited 2018 Jan 17]. Available from: <https://www.bloomberg.com/graphics/infographics/most-efficient-health-care-around-the-world.html>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Jan 17] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁵ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Jan 17] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁶ Russian HIV-AIDS epidemic worsening under Kremlin policies, says expert. The Guardian [Internet] 2015 May 15 [cited 2018 Jan 17]. Available from: <http://www.theguardian.com/world/2015/may/15/russian-hiv-aids-epidemic-worsening-under-kremlin-policies-says-expert>

⁷ MacPherson J. Blood Collections & Transfusion A Global Perspective 2014. Connecticut: The Marketing Research Bureau Inc: 2014. 203p.

⁸ Russia: New law puts Red Cross centre stage in blood provision. International Federation of Red Cross and Red Crescent Societies [Internet] 2013 Jun 13 [cited 2018 Jan 17]. Available from: <http://www.ifrc.org/en/what-we-do/health/blood-services/world-blood-donor-day/russia-new-law-puts-red-cross-centre-stage-in-blood-provision-62505/>

⁹ Ponomareva Y. Russia caps payments for blood donations. Russia beyond the headlines [Internet] 2013 Jan 26 [cited 2018 Jan 17]. Available from: https://rbth.com/society/2013/01/26/russia_caps_payments_for_blood_donations_22239.html

SERBIA



Red Cross of Serbia:

- Level B - involved in the systematic/regular recruitment of voluntary non-remunerated blood donors but with no involvement in blood collection

NATIONAL CONTEXT

| | |
|--|----------------------------------|
| Location | South-eastern Europe |
| Geographical size ranking¹ | 118 th |
| Population (world ranking)¹ | 7.1 million (102 nd) |
| Median age¹ | 42.6 |
| Political system¹ | Parliamentary republic |
| GDP per capita (world ranking)¹ | \$15,200 (108 th) |
| HDI Index (world ranking)² | 0.776 - high (66 th) |
| Health Expenditure¹ | 10.4% of GDP |
| Efficiency of Healthcare³ | 37 th of 51 countries |
| Population prevalence hepatitis B⁴ | Low: <2% |
| Population prevalence hepatitis C⁵ | Low: 1.0 - <1.5% |
| Population prevalence HIV⁶ | 0.05% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

In 2003, the European Agency for Reconstruction financed a project for the reorganisation of the Serbian blood service.⁷

Serbia adopted a national strategy for providing adequate quantities of safe blood and blood products in 2005, which was seen as a significant step forward in achieving compliance with EU-dedicated directives.⁸

In 2012, Serbia had 44 hospital based blood establishments (processing blood from donors to delivering to patients).⁹ In addition, there are three Institutes of Blood Transfusion:

- Institute of Blood transfusion of Serbia (based in Belgrade)
- Institute of Blood Transfusion of Vojvodina
- Institute of Blood Transfusion of Nis⁹

Just over half (51%) of the blood is provided by the three Institutes of Blood Transfusion, with the remainder being provided by the hospitals.⁹

National coordination of all blood systems is provided by the Direction of Biomedicine – Ministry of Health of Serbia, however, coordination was not yet well established in 2012.⁹

NATIONAL SOCIETY (RED CROSS OF SERBIA)

Blood donor recruitment and retention activities are coordinated nationally by the National Society. They are funded by the government or Ministry of Health. In addition, the National Society and local Red Cross branches apply for small grants in order to provide additional funds for promotion, recruitment and retention of VNRBD.

Both paid staff and volunteers are used for donor recruitment. Programs include school/university programs, Club 25. The promotion and recruitment of VNRBD takes place as part of daily operations, as well as part of other programs implemented by the Red Cross of Serbia. Each blood drive is (annually there are more than 3,000) is also used as a promotional activity. Promotional activities are led by the volunteers of the Red Cross.

The Red Cross of Serbia:

- does not receive technical assistance or financial support for VNRBD activities from outside the country
- has not previously been involved at Level A
- is not planning to expand or scale back its current level of involvement in blood related activities

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Jan 18]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/ri.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2018 Jan 18]. Available from: <http://hdr.undp.org/en>

³ Bloomberg. Where Do You Get the Most for Your Health Care Dollar? [Internet] Bloomberg 2014 [cited 2018 Jan 18]. Available from: <https://www.bloomberg.com/graphics/infographics/most-efficient-health-care-around-the-world.html>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Jan 18]. Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁵ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Jan 16]. Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁶ Index Mundi. Serbia HIV/AIDS – adult prevalence rate.[Internet] Index Mundi.2013 [cited 2018 Jan 18]. Available from: https://www.indexmundi.com/serbia/hiv_aids_adult_prevalence_rate.html

⁷ World Health Organisation. Regional Office for Europe. Blood services in south-eastern Europe. Current status and challenges. [Internet] World Health Organisation 2007 [cited 2018 Jan 18]. Available from: http://www.euro.who.int/_data/assets/pdf_file/0014/90401/E90300.pdf

⁸ Hafner V, Dobrota A, Sarlija D, Rasovic G. Quality and Safety of the National Blood Supply: A Priority for Action – Subregional Overview Bulgaria, Croatia, Romania, Serbia and Montenegro. Transfusion Medicine and Hemotherapy [Internet]. 2006 Sep 18 [cited 2018 Jan 18] 2006:33:427-431. Available from: <https://www.karger.com/Article/Pdf/94992>

⁹ Council of Europe. European Directorate for the Quality of Medicines & HealthCare of the Council of Europe (EDQM). Report of the survey on blood supply management organised by the TS003 Working Group in member states and observer states of the Council of Europe [Internet] Council of Europe 2012 [cited 2018 Jan 18] Available from: https://www.edqm.eu/medias/fichiers/report_survey_on_blood_supply_management_2012.pdf

SLOVAKIA



Slovak Red Cross:

- Level B - involved in the systematic/regular recruitment of voluntary non-remunerated blood donors but with no involvement in blood collection

NATIONAL CONTEXT

| | |
|--|---------------------------------------|
| Location | Central Europe |
| Geographical size ranking¹ | 131 st |
| Population (world ranking)¹ | 5.4 million (118 th) |
| Median age¹ | 40.5 |
| Political system¹ | Parliamentary republic |
| GDP per capita (world ranking)¹ | \$32,900 (59 th) |
| HDI Index (world ranking)² | 0.845 - very high (40 th) |
| Health Expenditure¹ | 8.1% of GDP |
| Efficiency of Healthcare³ | 33 rd of 51 countries |
| Population prevalence hepatitis B⁴ | Low: <2% |
| Population prevalence hepatitis C⁵ | High moderate: 2.0% - <5.0% |
| Population prevalence HIV⁶ | 0.02% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

Slovakia's Ministry of Health coordinates the national blood system and the cost of blood components is funded by the government.⁷ Slovakia has 11 regional blood establishments making up the National Transfusion Service, which is responsible for 70% of the country's blood supply.⁷ The remainder of the blood is collected by 31 hospital based blood establishments which deliver blood components to their own hospitals.⁷

Slovakia reported having achieved 100% VNRBD in 2008.⁸

NATIONAL SOCIETY (SLOVAK RED CROSS)

188,141 people were donating blood with the assistance of the Slovak Red Cross in 2013.⁹

Blood donor recruitment and retention activities are coordinated both nationally and by district/chapter by the National Society. They are funded by the National Society, by government or Ministry of Health and by private organisations.

Both paid staff and volunteers are used for donor recruitment. Programs include school/university programs and corporate programs.

The Slovak Red Cross:

- does not receive technical assistance or financial support for VNRBD activities from outside the country
- has not previously been involved at Level A
- is planning to expand its current level of involvement in blood related activities by involving the corporate sector more

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Jan 19]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/lo.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2018 Jan 19]. Available from: <http://hdr.undp.org/en>

³ Bloomberg. Where Do You Get the Most for Your Health Care Dollar? [Internet] Bloomberg 2014 [cited 2018 Jan 19]. Available from: <https://www.bloomberg.com/graphics/infographics/most-efficient-health-care-around-the-world.html>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Jan 19] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁵ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Jan 19] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁶ Index Mundi. Slovakia HIV/AIDS – adult prevalence rate.[Internet] Index Mundi 2014 [cited 2018 Jan 19]. Available from: https://www.indexmundi.com/slovakia/hiv_aids_adult_prevalence_rate.html

⁷ Council of Europe. European Directorate for the Quality of Medicines & HealthCare of the Council of Europe (EDQM). Report of the survey on blood supply management organised by the TS003 Working Group in member states and observer states of the Council of Europe [Internet] Council of Europe 2012 [cited 2018 Jan 19] Available from: https://www.edqm.eu/medias/fichiers/report_survey_on_blood_supply_management_2012.pdf

⁸ World Health Organisation. Countries that reported having achieved 100% voluntary non-remunerated blood donation in 2008. [Internet] World Health Organisation 2011 [cited 2018 Jan 19]. Available from: http://www.who.int/bloodsafety/voluntary_donation/countries_100pct_vnrbd_2011.pdf?ua=1

⁹ International Federation of Red Cross and Red Crescent Societies. Federation-Wide Databank and Reporting System. National Society Profiles – Slovak Red Cross. [Internet] International Federation of Red Cross and Red Crescent Societies 2016 [cited 2018 Jan 19]. Available from: <http://data.ifrc.org/fdrs/societies/slovak-red-cross>

SLOVENIA



Slovenian Red Cross:

- Level B - involved in the systematic/regular recruitment of voluntary non-remunerated blood donors but with no involvement in blood collection

NATIONAL CONTEXT

| | |
|--|---------------------------------------|
| Location | South Central Europe |
| Geographical size ranking¹ | 155 th |
| Population (world ranking)¹ | 2 million (147 th) |
| Median age¹ | 44.5 |
| Political system¹ | Parliamentary republic |
| GDP per capita (world ranking)¹ | \$34,100 (58 th) |
| HDI Index (world ranking)² | 0.890 - very high (25 th) |
| Health Expenditure¹ | 9.2% of GDP |
| Population prevalence hepatitis B³ | Low: <2% |
| Population prevalence hepatitis C⁴ | Low: 1.0% - <1.5% |
| Population prevalence HIV¹ | < 0.1% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

Since 1953 the Slovenian Red Cross has been the only organisation in the country recruiting and retaining blood donors.⁵

The transfusion service in Slovenia is currently made up of:

- the Blood Transfusion Centre of Slovenia (BTCS) together with units of transfusion medicine located in Novo Mesto, Trbovlje, Slovenj Gradec, Izola and Jesenice
- the Centre of Transfusion Medicine Maribor (CTM) together with units located in Ptuj and Murska Sobota
- the Centre of Transfusion Medicine Celje (CTM)
- the Department of Transfusion Medicine at the Dr. Franc Derganc Nova Gorica General Hospital⁶

The processing of blood into components is performed at:

- the Blood Transfusion Centre of Slovenia in Ljubljana
- the Centre of Transfusion Medicine Maribor
- the Centre of Transfusion Medicine Celje⁶

The processed blood is returned to the units according to their needs and the plan.⁶

Blood is tested at the Blood Transfusion Centre of Slovenia in Ljubljana and the Centre of Transfusion Medicine Maribor.⁶

In 2011, there were:

- 101,380 blood collections - 98,307 for whole blood
- 62,872 blood donors
- 14,359 registered bone marrow donors
- 730 stored units of umbilical cord blood in the public bank⁶

In Slovenia 100% of blood is collected from VNRBD.⁷

NATIONAL SOCIETY (SLOVENIAN RED CROSS)

The Slovenian Red Cross is made up of 56 local branches, each covering one to three local municipalities. Each year, it conducts 380 field drives and motivates more than 62,000 regular individual blood donors, thus ensuring a sufficient blood supply. The Slovenian Red Cross closely cooperates with the Ministry of Health, Blood Transfusion Centre of Slovenia and various other institutions and companies.⁵

Blood donor recruitment and retention activities are coordinated both nationally and by district/chapter by the National Society. They are funded by the National Society and by the government or Ministry of Health.

Both paid staff and volunteers are used for donor recruitment programs, such as school/university programs and Club 25.

The Slovenian Red Cross:

- does not receive technical assistance or financial support for VNRBD activities from outside the country
- has not previously been involved at Level A
- is not planning to expand or scale back its current level of involvement in blood related activities

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Jan 19]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/si.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2018 Jan 19]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Jan 19] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Jan 19] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ Slovenian Red Cross. Brief overview of the Slovenian Red Cross. [Internet] Slovenian Red Cross 2015 [cited 2018 Jan 19]. Available from: http://www.rks.si/sl/About_Slovenian_Red_Cross/

⁶ The Slovenian Blood Transfusion Service. Full of Life. Life flows 2011. Annual Report of the Slovenian Blood Transfusion Service. [Internet] The Slovenian Blood Transfusion Service 2011 [cited 2018 Jan 19] Available from: http://www.ztm.si/uploads/publication/LP2011_ENG.pdf

⁷ World Health Organisation. Countries that reported having achieved 100% voluntary non-remunerated blood donation in 2008. [Internet] World Health Organisation 2011 [cited 2018 Jan 19]. Available from: http://www.who.int/bloodsafety/voluntary_donation/countries_100pct_vnrbd_2011.pdf?ua=1

UZBEKISTAN



Red Crescent Society of Uzbekistan:

- Level B - involved in the systematic/regular recruitment of voluntary non-remunerated blood donors but with no involvement in blood collection

NATIONAL CONTEXT

| | |
|--|-------------------------------------|
| Location | Central Asia |
| Geographical size ranking¹ | 58 th |
| Population (world ranking)¹ | 29.7 million (44 th) |
| Median age¹ | 28.6 |
| Political system¹ | Presidential republic |
| GDP per capita (world ranking)¹ | \$7,000 (158 th) |
| HDI Index (world ranking)² | 0.701 - medium (105 th) |
| Health Expenditure¹ | 5.8% of GDP |
| Population prevalence hepatitis B³ | High Intermediate: 5-7% |
| Population prevalence hepatitis C⁴ | High: ≥5% |
| Population prevalence HIV⁵ | 0.15% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

The government of the Republic of Uzbekistan approved a law on donations of blood and its components in 2002.⁶ In 2004, a loan agreement was made between the government and the Asian Development Bank, committing US\$7.2 million to upgrade blood services in Uzbekistan.⁶ In 2006 and 2007, comprehensive recommendations were developed to improve regional blood centres according to international standards, including upgrading medical and laboratory equipment, and in 2008, a program for actions on non-remunerated blood donations was signed.⁶

The blood service in Uzbekistan is quite fragmented with 27 blood transfusion stations and 187 blood transfusion departments in 2010⁷. Five regional blood centres and one national blood centre comprise the national structure under the Ministry of Health.⁷ A program to promote voluntary non-remunerated blood donation was developed which included educational products about donation, and involved:

- state institutions
- mass media
- NGOs
- various other funds ⁷

In the early 2000's, the number of VNRBD donors decreased considerably to just 0.4-0.5% of the population after the Uzbek authorities were unable to order a host of public sector employees to volunteer to donate blood, despite the Soviet government doing this in the past.⁸ There are reports of students being made to give blood and receiving bags of sugar as payment for their donation.⁸

NATIONAL SOCIETY (RED CRESCENT OF UZBEKISTAN)

Blood donor recruitment and retention activities are coordinated nationally by the National Society. They are funded by the government or Ministry of Health.

Both paid staff and volunteers are used for donor recruitment, such as school/university programs.

The Red Crescent Society of Uzbekistan:

- does not receive technical assistance or financial support for VNRBD activities from outside the country
- has not previously been involved at Level A
- is not planning to expand or scale back its current level of involvement in blood related activities

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Jan 19]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/uz.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2018 Jan 19]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Jan 19] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Jan 19] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ Index Mundi. Uzbekistan HIV/AIDS – adult prevalence rate.[Internet] Index Mundi 2015 [cited 2018 Jan 19]. Available from: https://www.indexmundi.com/uzbekistan/hiv_aids_adult_prevalence_rate.html

⁶ Economic Cooperation Organization. Blood Safety Network. Uzbekistan. [Internet] Economic Cooperation Organization 2015 [cited 2018 Jan 19] Available from: <http://www.ecobsn.com/Library/uzbak.pdf>

⁷ Training Workshop on achieving 100% Voluntary Non-Remunerated Blood Donation for priority countries in Europe and Central Asia. World Health Organisation Europe Training Workshop. [Internet] 2010 Jun 16-18. Barcelona, Spain. [cited 2018 Jan 19] Available from: http://www.euro.who.int/_data/assets/pdf_file/0010/128692/non_remunerated_blood_CEE_wkshp.pdf

⁸ Sergeeva Y. Uzbekistan: Blood Shortages Cause Concern. Institute for War and Peace Reporting [Internet] 2009 Aug 27 [cited 2018 Jan 19]. Available from: <https://iwpr.net/global-voices/uzbekistan-blood-shortages-cause-concern>

ANDORRA



Andorran Red Cross:

- Level C: National society is involved in occasional community education/awareness programs that help promote voluntary non-remunerated blood donation (e.g. World Blood Donor Day), but no involvement in the systematic recruitment of donors or blood collection.

NATIONAL CONTEXT

| | |
|---|--|
| Location | South-western Europe |
| Geographical size ranking¹ | 196 th |
| Population (world ranking)¹ | 77 thousand (200 th) |
| Median age¹ | 44.3 |
| Political system¹ | Parliamentary democracy, co-principality |
| GDP per capita (world ranking)¹ | \$49,900 (29 th) |
| HDI Index (world ranking)² | 0.858 - very high (32 nd) |
| Health Expenditure¹ | 8.1% of GDP |
| Population prevalence hepatitis B | Not available |
| Population prevalence hepatitis C | Not available |
| Population prevalence HIV³ | 0.07% |



NATIONAL BLOOD PROGRAM

As a very small country, Andorra does not have its own blood program. Instead it has agreements with its neighbouring countries France and Spain.

NATIONAL SOCIETY (ANDORRAN RED CROSS)

Community education activities are coordinated nationally by the National Society. They are funded by the government or Ministry of Health.

The National Society:

- does not receive technical assistance or financial support for VNRBD activities from outside the country
- was not previously involved in blood at Level A or B
- is not planning to expand or scale back its level of activities

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Jan 19]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/an.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2018 Jan 19]. Available from: <http://hdr.undp.org/en>

³ World Health Organisation. Regional Office for Europe. Key facts on HIV epidemic in Andorra and progress in 2011. [Internet] World Health Organisation 2011 [cited 2018 Jan 19] Available from: <http://www.euro.who.int/en/countries/andorra/publications/hivaids-country-profile-2011-andorra>

BELARUS



Belarus Red Cross:

- Level C: National society is involved in occasional community education/awareness programs that help promote voluntary non-remunerated blood donation (e.g. World Blood Donor Day), but no involvement in the systematic recruitment of donors or blood collection.

NATIONAL CONTEXT

| | |
|--|-------------------------------------|
| Location | Eastern Europe |
| Geographical size ranking¹ | 87 th |
| Population (world ranking)¹ | 9.5 million (93 rd) |
| Median age¹ | 40 |
| Political system¹ | Presidential republic, dictatorship |
| GDP per capita (world ranking)¹ | \$18,600 (95 th) |
| HDI Index (world ranking)² | 0.796 - high (52 nd) |
| Health Expenditure¹ | 5.7% of GDP |
| Efficiency of Healthcare³ | 42 nd of 51 countries |
| Population prevalence hepatitis B⁴ | Low Intermediate: 2-4% |
| Population prevalence hepatitis C⁵ | Low: 1.0% - <1.5% |
| Population prevalence HIV⁶ | 0.4% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

The first blood transfusion unit in Belarus was an extension of the Central Institute of Blood Transfusion centre in Moscow and was responsible for blood collection and preparation as well as clinical testing and transfusion.⁷ In 1967, the manufacture of blood products was undertaken by the Belarussian Republican Station of Blood Transfusion (BRSBT), however they reformed in 2004 to form one unit under the Ministry of Health.⁷ The department was renamed in 2011 to become the Republican Scientific and Practical Centre of Transfusiology and Medical Biotechnologies, and modern testing and processing technologies were introduced to bring the centre in line with world standards.⁷

Belarus experienced a very significant increase in VNRBD blood donations from 56% VNRBD in 2004 to 99.9% in 2008.⁸

NATIONAL SOCIETY (BELARUS RED CROSS)

Community education activities are coordinated nationally and by district/chapter by the National Society. In 2015 a funded project to promote blood donation was implemented, and these activities continue occasionally without funding.

The Belarus Red Cross:

- does not receive technical assistance or financial support for VNRBD activities from outside the country
- was not previously involved in blood at Level A or B
- is planning to expand its level of activities and is looking for financial opportunities and support

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Jan 19]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/bo.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2018 Jan 19]. Available from: <http://hdr.undp.org/en>

³ Bloomberg. Where Do You Get the Most for Your Health Care Dollar? [Internet] Bloomberg 2014 [cited 2018 Jan 19]. Available from: <https://www.bloomberg.com/graphics/infographics/most-efficient-health-care-around-the-world.html>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Jan 19] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁵ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Jan 19] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁶ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Jan 19]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁷ Republican Scientific and Practical Center of Transfusiology and Medical Biotechnologies. History [Internet] RSPC 2014 [cited 2018 Feb 20]. Available from: <http://eng.blood.by/o-centre/istoriya>

⁸ World Health Organisation. Blood safety. Key global facts and figures 2011. [Internet] World Health Organisation 2011 [cited 2018 Jan 19]. Available from: http://www.who.int/worldblooddonorday/media/who_blood_safety_factsheet_2011.pdf

BULGARIA



Bulgarian Red Cross:

- Level C: National society is involved in occasional community education/awareness programs that help promote voluntary non-remunerated blood donation (e.g. World Blood Donor Day), but no involvement in the systematic recruitment of donors or blood collection.

NATIONAL CONTEXT

| | |
|--|----------------------------------|
| Location | South-eastern Europe |
| Geographical size ranking¹ | 106 th |
| Population (world ranking)¹ | 7.1 million (103 rd) |
| Median age¹ | 42.7 |
| Political system¹ | Parliamentary republic |
| GDP per capita (world ranking)¹ | \$21,600 (85 th) |
| HDI Index (world ranking)² | 0.794 - high (56 th) |
| Health Expenditure¹ | 8.4% of GDP |
| Efficiency of Healthcare³ | 45 th of 51 countries |
| Population prevalence hepatitis B⁴ | Low Intermediate: 2-4% |
| Population prevalence hepatitis C⁵ | Low: 1.0 - < 1.5% |
| Population prevalence HIV⁶ | < 0.1% of adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

The Bulgarian government is responsible for the national blood service.⁷ A legislative framework for the blood service was created in 2003 in line with EU requirements and WHO recommendations.⁷ A national accreditation scheme for blood institutions is being introduced with the new legal framework.⁷ The Blood Safety Strategy 2005-2010 states blood safety as a strategic priority for national health care policy.⁷

Regulatory bodies include:

- the Ministry of Health, functioning through authorised officials and the Bulgarian Drug Agency
- the National Drug Agency and the Expert accreditation committee of the Ministry of Health have regulatory functions
- a National consultative committee for the stimulation of VNRBD was planned in the national Program⁷

The Blood Service consists of a National Centre of Haematology and Transfusiology (NCHT), five Regional Centres of Haematology and Transfusiology, and 23 Departments of Transfusion Haematology in hospitals.⁸

In 2015, there were less than 170,000 blood donors in Bulgaria – or 24 per 1,000 population.⁹

NATIONAL SOCIETY (BULGARIAN RED CROSS)

Community education activities are coordinated nationally and by district/chapter by the National Society. They are funded by the National Society and by the government or Ministry of Health.

The Bulgarian Red Cross:

- does not receive technical assistance or financial support for VNRBD activities from outside the country
- was previously involved in blood at Level B - due to legislative amendments in 1996 carried out by the Ministry of Health, the Bulgarian Red Cross was excluded from the blood donor recruitment system and was limited to the role of carrying out public promotion of VNRBD. With the amendments, the state-owned blood centres were tasked to engage in promotional and recruitment activities, with respective new structures and job positions created within the blood centres
- is planning to expand its level of activities - it cooperates closely with the national and regional blood centres, and will intensify efforts to ensure funding and state support for long-term VNRBD promotion in the society

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Jan 19]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/bu.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2018 Jan 19]. Available from: <http://hdr.undp.org/en>

³ Bloomberg. Where Do You Get the Most for Your Health Care Dollar? [Internet] Bloomberg 2014 [cited 2018 Jan 19]. Available from: <https://www.bloomberg.com/graphics/infographics/most-efficient-health-care-around-the-world.html>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Jan 19] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁵ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Jan 19] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁶ UNAIDS. Country Factsheets. Bulgaria 2016. [Internet] UNAIDS 2016 [cited 2018 Jan 19]. Available from: <http://www.unaids.org/en/regionscountries/countries/bulgaria>

⁷ World Health Organisation. Regional Office for Europe. Blood services in south-eastern Europe. Current status and challenges. [Internet] World Health Organisation 2007 [cited 2018 Jan 19]. Available from: http://www.euro.who.int/_data/assets/pdf_file/0014/90401/E90300.pdf

⁸ Bulgaria with electronic blood donation registry by mid-2014. Novinite.com – Sofia News Agency [Internet] 2013 Jun 13 [cited 2018 Jan 19]. Available from: <http://www.novinite.com/articles/151211/Bulgaria+with+Electronic+Blood+Donation+Registry+Mid-2014>

⁹ Number of blood donors in Bulgaria ranks country among last in Europe – Expert. Bulgarian News Agency [Internet] 2016 Jan 19 [cited 2018 Jan 19] Available from: <http://www.bta.bg/en/c/NW/id/1254561>

ESTONIA



Estonia Red Cross:

- Level C: National society is involved in occasional community education/awareness programs that help promote voluntary non-remunerated blood donation (e.g. World Blood Donor Day), but no involvement in the systematic recruitment of donors or blood collection.

NATIONAL CONTEXT

| | |
|--|---------------------------------------|
| Location | Eastern Europe |
| Geographical size ranking¹ | 133 rd |
| Population (world ranking)¹ | 1.3 million (158 th) |
| Median age¹ | 42.7 |
| Political system¹ | Parliamentary republic |
| GDP per capita (world ranking)¹ | \$31,500 (61 st) |
| HDI Index (world ranking)² | 0.865 - very high (30 th) |
| Health Expenditure¹ | 6.4% of GDP |
| Population prevalence hepatitis B³ | Low Intermediate: 2.4% |
| Population prevalence hepatitis C⁴ | High moderate: 2.0% - <5.0% |
| Population prevalence HIV⁵ | 1.3% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

The Estonian Blood Transfusion Service consists of four separated blood centres attached to large hospitals:

- North Estonia Blood Centre located in capital city Tallinn
- Tartu University Clinic's Blood Centre
- Pärnu Hospital Blood Centre
- East-Viru Hospital Blood Centre⁶

The four blood centres work independently, but are covered by a common legislation which regulates the collection, testing, processing and quality issues.⁷

In 2017, there were 55,057 blood donations (from 17,558 donors), of which over half (54%) occurred in Tallinn.⁷

All blood in Estonia is collected from unpaid donors, with slightly more donating at static sites (55%) than at mobile sites (45%). Hospitals purchase the blood products at fixed prices.⁸

A 2012 University study of the blood system in Estonia found that the system supply chain worked well and was relatively efficient, however the report recommended the establishment of central coordination, management and planning for Estonia's blood system.⁹

Since 2004, around ten HIV cases annually have been identified amongst blood donors – 0.02% of all donors.¹⁰

NATIONAL SOCIETY (ESTONIAN RED CROSS)

Community education activities are coordinated by district/chapter by the National Society. They are funded by the National Society.

The Estonia Red Cross:

- does not receive technical assistance or financial support for VNRBD activities from outside the country
- was not previously involved in blood at Level A or B
- is not planning to expand or scale back its level of activities

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Jan 19]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/en.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2018 Jan 19]. Available from: <http://hdr.undp.org/en>

³ European Centre for Disease Prevention and Control. Annual Epidemiological Report for 2015 Hepatitis B. [Internet] ECDC Stockholm 2017 [cited 2018 January 25]. Available from: https://ecdc.europa.eu/sites/portal/files/documents/AER_for_2015-hepatitis-B.pdf

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Jan 19] Available from: <http://www.wnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ Index Mundi. Estonia HIV/AIDS – adult prevalence rate.[Internet] Index Mundi 2014 [cited 2018 Jan 19]. Available from: https://www.indexmundi.com/estonia/hiv_aids_adult_prevalence_rate.html

⁶ European Blood Alliance. Estonia [Internet] European Blood Alliance 2018 [cited 2018 Jan 19]. Available from: <http://www.europeanbloodalliance.eu/membership/estonia/>

⁷ North Estonia Medical Centre Blood Centre. About us. Blood transfusion service in Estonia. [Internet] North Estonia Medical Centre Blood Centre 2016 [cited 2018 Jan 19]. Available from: <http://www.verekeskus.ee/en/about-us/blood-transfusion-service-in-estonia/>

⁸ MacPherson J. Blood Collections & Transfusion A Global Perspective 2014. Connecticut: The Marketing Research Bureau Inc: 2014. 203p.

⁹ Alloja J, Espenberg K, Kiivet R. The analysis of cost-effectiveness of the optimal system of the blood service. University of Tartu. [Internet] 2012 [cited 2018 Jan 19]. Available from: https://www.sm.ee/sites/default/files/content-editors/eesmargid_ja_tegevused/Tervis/Muud_infot/raportvereteenistus_ingk.pdf

¹⁰ UNAIDS. HIV in Estonia. Situation, prevention, treatment and care. Narrative report for GARPR 2014 [Internet] UNAIDS 2014 [cited 2018 Jan 19] Available from: http://www.unaids.org/sites/default/files/country/documents/file_94496.es..pdf

KYRGYZSTAN



Red Crescent Society of Kyrgyzstan:

- Level C: National society is involved in occasional community education/awareness programs that help promote voluntary non-remunerated blood donation (e.g. World Blood Donor Day), but no involvement in the systematic recruitment of donors or blood collection.

NATIONAL CONTEXT

| | |
|--|-------------------------------------|
| Location | Central Asia |
| Geographical size ranking¹ | 88 th |
| Population (world ranking)¹ | 5.8 million (114 th) |
| Median age¹ | 26.5 |
| Political system¹ | Parliamentary republic |
| GDP per capita (world ranking)¹ | \$3,700 (185 th) |
| HDI Index (world ranking)² | 0.664 - medium (120 th) |
| Health Expenditure¹ | 6.5% of GDP |
| Population prevalence hepatitis B³ | High: ≥8% |
| Population prevalence hepatitis C⁴ | High moderate: 2.0% - <5.0% |
| Population prevalence HIV⁵ | 0.2% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

Kyrgyzstan's Ministry of Health operates the country's Blood Transfusion Service, which includes the Republican Blood Centre, five regional blood centres, 39 local clinical transfusion departments and a bus for mobile blood drive.⁶

Blood transfusion services in the Kyrgyz Republic lack of a systematic approach for the provision of safe blood transfusions.⁷ Blood is often donated by family members or paid donors and as a result of this a number of programs were implemented to address these issues.⁷

The Government of the Kyrgyz Republic established a State Program for the Development of the Blood (Transfusion) Service for 2007 - 2011 to:

- review the policy in the field of blood transfusion services
- increase the number of voluntary blood donors
- improve the infrastructure and technical know-how in blood transfusion services
- assure blood and blood product quality and safety and a rational use of blood, blood components and related medications
- increase the efficiency of the blood transfusion system's organisation⁷

The state program was followed by the “HIV/AIDS Prevention Program II - Safe Blood Transfusion” from 2011 to 2015 to improve the quality and safety of blood transfusion and to increase the efficiency of the blood transfusion system in the Kyrgyz Republic.⁷

In 2011, the German Government provided 4 million Euros for a safe blood transfusion project to improve the quality and safety of blood transfusions and to increase the efficiency of the blood donation and transfusion system in Kyrgyzstan.⁸ Deliverables of this 30 month project included:

- rehabilitate selected blood banks
- modernise blood bank equipment
- establish a Quality Assurance system
- the development and achievement of rationalisation measures⁸

In 2011, 34771 units of blood were collected at a rate of 6.6 per 1000 population.⁶

NATIONAL SOCIETY (RED CRESCENT OF KYRGYZSTAN)

Community education activities are coordinated by district/chapter by the National Society. They are funded by the blood service, the National Society and Club 25 is supported by and under the supervision of Republic Blood Centre of Kyrgyz Republic.

The Red Crescent Society of Kyrgyzstan:

- receives both technical assistance and financial support for VNRBD activities from outside the country:
 - technical assistance was provided by US CDC to the National Society by provision of a small grant, as well as assistance by WHO to the blood service
 - financial support to the National Society was provided by US CDC and Turkish Red Crescent by small grants
- was not previously involved in blood at Level A or B
- is planning to expand its blood related services nationally by mobilising the resources, and noted in the survey that it would be good to have technical and financial support from IFRC for VNRBD projects

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Jan 19]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/kg.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2018 Jan 19]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Jan 19] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Jan 19] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Jan 19]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁶ Economic Cooperation Organisation. Blood Safety Network. Kyrgyzstan [Internet] Economic Cooperation Organisation 2015 [cited 2018 Jan 19] Available from: www.ecobsn.com/Library/kyrkiz.pdf

⁷ EPOS Health Management. HIV/AIDS Prevention Program II - Safe Blood Transfusion [Internet] EPOS Health Management 2017 [cited 2018 Jan 19]. Available from: <http://www.epos.de/projects/hiv-aids-prevention-program-ii-safe-blood-transfusion>

⁸ EPOS Health Management. Safe blood transfusion project launched in Kyrgyzstan [Internet] EPOS Health Management 2015 [cited 2018 Jan 19]. Available from: <http://epos30.de/content/safe-blood-transfusion-project-launched-kyrgyzstan>

MALTA



Malta Red Cross Society:

- Level C: National society is involved in occasional community education/awareness programs that help promote voluntary non-remunerated blood donation (e.g. World Blood Donor Day), but no involvement in the systematic recruitment of donors or blood collection.

NATIONAL CONTEXT

| | |
|--|---------------------------------------|
| Location | Southern Europe |
| Geographical size ranking¹ | 208 th |
| Population (world ranking)¹ | 416 thousand (175 th) |
| Median age¹ | 41.8 |
| Political system¹ | Parliamentary republic |
| GDP per capita (world ranking)¹ | \$42,500 (42 nd) |
| HDI Index (world ranking)² | 0.856 - very high (33 rd) |
| Health Expenditure¹ | 9.7% of GDP |
| Population prevalence hepatitis B³ | 4.2% |
| Population prevalence hepatitis C | Not available |
| Population prevalence HIV⁴ | <0.1% |



NATIONAL BLOOD PROGRAM

Malta has always been self-sufficient with regards to labile blood products.⁵

There is one government funded blood establishment, with two fixed donation sites and one mobile unit, which collects processes, screens and distributes blood and there are four hospital blood banks which are mainly involved with patient care.⁶

About 16,000 units of whole blood and 400 apheresis platelets are collected annually from donors having a Maltese ID card (confirms residence in Malta).⁶ All donations are VNRBD.⁶

A national haemovigilance system lead by the Public Health Regulation Division captures the adverse events and reactions reported by all hospitals.⁶

NATIONAL SOCIETY (MALTA RED CROSS)

Malta Red Cross, on an ad hoc basis, aids with the marketing by sharing or posting requests for blood on its Facebook page, and also through a banner on the Malta Red Cross Lifeguard Tower on the beach.

In addition, Malta Red Cross occasionally brings together volunteers and their respective families to donate blood.

Five people in 2012 and six people in 2013 are recorded as having given blood at or with the help of the Malta Red Cross Society.⁷

The Malta Red Cross plans to implement a website with a link to the National Blood Transfusion site and vice versa.

¹ Central Intelligence Agency. The World Factbook. Malta. Washington, DC. <https://www.cia.gov/library/publications/the-world-factbook/geos/mt.html>

² United Nations Development Program. Human Development Report 2015. <http://hdr.undp.org/en>

³ European Centre for Disease Prevention and Control. Annual Epidemiological Report for 2015 Hepatitis B. [Internet] ECDC Stockholm 2017 [cited 2018 January 25]. Available from:

https://ecdc.europa.eu/sites/portal/files/documents/AER_for_2015-hepatitis-B.pdf

⁴ UNAIDS. Global AIDS Response Reporting Narrative Report- Malta (January to December 2013) [Internet] UNAIDS 2013 [cited 2018 Jan 19] Available from:

http://files.unaids.org/en/dataanalysis/knowyourresponse/countryprogressreports/2014countries/MLT_narrative_report_2014.pdf

⁵ European Blood Alliance. Malta [Internet] European Blood Alliance 2017 [cited 201 Jan 19]. Available from:

<http://www.europeanbloodalliance.eu/membership/malta/>

⁶ World Health Organisation. Countries that reported having achieved 100% voluntary non-remunerated blood donation in 2008. [Internet] World Health Organisation 2011 [cited 2018 Jan 19]. Available from:

http://www.who.int/bloodsafety/voluntary_donation/countries_100pct_vnrbd_2011.pdf?ua=1

⁷ International Federation of Red Cross and Red Crescent Societies. Federation-Wide Databank and Reporting System. National Society Profiles – Malta Red Cross. [Internet] International Federation of Red Cross and Red Crescent Societies 2016 [cited 2018 Jan 19]. Available from: <http://data.ifrc.org/fdrs/societies/malta-red-cross-society>

MOLDOVA, REPUBLIC OF



Red Cross Society of the Republic of Moldova:

- Level C: National society is involved in occasional community education/awareness programs that help promote voluntary non-remunerated blood donation (e.g. World Blood Donor Day), but no involvement in the systematic recruitment of donors or blood collection.

NATIONAL CONTEXT

| | |
|--|-------------------------------------|
| Location | Eastern Europe |
| Geographical size ranking¹ | 140 th |
| Population (world ranking)¹ | 3.4 million (131 st) |
| Median age¹ | 36.7 |
| Political system¹ | Parliamentary republic |
| GDP per capita (world ranking)¹ | \$5,700 (167 th) |
| HDI Index (world ranking)² | 0.699 - medium (107 th) |
| Health Expenditure¹ | 10.3% of GDP |
| Population prevalence hepatitis B³ | High Intermediate: 5-7% |
| Population prevalence hepatitis C⁴ | High Moderate: 2-5% |
| Population prevalence HIV⁵ | 0.60% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

The Blood Transfusion Service in the Republic of Moldova consists of:

- The National Blood Transfusion Centre
- 3 regional blood transfusion centres
- 17 blood departments
- 67 blood banks⁶

A law on blood donation and blood transfusions was enacted in 2008.⁶

The Ministry of Health is responsible for the development and review of the 'Policy for National Transfusion Safety' as well as approving documents which enable the policy to be implemented.⁶

The National Blood Transfusion Centre coordinates the implementation of the blood policy at a national and regional level.⁶

National regulations are in place as well as quality standards and guidelines which are in accordance with the European Directives and WHO recommendations.⁶

In 2013, Moldova recorded 78,598 blood donations (48% voluntary, 52% replacement donors).⁶ However, by 2017 of the more than 79,000 blood donors, approximately 80% of these were voluntary.⁷

The Republic of Moldova undertakes fractionation activities, after receiving funding support from the Council of Europe Development Bank for the purchase of fractionation equipment in 2012.⁸

In April 2017, the Ministry of Health and National Blood Transfusion Centre, with the support of the Swiss Red Cross, announced plans to develop a new laboratory within the National Blood Transfusion Centre (to test blood products collected in the districts) and to modernise regional centres.⁹ The projected is called 'Consolidation of blood transfusion security in the Republic of Moldova 2017-2021'.⁹

In July 2017, the Government of Moldova also approved a 'National Transfusional Security and Self-Guarantee Program of Moldova' for blood for 2017-2021 to ensure safety and security of the blood program.⁷ The program objectives include continuing quality assurance, supply and demand, development of the voluntary donor base and increasing the number of donors each year.⁷

NATIONAL SOCIETY (RED CROSS OF THE REPUBLIC OF MOLDOVA)

Community education activities are coordinated both nationally and by district/chapter by the National Society and are funded by the National Society.

The Red Cross Society of the Republic of Moldova

- does not receive technical assistance or financial support for VNRBD activities from outside the country
- was previously involved in blood at Level B
- is not planning to expand or scale back its blood related services

According to the IFRC Federation-wide Databank and Reporting System, there were 1,800 people donating blood in conjunction with the Red Cross Society of the Republic of Moldova in 2014 and 2,000 in 2015.¹⁰

- ¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2017 Dec 19]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/md.html>
- ² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2017 Dec 19]. Available from: <http://hdr.undp.org/en>
- ³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2017 Dec 19] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>
- ⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2017 Dec 19] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>
- ⁵ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2017 Dec 19]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>
- ⁶ Svetlana Cebotari. Republic of Moldova. Applied quality and safety requirements for blood donor and patient management in emergency special circumstances in the Republic of Moldova [Internet] July 2014 [cited 2017 Dec 19] Available from: http://www.azus.gov.rs/wp-content/uploads/2014/07/Country-Presentationa_Moldova_Svetlana-Cebotari.pdf
- ⁷ Government of republic of Moldova. Government approved national blood transfusion and self-insurance program for blood products. [Internet] Guvernul Republicii Moldova 2014 [cited 2017 Dec 19] Available from: <http://www.gov.md/en/content/government-approved-national-blood-transfusion-and-self-insurance-program-blood-products>
- ⁸ Council of Europe Development Bank. Moldova – CEB donation to blood transfusion infrastructure[Internet] CEB, 20 June 2012 [cited 2017 Dec 19] Available from: <http://www.coebank.org/en/news-and-publications/news/moldova-donation-blood-transfusion-infrastructure/>
- ⁹ Publika.MD Aproape De Oameni. Patients Will Be Safer. Country's blood transfusion centers will be endowed with modern medical appliances. [Internet] General Media Group, 2016 [cited 2017 Dec 19] Available from: http://en.publika.md/patients-will-be-safer-country-s-blood-transfusion-centers-will-be-endowed-with-modern-medical-appliances_2636360.html
- ¹⁰ International Federation of Red Cross and Red Crescent Societies. Federation-wide databank and reporting system. Red Cross Society of the Republic of Moldova [Internet] International Federation of Red Cross and Red Crescent Societies 2017 [cited 2017 Dec 19] Available from: <http://data.ifrc.org/fdrs/societies/red-cross-society-of-the-republic-of-moldova>

ROMANIA



Romanian Red Cross:

- Level C: National society is involved in occasional community education/awareness programs that help promote voluntary non-remunerated blood donation (e.g. World Blood Donor Day), but no involvement in the systematic recruitment of donors or blood collection.

NATIONAL CONTEXT

| | |
|--|----------------------------------|
| Location | South-eastern Europe |
| Geographical size ranking¹ | 84 th |
| Population (world ranking)¹ | 21.5 million (58 th) |
| Median age¹ | 41.1 |
| Political system¹ | Semi-presidential republic |
| GDP per capita (world ranking)¹ | \$24,000 (83 rd) |
| HDI Index (world ranking)² | 0.802 - high (50 th) |
| Health Expenditure¹ | 5.6% of GDP |
| Efficiency of Healthcare³ | 31 st of 51 countries |
| Population prevalence hepatitis B⁴ | High intermediate: 5%-7% |
| Population prevalence hepatitis C⁵ | High moderate: 2.0% - <5.0% |
| Population prevalence HIV⁶ | 0.1% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

The Ministry of Health is responsible for the National Institute of Blood Transfusion.⁷ Romania is organized into 41 counties/districts, as well as the municipality of Bucharest – having its own administrative unit.⁷ Each county has a blood transfusion centre, eight of which are Regional Blood Transfusion Centres, which collect, test, prepare, store, and distribute blood / blood components to authorized hospitals.⁷

Romania has transposed many EU legislative and regulatory documents on Blood Safety and has included WHO Recommendations.⁷

Nearly all blood donations in Romania are VNRBD, with just a small percentage (3-4% in 2013) from replacement donors, particularly when there is a shortage of a particular blood type.⁷

428,140 units of blood were collected in 2013 (a 7% increase over 2012) and 424,010 units were delivered, meeting about 73% of demand.⁷ Blood is provided free of charge to hospitals.⁸

In 2012, about 6% of the blood was collected via mobile collections.⁸

The proportion of blood that is being separated has increased steadily from 66% in 2008 to 85% in 2012.⁸

A West Nile Virus (WNV) epidemic in August 2010 impacted the blood supply in Romania.⁷ Donor deferrals and quarantined donated blood (for 15 days) led to difficulties in maintaining an appropriate blood supply – elective surgeries were cancelled.⁷ This situation also led to the establishment of an action plan for the provision for special situations in the national transfusion legislation.⁷

NATIONAL SOCIETY (ROMANIAN RED CROSS)

Community education activities are coordinated by district/chapter by the National Society. They are funded by local Romanian Red Cross (RRC) branches. The RRC conducts campaigns to support VNRBD and help recruit donors, especially among young people, and to encourage donors to adopt a healthy lifestyle.⁹ There were 48 blood donation campaigns in 2012/13.¹⁰

The Romanian Red Cross:

- does not receive technical assistance or financial support for VNRBD activities from outside the country
- indicated that it was not previously involved in blood at Level A or B, however in a previous global mapping survey in 2008, indicated that it was involved in blood activities at Level B
- is planning to expand its blood related services to community education coordinated at a national level

4,979 people donated blood at or with the assistance of the Romanian Red Cross in 2013. This number was zero in 2012.¹¹

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Jan 22]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/ro.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2018 Jan 22]. Available from: <http://hdr.undp.org/en>

³ Bloomberg. Where Do You Get the Most for Your Health Care Dollar? [Internet] Bloomberg 2014 [cited 2018 Jan 22]. Available from: <http://www.bloomberg.com/graphics/best-and-worst/#most-efficient-health-care-2014-countries>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Jan 22] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁵ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Jan 22] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁶ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Jan 22]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁷ Burta OL, Rosin A, Parvu S, Posea C, Pacurariu L. EU requirements for donor and patient safety in emergency special circumstances: case studies from Romania. Presented at: The workshop increasing blood availability and providing the highest donor and patient safety in transfusion therapy in emergency special circumstances; 2014 Jul.; Bucharest (EU). Presentation available from: http://www.azus.gov.rs/wp-content/uploads/2014/07/Country-Presentation_Romania_Olivia-Ligia-Burta.pdf

⁸ Burta OL, Rosin A, Parvu S. Blood collection management in Romanian transfusion network; current and perspective features. ISBT Science Series [Internet] 2013 May 31 [cited 2018 Jan 22];8(1):242–249. Available from : <http://onlinelibrary.wiley.com/doi/10.1111/voxs.12046/full>

⁹ Crucea Rosie Romana. Promovarea donarii de sange voluntare si neremunerate (Promoting voluntary and unpaid blood donation) [Internet] Crucea Rosie Romana 2016 [cited 2018 Jan 22]. Available from: <https://crucearosie.ro/ce-facem/educatie-pentru-sanatate/campanii-de-donare-de-sange/>

¹⁰ International Federation of Red Cross and Red Crescent Societies. Federation-Wide Databank and Reporting System. Crucea Rosie Romana. Raport de activitate 2012-13. (Romanian Red Cross. Annual report 2012-13) [Internet] International Federation of Red Cross and Red Crescent Societies 2016 [cited 2018 Jan 22]. Available from: http://data-api.ifrc.org/documents/RO/AR_Romania_2013_romanian.pdf

¹¹ International Federation of Red Cross and Red Crescent Societies. Federation-Wide Databank and Reporting System. National Society Profiles – Romanian Red Cross. [Internet] International Federation of Red Cross and Red Crescent Societies 2016 [cited 2018 Jan 22]. Available from: <http://data.ifrc.org/fdrs/societies/romanian-red-cross>

TAJIKISTAN



Red Crescent Society of Tajikistan:

- Level C: National society is involved in occasional community education/awareness programs that help promote voluntary non-remunerated blood donation (e.g. World Blood Donor Day), but no involvement in the systematic recruitment of donors or blood collection.

NATIONAL CONTEXT

| | |
|--|-------------------------------------|
| Location | Central Asia |
| Geographical size ranking¹ | 97 th |
| Population (world ranking)¹ | 8.5 million (96 th) |
| Median age¹ | 24.5 |
| Political system¹ | Presidential republic |
| GDP per capita (world ranking)¹ | \$3,100 (193 rd) |
| HDI Index (world ranking)² | 0.627 - medium (129 th) |
| Health Expenditure¹ | 6.9% of GDP |
| Population prevalence hepatitis B³ | High intermediate: 5-7% |
| Population prevalence hepatitis C⁴ | High moderate: 2.0% - <5.0% |
| Population prevalence HIV⁵ | 0.3% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

As at 2010, the Blood Service of Tajikistan was composed of one Republican Research Blood Centre, three regional centres, 44 departments of blood transfusion in medical establishments and 29 cabinets of transfusion therapy.⁶ In 2009, the government adopted the law on donating blood and its components, and approved a program to develop blood donation and improve the blood services for the period 2010–2014.⁶ It also adopted a program for blood safety control and a program for the rational use of blood.⁶

The aims for the national blood program were to:

- complete the process of centralization, re-structuring and refurbishment of the service
- ensure sustainable financing
- implement quality assurance mechanisms for the testing laboratories, including external quality assessment schemes
- promote voluntary unpaid donation
- train medical staff in the clinical use of blood
- increase donation rates to 10–12/1000 population by 2014 so that there are sufficient blood donations to meet the clinical request for blood and blood products⁶

In 2006 there were 14,000 blood donors.⁷ By 2013 it was reported that 20,000 unpaid donors give blood each year in Tajikistan.⁸

NATIONAL SOCIETY (RED CRESCENT OF TAJIKISTAN)

The Red Crescent Society of Tajikistan is currently involved in blood activities at Level C, however they were previously involved in blood at Level B. This program was completed in 2005 when funding finished.

Blood donor recruitment and retention activities are coordinated nationally by the National Society, and are funded by private organisations.

The Red Crescent Society of Tajikistan:

- does not receive technical assistance or financial support for VNRBD activities from outside the country
- is planning to expand its current level of involvement in blood related activities - the National Society of Tajikistan in collaboration with the Ministry of Health is planning to conduct educational activities in the field of blood donation among university students

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Jan 22]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/ti.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2018 Jan 22]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Jan 22] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Jan 22] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Jan 22]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁶ Training Workshop on achieving 100% Voluntary Non-Remunerated Blood Donation for priority countries in Europe and Central Asia. World Health Organisation Europe Training Workshop. [Internet] 2010 Jun 16-18. Barcelona, Spain. [cited 2018 Jan 22] Available from: http://www.euro.who.int/_data/assets/pdf_file/0010/128692/non_remunerated_blood_CEE_wkshp.pdf

⁷ Kondrashova V. Tajikistan marks World Blood Donor Day today. Asia-Plus [Internet] 2006 Jun 14 [cited 2018 Jan 22]. Available from: <http://www.news.tj/en/news/tajikistan-marks-world-blood-donor-day-today>

⁸ World Health Organisation. Regional Office for Europe. Tajikistan celebrates World Blood Donor Day 2013 [Internet] World Health Organisation 2013 Jun 27 [cited 2018 Jan 22]. Available from: <http://www.euro.who.int/en/countries/tajikistan/news/news/2013/06/tajikistan-celebrates-world-blood-donor-day-2013>

UKRAINE



Ukrainian Red Cross Society:

- Level C: National society is involved in occasional community education/awareness programs that help promote voluntary non-remunerated blood donation (e.g. World Blood Donor Day), but no involvement in the systematic recruitment of donors or blood collection.

NATIONAL CONTEXT

| | |
|--|----------------------------------|
| Location | Eastern Europe |
| Geographical size ranking¹ | 47 th |
| Population (world ranking)¹ | 44 million (32 nd) |
| Median age¹ | 40.6 |
| Political system¹ | Semi-presidential republic |
| GDP per capita (world ranking)¹ | \$8,700 (146 th) |
| HDI Index (world ranking)² | 0.743 - high (84 th) |
| Health Expenditure¹ | 7.1% of GDP |
| Population prevalence hepatitis B³ | Low: <2% |
| Population prevalence hepatitis C⁴ | High moderate: 2.0% - <5.0% |
| Population prevalence HIV⁵ | 0.9% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

In 2010, significant deficiencies in the Ukrainian blood system were identified.⁶ Despite the Ministry of Health's commitment to blood safety, no single individual or agency has full-time responsibility for the regulation and administration of the blood transfusion system.⁶ Most blood donors are paid and the level of HIV prevalence among blood donors in Ukraine is the highest in Europe.⁶

The laboratory system for blood donation screening in Ukraine is developed and is located at regional blood transfusion centres.⁶ However, this screening does not have quality assurance/quality control (QA/QC) systems in place, nor is there an active blood transfusion monitoring system (haemovigilance system) to accurately determine the rates of transfusion-transmitted infections.⁶ In 2008, a total of 21 cases of HIV infection were reported related to contamination of blood and/or blood products.⁶

The US President's Emergency Plan for AIDS Relief (PEPFAR) 2010 strategies for the Ukrainian blood system were:

- development of policies to allow creation of a nationally coordinated blood transfusion service
- development of a low-risk volunteer donor-oriented program
- development of QA/QC systems in laboratories to cover 100% of transfusions

- adequate training of blood system technical staff at all levels by 2013
- review of clinical blood utilization
- development of a monitoring and evaluation system⁶

PEPFAR continued to fund blood safety in Ukraine, with US\$517,790 allocated in 2015.⁶ \$300,000 of this was allocated to the American International Health Alliance (AIHA).⁷ AIHA's Blood Safety Project in Ukraine worked closely with the Ministry of Health and National Blood Transfusion Services.⁸

Several recent news stories describe blood donor campaigns and volunteer blood donors.^{9,10, 11}

NATIONAL SOCIETY (UKRAINIAN RED CROSS)

Community education activities are coordinated nationally by the National Society. They are funded by the National Society.

The Ukrainian Red Cross Society:

- does not receive technical assistance or financial support for VNRBD activities from outside the country
- indicated that it was not previously involved in blood at Level A or B, however in a previous global mapping survey in 2013/14, indicated that it was involved in blood activities at Level B
- is not planning to expand or scale back its level of blood related services

The Ukrainian Red Cross Society webpage reports that in 2011 there was continued advocacy for free donation, with the distribution of 38,000 flyers, 9,000 booklets and 500 publications in regional and district press.¹² 3200 gifts, 225 diplomas and 552 thanksgiving were awarded.¹²

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Jan 22]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/up.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2018 Jan 22]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Jan 22] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Jan 22] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Jan 22]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁶ US President's Emergency Plan for AIDS Relief (PEPFAR). Ukraine Operational Plan Report FY 2010 [Internet] PEPFAR 2012 [cited 2018 Jan 22]. Available from: <http://www.pepfar.gov/documents/organization/145739.pdf>

⁷ amfAR (The Foundation for AIDS Research). Making AIDS History. PEPFAR Country/Regional Operational Plans (COPs/ROPs) Database. [Internet] amfAR 2015 [cited 2018 Jan 22]. Available from: <http://copsdata.amfar.org/s/Ukraine/HMBL/2015>

⁸ The American International Health Alliance. Ukraine. [Internet] The American International Health Alliance 2016 [cited 2018 Jan 22]. Available from : <http://www.aiha.com/ukraine/>

⁹ Ukrainian Independent Information Agency. UN family members donate blood in Ukraine. [Internet] Ukrainian Independent Information Agency 2008 Jun 12 [cited 2018 Jan 22]. Available from: <https://www.unian.info/society/122838-un-family-members-donate-blood-in-ukraine.html>

¹⁰ Krasnikov D. Ukrainian tech startup aims to encourage blood donation. KyivPost. [Internet] 2016 Apr 15 [cited 2018 Jan 22]. Available from: <https://www.kyivpost.com/article/content/ukraines-it-edge/ukrainian-tech-startup-aims-to-encourage-blood-donation-412073.html>

¹¹ Censor.net. Kyiv residents in large numbers donate blood for Ukrainian soldiers wounded in ATO. [Internet] 2017 Feb 03 [cited 2018 Jan 22]. Available from: https://en.censor.net.ua/video_news/426333/kyiv_residents_in_large_numbers_donate_blood_for_ukrainian_soldiers_wounded_in_ato_its_my_civic_stance

¹² Red Cross Society of Ukraine. Donor. [Internet] Red Cross Society of Ukraine 2016 [cited 2018 Jan 22]. Available from: <http://redcross.org.ua/index.php?pageid=20>

ARMENIA



Armenian Red Cross Society:

- National society has no involvement at all, not even advocacy for voluntary non-remunerated blood donation

NATIONAL CONTEXT

| | |
|--|----------------------------------|
| Location | South-western Asia |
| Geographical size ranking¹ | 143 rd |
| Population (world ranking)¹ | 3 million (137 th) |
| Median age¹ | 35.1 |
| Political system¹ | Parliamentary democracy |
| GDP per capita (world ranking)¹ | \$9,100 (144 th) |
| HDI Index (world ranking)² | 0.743 - high (84 th) |
| Health Expenditure¹ | 4.5% of GDP |
| Population prevalence hepatitis B³ | Not available |
| Population prevalence hepatitis C⁴ | High: ≥5% |
| Population prevalence HIV⁵ | 0.2% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

In Armenia, there are 22 blood banks – 11 in Yerevan and 11 the regions. ⁶

In 2011, the Republic of Armenia “Human blood and its components’ donation and transfusion service” law was adopted. ⁶

In 2012, around 13,000 blood donations were conducted in Armenia – significantly below the 60,000 required. ⁶ With just 3.1 units of WB/RBC used per 1,000 population in 2009, Armenia had the lowest blood use reported amongst the countries examined in the Council of Europe report. ⁷

Armenia pays for donations, and just 5% of Armenia’s donations were VNRBD in 2010. ⁷

NATIONAL SOCIETY (ARMENIAN RED CROSS)

The Armenian Red Cross is not involved in any blood related activities and, according to their global mapping survey response, never has been.

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- ¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Jan 22]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/am.html>
- ² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2018 Jan 22]. Available from: <http://hdr.undp.org/en>
- ³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Jan 22] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>
- ⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Jan 22] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>
- ⁵ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Jan 22]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>
- ⁶ Sahakyan A. Social Good Summit Yerevan. YouTube. [Online video] 2013 Sept 24 [cited 2018 Jan 22]. Available from: <https://www.youtube.com/watch?v=efwbHn1PRIE>
- ⁷ Council of Europe. European Directorate for the Quality of Medicines & HealthCare of the Council of Europe (EDQM). Report of the survey on blood supply management organised by the TS003 Working Group in member states and observer states of the Council of Europe [Internet] Council of Europe 2012 [cited 2018 Jan 22] Available from: https://www.edqm.eu/medias/fichiers/report_survey_on_blood_supply_management_2012.pdf

DENMARK



Danish Red Cross:

- National society has no involvement at all, not even advocacy for voluntary non-remunerated blood donation

NATIONAL CONTEXT

| | |
|--|---------------------------------------|
| Location | Northern Europe |
| Geographical size ranking¹ | 134 th |
| Population (world ranking)¹ | 5.6 million (116 th) |
| Median age¹ | 41.8 |
| Political system¹ | Parliamentary constitutional monarchy |
| GDP per capita (world ranking)¹ | \$49,600 (31 st) |
| HDI Index (world ranking)² | 0.925 - very high (5 th) |
| Health Expenditure¹ | 10.8% of GDP |
| Efficiency of Healthcare³ | 34 th of 51 countries |
| Population prevalence hepatitis B⁴ | Low: <2% |
| Population prevalence hepatitis C⁵ | Very low: 0 - <1.0% |
| Population prevalence HIV⁶ | 0.2% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

By law, only public hospitals in Denmark are permitted to collect blood.⁷

In the 1990s, many hospital-based centres were amalgamated by the blood sector into five blood centres – each supporting a region covering 0.6 to 1.7 million people.⁸ Each blood centre is located in a major public hospital however they remain reasonably autonomous, assisting with resource sharing and collaborating on national blood issues.⁸

In 2001 the Organisation of Transfusion Centres in Denmark (OTCD) was established to coordinate national responsibility for the blood transfusion services in addition to representing the interests of Denmark's blood program.⁷

The Danish Health and Medicines Authority (DHMA) regulates medicines including blood products and is responsible for licensing the blood centres in line with EU Directives, as well as gathering data on serious adverse events including incidents related to the use of blood products.⁸

It is mandated by law that blood donors do not receive payment for giving blood.⁸ Some 66 local donor associations comprise the “Blood Donors in Denmark” federation, representing approximately

224,000 voluntary blood donors and are responsible for recruiting the majority of donors in Denmark, receiving a fee from the regional authorities for each donation recruited.⁸

Clinical guidelines changed to encourage more conservative use when it was recognized that Denmark transfused more blood per capita than any other country which led to a drop from 66 RBCs/1,000 population in 2003 to just below 50 RBCs/1,000 population in 2012.⁸

Denmark sells recovered plasma to CSL for fractionation, and the resulting plasma derivatives are distributed through hospital pharmacies.⁸ In 2012, Denmark sent approximately 61,000 litres of plasma to CSL.⁸

NATIONAL SOCIETY (DANISH RED CROSS)

The Danish Red Cross is not involved in any blood related activities. It was previously involved in blood at Level B, but this function has now been taken over by the government.

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Jan 22]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/da.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] Central Intelligence Agency 2016 [cited 2018 Jan 22]. Available from: <http://hdr.undp.org/en>

³ Bloomberg. Where Do You Get the Most for Your Health Care Dollar? [Internet] Bloomberg 2014 [cited 2018 Jan 22]. Available from: <https://www.bloomberg.com/graphics/infographics/most-efficient-health-care-around-the-world.html>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Jan 22] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁵ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Jan 22] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁶ Trading Economics. Denmark – Prevalence of HIV, total (% of population ages 15 – 49) [Internet] Trading Economics 2013 [cited 2018 Jan 22]. Available from: <https://tradingeconomics.com/denmark/prevalence-of-hiv-total-percent-of-population-ages-15-49-wb-data.html>

⁷ European Blood Alliance. Denmark.[Internet] European Blood Alliance 2018 [cited 2018 Jan 22]. Available from: <http://www.europeanbloodalliance.eu/membership/denmark>

⁸ MacPherson J. Blood Collections & Transfusion A Global Perspective 2014. Connecticut: The Marketing Research Bureau Inc: 2014. 203p.

FRANCE



French Red Cross:

- National society has no involvement at all, not even advocacy for voluntary non-remunerated blood donation

NATIONAL CONTEXT

| | |
|--|---------------------------------------|
| Location | Western Europe |
| Geographical size ranking¹ | 44 th |
| Population (world ranking)¹ | 67 million (21 st) |
| Median age¹ | 41.4 |
| Political system¹ | Semi-presidential republic |
| GDP per capita (world ranking)¹ | \$43,600 (39 th) |
| HDI Index (world ranking)² | 0.897 - very high (21 st) |
| Health Expenditure¹ | 11.5% of GDP |
| Efficiency of Healthcare³ | 8 th of 51 countries |
| Population prevalence hepatitis B⁴ | Low: <2% |
| Population prevalence hepatitis C⁵ | Very low: 0 - <1.0% |
| Population prevalence HIV⁶ | 0.4% (2016 est.) |



NATIONAL BLOOD PROGRAM

The French National Blood Service (EFS) was established in January 2000 as the only civilian blood transfusion organisation in France.⁷ Blood, plasma and platelets are collected.⁷ The safety of the transfusion chain from the donor to the receiver is guaranteed by EFS.⁷

In 2014 there were:

- 17 blood establishments, including 3 overseas
- 2 cord blood banks
- 91 health centres
- 9810 employees
- 147 blood collection sites
- 40,000 mobile donor sites
- 1 million patients treated
- 2,845,622 blood donations (whole blood, platelets, plasma)
- 1,602,203 blood donors
- 1500 hospitals and clinics supplied with labile blood products.⁸

France created its first law on blood transfusion in 1952 which prohibited the sale of blood for profit.⁹

Blood donors in France also do not receive payment for their donation.¹⁰ Large donor associations exist to recruit donors as well as promoting:

- blood donation
- safety in blood collection
- safe transfusion practices.¹⁰

Minimising wastage and optimising blood use are part of the role that the EFS plays by managing the transfusion services of 80% of hospitals that they supply.¹⁰ Hospitals purchase the blood products for a fee which is set by the Ministry of Health.¹⁰

France's biovigilance program is conducted by the Agence Française de Sécurité du Médicament et des Produits de Santé (ANSM), which in 2012 replaced the Agence Française de Sécurité Sanitaire et des Produits de Sanguins (AFSSAPS).¹⁰ The ANSM also regulates the blood centre licensing and inspections.¹⁰

In an effort to be self-sufficient for all blood and plasma products, EFS plasma is sent to private company Laboratoire Français du Fractionnement et des Biotechnologies (LFB) for fractionation into plasma-protein products.¹⁰

NATIONAL SOCIETY (FRENCH RED CROSS)

The French Red Cross is not involved in any blood related activities and, according to their global mapping survey response, never has been..

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Jan 22]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/fr.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2018 Jan 22]. Available from: <http://hdr.undp.org/en>

³ Bloomberg. Where Do You Get the Most for Your Health Care Dollar? [Internet] Bloomberg 2014 [cited 2018 Jan 22]. Available from: <https://www.bloomberg.com/graphics/infographics/most-efficient-health-care-around-the-world.html>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Jan 22] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁵ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Jan 22] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁶ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2018 [cited 2018 Jan 22]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁷ Ministry of Solidarity and Health. EFS (French Blood Establishment) [Internet] Ministry of Solidarity and Health 2015 Nov 13 [cited 2018 Jan 22]. Available from: <http://solidarites-sante.gouv.fr/ministere/acteurs/agences-et-operateurs/article/efs-etablissement-francais-du-sang>

⁸ French Blood Establishment. The link between the generosity of blood donors and the needs of the sick. Activity report 2014. [Internet] French Blood Establishment 2015 [cited 2018 Jan 22]. Available from: <https://www.efs.sante.fr/sites/instit/files/2016-08/RA2014-PDLO.pdf>

⁹ NATA. Network for the Advancement of Patient Blood Management, Haemostasis and Thrombosis. Evolving Laws and Regulations on Transfusion. [Internet] NATA 2018 [cited 2018 Jan 22]. Available from: <http://nataonline.com/np/406/evolving-laws-and-regulations-transfusion>

¹⁰ MacPherson J. Blood Collections & Transfusion A Global Perspective 2014. Connecticut: The Marketing Research Bureau Inc: 2014. 203p.

GREECE



Hellenic Red Cross:

- National society has no involvement at all, not even advocacy for voluntary non-remunerated blood donation

NATIONAL CONTEXT

| | |
|--|---------------------------------------|
| Location | Southern Europe |
| Geographical size ranking ¹ | 98 th |
| Population (world ranking) ¹ | 10.8 million (85 th) |
| Median age ¹ | 44.5 |
| Political system ¹ | Parliamentary republic |
| GDP per capita (world ranking) ¹ | \$27,800 (72 nd) |
| HDI Index (world ranking) ² | 0.866 - very high (29 th) |
| Health Expenditure ¹ | 8.1% of GDP |
| Efficiency of Healthcare ³ | 24 th of 51 countries |
| Population prevalence hepatitis B ⁴ | Low: <2% |
| Population prevalence hepatitis C ⁵ | Low moderate: 1.5% - <2.0% |
| Population prevalence HIV ⁶ | 0.1% (2014 est.) |



NATIONAL BLOOD PROGRAM

Greece's Blood Transfusion Services are made up of nine blood centres and 101 hospital transfusion services.⁷ By the end of 2012, Greece aimed to commence new reform, moving to an even more centralised framework with regulations consistent with the European legislation and the Council of Europe and WHO recommendations.⁷

Greece needs 600,000 – 700,000 units of blood each year with 30 - 40% of this amount currently provided by volunteers and an additional 30,000 units are imported from Switzerland annually.^{8,9} Two individuals frustrated with this situation and the blood systems' lack of a blood donor information system have set up Blood-e in 2012.⁹ Blood-e is a digital community of volunteer blood donors where those in need of blood can publish their requests.⁹

NATIONAL SOCIETY (HELLENIC RED CROSS)

The Hellenic Red Cross (HRC) is not involved in any blood related activities, however in a previous global mapping survey in 2008, indicated that it was involved in blood activities at Level C.

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- ¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Jan 23]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/gr.html>
- ² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2018 Jan 23]. Available from: <http://hdr.undp.org/en>
- ³ Bloomberg. Where Do You Get the Most for Your Health Care Dollar? [Internet] Bloomberg 2014 [cited 2018 Jan 23]. Available from: <https://www.bloomberg.com/graphics/infographics/most-efficient-health-care-around-the-world.html>
- ⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Jan 23] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>
- ⁵ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Jan 23] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>
- ⁶ Hellenic Centre for Disease Control & Prevention (HCDCP) E-bulletin. Recent data on HIV infection in Greece, October 2014. [Internet] Hellenic Centre for Disease Control & Prevention 2015 [cited 2018 Jan 23]. Available from: <http://www2.keelpno.gr/blog/?p=6240&lang=en>
- ⁷ Hellenic Republic – Ministry of Health. Laboratory Sector. Blood Donation Center. [Internet] Ministry of Health 2018 [cited 2018 Jan 23]. Available from: http://www.ahepahosp.gr/en_med3_aimod.asp
- ⁸ Matsaidoni T. November 7 dedicated to blood donation. Greek Reporter. [Internet] 2014 May 23 [cited 2018 Jan 23]. Available from: <http://greece.greekreporter.com/2014/05/23/november-7-dedicated-to-blood-donation/>
- ⁹ Nanopoulou K. This Startup Aims To Solve Greece's Blood Donor Problem. Huffington Post. [Internet] 2015 Jun 26 [cited 2018 Jan 23]. Available from: http://www.huffingtonpost.com.au/entry/greece-volunteer-blood-donors_n_7666358.html

ICELAND



Icelandic Red Cross:

- National society has no involvement at all, not even advocacy for voluntary non-remunerated blood donation

NATIONAL CONTEXT

| | |
|--|--------------------------------------|
| Location | Northern Europe |
| Geographical size ranking¹ | 109 th |
| Population (world ranking)¹ | 340 thousand (178 th) |
| Median age¹ | 36.5 |
| Political system¹ | Parliamentary republic |
| GDP per capita (world ranking)¹ | \$52,100 (24 th) |
| HDI Index (world ranking)² | 0.921 - very high (9 th) |
| Health Expenditure¹ | 8.9% of GDP |
| Population prevalence hepatitis B³ | Low: <2% |
| Population prevalence hepatitis C⁴ | Low: 1.0% - <1.5% |
| Population prevalence HIV⁵ | 0.3% (2011 est.) |



NATIONAL BLOOD PROGRAM

The Icelandic Blood Bank is the sole supplier of blood products in Iceland, approximately 7,000 to 8,000 people donating blood regularly (at least once a year).⁶ Registered donors comprise almost 2.5 percent of the total population in Iceland.⁶

The Blood Bank has two main collection sites located in the National University Hospital of Iceland and at Akureyri Hospital, as well as a mobile blood collection unit that operates in Reykjavik and visits towns in the North and West of the country.⁶

NATIONAL SOCIETY (ICELANDIC RED CROSS)

The Icelandic Red Cross is not involved in any blood related activities. It was previously involved in blood at Level A, but the Red Cross withdrew from blood drive activities in 1995 and the government took on this responsibility.

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Jan 23]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/ic.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2018 Jan 23]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Jan 23] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Jan 23] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ World Health Organization. Regional Office for Europe. Key Facts on HIV Epidemic in Iceland and Progress in 2011 [Internet] World Health Organization 2013 [cited 2018 Jan 23]. Available from: http://www.euro.who.int/_data/assets/pdf_file/0007/191077/Iceland-HIVAIDS-Country-Profile-2011-revision-2012-final.pdf

⁶ National University Hospital. Blood Bank. Blood Donation in Iceland. [Internet] National University Hospital [cited 2018 Jan 23] Available from: <http://blodbankinn.is/blodgjafar/english/>

IRELAND



Irish Red Cross:

- National society has no involvement at all, not even advocacy for voluntary non-remunerated blood donation

NATIONAL CONTEXT

| | |
|--|--------------------------------------|
| Location | Western Europe |
| Geographical size ranking¹ | 121 st |
| Population (world ranking)¹ | 5 million (121 st) |
| Median age¹ | 36.8 |
| Political system¹ | Parliamentary republic |
| GDP per capita (world ranking)¹ | \$72,600 (11 th) |
| HDI Index (world ranking)² | 0.923 - very high (8 th) |
| Health Expenditure¹ | 7.8% of GDP |
| Population prevalence hepatitis B³ | Low: <2% |
| Population prevalence hepatitis C⁴ | Low: 1.0% - <1.5% |
| Population prevalence HIV⁵ | 0.2% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

The Irish Blood Transfusion Service (IBTS) is a not-for-profit organisation under the Ministry of Health that was established in 1965⁶ when the National Blood Transfusion Service in Dublin merged with two former services located in Cork and Limerick.⁷ The IBTS is the country's only provider of blood for transfusion and consists of the National Blood Centre which operates in Dublin and a regional centre located in Cork.⁷

The regulatory authority for blood products and establishments is the Irish Medicines Board (IMB), responsible for collecting data on serious adverse reactions from blood and passing it onto the National Haemovigilance Office for review.⁷

Federal law governs that blood donors should not receive payment for giving blood, therefore all donors are voluntary, non-remunerated.⁷

Hospitals purchase blood for a fee which is set by the IBTS and approved by the government.⁷

IBTS also manages the Irish Unrelated Bone Marrow Registry and the IBTS tissue bank comprised of the National Eye Bank, the Heart Valve Bank and the Directed/sibling umbilical cord blood bank.^{7,8,9}

NATIONAL SOCIETY (IRISH RED CROSS)

The Irish Red Cross is not involved in any blood related activities.

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Jan 23]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/ei.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2018 Jan 23]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] United Nations Development Programme 2016 [cited 2018 Jan 23] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] United Nations Development Programme 2016 [cited 2018 Jan 23] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Jan 23]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁶ Irish Blood Transfusion Service. About Us [Internet] Irish Blood Transfusion Service 2018 [cited 2018 Feb 26]. Available from: <https://www.giveblood.ie/About-Us/>

⁷ MacPherson J. Blood Collections & Transfusion A Global Perspective 2014. Connecticut: The Marketing Research Bureau Inc: 2014. 203p.

⁸ Irish Blood Transfusion Service. Clinical Services [Internet] Irish Blood Transfusion Service 2018 [cited 2018 Feb 26]. Available from: <https://www.giveblood.ie/Clinical-Services/>

⁹ European Blood Alliance. Ireland [Internet] European Blood Alliance 2017 [cited 2018 Feb 26]. Available from: <http://www.europeanbloodalliance.eu/membership/ireland/>

LITHUANIA



Lithuanian Red Cross Society:

- National society has no involvement at all, not even advocacy for voluntary non-remunerated blood donation.

NATIONAL CONTEXT

| | |
|--|---------------------------------------|
| Location | Eastern Europe |
| Geographical size ranking¹ | 124 th |
| Population (world ranking)¹ | 2.8 million (140 th) |
| Median age¹ | 43.7 |
| Political system¹ | Semi presidential republic |
| GDP per capita (world ranking)¹ | \$31,900 (60 th) |
| HDI Index (world ranking)² | 0.848 - very high (37 th) |
| Health Expenditure¹ | 6.6% of GDP |
| Population prevalence hepatitis B³ | Low: <2% |
| Population prevalence hepatitis C⁴ | High moderate: 2.0% - <5.0% |
| Population prevalence HIV⁵ | 0.2% (2016 est.) |



NATIONAL BLOOD PROGRAM

There are three blood centres in Lithuania:

- the National Blood Centre founded by the Ministry of Health which collects 70% of all blood and component donations.
- two hospital based blood banks which produce blood components only for their own hospital.⁶

In 2015 there were 70,774 donations, 74.5% of these were VNRBD.⁶ Paid donations are classed as the donor being compensated for donation time and travel expenses (12 Euro per donation), which is covered by the Government of Lithuania.⁶

The National Blood Centre:

- is licenced for blood establishment activity
- is licenced for manufacturing plasma derivatives
- is GMP certified
- was certified with ISO 9001:2008 in 2009⁷

The Ministry of Health is responsible for the coordination of blood establishments' activities.⁷

NATIONAL SOCIETY (LITHUANIAN RED CROSS)

The Lithuanian Red Cross Society is not involved in blood activities, but was previously involved at Level C. The survey response indicates that all activities related to blood donation and blood donors are now carried out by National Blood Centre.

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Jan 24]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/lh.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2018 Jan 24]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Jan 24] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Jan 24] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Jan 24]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁶ European Blood Alliance. Lithuania [Internet] European Blood Alliance 2017 [cited 2018 Jan 24]. Available from: <http://www.europeanbloodalliance.eu/membership/lithuania/>

⁷ Council of Europe. European Directorate for the Quality of Medicines & HealthCare of the Council of Europe (EDQM). Report of the survey on blood supply management organised by the TS003 Working Group in member states and observer states of the Council of Europe [Internet] Council of Europe 2012 [cited 2018 Jan 24] Available from: https://www.edqm.eu/medias/fichiers/report_survey_on_blood_supply_management_2012.pdf

MONACO



Red Cross of Monaco:

- National society has no involvement at all, not even advocacy for voluntary non-remunerated blood donation.

NATIONAL CONTEXT

| | |
|--|-------------------------------------|
| Location | Western Europe |
| Geographical size ranking¹ | 253 rd |
| Population (world ranking)¹ | 31 thousand (217 th) |
| Median age¹ | 53.1 |
| Political system¹ | Constitutional monarchy |
| GDP per capita (world ranking)¹ | \$115,700 (3 rd) |
| HDI Index (world ranking)² | n/a |
| Health Expenditure¹ | 4.3% of GDP |
| Population prevalence hepatitis B³ | Low: <2% (Western Europe) |
| Population prevalence hepatitis C⁴ | Moderate: 1.5-3.5% (Western Europe) |
| Population prevalence HIV | n/a |



NATIONAL BLOOD PROGRAM

Monaco's Blood Transfusion Centre is located at the Princess Grace Hospital.⁵ The Blood Transfusion Centre organises blood donations on-site and in mobile blood donation units in the Principality.⁶ Blood donations in Monaco are 100% VNRBD.⁷

NATIONAL SOCIETY (RED CROSS OF MONACO)

The Red Cross of Monaco is not directly involved in blood activities; however they do have a separate organisation, linked to the Red Cross which deals with donor motivation. The Blood Donors Friendly Society, an association of the Monaco Red Cross with 1600 members:

- promotes anonymous, volunteer and non-renumerated blood donation
- maintains donor relationships
- represents donors before authorities and administration⁸

IFRC data shows that in 2013, 2,390 people donated blood at or with the assistance of the Red Cross of Monaco.⁹

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- ¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Jan 24]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/mn.html>
- ² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2018 Jan 24]. Available from: <http://hdr.undp.org/en>
- ³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention Centres for Disease Control and Prevention 2016 [cited 2018 Jan 24] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>
- ⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2018 Jan 24] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>
- ⁵ Centre Hospitalier Princesse Grace. Blood Donation. [Internet] Centre Hospitalier Princesse Grace 2016 [cited 2018 Jan 24]. Available from : <https://www.chpg.mc/don-du-sang/>
- ⁶ Public Services of the Princely Government of Monaco. Blood donations. [Internet] Public Services of the Princely Government of Monaco 2017 [cited 2018 Jan 24]. Available from: <http://en.service-public-particuliers.gouv.mc/Social-health-and-families/Public-health/Useful-information/Blood-donations>
- ⁷ World Health Organisation. Countries that reported having achieved 100% voluntary non-remunerated blood donation in 2008. [Internet] World Health Organisation 2011 [cited 2018 Jan 24]. Available from: http://www.who.int/bloodsafety/voluntary_donation/countries_100pct_vnrbd_2011.pdf?ua=1
- ⁸ Monaco Red Cross. Blood Donors Friendly Society. [Internet] Monaco Red Cross 2017 [cited 2018 Jan 24]. Available from: <http://www.croix-rouge.mc/en/what-we-do/associations/blood-donors-friendly-society/>
- ⁹ International Federation of Red Cross and Red Crescent Societies. Federation-Wide Databank and Reporting System. National Society Profiles – Monaco Red Cross. [Internet] International Federation of Red Cross and Red Crescent Societies 2016 [cited 2018 Jan 24]. Available from: <http://data.ifrc.org/fdrs/societies/red-cross-of-monaco>

NETHERLANDS, THE



The Netherlands Red Cross:

- National society has no involvement at all, not even advocacy for voluntary non-remunerated blood donation.

NATIONAL CONTEXT

| | |
|--|---------------------------------------|
| Location | Western Europe |
| Geographical size ranking¹ | 135 th |
| Population (world ranking)¹ | 17.1 million (66 th) |
| Median age¹ | 42.6 |
| Political system¹ | Parliamentary constitutional monarchy |
| GDP per capita (world ranking)¹ | \$53,600 (22 nd) |
| HDI Index (world ranking)² | 0.924 - very high (7 th) |
| Health Expenditure¹ | 10.9% of GDP |
| Efficiency of Healthcare³ | 40 th of 51 countries |
| Population prevalence hepatitis B⁴ | Low: <2% |
| Population prevalence hepatitis C⁵ | Very low: 0 - <1.0% |
| Population prevalence HIV⁶ | 0.2% (2014) |



NATIONAL BLOOD PROGRAM

In 1998 the Dutch blood banks and the Central Laboratory of the Netherlands Red Cross Blood Transfusion Service (CLB) merged to form Sanquin.^{7,8} The not-for-profit Sanquin Blood Supply Foundation is the sole organisation in the Netherlands permitted to manage blood and blood products.^{7,8}

Blood is purchased by the hospitals for a fee which the Dutch Ministry of Health must approve every year.⁹

Regional blood donor organisations help Sanquin with blood donor recruitment and creating awareness of the need for blood.⁹ A National Donor Council run by donors assists Sanquin with the following:

- coordination of blood donor organisation activities
- providing advice on donor policy and recognition
- handling feedback from donors and donor organizations.⁹

In 2016, there were a total of 726,565 blood donations made and 343,112 registered donors.¹⁰ 2016 also saw Sanquin finalise a draft for the expansion of their plasma production plant, Sanquin Plasma Products aimed to improve their good manufacturing practices.¹⁰

NATIONAL SOCIETY (THE NETHERLANDS RED CROSS)

The Netherlands Red Cross is not involved in blood activities, but was previously involved at Level A.

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Jan 24]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/nl.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2018 Jan 24]. Available from: <http://hdr.undp.org/en>

³ Bloomberg. Where Do You Get the Most for Your Health Care Dollar? [Internet] Bloomberg 2014 [cited 2018 Jan 24]. Available from: <https://www.bloomberg.com/graphics/infographics/most-efficient-health-care-around-the-world.html>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Jan 24] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁵ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Jan 24] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁶ UNGASS Country Progress Report. The Netherlands and Parts of the Dutch Kingdom in the Caribbean. [Internet] UNGASS 2014 Mar 31 [cited 2018 Jan 24]. Available from: http://www.unaids.org/sites/default/files/country/documents/NLD_narrative_report_2014.pdf

⁷ Sanquin. About Sanquin [Internet] Sanquin 2016 May 19 [cited 2018 Feb 26]. Available from: <https://www.sanquin.nl/en/about/about-sanquin/>

⁸ European Blood Alliance. The Netherlands. [Internet] European Blood Alliance 2017 [cited 2018 Jan 24]. Available from: <http://www.europeanbloodalliance.eu/membership/the-netherlands/>

⁹ MacPherson J. Blood Collections & Transfusion A Global Perspective 2014. Connecticut: The Marketing Research Bureau Inc: 2014. 203p

¹⁰ Sanquin. Annual Report 2016 [Internet]. Sanquin 2017 [cited 2018 Feb 26]. Available from: https://www.sanquin.nl/repository/documenten/nl/over-sanquin/over-sanquin/37356/Sanquin_Annual_report_2016.pdf

PORTUGAL



Portuguese Red Cross:

- National society has no involvement at all, not even advocacy for voluntary non-remunerated blood donation.

NATIONAL CONTEXT

| | |
|--|---|
| Location | South-western Europe |
| Geographical size ranking¹ | 112 th |
| Population (world ranking)¹ | 10.8 million (84 th) |
| Median age¹ | 42.2 |
| Political system¹ | Semi-presidential republic |
| GDP per capita (world ranking)¹ | \$ 30,300 (65 th) |
| HDI Index (world ranking)² | 0.843 - very high (41 st) |
| Health Expenditure¹ | 9.5% of GDP |
| Efficiency of Healthcare³ | 28 th of 51 countries |
| Population prevalence hepatitis B⁴ | Low: <2% |
| Population prevalence hepatitis C⁵ | Low Moderate: 1.5-<2.05% |
| Population prevalence HIV⁶ | <0.5% (approx. 44,000 people living with HIV) |



NATIONAL BLOOD PROGRAM

The Portuguese Institute of Blood and Transplantation (IPST, IP) was established in 2012 and is responsible for 60% of blood transfusion services in the country.^{7,8} The remaining 40% is collected by hospitals.⁷ The IPST, IP have three blood centres in Lisbon, Coimbra and Porto who collect, process and distribute blood and provide oversight of blood services in their region.⁸ 80% of blood collections by the IPST, IP are from mobile sites.⁷

Portugal has a national VNRBD rate of 100%.⁷

The IPST, IP is responsible for ensuring availability of safe blood products for the country, the development and monitoring of quality standards (including international standards), administrative and financial management rules for blood centres and promotion of research on blood related developments and technologies.⁸

The IPST, IP are also responsible for haemovigilance as well as a Bone Marrow Donor Registry, Public Cord Blood Bank, Multiorgan Tissue Bank and they provide national coordination of Organ Transplantation.⁷

Blood is sold to hospitals for a fee; in 2012 a unit of red blood cells cost approx. US\$260.⁹

In 2010, pathogen reduction was introduced for platelets and in 2014 this was extended to plasma.⁷

NATIONAL SOCIETY (PORTUGUESE RED CROSS)

The Portuguese Red Cross is not currently involved in blood activities, but previously assisted the government with mobilisation of blood donors (Level B).

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2017 Dec 12]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/po.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2017 Dec 12]. Available from: <http://hdr.undp.org/en/countries/profiles/PRT>

³ Bloomberg. Where Do You Get the Most for Your Health Care Dollar? [Internet] Bloomberg 2014 [cited 2017 Dec 12]. Available from: <https://www.bloomberg.com/graphics/infographics/most-efficient-health-care-around-the-world.html>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2017 Dec 12] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁵ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2017 Dec 12] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁶ UNAIDS. Country Factsheets Portugal [Internet] UNAIDS 2017 [cited 2017 Dec 12]. Available from: <http://www.unaids.org/en/regionscountries/countries/portugal/>

⁷ European Blood Alliance. Membership Portugal [Internet] European Blood Alliance 2017 [cited 2017 Dec 12] Available from: <http://www.europeanbloodalliance.eu/membership/portugal/>

⁸ Portuguese Ministry of Health. Portuguese Institute of Blood and Transplant [Internet] Portuguese Ministry of Health 2015 [cited 2017 Dec 12] Available from: <https://www.portaldocidadao.pt/en/web/instituto-portugues-do-sangue-e-da-transplantacao>

⁹ MacPherson J. Blood Collections & Transfusion A Global Perspective 2014. Connecticut: The Marketing Research Bureau Inc: 2014. 203p

SAN MARINO



Red Cross of the Republic of San Marino:

- National society has no involvement at all, not even advocacy for voluntary non-remunerated blood donation.

NATIONAL CONTEXT

| | |
|--|----------------------------------|
| Location | Southern Europe |
| Geographical size ranking¹ | 229 th |
| Population (world ranking)¹ | 34 thousand (215 th) |
| Median age¹ | 44.4 |
| Political system¹ | Parliamentary republic |
| GDP per capita (world ranking)¹ | \$59,500 (19 th) |
| HDI Index (world ranking)² | n/a |
| Health Expenditure¹ | 6.1% of GDP |
| Population prevalence hepatitis B³ | Not available |
| Population prevalence hepatitis C⁴ | Not available |
| Population prevalence HIV⁵ | 0.24% (2011 est.) |



NATIONAL BLOOD PROGRAM

The Hospital of San Marino has a Department of Transfusion Medicine and Clinical Pathology.⁶ Through the support of the Association of Volunteers in San Marino of Blood and Organs (Associazione Volontari Sammarinesi del Sangue e degli Organi), the Department of Transfusion Medicine and Clinical Pathology procures, stores and distributes blood components and blood products necessary to the activities of hospital departments.⁶

In 2012, San Marino implemented European Standards setting out the rules, quality and safety for the collection, control, the production, storage and distribution of blood human and its components and blood products.⁷

San Marino achieved 100% VNRBD in 2008.⁸

NATIONAL SOCIETY (RED CROSS OF THE REPUBLIC OF SAN MARINO)

The Red Cross of the Republic of San Marino is not involved in any blood activities. They previously responded as Level C to the 2008 GAP Global Mapping survey.

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- ¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Jan 25]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/sm.html>
- ² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2018 Jan 25]. Available from: <http://hdr.undp.org/en>
- ³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Jan 25] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>
- ⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Jan 25] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>
- ⁵ World Health Organisation. Regional Office for Europe. Key facts on HIV epidemic in San Marino and progress in 2011. [Internet] World Health Organisation 2013 [cited 2018 Jan 25]. Available from: http://www.euro.who.int/_data/assets/pdf_file/0010/191089/San-Marino-HIVAIDS-Country-Profile-2011-revision-2012-final.pdf?ua=1
- ⁶ Republic of San Marino. Institute for Social Security. Transfusion Medicine and Clinical Pathology. [Internet] Republic of San Marino [cited 2018 Jan 25] Available from: <http://www.iss.sm/on-line/home/dipartimento-ospedale/medicina-trasfusionale-e-patologia-clinica-laboratorio-analisi.html>
- ⁷ Repubblica Di San Marino. Consiglio Grande e Generale. DD 93/2012 Implementation of European directives that establish quality and safety standards for the collection, control, processing, storage and distribution of human blood, its components and blood derivatives. [Internet] Repubblica Di San Marino 2012 [cited 2018 Jan 25]. Available from: <http://www.consigliograndeegenerale.sm/on-line/home/in-evidenza-in-home-page/scheda17127871.html>
- ⁸ World Health Organisation. Countries that reported having achieved 100% voluntary non-remunerated blood donation in 2008. [Internet] World Health Organisation 2011 [cited 2018 Jan 25]. Available from: http://www.who.int/bloodsafety/voluntary_donation/countries_100pct_vnrbd_2011.pdf?ua=1

SWEDEN



Swedish Red Cross:

- National society has no involvement at all, not even advocacy for voluntary non-remunerated blood donation.

NATIONAL CONTEXT

| | |
|--|---------------------------------------|
| Location | Northern Europe |
| Geographical size ranking¹ | 57 th |
| Population (world ranking)¹ | 10 million (91 st) |
| Median age¹ | 41.2 |
| Political system¹ | Parliamentary constitutional monarchy |
| GDP per capita (world ranking)¹ | \$51,300 (26 th) |
| HDI Index (world ranking)² | 0.913 - very high (14 th) |
| Health Expenditure¹ | 11.9% of GDP |
| Efficiency of Healthcare³ | 20 th of 51 countries |
| Population prevalence hepatitis B⁴ | Low: <2% |
| Population prevalence hepatitis C⁵ | Very low: 0 - <1.0% |
| Population prevalence HIV⁶ | 0.2% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

Responsibility for the blood system in Sweden is delegated to the six Swedish health service regions.⁷ Approximately 30 regional universities principally coordinate the blood supply and, along with county hospital blood centres, undertake the collection and processing of blood.⁸ The regions cooperate with regard to national blood promotion, resource sharing and other joint tasks.⁸

The Swedish Medical Products Agency under the Ministry of Health is responsible for the blood centres and performs centre inspections every two years.⁸

The Swedish Society for Transfusion Medicine performs the following functions:

- oversight of the entire blood collection, testing, production, storage and distribution processes
- production of manuals, guidelines and annual reports
- operating the national haemovigilance program
- monitoring blood production and use⁹

In 2004, the Swedish Blood Alliance (SweBA) was formed as a not-for-profit organisation to formally coordinate activities between the regions.⁷ It is a member of the European Blood Alliance and other international organisations.^{7,9}

In Sweden in 2012:

- approximately 229,000 people donated
- 460,779 blood donations were collected
- 132,000 litres of plasma were sold to Octapharma for fractionation⁸

There are no paid donations - 100% of donations are VNRBD.¹⁰

Despite the fact that blood collection and processing is performed by the hospital blood centres, the hospitals still have to purchase their blood from the blood banks and prices vary by region.⁸

NATIONAL SOCIETY (SWEDISH RED CROSS)

The Swedish Red Cross is not involved in any blood related activities and, according to their global mapping survey response, never has been.

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Jan 24]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/sw.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2018 Jan 24]. Available from: <http://hdr.undp.org/en>

³ Bloomberg. Where Do You Get the Most for Your Health Care Dollar? [Internet] v2014 [cited 2018 Jan 24]. Available from: <https://www.bloomberg.com/graphics/infographics/most-efficient-health-care-around-the-world.html>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Jan 24] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁵ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Jan 24] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁶ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Jan 24]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁷ Swedish Blood Alliance. About Us, Regions [Internet] 2011 Jul 27 [cited 2018 Feb 26]. Available from: <http://www.sweba.se/regionerna>

⁸ MacPherson J. Blood Collections & Transfusion A Global Perspective 2014. Connecticut: The Marketing Research Bureau Inc: 2014. 203p.

⁹ European Blood Alliance. Sweden. [Internet] European Blood Alliance 2017 [cited 2018 Jan 24]. Available from: <http://www.europeanbloodalliance.eu/membership/sweden/>

¹⁰ Council of Europe. European Directorate for the Quality of Medicines & HealthCare of the Council of Europe (EDQM). Report of the survey on blood supply management organised by the TS003 Working Group in member states and observer states of the Council of Europe [Internet] Council of Europe 2012 [cited 2018 Jan 24] Available from: https://www.edqm.eu/medias/fichiers/report_survey_on_blood_supply_management_2012.pdf

TURKMENISTAN



Red Crescent Society of Turkmenistan:

- National society has no involvement at all, not even advocacy for voluntary non-remunerated blood donation

NATIONAL CONTEXT

| | |
|--|-------------------------------------|
| Location | Central Asia |
| Geographical size ranking¹ | 54 th |
| Population (world ranking)¹ | 5.4 million (119 th) |
| Median age¹ | 27.9 |
| Political system¹ | Presidential republic |
| GDP per capita (world ranking)¹ | \$18,700 (94 th) |
| HDI Index (world ranking)² | 0.691 - medium (111 th) |
| Health Expenditure¹ | 2.1% of GDP |
| Population prevalence hepatitis B³ | Not available |
| Population prevalence hepatitis C⁴ | High: ≥5% |
| Population prevalence HIV⁵ | <0.1% |



NATIONAL BLOOD PROGRAM

The Turkmenistan Blood Service is organized nationally, supported by dedicated legislation and regulations approved by the Ministry of Health and Medical Industry, and fully financed from the state budget.⁶

The national blood service is comprised of 4 regional blood banks, 38 offices and 18 ambulatory blood transfusion departments, with additional blood transfusion service units in many large medical institutions.⁶

The national health authority commenced rebuilding health facilities and selected blood banks and a new blood centre is being built in Ashgabat.⁶

Turkmenistan's program to ensure a safe and uninterrupted blood supply to its population is in contrast to that of the World Health Organisation recommendations with paid donors used to create a reliable blood supply, in line with the Resolution of the President of Turkmenistan.⁷ From 1st April 2013, the rates of monetary payments to blood donors as well as the cost of their meals on the day of blood donation are fixed in Turkmenistan.⁷

NATIONAL SOCIETY (RED CRESCENT OF TURKMENISTAN)

The Red Crescent Society of Turkmenistan is not involved in blood activities. It was involved in blood donation activities until 1989 at Level B, but these activities are now performed by the Ministry of Health as the Red Crescent Society of Turkmenistan had insufficient funds to maintain involvement.

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Jan 25]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/tx.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2018 Jan 25]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Jan 25] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Jan 25] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ World Health Organization. Global Health Observatory (GHO) Data. World Health Statistics 2010 [Internet] World Health Organization 2010 [cited 2018 Jan 25]. Available from: http://www.who.int/gho/publications/world_health_statistics/en/

⁶ World Health Organisation. Regional Office for Europe. Blood safety. Turkmenistan. [Internet] World Health Organization 2018 [cited 2018 Jan 25]. Available from: <http://www.euro.who.int/en/health-topics/Health-systems/blood-safety/archive/turkmenistan>

⁷ The rates of monetary payments to blood donors are fixed. Turkmenistan Golden Age. [Internet] 2013 Mar 19 [cited 2018 Feb 26]. Available from: <http://www.turkmenistan.gov.tm/eng/?id=2029>

UNITED KINGDOM



British Red Cross:

- National society has no involvement at all, not even advocacy for voluntary non-remunerated blood donation.

NATIONAL CONTEXT

| | |
|--|---------------------------------------|
| Location | Western Europe |
| Geographical size ranking¹ | 81 st |
| Population (world ranking)¹ | 65 million (22 nd) |
| Median age¹ | 40.5 |
| Political system¹ | Parliamentary constitutional monarchy |
| GDP per capita (world ranking)¹ | \$43,600 (40 th) |
| HDI Index (world ranking)² | 0.909 - very high (16 th) |
| Health Expenditure¹ | 9.1% of GDP |
| Efficiency of Healthcare³ | 10 th of 51 countries |
| Population prevalence hepatitis B⁴ | Low: <2% |
| Population prevalence hepatitis C⁵ | Very low: 0 - <1.0% |
| Population prevalence HIV⁶ | 0.16% |



NATIONAL BLOOD PROGRAM

The United Kingdom has four Blood Transfusion Services:

- National Health Service Blood and Transplant (NHSBT) for England and North Wales
- Scottish National Blood Transfusion Service (SNBTS)
- Welsh Blood Service (WBS)
- Northern Ireland Blood Transfusion Service (NIBTS)⁷

Each is coordinated in their respective country and therefore reports to the relevant national health minister.⁷ Cooperation between the services is coordinated by the UK Blood Services Forum which has a Joint Professional Advisory Committee (JPAC) involved with advice and standards, and publishes the transfusion guidelines, termed the “Red Book”.⁷ UK ministers and health departments rely on the Advisory Committee on the Safety of Blood, Tissues and Organs (SaBTO) for advice on the best ways to safeguard the safety of blood, cells, tissues and organs for transfusion/transplantation.⁷

NATIONAL SOCIETY (BRITISH RED CROSS)

The British Red Cross is not involved in any blood related activities. It was previously involved in blood at Level C. The establishment of the National Health Service in 1948 meant a supporting role only for the British Red Cross and this ceased entirely in 1987.

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2018 Jan 25]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/uk.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2018 Jan 25]. Available from: <http://hdr.undp.org/en>

³ Bloomberg. Where Do You Get the Most for Your Health Care Dollar? [Internet] Bloomberg 2014 [cited 2018 Jan 25]. Available from: <https://www.bloomberg.com/graphics/infographics/most-efficient-health-care-around-the-world.html>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Jan 25] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

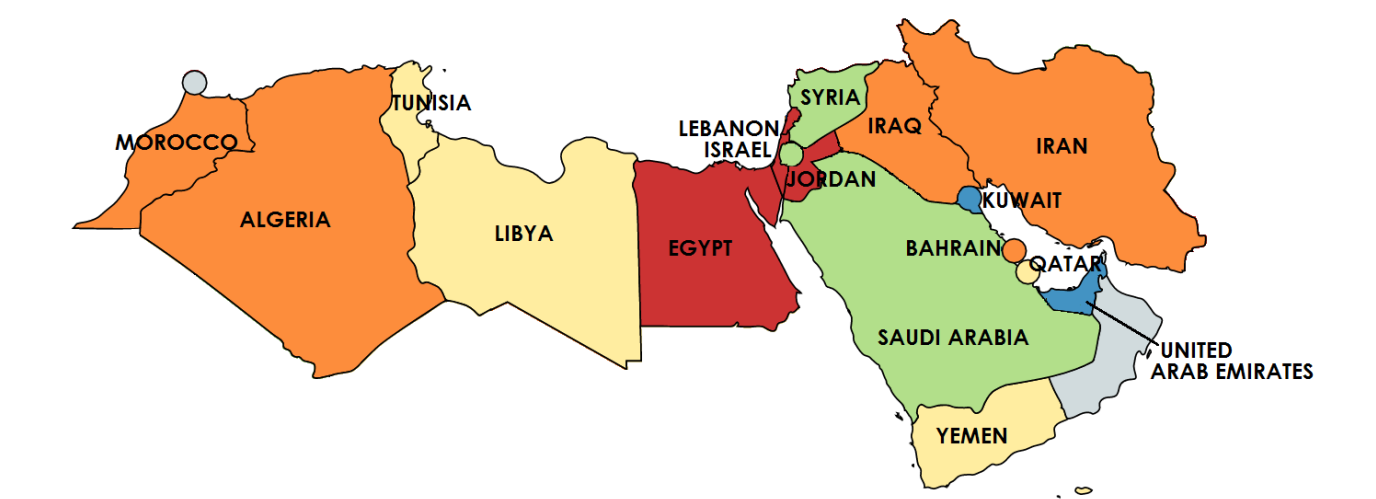
⁵ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2018 Jan 25] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁶ Public Health England. HIV in the UK 2016 Report. [Internet] Public Health England 2016 [cited 2018 Jan 25]. Available from: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/602942/HIV_in_the_UK_report.pdf

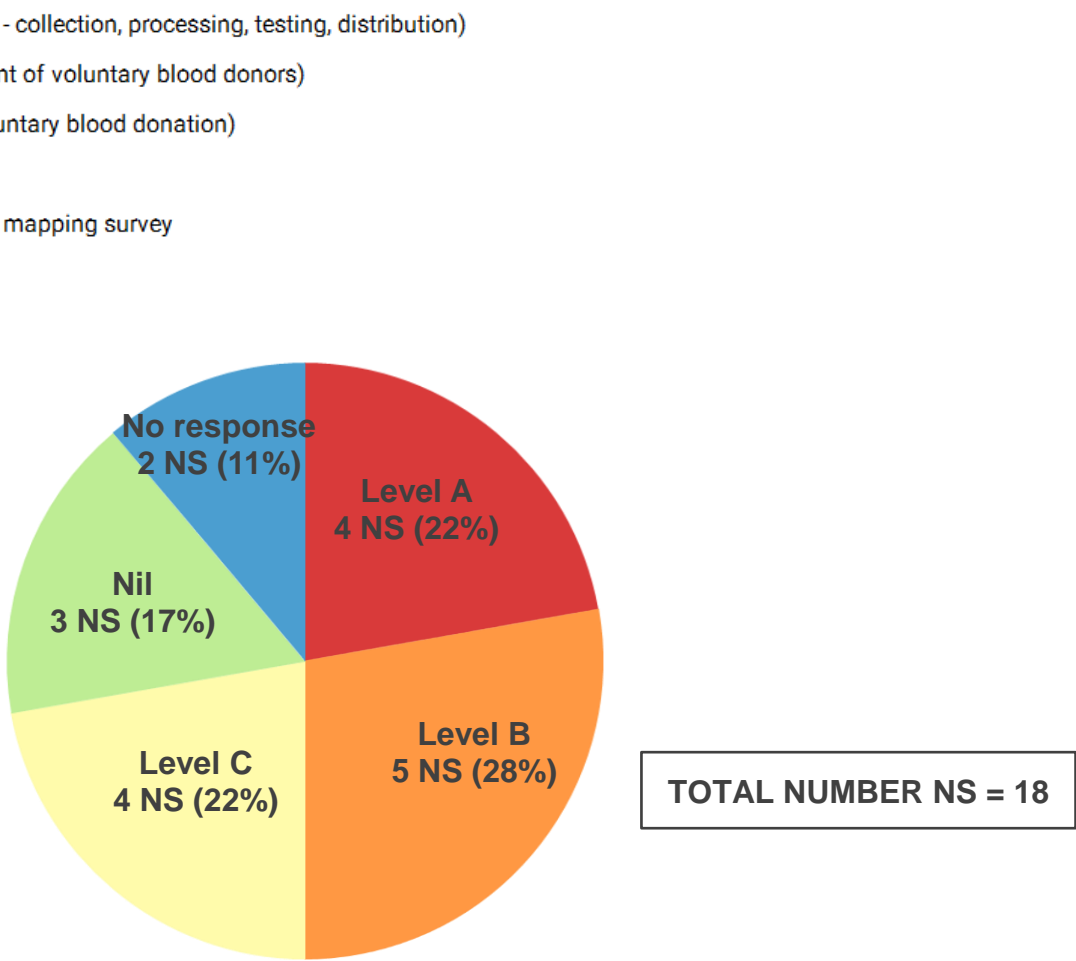
⁷ European Blood Alliance. United Kingdom. [Internet] European Blood Alliance 2018 [cited 2018 Jan 25]. Available from: <http://www.europeanbloodalliance.eu/membership/united-kingdom/>

MIDDLE EAST AND NORTHERN AFRICA

NATIONAL SOCIETY (NS) INVOLVEMENT IN BLOOD PROGRAMS BY LEVEL

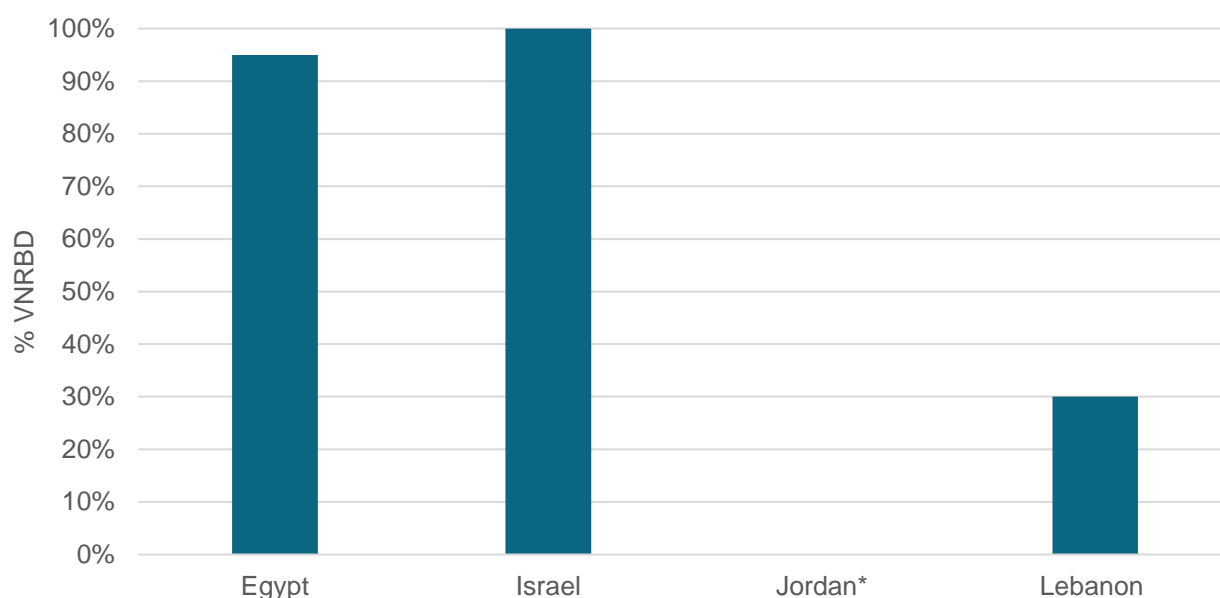


Created with mapchart.net ©



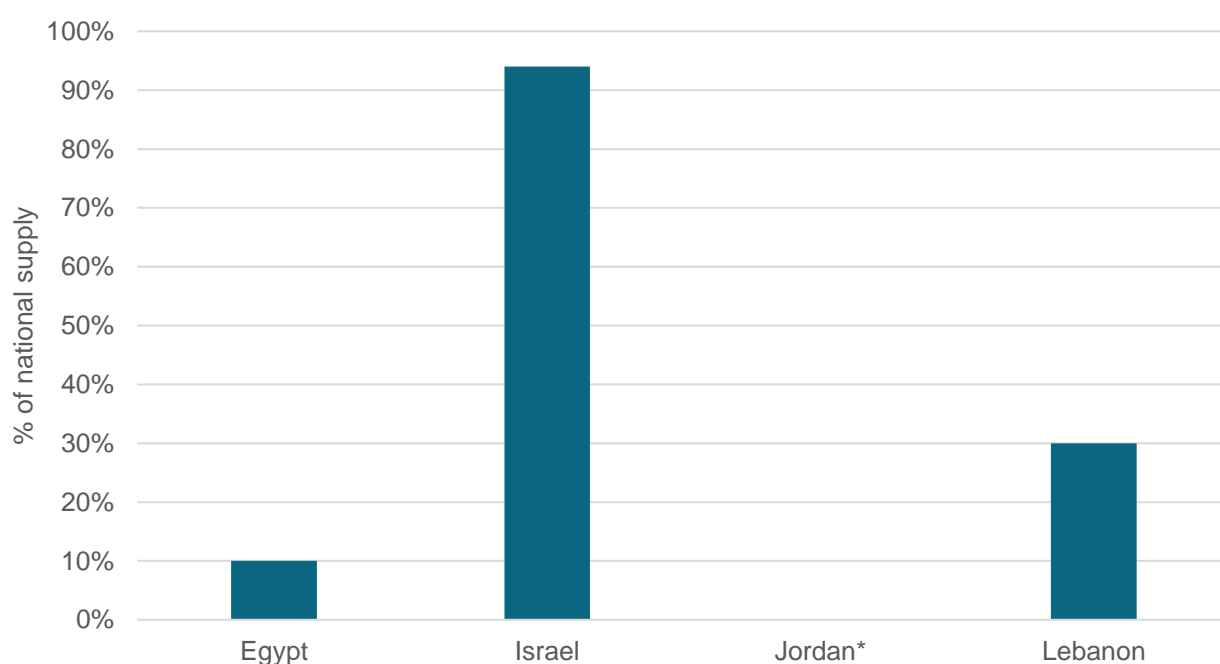
FOCUS ON **LEVEL A** NATIONAL SOCIETY BLOOD SERVICES IN THE REGION

1 out of 4 NSBS have achieved **100% VNRBD**



* Information unknown

0 out of 4 NSBS provide **100% of the national blood supply**



* Information unknown

EGYPT



Egyptian Red Crescent Society:

- Level A (undertakes full blood service provision)
- 10% of the national total blood collection
- 95% VNRBD

NATIONAL CONTEXT

| | |
|--|-------------------------------------|
| Location | Northern Africa |
| Geographical size ranking¹ | 31st |
| Population (world ranking)¹ | 97 million (14 th) |
| Median age¹ | 23.8 |
| Political system¹ | Presidential republic |
| GDP per capita (world ranking)¹ | \$13,000 (119 th) |
| HDI Index (world ranking)² | 0.690 - medium (108 th) |
| Health Expenditure¹ | 5.6% of GDP |
| Population prevalence hepatitis B³ | Low: <2% |
| Population prevalence hepatitis C⁴ | High: >5% |
| Population prevalence HIV⁵ | 0.02% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

The providers of blood in Egypt are:

- National Blood Transfusion Services (22) – 60%
- Ministry of Health – 25%
- Egyptian Red Crescent Blood Banks – 10%
- Universities / private – 5%

In 1996, with the Swiss government, Egypt's Blood Transfusion Services commenced a project for major restructure.⁶ The project comprised of three phases, with the first to establish the National Blood Transfusion Centre (NBTC) and eight Regional Blood Transfusion Centres (RBTC's) to guarantee quality collecting, testing and processing of blood.⁶ The National Blood Transfusion Centre (NBTC) is located in Giza and opened in 2000.⁶ In 2004, the network of RBTC's extended to 17 regional and six district centres, all under the supervision of the NBTC.⁶ And in 2007, all hospital blood banks started being converted to storage blood banks only.⁶

The National Blood Policy was implemented in 2007, following ministerial decree, and is complemented by the following protocols – National Blood Standards, National Guidelines for the

Appropriate Use of Blood, National Lab Strategy, Blood Safety Manual, Blood Technical Manual, and National Guidelines for Donor Counselling.⁶

Standardised procedures for blood collection, processing and testing were developed by the NBTC as part of an overall quality infrastructure which, along with the licensure and inspection, has been transferred to a National Blood Regulatory Authority (under the MoH) which now oversees the NBTS.⁷

Whilst considerable improvements have been made by the NBTC, it is unable to meet the nation's demand for blood, collecting only 30% of the nation's blood supply.⁸ Two issues have been cited as the major challenges for the blood situation in Egypt - recurring insufficient blood supplies and the presence of unsafe blood.⁸

In addition to the NBTC blood centres, the Red Crescent operates five blood transfusion centres.⁹

Paid blood donations were outlawed in 1999.⁶

The MoH funds the NBTS and blood is provided free to public hospitals, with private hospital being charged a fee.⁷

NATIONAL SOCIETY (EGYPTIAN RED CRESCENT)

The Egyptian Red Crescent:

- annually collects (2016):
 - 75000 units of whole blood
 - 100 plasma donors
- processes collected blood into components
- conducts screening of blood for infectious diseases and blood grouping
- conducts cross-matching for transfusion
- does not forward plasma to a fractionation facility
- performs transfusions for thalassemic, haemophilic and haemodialysis patients
- is not involved in cord blood stem cells, peripheral stem cells, bone marrow stem cells, bone/solid organ transplants or corneas
- supports a Regional population of 35,000,000
- supplies blood to 30 hospitals/clinics
- is working towards accreditation to National / AABB standards
- does not receive technical assistance or financial support for VNRBD or blood service activities from outside the country
- operates a haemophilia treatment centre in Cairo

Blood donor recruitment and retention activities are coordinated by sharing the experience of recruitment programs with other Blood Services, as they are following the same procedures. They are funded by the blood service and the National Society. Volunteers are used to undertake recruitment programs arranged by the facility.

The Egyptian Red Crescent Blood Banks are planning to expand the following activities:

- the number of daily mobile donations
- platelet and plasma apheresis donations
- antibody screening service
- donor recruitment programs

- ¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2017 Sept 11]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/eg.html>
- ² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2017 Sep 11]. Available from: <http://hdr.undp.org/en>
- ³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2017 Sep 11] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>
- ⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2017 Sep 11] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>
- ⁵ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2017 Oct 31]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>
- ⁶ Mofatt F.M. Integration of blood transfusion services into National Health System, Egypt, experience. ISBT Science Series [Internet]. 2009 Feb 13 [cited 2017 Nov 29];4:124-128. Available from: <http://onlinelibrary.wiley.com/doi/10.1111/j.1751-2824.2009.01220.x/pdf>
- ⁷ MacPherson J. Blood Collections & Transfusion A Global Perspective 2014. Connecticut: The Marketing Research Bureau Inc: 2014. 203p.
- ⁸ The Triple Effect. Blood in Egypt [Internet] Triple Effect 2013 [cited 2017 Nov 29] Available from: <http://tripleeffect.com/all-about-blood/blood-in-egypt/>
- ⁹ Egyptian Red Crescent. Blood Banks [Internet] Egyptian Red Crescent 2017 [cited 2017 Nov 29]. Available from: <http://www.egyptianrc.org/ERC-Activities/Activities/ActivityDetails/11>.

ISRAEL



Magen David Adom in Israel:

- Level A (undertakes full blood service provision)
- 94% of the national total blood collection
- 100% VNRBD

NATIONAL CONTEXT

| | |
|--|---------------------------------------|
| Location | Middle East |
| Geographical size ranking¹ | 154 th |
| Population (world ranking)¹ | 8.3 million (97 th) |
| Median age¹ | 29.9 |
| Political system¹ | Parliamentary democracy |
| GDP per capita (world ranking)¹ | \$36,200 (53 rd) |
| HDI Index (world ranking)² | 0.899 - very high (19 th) |
| Health Expenditure¹ | 7.8% of GDP |
| Efficiency of Healthcare³ | 7 th of 51 countries |
| Population prevalence hepatitis B⁴ | Low: <2% |
| Population prevalence hepatitis C⁵ | Low: 1.0% - <1.5% |
| Population prevalence HIV⁶ | 0.2% |



NATIONAL BLOOD PROGRAM

The Israeli National Blood Services is a division of the not-for-profit organisation Magen David Adom (MDA) ⁷ which is a member of the International Red Cross / Red Crescent. MDA manages all aspects of the blood donations from collection through to nationwide distribution.⁷ The facility, located in Ramat Gan, includes the central Blood Bank laboratories, which were established in 1987, and the Fractionation plant - established in 1996⁷, and operated by Omrix⁸.

94% of the nation's blood is collected by MDA.⁸ Other suppliers of blood products are seven medical centre blood banks, who collect mainly apheresis donations.⁸

The same standards apply to the MDA Blood Service and hospitals.⁸ These standards are set by an advisory committee to the Israeli Ministry of Health on transfusion medicine.⁸

In 2016 there were a total of 264,000 whole blood and apheresis donations from 100% VNRBD – a donation rate of 3% of the population.⁸ Of those, MDA collected 249,000 units from 220,000 voluntary donors plus 14,700 apheresis units were collected at hospitals.⁸

Hospitals reimburse MDA for the blood.⁸ Prices are fixed by both the ministries of Health and Finance.⁸

94% of blood is collected using MDA Mobil Units in schools, factories, community centers and army camps.⁷ The other 6% is collected in fixed - sites donor rooms at MDA first-aid stations located in towns and cities all over Israel.⁷

There are two blood processing centres with 80% of the blood being processed at the major centre in Ramat-Gan and the remainder in a smaller centre in the north.⁸

In 1995 Omrix purchased Israel's Plasma Fractionation Institute situated at the MDA's major blood processing centre.⁸ In 2008 it became a subsidiary of the Ethicon division of Johnson & Johnson.⁸ The MDA Blood Service's excess plasma is sold to Omrix, which issues locally donated plasma products within Israel and products made from imported plasma to Europe and other markets.⁸ 37,000 liters of surplus plasma is supplied to MDA Plasma Fractionation Center annually.⁷

NATIONAL SOCIETY (MAGEN DAVID ADOM – ISRAEL)

Magen David Adom:

- annually collects (2016):
 - 248,500 units of whole blood
 - 500 units by apheresis
- supplies blood to 32 hospitals/clinics
- processes collected blood into components
- conducts screening testing of blood for infectious diseases and blood grouping
- does not conduct cross-matching for transfusion (this is undertaken by hospitals)
- does not perform transfusions
- is working towards accreditation (the CBB is FACT/NETCORD accredited since 2010)
- does not receive technical assistance or financial support for VNRBD or blood service activities from outside the country
- is involved in the collection, processing or testing of cord blood stem cells
- is not involved in the collection, processing or testing of peripheral stem cells, bone marrow stem cells, bone, solid organs and corneas

Blood donor recruitment and retention activities are coordinated nationally by the National Society. They are funded by the blood service. Both paid staff and volunteers are used to undertake school/university programs, corporate programs and programs for all other members of the population.

Magen David Adom is:

- planning to expand activities with the demands of the medical community and population growth
- in the process of changing ID-NAT to Ultrio Elite, and implementing ID-NAT for WNV in 2017
- preparing to implement Pathogen Inactivation/Pathogen Reduction technologies in 2018-2019

-
- ¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2017 Nov 29]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/is.html>
- ² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2017 Nov 29]. Available from: <http://hdr.undp.org/en>
- ³ Bloomberg. Where Do You Get the Most for Your Health Care Dollar? [Internet] Bloomberg 2014 [cited 2017 Nov 29]. Available from: <https://www.bloomberg.com/graphics/infographics/most-efficient-health-care-around-the-world.html>
- ⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2017 Nov 29] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>
- ⁵ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2017 Nov 29] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>
- ⁶ World Health Organization. World Health Statistics 2011 [Internet] 2011 [cited 2017 Nov 29]. Available from: http://www.who.int/gho/publications/world_health_statistics/en/
- ⁷ Magon David Adom in Israel. MDA – National Blood Services [Internet] World Health Organization 2017 [cited 2017 Nov 29]. Available from: <https://www.mdais.org/en/n-b-s/mda-national-blood-services>
- ⁸ MacPherson J. Blood Collections & Transfusion A Global Perspective 2014. Connecticut: The Marketing Research Bureau Inc: 2014. 203p.

JORDAN



Jordan National Red Crescent Society:

- Level A (undertakes full blood service provision)

NATIONAL CONTEXT

| | |
|--|---------------------------------------|
| Location | Middle East |
| Geographical size ranking¹ | 113 th |
| Population (world ranking)² | 10.2 million (89 th) |
| Median age² | 22.3 |
| Political system² | Parliamentary constitutional monarchy |
| GDP per capita (world ranking)² | \$12,500 (123 rd) |
| HDI Index (world ranking)² | 0.741 - high (86 th) |
| Health Expenditure² | 7.5% of GDP |
| Population prevalence hepatitis B³ | Low: <2% |
| Population prevalence hepatitis C⁴ | Low: 1.0% - <1.5% |
| Population prevalence HIV⁵ | <0.1% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

The majority of blood collection in Jordan (approx. 80%) is undertaken by the public sector with the Ministry of Health overseeing all blood activities and the Jordan Competent Authority (JFDA) regulating plasma fractionation.⁶

Blood collection is undertaken by a number of organisations⁷:

- 30% - MoH's National Directorate for Blood Banking
- 25% - 28 regional hospitals
- 28% - Military
- 4% - University of Jordan Hospital
- Other – private sector and Jordan Red Crescent⁷

Approximately 192,000 units of whole blood were collected in 2011, most from family or other replacement donations.⁷

17% of hospitals in Jordan have a Hospital Transfusion Committee.⁸

NATIONAL SOCIETY (JORDAN NATIONAL RED CRESCENT)

The Jordan Red Crescent operates a hospital in Amman which was established in 1948, and now has an attached blood bank.⁷ This blood bank services the hospital and also collaborates with other blood banks in the Hashemite kingdom.

The Jordan Red Crescent:

- collaborates with the Jordanian MoH national blood bank on blood drives and both support each other's blood supply
- performs blood collections on voluntary and family replacement donors
- produces blood and components
- receives blood units collected at blood drives in universities, institutions and companies
- provides blood to non-Jordanian patients without asking for a family replacement donation, as per WHO guidelines
- tests all blood collected for transfusion transmissible infections
- has donor selection guidelines in place for blood collection

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2017 Oct 29]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/jo.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] 2016 [cited 2017 Oct 29]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2017 Oct 27] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2017 Oct 27] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ UNAIDS. Country Factsheets Jordan [Internet] UNAIDS 2017 [cited 2017 Nov 30]. Available from: <http://www.unaids.org/en/regionscountries/countries/jordan/>

⁶ MacPherson J. Blood Collections & Transfusion A Global Perspective 2014. Connecticut: The Marketing Research Bureau Inc: 2014. 125-126p.

⁷ Jordan Red Crescent Society. Jordan Red Crescent Hospital [Internet] Jordan Red Crescent Society 2016 [cited 2018 January 25]. Available from: <http://jnrcs.org/en/content/jordan-red-crescent-hospital>

⁸ World Health Organisation, Regional Office for the Eastern Mediterranean, Regional Status Report on Blood Safety and Availability 2016 [Internet]. Cairo; 2017 [cited 2017 Aug 28]. Available from: http://applications.emro.who.int/docs/EMROPub_2017_EN_18907.pdf

LEBANON



Lebanese Red Cross:

- Level A (undertakes full blood service provision)
- 30% of the national total blood collection
- 30% VNRBD

NATIONAL CONTEXT

| | |
|--|----------------------------------|
| Location | Middle East |
| Geographical size ranking¹ | 169 th |
| Population (world ranking)¹ | 6.2 million (107 th) |
| Median age¹ | 30.5 |
| Political system¹ | Parliamentary republic |
| GDP per capita (world ranking)¹ | \$19,500 (90 th) |
| HDI Index (world ranking)² | 0.763 - high (76 th) |
| Health Expenditure¹ | 6.4% of GDP |
| Population prevalence hepatitis B³ | Low: <2% |
| Population prevalence hepatitis C⁴ | Low: 1.0% - <1.5% |
| Population prevalence HIV⁵ | <0.1% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

The Lebanese Ministry of Public Health has implemented and monitors a national blood transfusion policy, based on the recommendations of the Lebanese National Committee of Blood Transfusion (LNCBT).⁶ The mission of the LNCBT includes the promotion of voluntary anonymous unpaid blood donation, the organisation of blood policy, dissemination of technical guidelines and quality assurance.⁷

The Ministry of Public Health has collaborated with the Etablissement Francis du Sang since 2011 to develop and disseminate Good Practice guidelines for Lebanon.⁷

Lebanon's blood system is fragmented; each hospital has its own transfusion centre.⁸ In 2016, there were 32 blood banks in the country.⁷

The blood system is primarily based on a replacement system, in which relatives of the patient donate blood.⁸ In 2013, only 4% of blood donations in Lebanon were from voluntary blood donors.⁹

In 2015, the Lebanese Red Cross Blood Transfusion Services collected 30% of the nation's blood, of which 30% was VNRBD.

Lebanon's lack of a centralized blood bank system means smaller hospitals often don't have a variety of blood types available.⁹ When disasters occur in Lebanon, people quickly respond to calls for blood donations.⁹ However, in the absence of public tragedies, blood stocks diminish.⁸

The non-profit non-governmental organization Donner Sans Compter (DSC) was established in 2009 to link volunteer donors to patients in need of blood.¹⁰

100% of hospitals in Lebanon have a Hospital Transfusion Committee.¹¹

NATIONAL SOCIETY (LEBANESE RED CROSS)

The Lebanese Red Cross commenced its blood transfusion service in 1964 with its centre in Beirut, and by 2010 the Lebanese Red Cross Blood Transfusion Service had grown to 12 centres.¹²

The Lebanese Red Cross Blood Transfusion Services:

- annually collects 24,000 units of whole blood (2016)
- supplies blood to 40 hospitals/clinics
- supports both the Lebanese population and refugees
- processes collected blood into components
- conducts screening testing of blood for infectious diseases and blood grouping
- does not conduct cross-matching for transfusion (this is undertaken by hospitals)
- does not perform transfusions
- does not forward plasma to a fractionation facility
- is working towards accreditation (AABB)
- cannot always comply with all required regulations / guidelines (for example leucocyte reduction) due to lack of funding
- receives both financial and technical support for VNRBD or blood service activities from Red Cross and Red Crescent Societies (IFRC, German Red Cross, Swiss Red Cross, Netherlands Red Cross), and approximately 10% of funding from The Ministry of Public Health
- provides blood for free to hospitals
- has no involvement in the collection, processing or testing of cord blood stem cells, peripheral stem cells, bone marrow stem cells, bone, solid organs and corneas

Blood donor recruitment and retention activities are coordinated by district/chapter by the National Society. They are funded by the blood service. Volunteers are used to undertake school / university programs and corporate programs.

The Lebanese Red Cross Blood Transfusion Services is planning to expand and have a bigger role in transfusion by collecting more units from VNRBD.

- ¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2017 Nov 29]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/le.html>
- ² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2017 Nov 29]. Available from: <http://hdr.undp.org/en>
- ³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2017 Nov 29] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>
- ⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2017 Nov 29] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>
- ⁵ UNAIDS. Country Factsheets Lebanon [Internet] UNAIDS 2017 [cited 2017 Nov 30]. Available from: <http://www.unaids.org/en/regionscountries/countries/lebanon>
- ⁶ Republic of Lebanon Ministry of Public Health. Blood Transfusion [Internet] Ministry of Public Health; 2017 [cited Nov 30] Available from: <http://www.moph.gov.lb/en/Pages/4/3262/blood-transfusion->
- ⁷ World Health Organisation. Lebanese Epi-Monitor Updates and Reviews [Internet] World Health Organisation Republic of Lebanon Ministry of Health; 2016 June [cited 2017 Nov 30] 3(6). Available from: http://www.emro.who.int/images/stories/lebanon/NO_3_6_WBDD_June_2016.pdf?ua=1
- ⁸ Anderson B. Lebanon's blood banks bleeding dry in peace time. The Daily Star Lebanon. [Internet] 2014 March 14 [cited 2017 Nov 30]. Available from: <http://www.dailystar.com.lb/News/Lebanon-News/2014/Mar-14/250205-lebanons-blood-banks-bleeding-dry-in-peacetime.ashx>
- ⁹ Kamel L. Donner Sang Computer Aims to Revolutionize Blood Donation in Lebanon. Introducing DSC's Mobile Blood Bank. [Internet Video] Beirut 2013 June 25 [cited 2017 Nov 30]. Available from: <http://www.beirut.com/l/26039>
- ¹⁰ Teyrouz Y. DSC Mobile Blood Bank: Going through all the regions to eliminate Blood Shortage in Lebanon. [Internet Video] Zoomaal 2015 Aug 03 [cited 2017 Nov 30]. Available from: <http://www.zoomaal.com/projects/dscmbb/5286?ref=65148413>
- ¹¹ World Health Organisation, Regional Office for the Eastern Mediterranean, Regional Status Report on Blood Safety and Availability 2016 [Internet]. Cairo; 2017 [cited 2017 Aug 28]. Available from: http://applications.emro.who.int/docs/EMROPub_2017_EN_18907.pdf
- ¹² Lebanese Red Cross. Blood Services [Internet] Lebanese Red Cross 2008 [cited 2017 Nov 30]. Available from: <http://www.redcross.org.lb/SubPage.aspx?pageid=317>

ALGERIA



Algerian Red Crescent:

- Level B - involved in the systematic/regular recruitment of voluntary non-remunerated blood donors but with no involvement in blood collection

NATIONAL CONTEXT

| | |
|--|-----------------------------------|
| Location | Northern Africa |
| Geographical size ranking¹ | 11 th |
| Population (world ranking)¹ | 41 million (33 rd) |
| Median age¹ | 28.1 |
| Political system¹ | Presidential republic |
| GDP per capita (world ranking)¹ | \$15,100 (110 th) |
| HDI Index (world ranking)² | 0.745 - high (83 rd) |
| Health Expenditure¹ | 7.2% of GDP |
| Efficiency of Healthcare³ | 48 th of 51 countries |
| Population prevalence hepatitis B⁴ | Low Intermediate: 2% - 4% |
| Population prevalence hepatitis C⁵ | Low: 1.0% - <1.5% |
| Population prevalence HIV⁶ | <0.01% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

The National Blood Agency (Agence Nationale du Sang or ANS) was established in 1995 under the supervision of the Minister of Health.⁷ It must meet the national requirements of safe blood products by developing a national strategy incorporating:

- a well-organized blood transfusion system with proper coordination between centres
- a collection of blood exclusively from VNRBD donors
- biological qualification of donations using the most appropriate techniques and the most effective and following good transfusion practices and standards
- the reduction in unnecessary transfusions through the effective clinical use of blood
- a quality system covering all activities⁷

There are 120 blood transfusion centres in Algeria.⁸

Algeria reported a significant increase in VNRBD donations from 23% in 2007 to 63% in 2008.⁹

A blood treatment centre with a capacity of 100,000 donations is due to open in Algiers at the end of the first half of 2016, which will cover a portion of blood donors in the province of Algiers (80,023 donors in 2015).¹⁰

In October 2015, Algiers Ministry of Health, Population and Hospital Reform, in coordination with the National Blood Agency, implemented regulatory mechanisms to develop and secure the management of blood donation and ensure its collection and monitoring by public enterprises.¹⁰

NATIONAL SOCIETY (ALGERIAN RED CRESCENT)

The Algerian Red Crescent (ARCS) is currently involved in blood activities at Level B:

- ARCS works closely with the Ministry of Health (Agence Nationale du don sang) which works both in hospitals and in rural areas using “clicomobiles” collecting blood.
- ARCS regularly organises promotion activities for VNRBD in consultation with the MoH at national and departmental level.
- In July 2017, The Algerian Red Crescent conducted an awareness campaign and blood collection drive in collaboration with the National Blood Agency and DP Word.¹¹

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2017 Nov 29]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/ag.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2017 Nov 29]. Available from: <http://hdr.undp.org/en>

³ Bloomberg. Where Do You Get the Most for Your Health Care Dollar? [Internet] Bloomberg 2014 [cited 2017 Nov 29]. Available from: <https://www.bloomberg.com/graphics/infographics/most-efficient-health-care-around-the-world.html>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2017 Nov 29] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁵ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2017 Nov 29] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁶ UNAIDS. Country Factsheets Algeria [Internet] UNAIDS 2017 [cited 2017 Nov 30]. Available from: <http://www.unaids.org/en/regionscountries/countries/algeria/>

⁷ Agence Nationale du Sang. Qui somme nous? [Internet] Ministère de la Santé, de la Population et de la Réforme Hospitalière 2014 February 02 [cited 2017 Nov 30]. Available from: <http://www.sante.dz/ans/>

⁸ National Agency of Investment Development. Live in Algeria. Health. [Internet] ANDI 2013 [cited 2017 Nov 30]. Available from: <http://www.andi.dz/index.php/en/vivre-en-algerie>

⁹ World Health Organization. Blood Safety. Fact Sheet N° 279 [Internet] WHO 2011 June [cited 2017 Nov 30]. Available from: http://www.who.int/worldblooddonorday/media/who_blood_safety_factsheet_2011.pdf

¹⁰ Algerie Presse Service. Don de sang: des mécanismes réglementaires pour "développer et sécuriser" la gestion de cette matière vitale. [Internet] DjaZaïress 2015 Oct 26 [cited 2017 Nov 30] Available from: <https://www.djazairess.com/fr/apsfr/430463>

¹¹ Le Croissant Rouge Algérien. Don de sang [Internet] 2017 July 17 Le Croissant Rouge Algérien [cited 2017 Nov 30] Available from: <http://www.cra-algerie.org/cra-dondesang.html>

BAHRAIN



Bahrain Red Crescent Society:

- Level B - involved in the systematic/regular recruitment of voluntary non-remunerated blood donors but with no involvement in blood collection

NATIONAL CONTEXT

| | |
|--|---------------------------------------|
| Location | Middle East |
| Geographical size ranking¹ | 188th |
| Population (world ranking)¹ | 1.4 million (155 th) |
| Median age¹ | 32.3 |
| Political system¹ | Constitutional monarchy |
| GDP per capita (world ranking)¹ | \$51,800 (25 th) |
| HDI Index (world ranking)² | 0.824 - very high (47 th) |
| Health Expenditure¹ | 5% of GDP |
| Population prevalence hepatitis B³ | Low Intermediate: 2% - 4% |
| Population prevalence hepatitis C⁴ | High: >3.5% |
| Population prevalence HIV⁵ | <0.10-0.16% |



NATIONAL BLOOD PROGRAM

A WHO report from 2016 lists there are three blood banks operating in Bahrain.⁶

Bahrain has a Central Blood Bank (CBB), which follows the International Standard and Regulation of the American Association of Blood Banks (AABB) and the International Society of Blood Transfusion (ISBT).⁷ About 70 blood-drives are held annually with the cooperation of numerous socially responsible organisations and societies; approximately 11,000 units are processed yearly.⁷ The Central Blood Bank has a mobile unit, which is often employed for corporate blood donation drives with at least 30 donors.⁷ The CBB only accepts donations from unpaid volunteer donors and over 97% of blood collected is negative for infectious disease screening.⁷

The Bahrain Defence Force Royal Medical Services has a blood bank offering blood donation services to the public and defence force staff.⁸

The Royal Bahrain Hospital also collects blood, at least on one occasion in April 2012.⁹

19% of hospitals in Bahrain have a Hospital Transfusion Committee.¹⁰

NATIONAL SOCIETY (BAHRAIN RED CRESCENT)

It appears as if the Bahrain Red Crescent Society is involved in blood activities at Level B.

A Blood Bank Committee is included on the Red Crescent website¹¹, where it states the blood donation committee runs awareness campaigns for citizens to show them the importance and the need to donate blood, and campaigns across the country to organise the donation process.¹¹

The WHO report from 2000¹² also describes the role the Red Crescent Society in Bahrain plays in donor recruitment and motivation. There is a blood bank committee in the Red Crescent Society composed of six members who participate in donor recruitment and education.¹²

There is an average of four to five monthly outdoor blood donation camps organized by the Central Blood Bank in coordination with the Red Crescent Society.¹²

IFRC reports that in 2013, 18,720 people donated blood at or with the assistance of the Bahrain Red Crescent Society, however in 2015 this dropped to 8,635 people.¹³

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2017 May 22]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/ba.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2017 May 22]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2017 May 22] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2017 May 22] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ Grewal S S. New HIV cases fall as Bahrain's efforts pay off. [Internet] Trade Arabia. 2013 Dec 04. [cited 2017 Sept 05]. Available from: http://www.tradearabia.com/news/HEAL_247621.html

⁶ World Health Organization. Global Status Report on Blood Safety and Availability 2016 [Internet]. World Health Organization 2017 [cited 2018 January 25]. Available from: <http://apps.who.int/iris/bitstream/10665/254987/1/9789241565431-eng.pdf>

⁷ Ministry of Health. Kingdom of Bahrain. Blood donation. [Internet] Ministry of Health [cited 2016 May 01]. Available from: <http://www.moh.gov.bh/en/HealthEstablishment/Establishments/SMC/BloodDonation.aspx?print=true>.

⁸ Bahrain Defence Force. Royal Medical Services. Pathology. [Internet] 2017 Bahrain Defence Force Royal Medical Services. [cited 2016 May 02]. Available from: <https://www.bdfmedical.org/en/index.php/organization-of-bdfrms/divisions-of-royal-medical-services/pathology>

⁹ Royal Bahrain Hospital. Blood Donation Campaign. [Internet] Royal Bahrain Hospital 23 Apr 2012. [cited 2017 Sept 05]. Available from: <http://royalbahrainhospital.blogspot.com.au/2012/04/blood-donation-campaign.html>

¹⁰ World Health Organisation Regional Office for the Eastern Mediterranean. Regional Status Report on Blood Safety and Availability 2016 [Internet] World Health Organisation Cairo; 2017 [cited 2017 Aug 28]. Available from: http://applications.emro.who.int/docs/EMROPub_2017_EN_18907.pdf

¹¹ Bahrain Red Crescent Society. Blood Bank. Bahrain Red Crescent [Internet] Bahrain Red Crescent Society 2016 [cited 2017 Sep 05]. Available from: <http://www.rcsbahrain.org/en/what-we-do/blood-bank/> <http://www.rcsbahrain.org/en/>

¹² World Health Organization. Regional Office for the Eastern Mediterranean. Report on the Regional Meeting of Directors of Blood Transfusion Services Teheran, Islamic Republic of Iran, 16-20 October 1999 [Internet] 2000 [cited 2018 Feb 28]. Available from: http://applications.emro.who.int/docs/who_em_lab_327_e_l_en.pdf

¹³ The International Federation of Red Cross and Red Crescent Societies. Bahrain Red Crescent Society [Internet] IFRC 2016 [cited 2017 Sep 05]. Available from: <http://data.ifrc.org/fdrs/societies/bahrain-red-crescent-society>

IRAN



Red Crescent Society of the Islamic Republic of Iran:

- Level B - involved in the systematic/regular recruitment of voluntary non-remunerated blood donors but with no involvement in blood collection

NATIONAL CONTEXT

| | |
|--|----------------------------------|
| Location | Middle East |
| Geographical size ranking¹ | 19 th |
| Population (world ranking)¹ | 82 million (17 th) |
| Median age¹ | 29.4 |
| Political system¹ | Theocratic republic |
| GDP per capita (world ranking)¹ | \$20,000 (88 th) |
| HDI Index (world ranking)² | 0.766 - high (69 th) |
| Health Expenditure¹ | 6.9% of GDP |
| Efficiency of Healthcare³ | 46 th of 51 countries |
| Population prevalence hepatitis B⁴ | Low Intermediate: 2-4% |
| Population prevalence hepatitis C⁵ | High: >3.5% |
| Population prevalence HIV⁶ | 0.14% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

The Iran Blood Transfusion Organization (IBTO) was established in 1974 under the Ministry of Health and Medical Education (MoH) as the national and centralized transfusion system.⁷ The MoH both governs and funds the IBTO with blood and blood products provided free of charge to both public and private hospitals.⁸

IBTO follows the laws and regulations of Ministry of Health (MOH) and criteria set by Iranian National Regulatory Authority.⁹ In 2008, IBTO founded the ECO Blood Safety Network (ECBSN), an alliance of government and NGO blood programs under the Economic Cooperation Organization (ECO) framework.⁹

Iran achieved 100% voluntary blood donation in 2007, when family members were no longer allowed to donate.⁹ Of these voluntary donations, 95% of Iranian blood donors are male.⁸ This is due to various deferrals for women (e.g. anaemia) and social concerns.⁸

IBTO collects over 2.1 million units of whole blood annually.¹⁰ 80% of blood is collected at IBTO's 288 fixed donation sites.⁸ The remaining 20% is collected by mobile teams in work places, schools and smaller cities without fixed sites.⁸

Over 98% of whole blood is separated into components.⁸ At least a quarter of RBCs are administered to patients with thalassemia.⁸ Victims of road trauma are also significant users of blood.⁸

Red blood cell inventory management has been in place since 2008, with ideal inventory being five days of RBC availability due to Iran being in a disaster-prone area.⁷

All blood is screened for HBV, HCV and HIV.⁹

In 2004, IBTO initiated a fractionation program for the surplus of recovered plasma produced in its collection centres.⁷ This program not only improved the national transfusion system through upgrading its quality assurance systems, but it has also played a large part in increasing the availability of fractionated plasma products in Iran.⁷ During 2006-2007, the fractionation program supplied the Iran market with 44% of its intravenous immunoglobulin needs and albumin needs.⁷ Through this program, Iran has now become self-sufficient to meet patient IVIG requirements.⁷

Iranian Stem Cell Donor Registry (ISCDR) was established in 2009.¹¹ It is a government organization, regulated by IBTO to help to patients in need of Hematopoietic Stem Cell Transplant.¹¹

78% of hospitals in Iran have a Hospital Transfusion Committee.¹²

NATIONAL SOCIETY (RED CRESCENT OF THE ISLAMIC REPUBLIC OF IRAN)

Blood donor recruitment and retention activities are coordinated by district/chapter by the National Society. They are funded by the National Society.

Volunteers coordinate donor recruitment activities, as well donating blood themselves, comprising the largest group of blood donors.

The Red Crescent Society of the Islamic Republic of Iran:

- does not receive technical assistance or financial support for VNRBD activities from outside the country
- is not planning to expand or scale back its current level of involvement in blood-related activities
- has not previously been involved in blood at Level A

- ¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2017 Oct 26]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/ir.html>
- ² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2017 Oct 26]. Available from: <http://hdr.undp.org/en>
- ³ Bloomberg. Where Do You Get the Most for Your Health Care Dollar? [Internet] Bloomberg 2014 [cited 2017 Oct 26]. Available from: <https://www.bloomberg.com/graphics/infographics/most-efficient-health-care-around-the-world.html>
- ⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2017 Oct 26] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>
- ⁵ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2017 Oct 26] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>
- ⁶ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2017 Oct 26]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>
- ⁷ Cheraghali A, Abolghasemi H. Plasma fractionation, a useful means to improve national transfusion system and blood safety: Iran experience. *Haemophilia*. 2009 Mar;15(2):487-93. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/19347989>
- ⁸ MacPherson J. Blood Collections & Transfusion A Global Perspective 2014. Connecticut: The Marketing Research Bureau Inc: 2014. 203p.
- ⁹ Iranian Blood Transfusion Organization. Historical background [Internet] Iranian Blood Transfusion Organization 2017 [cited 2017 Oct 26]. Available from: <http://old.ibto.ir/HomePage.aspx?TabID=3944&Site=ibto&Lang=en-US>
- ¹⁰ Maghsudlu M. Keys to move to self-sufficiency in safe blood components based on voluntary blood donation. *ISBT Science Series* [Internet] 2017 [cited 2017 Nov 30];12:202-206. Available from: <http://onlinelibrary.wiley.com/doi/10.1111/voxs.12344/epdf>
- ¹¹ Iranian Blood Transfusion Organization. Iranian Stem Cell Donor Registry (ISCDR). [Internet] Iranian Blood Transfusion Organization 2015 [cited 2017 Oct 26]. Available from: <http://en.ibto.ir/index.jsp?siteid=57&fkeyid=&siteid=57&pageid=1474>
- ¹² World Health Organisation, Regional Office for the Eastern Mediterranean, Regional Status Report on Blood Safety and Availability 2016 [Internet]. Cairo; 2017 [cited 2017 Aug 28]. Available from: http://applications.emro.who.int/docs/EMROPub_2017_EN_18907.pdf

IRAQ



Iraqi Red Crescent Society:

- Level B - involved in the systematic/regular recruitment of voluntary non-remunerated blood donors but with no involvement in blood collection

NATIONAL CONTEXT

| | |
|--|-------------------------------------|
| Location | Middle East |
| Geographical size ranking¹ | 60 th |
| Population (world ranking)¹ | 39 million (35 th) |
| Median age¹ | 20 |
| Political system¹ | Federal parliamentary republic |
| GDP per capita (world ranking)¹ | \$17,000 (102 nd) |
| HDI Index (world ranking)² | 0.649 - medium (121 st) |
| Health Expenditure¹ | 5.5% of GDP |
| Population prevalence hepatitis B³ | Low: <2% |
| Population prevalence hepatitis C⁴ | High Moderate: 2.0% - <5.0% |
| Population prevalence HIV⁵ | <0.1% |



NATIONAL BLOOD PROGRAM

Prior to 1959, Iraq's blood services were hospital based and fragmented, after this date the National Blood Transfusion Centre (NBTC) was established in Baghdad restructuring the services and eventually expanding to each governorate where, since 2012, blood bank services have been available to supply hospitals.⁶ In addition to the blood banks, there are also 21 satellite blood collection centres and 22 mobile collection units.⁶ Family and replacement donors contributed the majority of the 458,326 units of blood collected in 2009.⁶

NATIONAL SOCIETY (IRAQI RED CRESCENT)

The Iraqi Crescent Society was established in 1932 and became a member of the IFRC in 1934.⁷ In 2010, 625 people donated blood in nine blood donation campaigns.⁸

Blood donor recruitment and retention activities are coordinated by district/chapter by the National Society. They are funded by the National Society.

Both volunteers and paid staff are used for donor recruitment programs, such as school/university programs and corporate programs.

The Iraqi Crescent Society:

- does not receive technical assistance or financial support for VNRBD activities from outside the country
- is not planning to expand or scale back its current level of involvement in blood-related activities
- has not previously been involved in blood at Level A

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2017 Dec 4]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/iz.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2017 Dec 4]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2017 Dec 4] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2017 Dec 4] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ WHO Regional Office for the Eastern Mediterranean. Iraq. HIV/AIDS [Internet] World Health Organisation 2017 [cited 2017 Dec 04]. Available from: <http://www.emro.who.int/irq/programmes/hiv-aids.html>

⁶ WHO Regional Office for the Eastern Mediterranean. Improving quality, access and utilization of blood transfusion services in Iraq [Internet] EMRO, MOH Iraq 2012 [cited 2017 Dec 04]. Available from: http://www.emro.who.int/images/stories/iraq/documents/BST_Booklet_2012.pdf

⁷ Iraqi Red Crescent Society. IRCS Founding [Internet] Iraqi Red Crescent Society 2017 [cited 2017 Dec 04]. Available from: <https://en.ircs.org.iq/ircs-founding/>

⁸ Iraqi Red Crescent Society. Annual activities report of 2010 [Internet] Iraqi Red Crescent Society 2017 [cited 2017 Dec 04]. Available from: <https://en.ircs.org.iq/reports/>

MOROCCO



Moroccan Red Crescent:

- Level B - involved in the systematic/regular recruitment of voluntary non-remunerated blood donors but with no involvement in blood collection

NATIONAL CONTEXT

| | |
|--|---------------------------------------|
| Location | Northern Africa |
| Geographical size ranking¹ | 59 th |
| Population (world ranking)¹ | 34 million (40 th) |
| Median age¹ | 29.3 |
| Political system¹ | Parliamentary constitutional monarchy |
| GDP per capita (world ranking)¹ | \$8,600 (148 th) |
| HDI Index (world ranking)² | 0.647 - medium (123 rd) |
| Health Expenditure¹ | 5.9% of GDP |
| Population prevalence hepatitis B³ | Low: <2% |
| Population prevalence hepatitis C⁴ | Low Moderate: 1.5% - <2.0% |
| Population prevalence HIV⁵ | 0.10% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

Morocco's blood system is centralised under the supervision of the Ministry of Health, and is comprised of 16 regional blood transfusion centres (CRTS), 13 blood banks and 24 satellites sites (hospital based)⁶. All sites and centres are under the supervision of the National Blood Transfusion Centre (CNTS).⁶

A recent study on the regional blood transfusion centre of Rabat⁶, which collects about a quarter of the nation's blood, found that:

- continued efforts to increase the collection of VNRBD blood saw its proportion rising from just 16.6% in 1988 to over 94% in 2010
- during this 20-year period, there has been a dramatic shift in the profile of blood donors – from military to family/replacement to VNRBD donors
- mobile blood collection units have been the key to this shift towards VNRBD
- blood donors are more likely to be male (61.5%)⁶

In 2016, 313,654 units of whole blood units were collected nationally⁷.

NATIONAL SOCIETY (MOROCCAN RED CRESCENT)

The Moroccan Red Crescent (MRC) are again involved in blood activities at Level B/C, after a period of no involvement due to lack of funding for training and raising awareness. Blood initiatives are not organised nationally nor systematically however, they have been reported as Level B to include any activities and chapters which are regularly involved.

The MRC cooperates with the Ministry of Health at both a regional and local level to organise campaigns, such as arranging radio campaigns appealing for donors. MRC volunteers are customarily asked to be a role model in their family and community by donating blood.

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2017 Dec 4]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/mo.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2017 Dec 4]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2017 Dec 4] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2017 Dec 4]. Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2017 Oct 26]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁶ Tazi-Mokha A, Soulaymani A, Mokhtari A, Alami R. Transfusion Medicine. 2012 Jun;22(3):173-80. Blood donation in Morocco: a 20-year retrospective study of blood collection in the Rabat blood centre. <http://www.ncbi.nlm.nih.gov/pubmed/22420379>

⁷ Lahrach Z. Blood Donation in Morocco: Everything you always wanted to know. HuffPost Morocco [Internet] 2017 Sep 20 [cited 2017 Dec 04]. Available from: http://www.huffpostmaghreb.com/2017/09/20/don-du-sang_n_18046012.html

LIBYA



Libyan Red Crescent:

- Level C: National society is involved in occasional community education/awareness programs that help promote voluntary non-remunerated blood donation (e.g. World Blood Donor Day), but no involvement in the systematic recruitment of donors or blood collection.

NATIONAL CONTEXT

| | |
|--|--|
| Location | Northern Africa |
| Geographical size ranking¹ | 18 th |
| Population (world ranking)¹ | 6.65 million (108 th) |
| Median age¹ | 28.9 |
| Political system¹ | In transition |
| GDP per capita (world ranking)¹ | \$9,800 (142 nd) |
| HDI Index (world ranking)² | 0.716 - high (102 nd) |
| Health Expenditure¹ | 5% of GDP |
| Population prevalence hepatitis B³ | Low Intermediate: 2% - 4% |
| Population prevalence hepatitis C⁴ | Low: 1.0% - <1.5% |
| Population prevalence HIV⁵ | 0.15% ⁵ to 1.13% ⁶ |



NATIONAL BLOOD PROGRAM

Libya has a decentralised blood system.⁷ In 2012 Libya had three Central Blood Banks (in Tripoli, Benghazi and Sebha) and 87 hospital blood banks.⁷ Tripoli's Central Blood Bank was officially opened in January 2011.⁸ In February 2014, a Cabinet Decree granted legal personality and independent financial liability to the three Central Blood Banks in Tripoli, Benghazi and Sebha.⁹

Libya's National Blood Policy was drafted in 2012, prior to which there were no guidelines, no blood policy and no specific legislation for blood transfusion.⁸

Over the past few years, conflict has impacted on the demand for blood in Libya, with 50,000 war wounded in Libya in September 2011, WHO facilitated a shipment of medicines and blood donations from Tunisia to Libya.¹⁰ At the time, the central blood bank in Tripoli was functioning but experiencing a shortage of consumables and reagents for testing and cross checking.¹⁰

NATIONAL SOCIETY (LIBYAN RED CRESCENT)

Previously operating at a Level A, the Libyan Red Crescent Society (LRCS) has reported blood involvement temporarily at Level C:

- Due to conflict within the country, all blood collection and processing activities have been suspended by the LRCS.
- These activities have been handed over to the Ministry of Health, implying the blood transfusion centre of Benghazi is now operated by MoH.
- The LRCS is occasionally organising promotion activities, depending on the security and operational situation at the time and location.

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2017 Dec 4]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/ly.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2017 Dec 4]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2017 Dec 4] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2017 Dec 4]. Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ Daw MA, Shabash A, El-Bouzedi A, Dau AA, in association with the Libyan Study Group of Hepatitis & HIV. Seroprevalence of HBV, HCV & HIV Co-Infection and Risk Factors Analysis in Tripoli-Libya. PLoS ONE [Internet] 2014 June 17 [cited 2017 Dec 04];9(6). Available from: <http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0098793>

⁶ HIV infection rates in Libya may be significantly higher than previously estimated. The Telegraph. [Internet]. 2011 January 31 [cited Dec 04]. Available from: <http://www.telegraph.co.uk/news/wikileaks-files/libya-wikileaks/8294895/HIV-INFECTION-RATES-IN-LIBYA-MAY-BE-SIGNIFICANTLY-HIGHER-THAN-PREVIOUSLY-ESTIMATED-1.SBU.html>

⁷ Alserraj A. National Blood Transfusion Policy in Libya: challenges and opportunity. Presented at the 10th Arab Transfusion Medicine Course; 2012 Nov 29; Kuwait. PowerPoint Presentation available from: <http://slideplayer.com/slide/8382913/>

⁸ Opening Ceremony of Central Blood Bank in Tripoli. Jamahiriya News Agency [Internet] 2011 January 20 [cited 2017 Dec 04]. Available from: <https://www.highbeam.com/doc/1G1-247392768.html>

⁹ The Cabinet. Libya. Cabinet Decree No. (84) of 2014 on the creation and granting of legal personality to several blood banks [Internet] 2014 February 04 [cited 2017 Dec 04]. Available from: [http://www.security-legislation.ly/sites/default/files/files/lois/640-Decree%20No.%20\(84\)%20of%202014_EN.pdf](http://www.security-legislation.ly/sites/default/files/files/lois/640-Decree%20No.%20(84)%20of%202014_EN.pdf)

¹⁰ World Health Organization. Health and Nutrition Cluster Bulletin. Crisis in Libyan Arab Jamahiriya No 11 [Internet] World Health Organisation 2011 Sep 30 [cited 2017 Dec 05]. Available from: https://reliefweb.int/sites/reliefweb.int/files/resources/hcn_bulletin_11_30_9_2011.pdf

QATAR



Qatar Red Crescent:

- Level C: National society is involved in occasional community education/awareness programs that help promote voluntary non-remunerated blood donation (e.g. World Blood Donor Day), but no involvement in the systematic recruitment of donors or blood collection.

NATIONAL CONTEXT

| | |
|--|---------------------------------------|
| Location | Middle East |
| Geographical size ranking¹ | 165 th |
| Population (world ranking)² | 2.3 million (143 rd) |
| Median age² | 33 |
| Political system² | Absolute monarchy |
| GDP per capita (world ranking)² | \$124,900 (2 nd) |
| HDI Index (world ranking)² | 0.856 - very high (33 rd) |
| Health Expenditure² | 2.2% of GDP |
| Population prevalence hepatitis B³ | Low: <2% |
| Population prevalence hepatitis C⁴ | Low: 1.0% - <1.5% |
| Population prevalence HIV⁵ | <0.1% |



NATIONAL BLOOD PROGRAM

The Qatar health system consists of the following key organisations⁶:

- Hamad Medical Corporation (HMC) – seven hospitals and five specialist medical centres
- Primary Health Care Corporation (PHCC) - consisting of 23 health centres
- Private Hospitals
- Sidra Medical and Research Centre (Sidra)
- Aspetar

The Blood Donor Unit at Hamad Medical Corporation (HMC) is a major institution that provides blood donor services, including donor awareness programs and events (including World Blood Donor Day).⁷

Between January 2002 and February 2016, HMC's Blood Donor Centre had 189,449 registered donors and collected 144,805 units of blood.⁸

HMC also has mobile blood donor units, which are used around various locations in Qatar.⁹

The "Blood Donors of Qatar" Facebook page indicates that the number of blood donor collections by HMC increases each year and they collect an average of 50-60 units each day.¹⁰

This increase is due to a higher demand from accidents (including work and traffic) and increased use in surgery and disease.¹⁰

100% of hospitals in Qatar have a Hospital Transfusion Committee.¹¹

NATIONAL SOCIETY (QATAR RED CRESCENT)

Qatar Red Crescent are involved in community education/awareness programs for voluntary blood donation. They are not involved in regular recruitment, however they undertake school education, their volunteers assist in hospitals and they may drive donors to blood centres to donate. They also assist the Ministry of Health with their blood program.

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2017 Dec 05]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/qa.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2017 Oct 28]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2017 Oct 28] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2017 Oct 28] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ UNAIDS. Country Factsheets Qatar [Internet] UNAIDS 2017 [cited 2017 Dec 05]. Available from: <http://www.unaids.org/en/regionscountries/countries/qatar>

⁶ State of Qatar Ministry of Health. Qatar Health System [Internet] Ministry of Public Health 2017 [cited 2017 Oct 28] Available from: <https://www.moph.gov.qa/health-services/services-to-public/qatar-health-system>
<https://www.moph.gov.qa/health-services/Pages/qatar-health-system.aspx>

⁷ ExpatWoman. Donating blood in Qatar [Internet] ExpatWoman.com 2001-2017. [cited 2017 Oct 28] Available from: http://www.expatswoman.com/qatar/monthly_qatar_health_blood_donation_13789.aspx

⁸ Hamad Medical Corporation. HMC announces sponsors for World Blood Donor Day celebration.[Internet] 2016 Apr 25 [cited 2017 Oct 28] Available from: <https://www.hamad.qa/EN/news/2016/April/Pages/HMC-announces-sponsors-for-World-Blood-Donor-Day-celebration.aspx>

⁹ Hamad Medical Corporation. HMC launches Ramadan Organ and Blood Donation Campaigns.[Internet] Hamad Medical Corporation 2015 June 23 [cited 2017 Oct 28] Available from: <https://www.hamad.qa/EN/news/2015/June/Pages/Organ-and-Blood-Donation-Campaigns.aspx>

¹⁰ Facebook. Blood Donors of Qatar. [Internet] Qatar; 2017 [cited 2017 Oct 28] Available from: https://www.facebook.com/BloodDonorsOfQatar/info/?tab=page_info

¹¹ World Health Organisation, Regional Office for the Eastern Mediterranean, Regional Status Report on Blood Safety and Availability 2016 [Internet] World Health Organisation Cairo; 2017 [cited 2017 Oct 28]. Available from: http://applications.emro.who.int/docs/EMROPub_2017_EN_18907.pdf

TUNISIA



Tunisian Red Crescent:

- Level C: National society is involved in occasional community education/awareness programs that help promote voluntary non-remunerated blood donation (e.g. World Blood Donor Day), but no involvement in the systematic recruitment of donors or blood collection.

NATIONAL CONTEXT

| | |
|--|----------------------------------|
| Location | Northern Africa |
| Geographical size ranking¹ | 94 th |
| Population (world ranking)² | 11 million (79 th) |
| Median age² | 32.4 |
| Political system² | Parliamentary republic |
| GDP per capita (world ranking)² | \$12,000 (131 st) |
| Health Expenditure² | 7% of GDP |
| HDI Index (world ranking)² | 0.725 - high (97 th) |
| Population prevalence hepatitis B³ | High Intermediate: 5-7% |
| Population prevalence hepatitis C⁴ | Low: 1-<1.5% |
| Population prevalence HIV⁵ | <0.1% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

The national blood program in Tunisia, De Centre National de Transfusion Sanguine (CNTS), has one national (Tunis) and five regional centres (Banque dus sang), linked to hospitals.

In 2012, 32% of blood donations at the National Blood Transfusion Centre of Tunisia were VNRBD.⁶ 15% of hospitals in Tunisia have a Hospital Transfusion Committee.⁷ Tunisia started contract fractionation for albumin and immunoglobulins in 1995.⁷

NATIONAL SOCIETY (TUNISIA RED CRESCENT)

The Tunisian Red Crescent is active in the 24 regions of the country and aims to organise one blood promotion activity each year in the 200 villages. In addition, the National Society also assists in promotion of blood donation during peak periods when there are blood shortages (Ramadan and summer holidays).

Community education activities are coordinated nationally by the National Society and are funded by the National Society and the government and Ministry of Health.

The Tunisia Red Crescent:

- does not receive technical assistance or financial support for VNRBD activities from outside the country
- was previously involved in blood at Level A and ceased involved in the early 1990's with the increased requirement for infectious disease testing
- is planning to expand its level of activities through continuous training with the preparation of training materials and the preparation of promotional materials, including videos and publications and booklets

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2017 Oct 27]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/ts.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2017 Oct 27]. Available from: <http://hdr.undp.org/en/countries>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2017 Oct 27] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2017 Oct 27] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ UNAIDS. Country Factsheets Tunisia [Internet] UNAIDS 2017 [cited 2017 Dec 05]. Available from: <http://www.unaids.org/en/regionscountries/countries/tunisia>

⁶ Ansah JK,. National Blood Services Ghana. Access to safe and effective blood transfusion including blood component therapy. 3rd Workshop of the WBMT [Internet] Ghana, Nov 2014 [cited 2017 Oct 27]. Available from: http://www.wbmt.org/fileadmin/pdf/10_CapeTown_WS2-2014/2afternoon/01-Access_to_safe_and_effective_blood_transfusion_including_blood_component_therapy14112014.pdf

⁷ World Health Organisation, Regional Office for the Eastern Mediterranean, Regional Status Report on Blood Safety and Availability 2016 [Internet] World Health Organisation Cairo; 2017 [cited 2017 Oct 27]. Available from: http://applications.emro.who.int/docs/EMROPub_2017_EN_18907.pdf

YEMEN



Yemen Red Crescent Society:

- Level C: National society is involved in occasional community education/awareness programs that help promote voluntary non-remunerated blood donation (e.g. World Blood Donor Day), but no involvement in the systematic recruitment of donors or blood collection.

NATIONAL CONTEXT

| | |
|--|----------------------------------|
| Location | Middle East |
| Geographical size ranking¹ | 50 th |
| Population (world ranking)¹ | 27.4 million (48 th) |
| Median age¹ | 19.2 |
| Political system¹ | In transition |
| GDP per capita (world ranking)¹ | \$2,300 (202 nd) |
| HDI Index (world ranking)² | 0.482 - low (168 th) |
| Health Expenditure¹ | 5.6% of GDP |
| Population prevalence hepatitis B³ | Low Intermediate: 2-4% |
| Population prevalence hepatitis C⁴ | High: >3.5% |
| Population prevalence HIV⁵ | 0.05% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

There is a national blood bank in the capital Sana'a with five other blood centres located in Aden, Taiz, Hodidah, Hadramout and Abyan. ⁶ In 2015 however, the blood centres in Aden and Taiz closed due to an escalation in conflict within the governorates. ⁶

In 2009, the United National Development Programs was calling for expressions of interest for the procurement of four mobile blood banks for blood donation for Yemen under the National AIDS Program. ⁷

In 2017, WHO confirmed Yemen's national blood bank was at risk of closing due to a lack of supplies. ⁸ From September 2015 to January 2017, Medecins Sans Frontieres had provided regular blood testing kits to the blood bank, but this support was transitioned to the WHO in 2017. ⁹

According to the blood bank, it treats approximately 3,000 people per month suffering from cancer, kidney failure and thalassaemia. ¹⁰

NATIONAL SOCIETY (YEMEN RED CRESCENT)

The Yemen Red Crescent Society is involved in community education/awareness programs for voluntary blood donation. These activities are coordinated nationally by the National Society and are funded by private organisations.

The Yemen Red Crescent Society:

- does not receive technical assistance or financial support for VNRBD activities from outside the country
- has not previously been involved in blood at Level A or B
- is planning to expand its level of activities: *“We have 13 health facilities, 10 out of them are active so we planned to extend the activities at these HFS”*

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2017 Aug 28]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/ym.html>

² United Nations Development Program. Human Development Report 2016 [Internet] United Nations Development Program 2016 [cited 2017 Aug 28]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2017 Aug 28] Available from <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2017 Aug 28] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2017 Aug 28]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2155rank.html>

⁶ World Health Organization, Regional Office for the Eastern Mediterranean, Yemen, Yemen's national blood transfusion centre in Sana'a faces threat of closure [Internet] World Health Organization 2015 Sep 03 [cited 2017 Aug 28]. Available from: <http://www.emro.who.int/yem/yemen-news/blood-transfusion-centre-in-sanaa-threatens-to-shut-down.html>

⁷ United Nations Development Programme, Procurement Notices, Procurement of mobile Blood Banks for UNDP Yemen [Internet] United Nations Development Programme; 2009 Sep 10 [cited 2017 Aug 28]. Available from: http://procurement-notices.undp.org/view_notice.cfm?notice_id=4322

⁸ Reuters, Yemen blood bank may be forced to shut due to lack of funds. Daily Mail Australia [Internet]. 2017 Aug 9 [cited 2017 Aug 28]. Available from: <http://www.dailymail.co.uk/wires/reuters/article-4772130/Yemen-blood-bank-forced-shut-lack-funds.html>

⁹ Reuters/Doctors Without Borders, Yemen blood bank may be forced to shut due to lack of funds. Daily Mail Australia [Internet].] Doctors Without Borders 2017 Aug 9 [cited 2017 Aug 28]. Available from: <http://www.dailymail.co.uk/wires/reuters/article-4772130/Yemen-blood-bank-forced-shut-lack-funds.html>
<http://www.doctorswithoutborders.org/country-region/yemen>

¹⁰ Yemen's blood bank faces threat of closure within days. Al Jazeera [Internet]. 2017 Aug 12 [cited 2017 Aug 28]. Available from: <http://www.aljazeera.com/news/2017/08/yemen-blood-bank-faces-threat-closure-days-170812044854890.html>

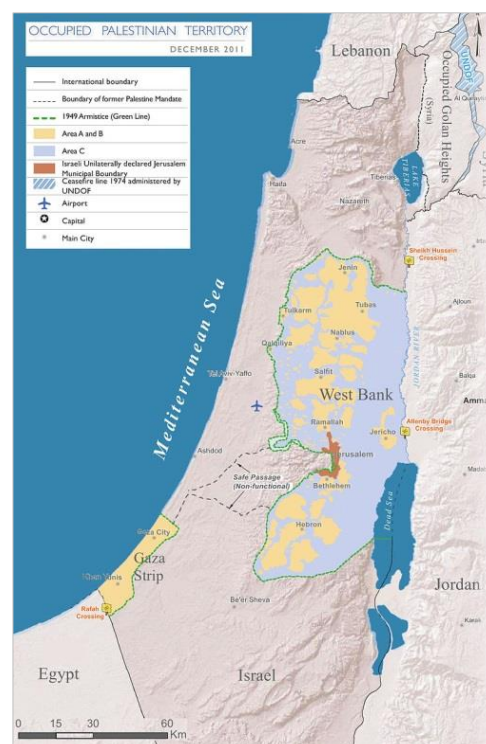
PALESTINIAN OCCUPIED TERRITORY

Palestine Red Crescent Society:

- National society has no involvement at all, not even advocacy for voluntary non-remunerated blood donation

NATIONAL CONTEXT

| | |
|--|---|
| Location | Middle East |
| Geographical size ranking¹ | Gaza Strip – 207 th West Bank – 172 nd |
| Population (world ranking)¹ | Gaza Strip – 1.8 million (153 rd) West Bank – 2.7 million (142 nd) |
| Median age¹ | Gaza Strip – 17.2 West Bank – 21.1 |
| Political system¹ | Gaza Strip – Palestinian occupied territory West Bank – Under control of Israel |
| GDP per capita (world ranking)¹ | \$4,300 (176 th) |
| HDI Index (world ranking)² | 0.684 - medium (114 th) |
| Population prevalence hepatitis B³ | Low: <2.0% |
| Population prevalence hepatitis C⁴ | Low: 1.0% - <1.5% |
| Population prevalence HIV⁵ | <0.1% |



NATIONAL BLOOD PROGRAM

The Ministry of Health provides the majority of blood services in Palestine, mainly through hospital services, and oversees all other blood transfusion organizations in the region.⁶

In 2012, in the West Bank, there were 20,660 blood donations through the Ministry of Health blood transfusion services - of which 30% were voluntary blood donations and 70% were donated for a relative or acquaintance, and transfused blood and blood products equalled 53,196.⁶ The Ministry of Health in Gaza reported 30,915 blood donors in 2012, 45% from VNRBD and the remainder from replacement donors.⁶

NATIONAL SOCIETY (PALESTINE RED CRESCENT)

The Palestine Red Crescent Society was founded in 1968⁷ and became a full member of the IFRC in June 2006⁷.

Whilst the Palestine Red Crescent Society was involved in blood services at Level A in 2008, the Ministry of Health has now fully taken this responsibility, leaving the Palestine Red Crescent Society with no involvement in blood services at all.

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2017 Dec 05]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/gz.html>

² United Nations Development Program. Human Development Report 2016 [Internet] United Nations Development Program 2016 [cited 2017 Dec 05]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2017 Dec 05] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2017 Dec 05] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ UNAIDS. Country Progress Report. Occupied Palestinian Territory [Internet] UNAIDS 2012 March [cited 2017 Dec 05]. Available from: <http://www.unaids.org/en/dataanalysis/knowyourresponse/countryprogressreports/2012countries/#P>

⁶ World Health Organisation. Sixty-seventh World Health Assembly. Agenda item 19 Health conditions in the occupied Palestinian territory, including east Jerusalem, and in the occupied Syrian Golan. [Internet] World Health Organisation 2014 May 19 [cited 2017 Dec 05]. Available from: http://apps.who.int/gb/ebwha/pdf_files/WHA67/A67_INF5-en.pdf

⁷ Palestine Red Crescent Society. An Introduction [Internet] Palestinian Red Crescent Society 2017 [cited 2017 Dec 05]. Available from: <https://www.palestinercs.org/index.php?page=post&pid=1&catid=1&parentid=0>

SAUDI ARABIA



Saudi Red Crescent Authority:

- National society has no involvement at all, not even advocacy for voluntary non-remunerated blood donation.

NATIONAL CONTEXT

| | |
|--|--------------------------------------|
| Location | Middle East |
| Geographical size ranking ¹ | 14 th |
| Population (world ranking) ¹ | 28.5 million (47 th) |
| Median age ¹ | 27.5 |
| Political system ¹ | Absolute monarchy |
| GDP per capita (world ranking) ¹ | \$55,300 (21 st) |
| HDI Index (world ranking) ² | 0.847 - very high (3 th) |
| Health Expenditure ¹ | 4.7% of GDP |
| Efficiency of Healthcare ³ | 16 th of 51 countries |
| Population prevalence hepatitis B ⁴ | Low Intermediate: 2% - 4% |
| Population prevalence hepatitis C ⁵ | Low: 1.0% - <1.5% |
| Population prevalence HIV ⁶ | <0.1% |



NATIONAL BLOOD PROGRAM

The blood system in Saudi Arabia is fragmented, each hospital providing acute care has a blood bank which operates a vein to vein system.⁷ ⁸ Ministry of Health hospitals in major cities have a centralised approach to blood collection and distribution, these numbered 21 of the 259 blood banks in 2012.⁸ The government sector is responsible for over 90% of all collections.⁸ The current disjointed system may be the cause of both blood shortages and wastage⁸.

Blood and blood products are included under the regulation of biological products which is provided by the Saudi Food and Drug Authority (SFDA), a government agency responsible for the regulation of food, drugs and medical devices.⁹

The Saudi Central Board of Accreditation for Health Institutions (CBAHI) sets the national standards which are mandatory for all private and public healthcare facilities, including blood banks, to follow.¹⁰ Many Saudi hospitals and blood banks are also accredited by the Joint Commission International (JCI)¹¹ along with the regulations and standards as provided by the Ministry of Health, American Association of Blood Banks and the College of American Pathologists being adhered to.¹²

67% of hospitals in Saudi Arabia have a Hospital Transfusion Committee.¹³

NATIONAL SOCIETY (SAUDI RED CRESCENT AUTHORITY)

The Saudi Red Crescent Authority is not involved in blood related activities:

The number of people reported to have donated blood at or with the assistance of the Saudi Red Crescent Authority was zero in 2015.¹⁴

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2017 Dec 05]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/sa.html>

² United Nations Development Program. Human Development Report 2016 [Internet] United Nations Development Program 2016 [cited 2017 Dec 05]. Available from: <http://hdr.undp.org/en>

³ Bloomberg. Where Do You Get the Most for Your Health Care Dollar? [Internet] Bloomberg 2014 [cited 2017 Nov 29]. Available from: <https://www.bloomberg.com/graphics/infographics/most-efficient-health-care-around-the-world.html>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2017 Dec 05] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁵ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2017 Dec 05] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁶ Kingdom of Saudi Arabia. Ministry of Health. Global AIDS response progress report. Country progress report 2014. [Internet] Kingdom of Saudi Arabia Ministry of Health 2014 Mar 31 [cited 2017 Dec 05]. Available from: http://www.unaids.org/sites/default/files/en/dataanalysis/knowyourresponse/countryprogressreports/2014countries/SAU_narrative_report_2014.pdf

⁷ Abdel Gader AGM, Osman AMA, Gahtani FHA, Farghali MN, Ramadan AH, Al-Momen AKM. Attitude to blood donation in Saudi Arabia. Asian J Transfus Sci [Internet] 2011 [cited 2017 Dec 07];5(2):121-126. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/21897588>

⁸ MacPherson J. Blood Collections & Transfusion A Global Perspective 2014. Connecticut: The Marketing Research Bureau Inc: 2014. 203p.

⁹ AABB. Saudi Arabia. [Internet] AABB 2017 [cited 2017 Dec 05]. Available from: <http://www.aabb.org/advocacy/regulatorygovernment/ct/international/Pages/saudi-arabia.aspx>.

¹⁰ Saudi Central Board for Accreditation of Healthcare Institutions. About CBAHI [Internet] Saudi Central Board for Accreditation of Healthcare Institutions (CBAHI) 2016 [cited 2017 Dec 11]. Available from: <https://www.cbahi.gov.sa/surveyor/AboutUs.aspx>

¹¹ Joint Commission International. JCI Viewbook [Internet] Joint Commission International 2017 [cited 2017 Dec 11]. Available from: <https://www.jointcommissioninternational.org/assets/3/7/JCI-2016-Viewbook-4-26-final1.pdf>

¹² King Faisal Specialist Hospital & Research Centre. Blood Donation [Internet] King Faisal Specialist Hospital & Research Centre 2015-2017 [cited 2017 Dec 11]. Available from: <http://www.kfshrc.edu.sa/en/home/giving/blood>

¹³ World Health Organisation, Regional Office for the Eastern Mediterranean, Regional Status Report on Blood Safety and Availability 2016 [Internet] World Health Organisation Cairo; 2017 [cited 2017 Dec 05]. Available from: http://applications.emro.who.int/docs/EMROPub_2017_EN_18907.pdf

¹⁴ International Federation of Red Cross and Red Crescent. Saudi Red Crescent Authority [Internet] International Federation of Red Cross and Red Crescent Societies. Geneva; 2013 [cited 2017 Dec 05]. Available from: <http://data.ifrc.org/fdrs/societies/saudi-red-crescent-authority>

SYRIA



Syrian Arab Red Crescent:

- National society has no involvement at all, not even advocacy for voluntary non-remunerated blood donation

NATIONAL CONTEXT

| | |
|--|--|
| Location | Middle East |
| Geographical size ranking¹ | 90 th |
| Population (world ranking)¹ | 18 million (63 rd) |
| Median age¹ | 24.3 |
| Political system¹ | Presidential republic; highly authoritarian regime |
| GDP per capita (world ranking)¹ | \$2,900 (194 th) |
| HDI Index (world ranking)² | 0.536 - low (149 th) |
| Health Expenditure¹ | 3.3% of GDP |
| Population prevalence hepatitis B³ | Low Intermediate: 2%-4% |
| Population prevalence hepatitis C⁴ | Low: 1.0% - <1.5% |
| Population prevalence HIV⁵ | 0.1% among adults aged 15 to 49 |



NATIONAL BLOOD PROGRAM

Due to the ongoing state of crisis in Syria, health services are considered the most dangerous on earth, with attacks on healthcare facilities numbering near 200 in 2016.⁶ Areas of conflict are denied supplies, such as blood bags which are now being improvised by adding anticoagulant to urine bags.^{6,7}

Syrian blood services now fall under the Ministry of Defence.

With the conflict entering its seventh year⁶, blood services in Syria are in crisis:

- MSF reported in 2013⁸:
 - the blood bank supplying hospitals in the Aleppo region was destroyed in conflict. Blood donations are provided willingly, however storage facilities are not available, nor are the sources to ensure continuous supply of electricity to run them. Furthermore, basic blood testing cannot be carried out due to a lack of supplies, with reports claiming incorrect blood transfusions may be the cause of some deaths. In 2013, MSF had supplied equipment and resources to set up a new blood bank in Aleppo to supply the region.
- In October and November 2016, reports stated the central blood bank in Aleppo had been struck during airstrikes.^{9,10}

- A paediatric blood bank in rebel-held Aleppo province set up in 2015 had to cut its services in April 2016 from supporting 300 children, to providing services only to patients bringing blood from a family member.¹¹
- In Idlib, the Union of Medical Care and Relief Organizations, Syria Relief and a number of other international charity organisations support the Bab Al Hawa hospital which includes a blood bank.^{12 13}
- In 2014 and 2015, there were reports that ISIS were forcing people to donate blood at Raqqa's private hospitals, in order to provide treatment to militants injured by airstrikes¹⁴. It has also been reported that female hostages were made to give blood.^{14 15}

NATIONAL SOCIETY (SYRIAN ARAB RED CRESCENT)

The Syrian Arab Red Crescent is not involved in blood related activities.

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2017 Dec 05]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/sy.html>

² United Nations Development Program. Human Development Report 2016 [Internet] United Nations Development Program 2016 [cited 2017 Dec 05]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2017 Dec 05] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2017 Dec 05] Available from:

⁵ The World Bank. Prevalence of HIV, total (% of population ages 15-49) [Internet] The World Bank Group 2017 [cited 2017 Dec 11]. Available from: <https://data.worldbank.org/indicator/SH.DYN.AIDS.ZS?end=2016&start=2014>

⁶ Boseley S. Syria 'the most dangerous place on earth for healthcare providers' – study. The Guardian [Internet]. 2017 Mar 15 [cited 2017 Dec 12]. Available from: <https://www.theguardian.com/world/2017/mar/15/syria-conflict-study-condemns-weaponisation-of-healthcare>

⁷ Fouad MF, Sparrow A, Tarakji A, Alameddine M, El-Jardali F, Coutts AP, El Arnaout N, Bou Karroum L, Jawad M, Roborgh S, Abbara A, Alhalabi F, AlMasri I, Jabbour S. Health workers and the weaponisation of health care in Syria: a preliminary inquiry for *The Lancet* – American University of Beirut Commission on Syria. *Lancet* [Internet] 2017 Mar 14 [cited 2017 Dec 12];390:2516-26. Available from: [http://www.thelancet.com/pdfs/journals/lancet/PIIS0140-6736\(17\)30741-9.pdf](http://www.thelancet.com/pdfs/journals/lancet/PIIS0140-6736(17)30741-9.pdf)

⁸ Tung N. Syria Two Years On: The Failure of International Aid. Medecins Sans Frontieres [Internet] 2013 [cited 2017 Dec 12] Available from: <http://www.doctorswithoutborders.org/news-stories/special-report/syria-two-years-failure-international-aid>

⁹ Syria: Hospitals hit repeatedly by Russian and Syrian airstrikes, condemning hundreds of wounded to certain death. Medecins Sans Frontieres [Internet] 2016 Oct 05 [cited 2017 Dec 12]. Available from: <http://www.msf.org/en/article/syria-hospitals-hit-repeatedly-russian-and-syrian-airstrikes-condemning-hundreds-wounded>

¹⁰ The Associated Press. Doctors Without Borders hospitals hit by airstrikes in Syria's Aleppo. CBS News 2016 Nov 17 [cited 2017 Dec 12]. Available from: <https://www.cbsnews.com/news/doctors-without-borders-hospitals-airstrikes-syria-aleppo/>

¹¹ Aleppo pediatric blood bank cuts services, can't meet \$2,500 monthly expenses. Syria: direct [Internet] 2016 Apr 07 [cited 2017 Dec 12]. Available from: <http://syriadirect.org/news/aleppo-pediatric-blood-bank-cuts-services-can%E2%80%99t-meet-2500-monthly-expenses/>

¹² Bab Al Hawa Hospital. Syria Relief [Internet] BMHC, Manchester 2015 [cited 2017 Dec 12]. Available from: <https://www.syriarelief.org.uk/programmes/medical-aid/bab-al-hawa-hospital/>

¹³ Union of Medical Care and Relief Organizations. Our Operations. [Internet] UOSSM 2017 [cited 2017 Dec 12]. Available from: <http://www.uossm.org/operations>

¹⁴ Glum J. ISIS Demands Blood Donations For Wounded Fighters In Syria, Mandatory Transfusions Performed Without Proper Medical Tools. IB Times [Internet] 2015 Feb 13 [cited 2017 Dec 12]. Available from: <http://www.ibtimes.com/isis-demands-blood-donations-wounded-fighters-syria-mandatory-transfusions-performed-1816094>

¹⁵ Chastain M. ISIS Forces Syrians, Yazidi Sex Slaves To Donate Blood To Fighters. Breitbart [Internet] 2015 Feb 13 [cited 2017 Dec 12]. Available from: <http://www.breitbart.com/national-security/2015/02/13/isis-forces-syrians-yazidi-sex-slaves-to-donate-blood-to-fighters/>

KUWAIT



Kuwait Red Crescent Society did not respond to the GAP Global Mapping survey.

NATIONAL CONTEXT

| | |
|--|---------------------------------------|
| Location | Middle East |
| Geographical size ranking¹ | 158 th |
| Population (world ranking)² | 2.8 million (139 th) |
| Median age² | 29.2 |
| Political system² | Constitutional monarchy |
| GDP per capita (world ranking)² | \$69,700 (13 th) |
| HDI Index (world ranking)² | 0.800 – Very high (51 st) |
| Health Expenditure² | 3% of GDP |
| Population prevalence hepatitis B³ | Low Intermediate: 2-4% |
| Population prevalence hepatitis C⁴ | Low: 1-<1.5% |
| Population prevalence HIV⁵ | <0.1% |



NATIONAL BLOOD PROGRAM

The Kuwait Central Blood Bank is the sole provider of blood products for the government and private sector (and also provides rare blood groups for nearby countries).⁶ Prior to its establishment in 1965, all blood for Kuwait was imported.⁷

A Ministry of Health run Blood Transfusion Administration Service was established in 1987 to oversee the blood transfusion sector including planning and development.⁷

Kuwait Central Blood Bank (KBCC) has been accredited with the American Association of Blood Banks (AABB) since 1989.⁷

31% of hospitals have a Hospital Transfusion Committee.⁸

The Kuwait Central Blood Bank collects blood from:

- the Central Blood Bank
- branches in Amiri, Jahra, Adan Hospitals and Crescent Centre
- mobile blood units⁹

Platelet apheresis is also performed.⁹ In 2010, 7,926 units of platelet concentrates were collected, which covered all the country's needs.⁹

With the help of mobile blood units and the "Sweet Hearts" campaign starting in 2006, the KCBB was able to increase its voluntary donor base and eliminate paid blood donations in Kuwait.¹⁰

In May 2015, the Kuwait Ministry of Health introduced a ‘token’ fee for private hospitals that need blood and blood products in order to avoid wastage.¹¹ However, these fees do not apply if a donor is provided for a patient or in the case of family replacement donations.¹¹

NATIONAL SOCIETY (KUWAIT RED CRESCENT)

As the Kuwait Red Crescent Society has not responded to the GAP global mapping survey, it is not known whether it has any current involvement in the national blood program. Previous data (2008) indicates that the Kuwait Red Crescent is involved in voluntary donation education/awareness only (Level C).

No blood donation data was provided to the IFRC data site by the Kuwait Red Crescent Society in 2015.¹² However, the Kuwait Central Blood Bank lists the “Crescent Centre” as one of its blood donation collection sites.⁹

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] Central Intelligence Agency 2013 [cited 2017 Oct 29]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/ku.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] United Nations Development Programme 2016 [cited 2017 Oct 29]. Available from: <http://hdr.undp.org/en>

³ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2017 Oct 29] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] Centres for Disease Control and Prevention 2016 [cited 2017 Oct 29] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁵ UNAIDS. Country Factsheets Kuwait [Internet] UNAIDS 2017 [cited 2017 Dec 05]. Available from: <http://www.unaids.org/en/regionscountries/countries/kuwait/>

⁶ Kuwait Central Blood Bank. Main Services. [Internet] 2017 [cited 2018 Feb 22]. Available from: <https://kuwaitcentralbloodbank.wordpress.com/main-services/>

⁷ Kuwait Central Blood Bank. Historical Background [Internet] Kuwait, 2017 [cited 2017 Oct 29] Available from: <https://kuwaitcentralbloodbank.wordpress.com/historical-background/>

⁸ World Health Organisation, Regional Office for the Eastern Mediterranean, Regional Status Report on Blood Safety and Availability 2016 [Internet] World Health Organisation Cairo; 2017 [cited 2017 Oct 29]. Available from: http://applications.emro.who.int/docs/EMROPub_2017_EN_18907.pdf

⁹ Kuwait Central Blood Bank. Donation and Donor Affair Unit [Internet] Kuwait, 2017 [cited 2017 Dec 12] Available from: <https://kuwaitcentralbloodbank.wordpress.com/donation-and-donors-affair-unit/>

¹⁰ Kuwait Central Blood Bank. Mobile Units [Internet] Kuwait, 2017 [cited 2017 Dec 12] Available from: <https://kuwaitcentralbloodbank.wordpress.com/mobile-units/>

¹¹ Blood transfusion fee at private hospitals [Internet] Kuwait Times 2015 June 01 [cited 2017 Oct 29] Available from: <http://news.kuwaittimes.net/blood-transfusion-fee-at-private-hospitals/>

¹² International Federation of Red Cross and Red Crescent. Kuwait Red Crescent Society [Internet] International Federation of Red Cross and Red Crescent Societies. Geneva; 2013 [cited 2017 Oct 29]. Available from: <http://data.ifrc.org/fdrs/societies/kuwait-red-crescent-society>

UNITED ARAB EMIRATES



The Red Crescent Society of the United Arab Emirates did not respond to the GAP Global Mapping survey.

NATIONAL CONTEXT

| | |
|--|--------------------------------------|
| Location | Middle East |
| Geographical size ranking¹ | 116 th |
| Population (world ranking)² | 6.07 million (110 th) |
| Median age² | 30.3 |
| Political system² | Federation of monarchies |
| GDP per capita (world ranking)² | \$68,200 (14 th) |
| HDI Index (world ranking)² | 0.84 - very high (42 nd) |
| Health Expenditure³ | 2.6% of GDP |
| Efficiency of Healthcare³ | 9th of 51 countries |
| Population prevalence hepatitis B⁴ | Low Intermediate: 2%-4% |
| Population prevalence hepatitis C⁵ | Low: 1.0% - <1.5% |
| Population prevalence HIV⁶ 7 | Low prevalence |



NATIONAL BLOOD PROGRAM

In 1990, the United Arab Emirates (UAE) Government established a national blood transfusion program and made legislative and policy changes to move towards 100% VNRBD.⁸ UAE managed to increase its percentage of VNRBD from 59% in 2004 to 100% in 2011.⁹ The performance of the blood services in the UAE prompted WHO to establish a regional centre for blood research and transfusion services in Sharjah.⁸

During a WHO summit in 2010 it was announced that UAE blood transfusion service is considered among the best in the world.¹⁰

In 2006, there were 14 blood banks in the UAE with the Sharjah Blood Transfusion Centre being one of the biggest and also a reference resource for the region.¹¹ All 14 centres operated under the same laws and systems and were accredited internationally.¹¹

Ministry of Health's Department of Blood Transfusion and Research Services in Sharjah reported that 86,000 blood units were collected nationwide in 2008.⁸

100% of hospitals in the United Arab Emirates have a Hospital Transfusion Committee.¹²

NATIONAL SOCIETY (RED CRESCENT OF THE UNITED ARAB EMIRATES)

The Emirates Red Crescent Society was established in 1983 and accepted as a member of the IFRC in 1986.¹³

The latest response from the Red Crescent Society of the United Arab Emirates to the GAP global mapping survey was in 2008, when it responded that it was operating at Level B. However, in recent years, there is no evidence that the Red Crescent Society of UAE has been involved in blood.

Data on the number of people reported to have donated blood at or with the assistance of the Red Crescent Society of UAE was not available for either 2012 or 2013 and there was no annual report available on the IFRC data site.¹⁴

¹ Central Intelligence Agency. The World Factbook 2013-14 [Internet] 2013 [cited 2017 Oct 27]. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/ae.html>

² United Nations Development Programme. Human Development Report 2016 [Internet] 2016 [cited 2017 Oct 27]. Available from: <http://hdr.undp.org/en>

³ Bloomberg. Where Do You Get the Most for Your Health Care Dollar? [Internet] 2014 [cited 2017 Oct 27]. Available from: <https://www.bloomberg.com/graphics/infographics/most-efficient-health-care-around-the-world.html>

⁴ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2017 Oct 27] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-b>

⁵ Centres for Disease Control and Prevention. CDC Yellow Book 2016. [Internet] 2016 [cited 2017 May 22] Available from: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/hepatitis-c>

⁶ United Arab Emirates, Global AIDS Response Progress Report 2014 [Internet] UAE; 2014 [cited 2017 Oct 27]. Available from: http://www.unaids.org/sites/default/files/country/documents/ARE_narrative_report_2014.pdf

⁷ Ali Zain A. What you need to know about HIV/Aids in UAE. [Internet] Khaleej Times 2016 Dec 04 [cited 2017 Dec 12]. Available from: <https://www.khaleejtimes.com/nation/uae-health/what-you-dont-know-about-hiv-aids-in-uae>

⁸ Ruiz R. Ministry says UAE blood collection system is one of the best in region. The National [Internet]. 2009 June 14 [cited 2017 Oct 27]. Available from: <http://www.thenational.ae/news/uae-news/health/ministry-says-uae-blood-collection-system-is-one-of-the-best-in-region>

⁹ World Health Organisation, Towards Self-Sufficiency in Safe Blood and Blood Products based on Voluntary Non-Remunerated Donation. Global status 2013. [Internet] World Health Organisation Italy 2013 [cited 2017 Dec 12]. Available from: <http://www.transfusion.ru/2014/02-26-2.pdf>

¹⁰ D'Souza C. 'UAE leads in blood transfusion services' Global blood safety summit opens. Gulf News Health [Internet] 2012 Nov 21 [cited 2017 Oct 27] Available from: <http://gulfnews.com/news/uae/health/uae-leads-in-blood-transfusion-services-1.1108063>

¹¹ Sheikh Hamdan Bin Rashid Al Maktoum Award for Medical Sciences. Sharjah Blood Transfusion and Research Center. UAE Awards. Hamdan Award for an Outstanding Clinical Department in the Public Sector in UAE 2005-2006 [Internet]. UAE; 2006 [cited 2017 Oct 27] Available from: <http://www.hmaward.org.ae/profile.php?id=229>

¹² World Health Organisation, Regional Office for the Eastern Mediterranean, Regional Status Report on Blood Safety and Availability 2016 [Internet] World Health Organisation Cairo; 2017 [cited 2017 Aug 28]. Available from: http://applications.emro.who.int/docs/EMROPub_2017_EN_18907.pdf

¹³ Red Crescent of the United Arab Emirates [Internet] Red Crescent of the United Arab Emirates UAE; 2017 [cited 2017 Oct 27] Available from: http://www.rcuae.ae/home_page_en.aspx

¹⁴ The International Federation of Red Cross and Red Crescent Societies. Red Crescent Society of the United Arab Emirates [Internet] IFRC 2016 [cited 2017 Dec 12]. Available from: <http://data.ifrc.org/fdrs/societies/red-crescent-society-of-the-united-arab-emirates>

APPENDIX 1- Global Mapping Survey

GAP SURVEY ON RED CROSS/RED CRESCENT INVOLVEMENT IN BLOOD

The **Global Advisory Panel on Corporate Governance and Risk Management of Blood Services in Red Cross and Red Crescent Societies** (GAP) is an International Federation of Red Cross and Red Crescent Societies (IFRC) affiliated global network of Red Cross/Red Crescent Blood Services with expertise in risk management and corporate governance of blood programs. GAP is comprised of twelve members who are Red Cross/Red Crescent National Societies from around the world with relevant expertise in blood and blood service management.

The purpose of GAP is to provide advice to national Red Cross and Red Crescent Societies, and their affiliated blood services, in matters concerning corporate governance and risk management in the field of National Society blood programs, as well as the IFRC Secretariat and other relevant IFRC bodies. GAP advocates and supports the establishment of safe and sustainable blood systems, promotes the adoption of best practice, and facilitates resource mobilization and knowledge transfer between blood services.

Global Red Cross/Red Crescent Blood Service Survey

GAP routinely conducts a global survey of ALL National Societies to determine their level of involvement in a blood program as a precursor to the GAP Self-assessment process. The IFRC Blood Policy requires National Societies to complete the GAP Self-assessment periodically. The Self-assessment process assists National Society blood services to identify and manage their particular corporate governance and risk management issues; thereby helping to ensure the long term sustainability of their blood service.

To ensure the appropriate Self-assessment questionnaire is forwarded to your National Society for completion, and to ensure that your National Society is being identified at the correct level (i.e. A, B, C or Nil) in the Federation's statistics, we ask that you complete this short survey, based on your current level of involvement.

Please only complete the short survey relevant to your National Society's current level of involvement with blood (either A or B or C or D). The survey can be completed electronically by typing into the fields indicated and using the check boxes or by printing out and hand-writing on the form.

| | | |
|------------------------------|---|------------------------------------|
| <u>Level A:</u> | National Society operates a blood service which collects blood from donors . May also be involved in processing blood into components, screening tests for blood donors and testing of collected blood. | Complete survey on Page 2-5 |
| <u>Level B:</u> | National Society is involved in the systematic/regular recruitment of voluntary non-remunerated blood donors but no involvement in blood collection. | Complete survey on Page 6-7 |
| <u>Level C:</u> | National society is involved in occasional community education/awareness programs that help promote voluntary non-remunerated blood donation (e.g. World Blood Donor Day) but no involvement in the systematic recruitment of donors or blood collection. | Complete survey on Page 8-9 |
| <u>Level D (Nil):</u> | National society has no involvement at all, not even advocacy for voluntary non-remunerated blood donation. | Complete survey on Page 10 |

The survey should take you no longer than **twenty minutes** to complete and it would be greatly appreciated if it could be returned as soon as possible by either:

- Return e-mail: gapsecretariat@redcrossblood.org.au
- Fax: +61 8 6213 5949

LEVEL A SURVEY: To be completed by National Societies that operate a blood service which collects blood from donors

Name of your National Society (NS):

Q1. What percentage of the nation's blood collection is provided by the National Society?

%

If less than 100%, who are the other major providers of blood and what percentage of the national blood supply do they provide?

Provider 1 – insert name

%

Provider 2 – insert name

%

Provider 3 – insert name

%

Q2. What percentage of the blood collected by the National Society Blood Service is from voluntary non-remunerated blood donors (VNRBD)? **Note – family/replacement donors are NOT to be included as VNRBD**

%

Q3. How many blood donations does the NSBS collect annually?

- Whole blood?
- Apheresis?

Q4. Who performs the following activities on the blood the NSBS collects?

- Process collected blood into components?
- Conduct screening testing of blood for infectious diseases and blood grouping?
- Conduct cross-matching for transfusion?

| Blood Service | Ministry of Health/Govt | Hospitals | Other |
|--------------------------|--------------------------|--------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

If other – please detail

Q5. Does the blood service forward plasma to a fractionation facility?

| Yes | No |
|--------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> |

Q6. Does the blood service perform any transfusions?

| Yes | No |
|--------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> |

If yes – please detail

| <p>Q7. Does the blood service have any involvement in the collection, processing or testing for any of the following cell or tissue therapies?</p> <ul style="list-style-type: none"> • Cord blood stem cells • Peripheral stem cells • Bone marrow stem cells • Bone • Solid organ • Cornea | <table border="0"> <thead> <tr> <th>Yes</th> <th>No</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> </tbody> </table> | Yes | No | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|--|---|-----|----|--------------------------|--------------------------|---------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|---------------------------------|--------------------------|--------------------------|--------------------------|
| Yes | No | | | | | | | | | | | | | | |
| <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | | |
| <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | | |
| <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | | |
| <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | | |
| <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | | |
| <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | | |
| <p>Q8. What is the national or regional population the blood service is required to support?</p> | | | | | | | | | | | | | | | |
| <p>Q9. How many hospitals/clinics do you supply blood to?</p> | | | | | | | | | | | | | | | |
| <p>Q10. Is the blood service accredited according to international standards, or working towards accreditation?</p> | <p><input type="checkbox"/> Yes (accredited)</p> <p><input type="checkbox"/> Yes (working towards accreditation)</p> <p><input type="checkbox"/> No</p> <p>If yes, which international standards are being used?</p> | | | | | | | | | | | | | | |
| <p>Q11. Does the National Society or blood service receive:</p> <ul style="list-style-type: none"> • Technical assistance for Voluntary Non-Remunerated Blood Donation (VNRBD) or blood service activities from an international partner (e.g. US CDC or AABB)? • Financial support for VNRBD or blood service activities (e.g. Global Fund) | <table border="0"> <thead> <tr> <th>Yes</th> <th>No</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td colspan="2">If yes , please provide details</td> </tr> <tr> <td colspan="2"> </td> </tr> <tr> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td colspan="2">If yes , please provide details</td> </tr> </tbody> </table> | Yes | No | <input type="checkbox"/> | <input type="checkbox"/> | If yes , please provide details | | | | <input type="checkbox"/> | <input type="checkbox"/> | If yes , please provide details | | | |
| Yes | No | | | | | | | | | | | | | | |
| <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | | |
| If yes , please provide details | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | | |
| If yes , please provide details | | | | | | | | | | | | | | | |
| <p>Q12. Are you planning to expand or scale back your current level of involvement in blood-related activities?</p> | <p><input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes – plan to expand</p> <p><input type="checkbox"/> Yes – plan to scale back</p> <p>If yes, please provide details</p> | | | | | | | | | | | | | | |
| <p>Q13. How are the donor recruitment and retention activities coordinated by the NS?</p> | <p><input type="checkbox"/> nationally</p> <p><input type="checkbox"/> district/chapter</p> <p><input type="checkbox"/> other – please detail</p> | | | | | | | | | | | | | | |

| | |
|--|---|
| Q14. How are donor recruitment activities funded? | <input type="checkbox"/> by the blood service <input type="checkbox"/> by the National Society <input type="checkbox"/> by Government or MOH <input type="checkbox"/> by private organisations <input type="checkbox"/> other – please detail |
| Q15. Does the National Society use paid positions (staff) or volunteers for donor recruitment? | <input type="checkbox"/> paid staff <input type="checkbox"/> volunteers <input type="checkbox"/> other – please detail |
| Q16. What recruitment programs are currently used? | <input type="checkbox"/> school/university programs <input type="checkbox"/> club 25 <input type="checkbox"/> corporate programs <input type="checkbox"/> other – please detail |

| | |
|--|---|
| LEVEL B SURVEY: To be completed by National Societies involved in the systematic/regular recruitment of voluntary non-remunerated blood donors but with no involvement in blood collection | |
| Name of your National Society (NS). (Please type in the grey box): | |
| Q1. How are the donor recruitment and retention activities coordinated by the NS? | <input type="checkbox"/> nationally <input type="checkbox"/> district/chapter <input type="checkbox"/> other – please detail |
| Q2. What recruitment programs are currently used? | <input type="checkbox"/> school/university programs <input type="checkbox"/> club 25 <input type="checkbox"/> corporate programs <input type="checkbox"/> other – please detail |
| Q3. How are donor recruitment activities funded? | <input type="checkbox"/> by the blood service <input type="checkbox"/> by the National Society <input type="checkbox"/> by Government or MOH <input type="checkbox"/> by private organisations <input type="checkbox"/> other – please detail |
| Q4. Does the National Society use paid positions (staff) or volunteers for donor recruitment? | <input type="checkbox"/> paid staff <input type="checkbox"/> volunteers <input type="checkbox"/> other – please detail |
| Q5. Does the National Society or blood service receive: <ul style="list-style-type: none"> • Technical assistance for Voluntary Non-Remunerated Blood Donation (VNRBD) or blood service activities from an international partner (e.g. US CDC or AABB)? • Financial support for VNRBD or blood service activities (e.g. Global Fund) | <input type="checkbox"/> no <input type="checkbox"/> yes – give details <input type="checkbox"/> no <input type="checkbox"/> yes – give details |
| Q6. Has the NS previously been involved in blood at Level A? If Yes , why did the NS cease involvement and when? | <input type="checkbox"/> no <input type="checkbox"/> yes – previously at Level A |
| Q7. Are you planning to expand or scale back your current level of involvement in blood-related activities? If yes, please provide details | <input type="checkbox"/> No <input type="checkbox"/> Yes – plan to expand <input type="checkbox"/> Yes – plan to scale back |

LEVEL C SURVEY: To be completed by National Societies which are involved in occasional community education/awareness programs that help promote voluntary non-remunerated blood donation (eg. World Blood Donor Day) but no involvement in the recruitment of donors or blood collection.

Name of your National Society (NS). (Please type in the grey box):

Q1. How are the community education activities coordinated by the NS?

- ☐ nationally
- ☐ district/chapter
- ☐ other – please specify

Q2. How are community education activities funded?

- ☐ by the blood service
- ☐ by the National Society
- ☐ by Government or MOH
- ☐ by private organisations
- ☐ other – please detail

Q3. Does the National Society or blood service receive:

- technical assistance for Voluntary Non-Remunerated Blood Donation (VNRBD) or blood service activities from an international partner (e.g. US CDC or AABB)?
- financial support for VNRBD or blood service activities (e.g. Global Fund)

- ☐ no
- ☐ yes – give details
- ☐ no
- ☐ yes – give details

Q4. Has the NS previously been involved in blood at Level A or B?

If Yes, why did the NS cease involvement and when?

- ☐ no
- ☐ yes – previously Level A
- ☐ yes – previously Level B

Q5. Are you planning to expand or scale back your current level of involvement in blood-related activities?

- ☐ no
 - ☐ yes – plan to expand
 - ☐ yes – plan to scale back
- If yes, please provide details

LEVEL D (NIL) SURVEY: To be completed by National Societies with NO INVOLVEMENT in blood at all, not even advocacy for voluntary non-remunerated blood donation.

Name of your National Society (NS). Please type in the grey box):

Q1. Has the NS previously been involved in blood at Level A, B or C?

☐ no

☐ yes – previously at Level A

☐ yes – previously at Level B

☐ yes – previously at Level C

If Yes, why did the NS cease involvement and when?

Name and contact details of person completing this survey:

| | |
|----------------|--|
| Name | |
| Position | |
| Email address | |
| Postal address | |
| Phone number | |
| Fax Number | |

Do you have any other comments at this point?

| |
|--|
| |
|--|

If you have an annual report of the NS blood service activities that you would be willing to share with us, please forward it together with this completed survey.

Thank you for taking part in the GAP Global Mapping Survey.

If you have any further questions please contact the GAP Secretariat.

If you would like further information about GAP, please refer to our website –

www.globaladvisorypanel.org

Please email (preferred) or fax or this form to:

gapsecretariat@redcrossblood.org.au

Tel: +61 8 6213 5909

Fax: +61 8 6213 5949