



Report on the Health Care Sector and Business Opportunities in Rwanda

Kristina Leuchowius

for

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Abbreviations

AIDS: Acquired Immune Deficiency Syndrome	IPC: Infection Prevention and Control
ANC: Antenatal Care	MDG: Millennium Development Goals
ART: Antiretroviral Therapy	MINECOFIN: Ministry of Finance and Economic Planning
CAMERWA: Central Purchasing Agency of Essential Drugs	MINICOM: Ministry of Trade and Industry
CBHI: Community-Based Health Insurance	MINISANTE/MoH: Ministry of Health
CBS: Health Center Committees	MMR: Maternal Mortality Ratio
CHUB: University Teaching Hospital Butare	MOT: Modes of Transmissions
CHUK: Kigali Teaching Hospital Kigali	MPPD: Medical Procurement and Production Division
CHW: Community Health Workers	MRI: Magnetic Resonance Imaging
COMESA: Common Market for Eastern and Southern Africa	NCD: Non-Communicable Diseases
COHSASA: The Council for Health Service Accreditation of Southern Africa	NGOs: Non-Governmental Organizations
CVD: Cardiovascular Disease	NISR: National Institute of Statistics of Rwanda
DfID: Department for International Development	PEPFAR: President's Emergency Plan for AIDS Relief
DHS: Demographic Health Survey	PPP: Public Private Partnerships
DRC: Democratic Republic of the Congo	RBC: Rwanda Biomedical Center
EAC: East African Community	RDB: Rwanda Development Board
EDPRS: Economic Development and Poverty Reduction Strategy	RMH: Rwanda Military Hospital
ENT: Ear-Nose-Throat	RPF: Rwanda Patriotic Front
EU: European Union	Rwf: Rwandan Francs
FDI: Foreign Direct Investments	Sida: Swedish International Development Cooperation Agency
GDP: Gross Domestic Product	SWAp: Sector-Wide Approach
GNU: Government of National Unity	TNA: Transitional National Assembly
GoR: Government of Rwanda	UN: United Nations
HDI: Human Development Index	UR: University of Rwanda
HDU: High Dependency Unit	USAID: United States Agency for International Development
HIV: Human Immuno-Deficiency Virus	USD: US Dollar
HMIS: Health Management Information System	WGI: World Governance Indicators
HRH: Human Resources for Health Program	WHO: World Health Organization
HSSP: Health Sector Strategic Plan	WB: World Bank
ICU: Intensive Care Unit	

Preface

In the last ten years or so, Rwanda has made unprecedented progress in health indicators, e.g. reducing maternal deaths by more than 50% and infant and child deaths by more than 40%, and increasing the overall use of health services. Despite these gains, the country faces a critical shortage of qualified health workers and battles the double burden of communicable and non-communicable diseases on the health system. The Government thus continues to prioritize the development of the health sector, and is backing this by corresponding budget allocations. Up to date, health care in Rwanda is mainly both funded and delivered by the public sector, but the government is now emphasizing private sector participation in the provision and financing of high quality health care, and public private partnerships (PPP) in the development and implementation of the health care delivery. The health care sector is thus undergoing important changes, giving rise to potential business opportunities.

The overall objective of this study is to provide a general overview of the Rwandan health care sector – the health situation of Rwandans, the health system and the actors that it consists of as well as policies and regulations that are the bases for the future development of the sector. In addition, the report identifies opportunities for Swedish actors within the Rwandan health care sector, and aims to provide input on how to meet these opportunities (and challenges) in order to create business and collaboration in Rwanda for Swedish health care organizations and companies. The ultimate aim is to contribute to improved healthcare in terms of quality and access, through cooperation between public and private Swedish and Rwandan health care actors.

The study has been commissioned by Swecare Foundation, as part of the Sida-funded pilot project How Networks within the Health Sector can contribute to Development Cooperation. In the role as partners to Sida, under the Business for Development (B4D) program, Swecare Foundation's unique platform is used to enhance and develop cooperation between Swedish actors and operators in developing markets.

Swecare Foundation was founded in 1978 by the Swedish Government and the health care industry together as a semi-governmental non-profit organization. Swecare creates interest in interaction, analyzing the needs of other countries, matches this with Swedish comparative advantages and packages a Swedish offer. We create meeting places and open doors between actors in different countries. Swecare's network consists of more than 300 Swedish companies and organizations from different parts of the health care sector. Swecare also coordinates innovative projects to improve the quality and affordability of health care.

The pilot project aims to contribute to poverty alleviation and improved living conditions for poor people. This is done by increasing the knowledge on both in Sweden and in our focus countries, about each other, through creating platforms for increased collaboration and business, based on mutual interest for companies, public agencies, research foundations and academia.

Maria Helling,
Swecare Foundation

1 EXECUTIVE SUMMARY

The Executive Summary begins with a short section on how health is a prioritized sector in Rwanda, followed by general issues that are important to consider when approaching the Rwandan health care system. The final section highlights potential opportunities – selected based on presumed interests from Swecare’s member organizations and companies.

1.1 General

1.1.1 Why Rwanda?

Rwanda borders to four countries: Burundi, DRC, Tanzania and Uganda, and it part of the East Africa Community (EAC). This strategic location, potentially with access to 210,000,000 people in East and Central Africa, in combination with being a well-organized and safe country with a committed Government and very low corruption rates, makes Rwanda a potential regional hub for health care activities in a long-term perspective. The country has a stable economy and was ranked 2nd in Africa in the ease of doing business by the World Bank. Finally, Rwanda is one of few South-Saharan African countries on track to achieving most of the Millennium Development Goals (MDGs), yet it is still one of the poorest countries in the world with large challenges and needs in the health care sector. The market for doing business in the health sector is thus largely untapped, and for investors or exporters there is enormous potential.

1.1.2 Health is a prioritized sector

In the immediate aftermath of the 1994 genocide against the Tutsis, Rwanda was among the poorest countries in the world, with health and educational systems in ruins. Funds for implementation of health initiatives were limited and malnutrition and epidemics of infectious diseases further thinned the population (Farmer et al.). The Ministry of Health (MoH) decided in 1995 to reform the health sector, and has since then worked hard to improve it. The Government of Rwanda (GoR) has been praised for its commitment and excellent improvements regarding infant and child survival, maternal health, as well as HIV, Tuberculosis (TB), and malaria outcomes. During the last decade it also became evident that there is a need to focus on non-communicable diseases (NCDs) as well, and to make the health care system sustainable. The GoR therefore continues to reform and prioritize the sector (Health Policy 2005, the Family Planning Policy 2012).

1.1.3 Health sector bottlenecks and needs

There are several challenges that exist in the health care sector of Rwanda. One of the most critical is the severe shortage of qualified medical staff (doctors, nurses,

technicians and laboratory staff). Other big issues include the lack of medical equipment and the knowledge of how to maintain them, and a very high import dependency in combination with a general heavy dependency on foreign donor support, making it difficult for the country to establish a sustainable health care system. Another important issue which has an impact on the financing of medical services is the fact that a large part of the population lacks the means to pay for medical care unless they are covered by medical insurance.

In conclusion, there is a general need to:

- Increase the number and quality of medical staff and health workers (doctors, nurses, midwives, technicians, managers), as well as the number of specialized doctors and nurses. There is also a need to boost motivation and retention of medical staff in health facilities, and to ensure that the staff is capable of using and maintaining the medical equipment.
- Give priority to adequate infrastructure, medical equipment and steady access to drugs throughout the entire country. Technical support and relevant capital investments are needed in order to strengthen all levels of the health care system, and to improve the general service delivery in terms of quality and access.
- Increase the level of investments and interventions in scaling up health services in respect to NCDs and other epidemics, and to find a sustainable way to deal with communicable diseases such as malaria, HIV and TB. This would in turn significantly improve the health status of the entire population.

1.1.4 Perception of Swedish technology and health sector

Sweden has built good relationships and collaboration with the GoR since 1994 when the Swedish International Development Cooperation Agency (Sida) first initiated its development work in the country. There are few Swedish companies in Rwanda (Ericsson being the biggest), yet many know of and recognize Swedish products from the sectors of telecom, engineering and transport/automobile. The Swedish health sector is famous for being well organized, efficient and for providing high quality services. Specifically mentioned by Government officials and medical doctors are: e-health/ web based registration systems, high standard hospitals/medical education programs and the social security net. The Government, as well as public and private health actors, is therefore very positive towards establishing collaboration with Swedish companies in Rwanda.

1.1.5 Competitive situation

About 80% of the health sector in Rwanda is public (55% is GoR owned and 22% are faith-based with GoR funding) and there are very few private clinics. Despite this, the private sector is believed to be the future – offering plenty of business and partnership opportunities.

The health sector is currently heavily dependent on donor support (about 60% in 2010) and there is a need in the medium- and long-term to consider more sustainable financing mechanisms. The GoR has therefore made it one of their

priorities to promote a private sector-led free market economy, with the aim at fostering both local and foreign investments (Family Planning Policy page 21).

While the private sector is growing and developing, it does so from a low level in terms of scope of services. Owners of private clinics in Rwanda are focusing on general health care, instead of more specialized care, and there is no life science industry in the country. This leaves room for foreign investors. India currently has a quite remarkable dominance in Rwanda when it comes to special knowledge, manufacturing of pharmaceuticals and medical technology.

1.2 Main findings and possible areas for investment

1.2.1 Capacity building

The capacity building needs in Rwanda are enormous. There is a great lack of doctors and nurses, and the ones that are there are mostly general physicians. The total number of medical staff trained has increased during the last couple of years through an increased number of students enrolled in medical/health education - however the number and qualification of medical physicians in Rwanda is insufficient. Another issue is that the medical staff does not have enough knowledge of how to use and maintain advanced medical equipment such as MRI scans etc.

Due to lack of resources, Rwandan schools and teaching hospitals are not able to offer adequate levels of teaching, clinical training, mentorship, research experience, and opportunities for advanced/specialized studies (HRH project). Suggestions put forward are thus for facilitators, doctors and professors to come to Rwanda for a longer period in order to work together with the medical staff at the hospitals. It would also be beneficial for Rwandan doctors and students to go for trainings in Sweden for a limited time period.

1.2.2 Hospital management

The School of Public Health is now offering a master's program in health administration and management. However, there are only a few persons with public health training working in hospital management in Rwanda and the training opportunities for healthcare management are minimal. As a result, management capacity in hospitals is variable and often substandard. Rwandan hospitals would therefore benefit from technical and managerial support e.g. regarding patient management and quality assurance.

Partnerships regarding hospital management between Swedish and Rwandan hospitals would help create sustainable, quality health care that would be beneficial to the entire population of Rwanda. It would help to identify further potential areas of joint development such as needs for medical equipment, capacity building and/or infrastructure.

1.2.3 Hospital facilities and development, incl. specialist hospitals

The private health care facilities in Rwanda are not many. In total there are a few private hospital, 60 clinics and polyclinics and 142 dispensaries (ESP consultancy report 2014). Most private clinics and hospitals can be found in the capital of Kigali. Branches around the country are often run by the same owners, offering similar services. The private sector in Rwanda is therefore in need of more diversity.

There is a large interest in the establishment of a center of excellence that can be used for regional medical tourism. Many other African countries have the same aspirations but Rwanda has the advantage of being geographically strategically placed with access to the unexplored East/Central Africa market. Many patients from Rwanda and its neighboring countries are currently going to India, South Africa or Europe for treatment of NCDs such as cancer, cardiovascular diseases and renal problems.

1.2.4 Medical equipment

In general there is a great lack of advanced technical equipment in Rwanda. Only public hospitals can afford to invest in scans etc. For example, there is only one Magnetic Resonance Imaging (MRI) machine in the country (at King Faisal hospital) and a limited number of X-ray machines. Among the specific medical equipment identified as needed are radiography and x-rays. Due to the fact that nothing is currently being produced in Rwanda there is also a need for other health commodities such as: bed nets, test kits for HIV, syringes, various liquids etc. The GoR is very positive to try new innovative products and medical technology.

1.2.5 Manufacturing

The Government prioritized the development of local production of drugs and medical equipment in the country. While there have been companies interested in starting production in the country, so far only water purification tablets are being produced. Everything related to medical drugs and equipment is of interest. Medicines are primarily imported from India today.

1.2.6 Diagnostics centers

Various actors working with health in Rwanda have also expressed an interest for the establishment of specialist centers for diagnostic and treatment services. There is presently only one main pharmaceutical center in the country that has the resources of conducting more advanced tests, the National Reference Laboratory (NRL) in Kigali.

1.2.7 Community based medical insurance system

Another way to support the health sector is to invest in the community-based insurance scheme, *Mutuelle de Santé*. About 90% of the population is covered by Mutuelle, which provides them with subsidized prices for medical care and drugs. Mutuelle subscribers will be assigned to one of three categories: the well-to-do who pay Frw 7000 per year, the less-well-off for whom the fee is Frw 3000, and the very

poor who are covered by the Government at Frw 2000. These different fees, however, do not reflect different coverage: all three categories are entitled to the same services.

The fees were increased in July 2011 as the previously even lower prices made it impossible for the Government to bring in enough money to cover the expenses. The incomes from the insurance scheme are however still not enough, and the system therefore needs more investments in order to develop further and becoming sustainable (Investing in Rwanda 2014).

1.2.8 Mobile clinics and e-health

Rwandan counterparts have furthermore expressed an interest for Swedish private sector to get involved in the development of mobile clinics and e-health. There is no established system of mobile clinics, and the e-health system is fragmented with some systems that are starting to work well and others are lagging behind. A specific interest in the establishment of a patient registry system across the medical reporting system has been identified.

1.2.9 Public Private Partnerships (PPPs)

Finally, there are possibilities of entering into partnership with the Government and to provide health services jointly. Many hospitals, both private and public, are positive to and interested in cooperation on the institutional side or by finding ways to enhance levels of care by entering into a PPP structure with a foreign partner. King Faisal which is the main referral hospital in Rwanda is currently looking for new owners for example.

2 Introduction

2.1 Objective of the report

The aim of this study and its analysis is to provide the reader with a better understanding of the business environment in Rwanda, especially with regard to the health care and life science sector, and the linkages between private/public sector, and rural/urban areas. The overall objective is to give a general overview of the Rwandan health care system as well as to analyze health sector development trends and risks; and to investigate existing and potential future business opportunities in the country from a Swedish perspective.

2.2 Methodology

Data and information related to disease burden and the structure of the health sector have primarily been gathered from publications by the MoH, Ministry of Trade and Industry (MINICOM), Rwanda Development Board (RDB), multilateral agencies, bilateral donors and various news articles and medical publications. In addition to the desk review, interviews have been conducted with officials, managers and health sector staff in order to verify the facts. The information provided through the interviewees has fed into the analysis made on main trends, risks and challenges.

2.3 Structure of the report

After the executive summary and the chapter on the objective, methodology and structure of the report, the third chapter provides a brief summary of Rwanda's history, economic and political context, including a section on its business climate. Chapter 4 gives an oversight of the health situation and the disease burden of Rwanda, while the two following chapters focus on the health sector structure (actors, facilities and stakeholders.) and policies and regulations affecting the health sector, including for procurement, maintenance and research. This is followed by information on private sector development and the business environment. Chapter 8 presents potential opportunities, and the report ends with a chapter on risks and challenges.

3 Rwanda – background and country facts



3.1 Rwanda at a glance

Twenty years after the genocide against the Tutsis that devastated the country and left nearly one million dead, Africa’s most densely-populated country, landlocked and with limited natural resources, continues to effectively implement its Program for Economic, Structural and Social Transformation¹. The EDPRS is a program that envisions Rwanda as a middle income country by 2020. Rwanda has economically been one of the best performing Sub-Saharan African countries during the last decade, and through fast growth and socio-economic progress they have managed to lift more than one million people out of poverty. Rwanda is also one of few African countries that are on track with regard to achieving all the health-related Millennium Development Goals (MDGs) (UNDP). Other key achievements are: low corruption, high security, high-quality road networks and vastly expanded education, health and social security programs (Rwanda 20 years on, investing in life).

The 2014 Fourth Rwanda Population and Household Census established that the country has a population of 10 515 973 people; with one in two persons being under 19 years old and only 3% being above 65. Slightly more than half of the population is of working age. Life expectancy is 65 years for both sexes, and the literacy rate was 65.9% in 2012. The population is largely rural with 83% living in rural areas, and about one million people living in the capital Kigali. The official language since 2008 is English, but the population also speaks Kinyarwanda, French and Kiswahili. In 2010 4% spoke English, 90% Kinyarwanda and 8% French (Africa Portal).

¹ Economic Development and Poverty Reduction Strategy 2013-2018 (EDPRS II)
<http://www.edprs.rw/content/edprs-2>

Capital (and largest city)	Kigali 1°56.633'S 30°3.567'E
Official language(s)	Kinyarwanda, French, English
Demonym	Rwandan, Rwandese
Government	Republic
President	Paul Kagame
Prime Minister	Anastase Murekezi
Independence	from Belgium
Date	July 1, 1962
Area	
Total	26,338 km ²
Water	5.3 %
Population (2012)	10,537,222
Density	400/km ²
GDP per capita	\$644
Currency	Rwandan franc (RWF)

Figure: 1. Rwanda Development Board

3.2 Historical perspective

Rwanda has existed as a nation since the 11th century, founded on a common history of its people, shared values, a single language and culture. The unity of the Rwandan nation was based on the clan groups and common rites of the three groups (Tutsi, Hutu and Twa). During the 1884 Berlin Conference, the Kingdom of Rwanda was placed under German rule as part of German East Africa, and in 1910 a big part of the country was annexed to neighboring countries. This caused the loss of 1/3 of the internal market and a large part of its natural resources. Following World War I and the defeat of Germany, Rwanda was given to Belgium as a trustee territory under the authority of the League of Nations. After World War II when the League of Nations became the United Nations (UN), Rwanda became an UN Mandate trust territory under Belgian administration. The country would remain like that until 1962 when the Rwanda received its independence. During the colonial period the Belgian administration applied contemporary Darwinian theories which deeply divided the people. This led to periodic mass killings, culminating in the genocide against the Tutsis in 1994 where almost one million people were killed in one hundred days. The genocide was put to an end in July by the Rwandan Patriotic Front (RPF) led by Paul Kagame. RPF thereafter formed the Government of National Unity (GNU) and the Transitional National Assembly (TNA) (Vision 2020).

3.3 Political situation

On the 26th of May 2003, Rwanda adopted the new constitution. It emphasizes the importance of unity; there are only Rwandans. It also grants broad powers to the president who can serve up to maximum two seven-year terms. Paul Kagame, who had been the unofficial leader since 1994, was elected president the same year. He was re-elected in 2010 and is thereby currently sitting his last term. The next presidential election will be held in 2017.

The population and Government of Rwanda have worked hard to create an equal and united society, but deep scars still exists. The Government has been criticized for limiting the press freedom as well as hindering the establishment of other political parties. Besides from RPF there are no other major parties that are able to compete for the power.

Rwanda’s democracy is according to Freedom House’s survey ‘not free’, reaching 5,5 in 2014 (on a scale 1-7, where 7 is the worst). The Human Development Index (HDI) ranked Rwanda 151th out of 187 countries with regard to human development in 2013. The HDI value increased significantly between 1980 and 2013 from 0.291 to 0.506 – an increase of 73.8 % (HDI 2014 report).

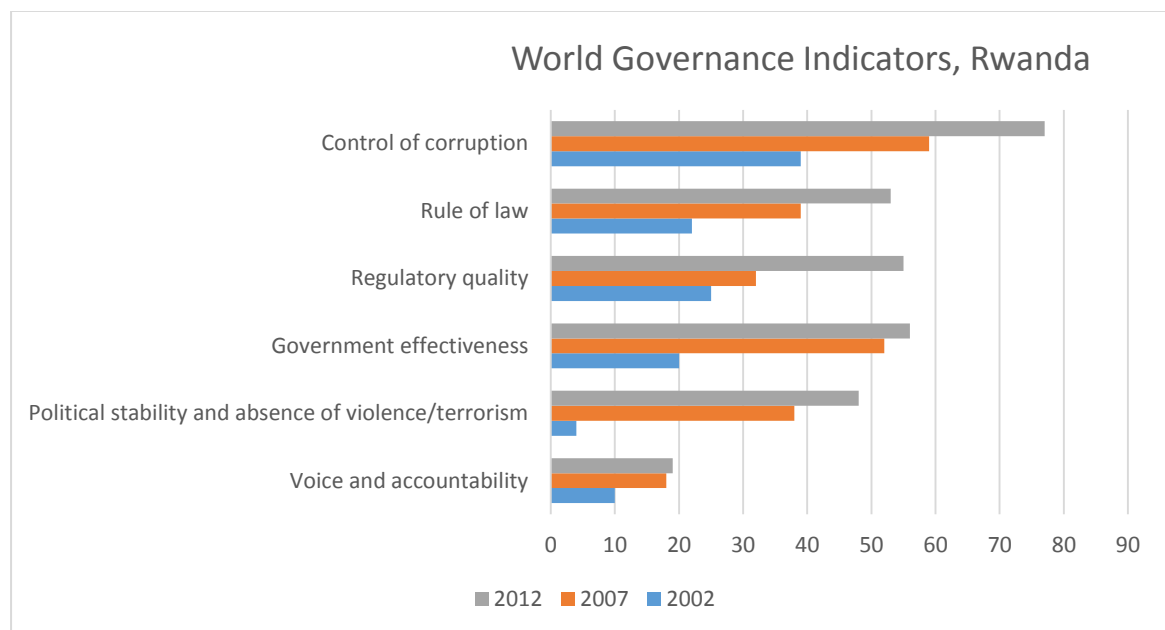


Figure 2: World Governance Indicators (WGI) Rwanda 2013, World Bank

The reasons given by the Government for having a more controlled approach are that they have been afraid that old wounds will be re-opened, leading to more violence. Rwanda’s regulation of media originates from the fact that it was one of the main ways for Interhamwe (those who committed the killings) to communicate during the genocide against the Tutsis. However, the Government has started to review and revise laws and regulations, and the country is becoming more open. The number of media fora has increased, civil society is to a higher extent invited to participate in the revision of new rules and policies and there is an annually held dialogue where the president meets with the ministers and other political leaders together with diaspora, civil society, Embassies, non-governmental organizations (NGOs) etc. The objective of the dialogue is in a transparent and open way to discuss the progress achieved during the year as well as challenges that needs to be dealt with. During this event, citizens are able to call and SMS regarding issues and questions that they want to raise.

The Vision 2020 also places ‘good governance and a capable state’ as one of the pillars. This in turn indicates that the state is committed to ensure good governance (accountability, transparency and efficiency in deploying scarce resources, as well as being respectful of democratic structures and processes, committed to the rule of law and the protection of human rights in particular).²

3.4 Economy and financial stability

The country has since 1994 made a substantial progress in stabilizing and rehabilitating the economy. The Gross Domestic Product (GDP) has increased from less than USD 200 per capita in 1994 to USD 644 per capita in 2012, and there has been an average annual growth of 7-8% since 2003 (Financial Stability Report 2013 pp 12-).

Rwanda’s long-term goals are embedded in the Vision 2020 strategy, which seeks to transform the low-income agriculture-based economy to a knowledge-based, service-oriented middle-income country by 2020. In order to achieve these long-term development goals, Rwanda has formulated a medium-term strategy- the EDPRS II. The main priorities of this strategy are growth acceleration and poverty reduction through four thematic areas: rural development, productivity and youth employment, economic transformation and accountable governance. EDPRS II strives to achieve a GDP per capita of USD 1000 and reduce the poverty rate to below 30% and the extreme poverty rate to below 9% by 2018.

In 2011 appr 45% of the population lived in poverty and 24% in extreme poverty. However, the number of poor people has reduced with 2,4% on an annual basis during the last decade, which is exceptional for Africa and something that can only be compared to the early phases of economic development of the Asian tigers: Vietnam, China and Thailand (UNDP).

The five top products exported by Rwanda are ore of niobium, tantalum, vanadium and zirconium ore; coffee; tin ore; tea (all appr. 15%); and tungsten ore (6%). The top export destinations are Tanzania (almost a quarter of all exports), DRC and Kenya (almost 15% each) and Malaysia (8%). The export rate in 2013 was USD 703 million. The five top products imported by Rwanda are refined petroleum; cement; mixed minerals or chemical fertilizers, packaged medicaments; and cars (all 5% or less). The five top import countries are Uganda; China (13 and 12% respectively); India; Kenya; and Tanzania (7-8% each). The import rate in 2013 was USD 1851.5 million (RDB, National Bank of Rwanda).

Economic growth was largely driven by a rapid increase of agricultural production during the first half of the past decade. The value added in agriculture increased substantially during this period, contributing to the total growth of GDP. Services, most notably in public services, accounted for a majority of the remaining growth of GDP (UNDP, MINECOFIN).

The structure of today’s GDP is still dominated by agriculture, which indicates that annual growth rates are particularly vulnerable to meteorological conditions and

² http://www.gesci.org/assets/files/Rwanda_Vision_2020.pdf

commodity prices. Coffee and tea are the main sources of foreign exchange in agriculture, and in terms of crop production on a national level roots and tubers account for 52%, bananas 27%, cereals 7% and pulses 4% (RDB). Other sectors of the economy are very modest; industrial crops (coffee, tea, and pyrethrum), crafts and small industry. The country has few mineral resources. The secondary sector employs less than 3% of the labor force, and the tertiary sector 10% (2012 household census).

High transport costs due to Rwanda's landlocked position keep the export base very narrow and make the country highly dependent on aid (60% in 2010) to overcome its balance of payments deficit and to finance the much needed investments. Vision 2020 and EDPRS II consequently both state the importance of establishing a private sector-led economy and of increasing Foreign Direct Investments (FDIs) in order to ensure a larger economic growth and the establishment of more sustainable structures (Foreign Private Investment in Rwanda).

On the other hand, Rwanda has the ambition of becoming the knowledge and ICT hub of Africa, comparable to Singapore. The country has been very successful in motivating youth that have studied abroad to return home and use their knowledge to build and further develop the country. This is thus the opposite of the high levels of brain-drain that can be seen in many other African countries (RDB).

4 Health situation in Rwanda

The genocide in 1994 led to substantial health effects: about 250,000 women had been raped, the HIV rate in Kigali was 27%, one of the 20th century's largest cholera epidemics exploded in refugee camps along Rwanda's western border, fewer than one in four children were fully vaccinated against polio and measles and Rwanda's under-5-year mortality rate was the highest in the world. Most of the health workers had either been killed or escaped the country and the destruction of health facilities and the collapse of supply chains for drugs and consumables handicapped the country for years. Neither was there any capacity (no psychiatrists or surgeons) to treat and respond to the widespread trauma (Rwanda 20 years after).

The GoR therefore decided to reform the health sector completely, and establish a Health Policy that would guide the development of the sector as well as all related interventions. The Health Policy is based on three core strategies:

- Decentralization of the health system using the health district as the basic operational unit,
- Development of a primary health care system through seven main components such as development of human resources; supply of essential drugs; strengthening of the health information system (WHO Country Cooperation Strategy page 9), and
- Reinforcement of community participation in the management and financing of services

At the time of the development of the policy in 1995 the primary focus was mainly on fighting communicable diseases such as malaria, TB, HIV/AIDS and mortality rates. During the last few years it has however become clear that there is a great need to also focus on NCDs such as cancer, diabetes and cardio and renal diseases.

4.1 Major diseases and disease patterns

Rwanda has been successful in the fight against diseases such as HIV/AIDS, tuberculosis, malaria and shows decreased fertility and mortality rates. The country has also eliminated poliomyelitis and improved maternal and neonatal tetanus and measles control. However, the epidemiological profile of Rwanda is still dominated by communicable diseases, which constitute 90% of the reported cases in health facilities. The mortality and morbidity from these illnesses have been aggregated by the prevalent poverty, low level of education, high population density, lack of adequate sanitation systems/water and poor hygiene.

Rwanda is also experiencing an emergence of NCDs associated with the development of high-risk behaviors and urbanization such as cancer, cardiovascular diseases, hypertension and diabetes. This new disease pattern has brought with it

numerous challenges as there are very few resources (educated staff, equipment and technology) and knowledge on how to treat these diseases. Focus on prevention and care of trauma and disabilities is also needed to a higher extent (HSSP III page 12).

Burden by disease category [DALYs/1000 capita], per year

Disease group	World's lowest country rate	Country rate	World's highest country rate
Diarrhea	0.2	65	107
Respiratory infections	0.1	39	71
Malaria	0.0	13	34
Other vector-borne diseases	0.0	2.2	4.9
Lung cancer	0.0	0.0	2.6
Other cancers	0.3	1.2	4.1
Neuropsychiatric disorders	1.4	1.9	3.0
Cardiovascular disease	1.4	2.7	14
COPD	0.0	0.8	4.6
Asthma	0.3	1.9	2.8
Musculoskeletal diseases	0.5	0.6	1.5
Road traffic injuries	0.3	4.5	15
Other unintentional injuries	0.6	9.0	30
Intentional injuries	0.0	1.9	7.5

Figure 3: WHO 2009 Rwanda country profile of Environmental Burden of Disease
 DALY= Disability-adjusted life years, a measure of overall disease burden, expressed as the number of years lost due to ill-health, disability or early death

NCDs are estimated to account for 36% of all deaths, with cardiovascular diseases and cancer accounting for 20 of those 36%. Other diseases – communicable, mother and child, etc account for 52%, with the injuries accounting for the remaining 13% (WHO Contry Profile Rwanda, 2014). In 2008 the top causes of death were: malaria (15%), acute respiratory infections (13.7%), HIV/AIDS (8%), diarrhea (7.2%), premature birth (6.3%), cerebrovascular disease (5.9%), tuberculosis (3.8), malnutrition (3.3%), psychological trauma (3.2%) (2012 census p. 6).

Today the incidence rates and deaths attributed to many of these diseases have decreased. For example: the HIV prevalence- which is one of the lowest in Sub-Saharan Africa - has remained at 3% for the last seven years and the malaria prevalence has reduced by half since 2008. However, these two diseases still place significant burden on the health system and there is a fear that the great results are dependent on the donors and thereby not sustainable (Family planning strategy page 2, HIV and AIDS Fact sheet UN Rwanda).

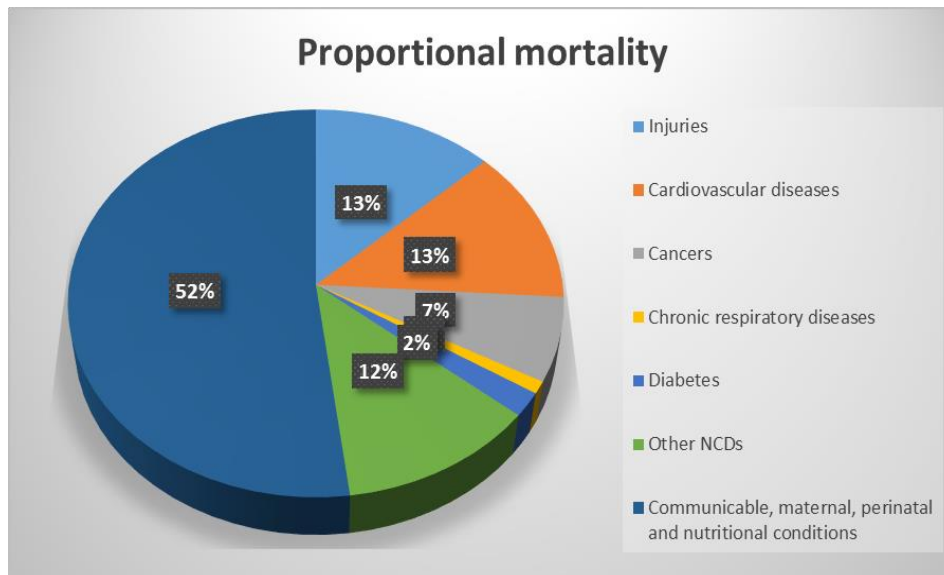


Figure 4: Proportional mortality as % of total death, all ages, both sexes, WHO – Non-communicable Diseases (NCD) Country Profiles Rwanda, 2014

4.2 Determinants of health

4.2.1 Poverty and malnutrition

Despite the poverty reduction measures there is still a very large part of the population that live in poverty (appr 45%) or extreme poverty (appr 24%) (UNDP country information). This extensive poverty leads to serious health related challenges such as malnutrition and high fertility rates (among poor and rural women in particular).

Rwanda has one of the highest population densities in Africa, which has led the GoR to make family planning one of its main focus areas. They have been successful to a certain extent as the fertility rate has dropped from 5.8 to 4.6 (3.4 in urban and 4.8 in rural areas) according to the Family Planning Policy. Between the 2002 and 2012 the population grew at an average annual rate of 2.3% and according to the 2012 Household Census the population will be 13.5-15 million people by 2022.

The country's limited resources, that are mainly agricultural, are not sufficient to ensure the dietary needs of its population. Child malnutrition is thus still severe with 44% of children under five being chronically malnourished or stunted. These children face serious risk of developmental problems that cannot be reversed and will come to affect their entire lives (2012 census). The disparity in stunting prevalence between rural and urban children is substantial: 47% of rural children are stunted, as compared with 27% of urban children. 3% of children under age 5 are wasted (acute malnutrition). (HDS 2012 page 141). Protein-energy malnutrition is a widespread problem, which primarily affects preschool children who represent the most vulnerable group.

Complete immunization can also help children grow up to be healthy and strong. Rwanda's Vaccine Preventable Disease Division (VPDD) has achieved the best immunization coverage levels in Central Africa. About 90% of Rwandan children aged

12-23 months have received all recommended vaccinations- one dose each of BCG and measles and three doses each of Pentavalent (DPT- HepB, Hib) and polio. However, 10% did not receive all vaccinations and 1% of the children did not receive any of the recommended vaccinations (Demographic and health services page 128).

4.2.2 Living conditions

It is fundamental for the social, economic and physical well-being of people to maintain a clean and safe physical environment. Urban areas are under particular threat from environmental problems such as land degradation, pollution and the dual burden of communicable and non-communicable diseases. An analysis made in 2007 showed that 19% of all Rwandan urban households used spring water and 12% relied on water from uncovered public wells; water resources that could easily be contaminated and put the population in risk of contracting infections and various diseases. The usage of domestic water from septic tanks, latrines, animal waste and refuse-infested drinking water can lead to diseases such as typhoid, gastro-intestinal infection, cholera and dysentery. A total of 80% of the disease burden of Rwandans originate from poor sanitation and contaminated water, while the dry season increases the risk of airborne diseases (2012 census page 9).

4.3 Mother and child health

The maternal mortality ratio (MMR) has decreased substantially in the last five years, from 750/100,000 in 2005 to 320/100,000 in 2012 (WHO Rwanda health profile). There are several factors that can be attributed to this reduction; notably the combination of service delivery and system strengthening measures such as maternal death audits, increased number of assisted deliveries and a better follow-up throughout and after the pregnancy. In 2010 98% of the pregnant women attended at least one antenatal care visit, and four standard Antenatal care (ANC) visits increased from 10% in 2000 to 35% in 2010. Assistance at delivery has also undergone significant changes as the proportions of births assisted by skilled providers increased from 27% in 2000 to 69% in 2010. Between 2000 and 2010 Rwanda also managed to decrease the urban-rural gap in coverage of professional assistance. That being said, 30% of the deliveries in rural areas still take place at home- compared to 16% in urban areas (Rwanda Demographic Health Survey, 2012 Census Theme 5 mortality).

The main cause of maternal death in Rwanda is severe bleeding (26%), with more than two-thirds of the cases occurring during the postpartum period. The second cause of death is infection (5%), also in the postpartum period (2012 Census Theme 5 mortality).

While the absolute number of maternal deaths is decreasing, more than 70% of all maternal deaths occurred at the community or district level due to late arrival and complications. Recent studies also show unsafe abortion practices as an important contributor to high maternal mortality (HSSP III page 27).

According to the RDHS 2010, the infant mortality ratio decreased from 86 per 1000 live births in 2004 to 50 per 1000 live births in 2010, and the under-5 mortality ratio

declined from 152 to 76 per 1000 live births over the same period. However, neonatal mortality remains of concern as it hardly decreased from 2007 to 2010 (from 28 to 27 per 1000 live births) (Family Planning Policy page 2).

The major causes for childhood morbidity and mortality are: acute respiratory illness, fever, and dehydration from severe diarrhea (CHD Strategic Plan, Rwanda Demographic Health Survey, 2012 Census Theme 5 mortality).

4.4 Infectious diseases

The funding to the Rwandan health care sector increased substantially in the beginning of 2000; most notably from the Global Fund to Fight AIDS, TB and Malaria, and the President's Emergency Plan for AIDS Relief (PEPFAR). The GoR realized that the increased funding together with advocacy was not enough to guarantee that quality health services were provided to the poor and vulnerable. They therefore took a strong hold on fighting AIDS, malaria and TB and built a stronger health system with integrated disease-control programs in the system.

4.4.1 HIV/AIDS

The first reported case of HIV in Rwanda was reported in 1983. Three years later, Rwanda was one of the countries most severely affected by the virus, with an HIV prevalence of 17.8% in urban and 1.3% in rural areas. The situation was exacerbated by the 1994 genocide through widespread systematic sexual violence against women and girls. Two years later, the prevalence was 27% among urban residents, 13% among semi-urban residents, and 7% among rural residents (UNAIDS).

Today there are an estimated 208,108 people living with HIV in Rwanda, including approximately 26,000 children below the age of 15. This indicates a HIV prevalence of 3%, which the country has had for the last decade, and which is considered to be low compared to most African countries (Family Planning Policy page 2). The country is experiencing a mixed HIV epidemic, with aspects of a generalized epidemic among the general population and a concentrated epidemic among certain key populations. The Gender Assessment shows that women and girls are disproportionately affected, with women representing nearly 60% of adults living with HIV.³ The gender differentiation is particularly pronounced among young people, with young women aged 18-19 ten times more likely to acquire HIV than young men of the same age. Key populations that are at higher risk of HIV infections are: female sex workers and their clients, men who have sex with men, truck drivers, prisoners and HIV zero discordant couples. HIV prevalence among female sex workers is especially high at 51% nationally. Other groups who are vulnerable to HIV infections are people living with disabilities, refugees, orphans and other vulnerable children. (Gender Assessment of Rwanda's National HIV Response RBC 2013 page 20).

The primary way of HIV transmission in Rwanda is through unprotected sexual intercourse. Modes of Transmission (MOT) suggested in 2013 that stable heterosexual couples account for 64% of new HIV infections, clients of sex workers

³ http://www.rbc.gov.rw/IMG/pdf/gender_assessment_report_b5_fin.pdf

account for 19%, and sex out of union is estimated to account for approximately 10% of new infections. (UNAIDS Rwanda).

Rwanda has made significant achievements towards universal access to HIV prevention, treatment, care and support services. The country has scaled up the availability and accessibility of services for voluntary HIV testing and counseling (VTC), prevention of mother-to-child transmission of (PMTCT), and antiretroviral therapy (ART). ART is provided free of charge to all eligible individuals – making Rwanda one of only two countries in Sub-Saharan Africa to achieve the UN goal of universal access to ART. About 90% of the HIV positive people are taking ARV medication. Condom distribution and promotion has improved through social marketing and community-based distribution mechanisms. HIV prevention outreach and information has increased, resulting in an increase in comprehensive knowledge of HIV among young people, although knowledge remains low. HIV prevention minimum packages have been developed for all key populations at higher risk of HIV infection, although dissemination has been limited (Shumbusho et al.).

4.4.2 Tuberculosis (TB)

The national TB Control Program reports high treatment success rates (86%) and very high success rates in the treatment of multidrug resistant (MDR) TB. Collaboration between the AIDS/HIV and TB programs resulted in 97% of suspected TB cases tested for HIV (HSSP III page 10). The TB prevalence in 2012 was 114 out of 100,000 cases (Howard et al.). Many of the TB cases can be found in the prisons.

As there is only one radiograph in Rwanda today, many of the TB cases are identified through saliva and human diagnosing which is reliable but not perfect.

4.4.3 Malaria

Malaria was since the beginning of the 60ies the main cause of morbidity and mortality in Rwanda, with periodic epidemics in high-altitude areas. In the late 90ies the disease accounted for over 50% of the outpatient burden, and in 2008 it accounted for 15% out of all deaths.

Rwanda had few health workers with formal training on how to prevent, detect and treat malaria. The GoR therefore established a National Malaria Control Programme (PNILP) as a national strategy to fight malaria and to launch an aggressive nationwide campaign in order to scale up the usage of malaria control tools and adopt prevention measurements.

A total of 1.96 million long-lasting insecticidal mosquito nets (LLINs) were distributed for free to children under 5 during the integrated measles vaccination campaign in 2006. Artemisinin combination therapy (ACT) was also distributed throughout the country in all public and faith-based health facilities. These measures led to nationwide declines in malaria cases. Comparing 2007 figures against the average figures from 2001, inpatient malaria cases and deaths among children under 5 in Rwanda fell by 55% and there was a decrease of 58 % in outpatient laboratory-confirmed cases. In 2003 only 7% of the households owned a mosquito net,

compared to 2007 when 95% of children under five were sleeping under LLINs (The National Malaria Control Programme 2008).

Since 2005 more than 9.3 million LLINs have been distributed, most of them since the end of 2009, with the support of donors such as the Global Fund (80%), the President's Malaria Initiative, and UNICEF. Most of the LLINs were distributed to children under 5 during integrated measles vaccination campaigns in 2006 and 2010, through antenatal care (ANC) clinics for pregnant women and a massive household distribution campaign in 2010. Other groups receiving LLINs included people living with HIV, the poorest segments of the population, and boarding school students. To further improve the anti-malaria work, Rwanda introduced in 2008 rapid diagnostic tests (RDTs).

The National Malaria Control Program showed that malaria incidence declined by 70% between 2005 and 2010. The number of malaria-attributed deaths declined from 670 to 459 between 2010 and 2012. Malaria case management, including the detection, diagnosis, and rapid treatment of all malaria cases with appropriate and effective antimalarial drugs, is one of the key strategic areas for malaria control in Rwanda (Otten et al. page 4).

The malaria control program was revised in December 2009, and it became a requirement that laboratory diagnostic results need to be confirmed via either microscopy or rapid diagnostic test before any treatment can be initiated. Extensive research was also conducted in order to understand the disease. In 2010, Rwanda achieved one of the highest parasitological diagnosis rates in Africa, with an estimated 94% of suspected malaria cases being parasitologically diagnosed (Malaria Program Review 2011).

One potential challenge with regard to malaria, TB and HIV is however that the medication that currently provided is completely donor funded. The system is therefore not considered to be sustainable.

4.4.4 Diarrhea

Diarrheal diseases still constitute one of the main causes of death among young children in Rwanda because of associated dehydration and malnutrition. WHO cited diarrhea as the leading cause of deaths among this group in 2010 (23% of all deaths).

The Rotavirus infection, which is highly prevalent, is since 2012 targeted on a national level by the rotavirus vaccine, as part of the MoH Expanded Program on Immunization. The objective is that by 2015, 100% of children under 1 will be vaccinated with 3 doses of the rotavirus vaccination (MoH Expanded Immunization Program 2011-2015, Farmer et al.).

4.4.5 Infection control

Infection Prevention and Control (IPC) is an underserved area in Rwanda. The Government is currently seeking to develop the area through a long-term capacity building partnership project called Human Resources for Health Initiative (HRH) through the USAID and other partners. Rwanda has partnered with leading

international infection control and public health specialists to contribute to the country's efforts in establishing a reliable IPC system, and to develop capacities at individual and institutional levels. Infection control is also currently being developed in the country through the accreditation of hospitals (Ministry of Health).

4.4.6 Respiratory diseases

Respiratory tract infections (RTI) were according to health information responsible for 59% of all child deaths in 2012, making it the main cause of death among children, with pneumonia accounting for 15% of all deaths. The prevalence of acute respiratory infections (ARI) has however decreased significantly, which can be attributed to the intensive scale-up of introduction and provision of the pneumococcal vaccine (CHD Strategic Plan page 10).

4.5 Non-communicable diseases

In Rwanda there is an ongoing epidemiologic shift from communicable to non-communicable diseases, as in many other African countries. NCDs include cardiovascular diseases (CVDs), cancer conditions, renal diseases, chronic respiratory diseases, diabetes, injuries and disabilities as well as oral health, ear-nose-throat (ENT), and eye diseases. The Global Burden of Disease Study estimated that NCD conditions accounted for 17% of the disease burden in Rwanda in 2004, while in 2014 NCDs were estimated to account for 36% of all deaths. Available mortality data shows that cardiovascular diseases (hypertension, heart failure, and strokes) emerge as the most important causes of death among NCDs in the country, with cancers as second top cause (HSSP III page 45).

It is anticipated that the burden of NCDs will grow even more, as the Rwandan economy continue to develop. NCDs and their risk factors are causing significant public health problems, which led the MoH to establish a programme for prevention and control of NCDs within the central MOH. The ministry is also calling for more evidence-based research that may guide policy makers on how to effectively respond to the needs. The Government in partnership with donors has also established a cancer hospital, the Butaro Cancer Center of Excellence, to provide specialized cancer management care (Partners in Health).

Key challenges regarding NCDs are the lack of reliable and complete data and the absence of policy and strategy to orient the new national NCD control programme, not only for curative and preventive services, but also to address the various causative factors (HSSP III page 45).

4.5.1 Cancer

Cancer is a major public health concern in Rwanda due to its prevalence, mortality and morbidity. Indications show that there are more than 100 cases per month, yet many cases go undiagnosed and unreported. The total mortality rate is about 10%, and about 69% of the confirmed cases were done so by microscopy. Between 2007 and 2013, a total of 5430 cancer cases were registered, among which 360 were children ages 15 and younger (Ministry of Health).

The major types of cancer which can be found in Rwanda are: cervical, liver, breast, prostate and stomach cancer as seen in the table below. Cervical and breast cancer affect in total about 32% of all women diagnosed with cancer. WHO ranks Rwanda among the countries worldwide with the highest rates of cervical cancer (estimated 49.4 per 100,000).

Rwanda – Estimated Cancer Incidence, all ages – both sexes (2012)

Cancer	Numbers	Crude Rate	ASR (W)	Cumulative Risk
All cancers excl. non-melanoma skin cancer	8263	73.3	135.8	14.38
Bladder	171	1.5	3.5	0.46
Brain, nervous system	46	0.4	0.6	0.07
Breast	576	10.0	15.9	1.64
Cervix uteri	1366	23.8	41.8	4.53
Colorectum	285	2.5	5.1	0.59
Corpus uteri	141	2.5	5.3	0.66
Gallbladder	3	0.0	0.0	0.00
Hodgkin lymphoma	67	0.6	0.7	0.06
Kaposi sarcoma	403	3.6	4.7	0.43
Kidney	60	0.5	0.7	0.05
Larynx	72	0.6	1.4	0.20
Leukemia	197	1.7	2.6	0.26
Lip, oral cavity	204	1.8	3.8	0.43
Liver	747	6.6	13.3	1.60
Lung	60	0.5	1.2	0.19
Melanoma of skin	117	1.0	2.4	0.38
Multiple myeloma	49	0.4	1.0	0.16
Nasopharynx	60	0.5	0.9	0.10
Non-Hodgkin lymphoma	305	2.7	3.7	0.34
Oesophagus	345	3.1	6.7	0.81
Other pharynx	73	0.6	1.2	0.15
Ovary	126	2.2	4.2	0.49
Pancreas	84	0.7	1.5	0.18
Prostate	536	9.7	25.6	3.21
Stomach	474	4.2	8.2	0.92
Testis	4	0.1	0.1	0.01
Thyroid	63	0.6	1.0	0.12

Figure 5: Crude and age-standardized rates per 100,000. Cumulative risk [0-74], percent GLOBOCAN 2012

The most deadly cancer types in 2012 were cervix uteri (804), liver (694), stomach (458), prostate (437), oesophagus (314), kaposi sarcoma (275) and breast (286), out of a total of 6181 people (GLOBOCAN 2012).

Several hospitals in Rwanda offer cancer services, to various extent and quality (CHUK, CHUB, KMH, KFH, Butaro (including ambulatory services) and Rwindwayu). Available cancer services in Rwanda include diagnostic services (biopsy and pathology), staging (clinical and surgical), chemotherapy, surgery and palliative care.

However, there are great challenges and needs within the cancer treatment area in Rwanda. For example, as of May 2010 there was no systematic screening and treatment program for cervical cancer, no radiation therapy facilities, very few radiologists and no Rwandan oncologist. In addition, there is little knowledge on how to maintain the existing treatment infrastructures. Due to the lack of knowledge and resources, patients are referred outside of Rwanda for more complicated forms of cancer, including those needing radiotherapy. A commission at the Ministry of Health can elect to send a few cases to Kenya or Uganda for radiation therapy, but in general this is available only to those few patients who can afford to pay for both the travel and treatment themselves.

In conclusion there is no comprehensive care provided and prices are still very high. Treatment for a cancer patient is estimated to be about USD 7000/year. The community medical insurance Mutuelle de Santé does not cover the costs, which makes it impossible for poor people to get treatment (Partners in Health, Ministry of Health). However, thanks to various partnerships, the GoR has been able to scale up on cancer prevention and care.

Partnerships

Rwanda became a member of the International Atomic Energy Agency in September 2012. This was an essential precursor to constructing an in-country radiation facility. As part of the Rwanda Human Resources for Health Program, the Faculty of Medicine at the University of Rwanda has begun a four-year residency program. The program is training doctors, nurses and other medical staff in for example pathology. The objective is that 12 new pathologists will have graduated in 2018. A radiology residency program is being also developed, hopefully to begin in 2015.

With regard to the severity of cervical cancer, the GoR entered in 2009 into a partnership with Merck & CO who donated approximately 2 million doses of Gardasil over a period of three years for HPV vaccination. They also guaranteed concessional pricing of the vaccine thereafter. Simultaneously, the GoR developed and implemented a national strategic plan for cervical cancer prevention care and control⁴ - thereby being the first country in Africa to do so. Since the beginning of 2011, all girls in grade 6 in primary school will for free receive the HPV vaccine. Since then other private sector pharmaceutical and medical device companies have expressed their interest in Rwanda's program against cervical cancer. In the beginning of 2013, QIAGEN donated equipment and consumables for HPV screening and GAVI announced in May 2013 that they will continue funding Rwanda's national

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<http://www.google.se/url?sa=t&rct=j&q=&esrc=s&source=web&cd=2&ved=0CC8QFjAB&url=http%3A%2F%2Fwww.who.int%2Fbulletin%2Fvolumes%2F91%2F9%2F12-116087.pdf&ei=u1MpVMKSJMfiywORrYCgDA&usg=AFQjCNG2xeqYP9KYPWjBXpF-400FdK3eNA&bvm=bv.76247554,d.bGQ&cad=rja>

HPV vaccination program after Merck's donation ends in 2014. So far, the coverage is 80% of teenage girls. A coalition of partners including United States Centers for Disease Control and Prevention will also assist in scaling up cervical cancer screening, treatment and palliation. The Rwandan Government will co-fund these activities.

A partnership with Susan G Komen for Cure was made in late 2010. It will target the screening and treatment of breast cancer. The global health organization Partners in Health (PIH) is also an active partner to the MoH. They have worked closely together to devise and implement a strategic approach that can ensure access to high-quality cancer care.

The first comprehensive cancer referral facility in rural East Africa, the Butaro Cancer Center of Excellence, opened in July 2012 through support from PIH, the Jeff Gordon Children's Foundation, Harvard's Dana-Faber/Brigham and Women's Cancer Center. The hospital is offering patients comprehensive oncology diagnostic and treatment services including chemotherapy, surgery, a pathology laboratory, counseling and palliative care. It has since its opening received and treated over 1000 cancer patients from within and outside the country (including DRC and Burundi). The Butaro Cancer Center is part of Rwanda's five-year plan to introduce cancer prevention, screening and treatment on a national level (Butaro Center of Excellence, Ministry of Health, Partners in Health).

4.5.2 Cardiovascular diseases

The care for NCDs which started in 2006 included cardiovascular conditions as one of the main areas. Cardiovascular diseases represented 13% mortality rate in 2013, and is the most prevalent NCD in the country. One of the key challenges in regard to treating cardio diseases is that there are currently only four native cardiologists working in Rwanda to serve a population of about 10,5 million. Another important challenge is that the data is not reliable; it is therefore difficult to know the true disease burden (WHO).

About half of the patients with cardiac disease suffer from rheumatic heart disease while the other half is congenital, something that is consistent with what other African countries are experiencing (WH).

As part of the priority to develop a decentralized follow-up system, integrated chronic-care clinics have been established at certain teaching and district hospitals. The aim of the MoH is to expand the screening, diagnosis and prevention capabilities of these facilities, combined with cardiac teaching from visiting cardiologists. Consistent with these efforts is the establishment of a domestic self-sustaining, comprehensive cardiovascular program, with the objective to build capacity to independently provide cardiac surgery and perioperative care.

Partnerships

A collaborate effort was initiated between the MoH and the Rwanda Heart Foundation, as well as four international humanitarian organizations in order to target the escalating cardiac disease burden. Since then various teams have come to

Rwanda to perform surgeries, the first one being Open Heart International from Australia, followed by Chain of Hope Belgium, Team Heart Inc. and Healing Hearts Northwest from USA. These four teams, in partnership with MoH and King Faisal Hospital, have performed more than 400 cardiac interventions including 330 heart surgeries (178 children and 152 adults). Most cases have been for valve repair or replacements in patients with class III or IV heart failure, and also pediatric interventional catheterizations, pacemakers, pericardectomies and minor cardiac interventions. The partners have also sponsored the training of two cardiologists, one anesthetist and one intensivist and contributed financially by supporting the first cardiac surgery nurse coordinator (The Lancet).

4.5.3 Hypertension

Worldwide hypertension is a leading cause of preventable end-organ disease. Numerous studies from various rural areas in Sub-Saharan Africa indicate a pattern of low prevalence but severe hypertension, often in isolation from other metabolic risk factors. Among CVD risk factors, it tends to be hypertension which is the main one. WHO reported in 2006 that detection, treatment and control of hypertension are poor overall in Africa (World Health Federation).

According to WHO in 2011, the hypertension deaths in Rwanda reached 730 or 0.89% of total deaths. A study conducted (by The Colombia Earth Institute and the Millennium Villages Project) in Rwanda measured the prevalence in three rural villages, and found that the hypertension rate was 23%. Hypertension is more common in the rural settings, which makes the detection rates lower.

There is a great need to increase people's awareness of the disease, as well as to inform the population of the concern of high salt intake levels and the implications of obesity. There is also a need to convince governments and funding institutions to invest in more research and the development of detection and treatment systems.

4.5.4 Obesity

Obesity and overweight among the urban population (upper and middle class) in Rwanda is becoming a serious threat to the public health. The rate for adults who are obese was 4.3% in 2008, with women being more overweight than men. The increased number of obese people is leading to a rise of cardiovascular diseases as well.

Overweight and obesity among children is also on the rise. Overall, 7% of children below age 5 are overweight or obese. There are no substantial differences by sex or area of residence, but overweight and obesity increase with increasing BMI of the mother (HDS 2010 page 145).

4.5.5 Diabetes

Diabetes was for many years overlooked and awareness about the disease was low. The number of people suffering from diabetes has however increased; in 2013 there were 234,000 cases. Rwanda now has a diabetes prevalence of 5% among adults (International Federation of Diabetes in Africa).

The Rwanda Diabetes Association (RDA) was founded in 1997. The association works together with the GoR to communicate about awareness, early diagnosis and prevention. RDA has opened clinics in both Kigali and Gisenyi (near the border to DRC), with an average of 20,000 patients visiting annually. Main services offered at these clinics are consultations, treatment, education, training, counselling and providing diabetes medical supplies. Factors that affect the lives of people with diabetes in Rwanda include poverty, discrimination, food insecurity, lack of education about the disease and lack of organized and consistent care (Gishoma 2014).

The disease is still not being considered as a dangerous disease, but rather ‘a rich man’s disease’.

4.5.6 Mental health

Mental health problems are very common in Rwanda, and the prevalence of problems such as major depressive disorders and post-traumatic stress disorders (29% of the population in 2011) are high above the international average. Neuropsychiatric disorders contributed to an estimated 5% of the general disease burden in 2008, a large part of these problems originate in the 1994 genocide. The National Health Policy considers mental health a priority and insists that mental healthcare services be included in all health structures of the national health system and that mental health problems be taken into account at the community level. In 2012, a Mental Health Division was established within the MoH.

The Ndera Psychiatric Hospital is the only national referral mental health institution in Rwanda. In addition, all of the country’s district hospitals deliver mental health care services to a certain extent. In 2010, there were about 1,585 new cases and 16,471 old cases consulted. The main causes of consultation are: epilepsy (52%), psychiatric disorders (18%), psychosomatic disorders (12%), neurological disorders (8%), various psychological disorders and other conditions (10%) (HSSP III page 44).

However, despite the widespread posttraumatic stress and depression rates, mental health is not a prioritized area in Rwanda and there is a great lack of medical staff with training in mental health and psychiatry. The Belgian Development Agency is the only bilateral cooperation partner who provides institutional support to mental health in Rwanda (Belgian Development Agency).

4.5.7 Disabilities

About 5% of the Rwandan population (age 5 and above) are living with disabilities, slightly more women than men. The number of disabled people is higher in the rural areas, and many of them live in poverty/extreme poverty. Almost half of all persons with a disability declare that their disability is due to an illness or disease. Injuries and accidents rank second. In addition, 13% have a congenital condition and 8% comes from war/mines or the genocide against the Tutsis. The most common types of disabilities are difficulty walking or climbing (3%), learning/concentration issues and eye-sight problems (Ministry of Health, NISR).

The rights of people living with disabilities have been continuously strengthened on a national level. The constitution stipulates for example equality between all Rwandans and prohibits any sort of discrimination based on disabilities. The GoR ratified in 2008 the UN Convention on the Rights of Persons with Disabilities and the National Social Protection Strategy includes programs to empower persons with a disability. Furthermore, a National Council of Persons with Disabilities was established in 2011 with the aim of mobilizing and representing the views of persons with disabilities and to monitor the application of laws and other policy instruments. Health policies state that the GoR should provide people living with disabilities with wheelchairs, prostheses etc. but there is no mechanism to implement it.

Even though access to health care is particularly important for persons living with disabilities, both physical and economic access to health care facilities is difficult for many. A few hospitals have orthopedic centers such as King Faisal, but treatment is very expensive and many cannot afford it. 85% of the population living with disabilities in Rwanda is covered by Mutuelle de Santé, and the insurance is supposed to cover these costs, but in reality it is not. Access to assistive devices is thus expensive and the quality is often bad. Furthermore, even though they are entitled to get medical assistance, doctors and nurses lack knowledge of how to treat them and the health facilities lack equipment to help them. Neither is there any possibility for rehabilitation for those living in the rural areas (VSO, NUDOR).

The medical and assistive devices donated by NGOs and private institutions to persons living with disabilities, such as wheelchairs, are second-hand devices from Europe that are not correctly adjusted. Hearing aids or walking sticks for blind people are not distributed. CBM are investing money in treating and preventing eye diseases, but there are currently no medical tests that can be done to examine hearing problems (Handicap International).

People living with disabilities in areas where HIV/AIDS is prevalent are especially vulnerable. The reasons are many; a large part of the population living with disabilities have no education (41%) and are therefore less likely to have learnt about the disease or know how to use a condom. They are furthermore often disrespected and unable to protect their sexual rights, or ignored as not believed to be sexually active. The HIV rate among disabled persons is not known, but indications show that it is high. Other common chronic problems and diseases are alcohol and drug abuse, malnutrition, child labor and injuries. People living with mental disabilities are not receiving any help at the moment; neither are there any statistics on how many that are born with Down's syndrome etc. (VSO, NUDOR).

People working with these issues are therefore asking for foreign investors to start production of assistive devices in Rwanda or to strengthen the already existing production institutions of CHUK, Gihundu and Rusizi hospital, which are currently producing expensive devices with low quality, or to strengthen local initiatives, such as Ubumwe Community Centre, that produce crutches on a low scale, by building the capacity to produce devices locally, preferably using local materials (NUDOR). This would also provide employment possibilities and enable Rwandans to maintain them. Another way to invest could be to train medical staff on how to treat patients living with physical and mental disabilities.

5 Overview of the health care sector in Rwanda

5.1 The health system

The health system in Rwanda is a decentralized, multi-tiered system which has a pyramidal structure: central, intermediary and peripheral. The scheme follows the geographical structure of the country (four provinces and 30 districts plus Kigali City. Each district is divided into sectors, which are divided into cells and finally villages). Medical services are provided at: referral hospitals (central level), district hospitals (intermediary level), health centers and health posts (peripheral level). The most advanced services are provided at the referral hospitals, where patients will be treated by general physicians as well as specialized doctors and nurses. At the district hospitals there are doctors and nurses, offering services like minor surgery etc. The health centers only have nurses, who can run simple tests etc. Health posts in the villages are run by Community Health Workers (CHWs) (National Community Health Strategic Plan 2013-2018).

The system can be described as a triangle where you have few hospitals on the highest tertiary level- and very many health posts on the village level.

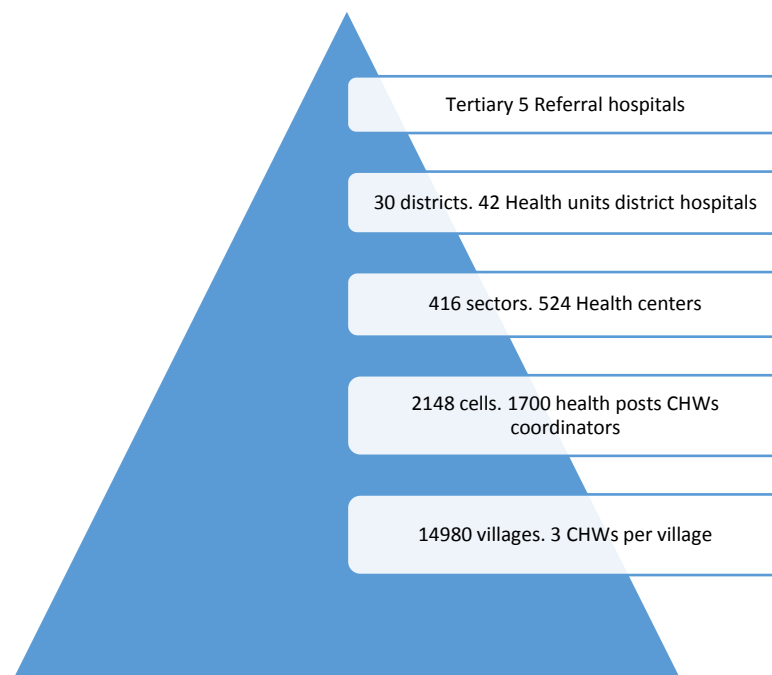


Figure 6: Rwanda health system, Ministry of Health

At the end of 2012 there were a total of 720 health facilities. About 77% of them are public: 55% are completely funded by the GoR and 22% are run by faith-based organization in partnership with the GoR. 20% are run by private organizations, 2% by communities and 1% by parastatal organizations (Ministry of Health).

In 2011 a total of 7,940,927 patients were treated at health facilities. Out of these 88% visited health centers, 6% district hospitals, 2% referral hospitals and 4% visited CHW (National Export Strategy, revised 2014, page 60).

5.2 Health insurance in Rwanda

One very important and unique aspect of the health system in Rwanda is the health insurance, with almost universal coverage. Statistics in Rwanda used to indicate that due to poverty, citizens were not visiting health care facilities when being sick or about to deliver. The GoR therefore developed a Community Health Based Insurance in 2004 – the Mutuelle de Santé – that would enable the subsidization of annual premiums and pooling of risks. Mutuelle subscribers will be assigned to one of three categories: the well-to-do who pay Frw 7000 per year, the less-well-off for whom the fee is Frw 3000, and the very poor who will be covered by the Government at Frw 2000. These different fees, however, do not reflect different coverage: all three categories are entitled to the same services (Ministry of Health). Grants from the Global Fund and funds from the Belgian Development Agency were used to pay the fees for Mutuelle for the poor and very poor.

Local leaders helped identify those who were very poor and thereby not able to pay for themselves and their family. Membership is voluntary, but it is estimated that 78% of the population are insured through Mutuelle. The insurance does not include coverage at private health centers (Ministry of Health).

A person who is a member of Mutuelle receives a membership card that entitles him or her to treatment at the health center and district hospital when referred there. 15% of the medical bill is paid by the patient at the health center or district hospital if being referred there. Should a person seek care at a district or referral hospital without a referral note from the health center, then he or she must pay the full bill. The insurance covers part of the price for medication and medical equipment if bought at a public hospital pharmacy. However, one problem is stock-out of drugs, which forces patients to seek medicines at private pharmacies where they are not covered. Another problem is that no one in the family can be covered by the insurance unless all members in the family are members (Rwembeho 2014).

Mutuelle de Santé is the most common medical insurance used in Rwanda. Other types of insurances are La Rwandaise d'Assurance Maladie (RAMA), the Military Medical Insurance (MMI), and private insurances. These insurances are commonly used by households in the city of Kigali, other urban areas and among the richer citizens (DHS 2010 page 31).

This extensive usage of medical insurances is considered to be very good for the population, and the poor and very poor in particular, as it allows everyone to access health care services. However, owners of private clinics and hospitals complain that this in combination with low tariffs is making it very difficult for them to make a profit from their clinic or hospital. A new tariff code is being discussed and developed, which will enable them to increase their prices. RDB can provide more information regarding this.

5.3 The Ministry of Health

The MoH is led by the Honorable Dr. Agnes Binagwaho, who has been the Minister of Health since May 2011. Between October 2008 and 2011, she was the Permanent Secretary for the MoH, and before that she served as the Executive Secretary of Rwanda's National AIDS Control Commission for five years. Dr. Binagwaho has furthermore worked as a medical doctor at public hospitals in Rwanda; especially in pediatrics, neonatology and HIV/AIDS treatment. She also has a PHD from the UR since 2014. The second highest person at the MoH is Dr. Patric C. Ndimubanzi who was appointed Minister of State with responsibility for public health and primary health care, in July 2014. Solange Hakiba was appointed Permanent Secretary in July 2014 (Ministry of Health).

5.4 Rwanda Biomedical Center

One other important part of the health care structure is Rwanda Biomedical Center (RBC). It is a central autonomous body, with the responsibility for drug procurement and supply chain management for the public sector. Its mission is to promote quality affordable and sustainable health care services to the population through innovative and evidence-based interventions and practices. Since May 2013, Dr. Marc Herant is the Director General. The body has 15 divisions (Rwanda Biomedical Center)⁵:

Program Planning and M&E Coordination	National Center for Blood Transfusion
Medical Research Center	Malaria and other Parasitic Diseases
Corporate Services	Rwanda Health Communication Center
Mental Health	Epidemic Surveillance and Response
Medical Procurement and Production (MPPD)	Vaccine Preventable Diseases
National Reference Laboratory	NCD department
Tuberculosis and other Respiratory Diseases	Medical Technology and Infrastructure (MTI)
HIV/AIDS and STIs Disease	

5.5 Hospitals in Rwanda

5.5.1 Public Hospitals

Rwanda has four public referral hospitals that provide tertiary care to the population. These are: Rwanda Military Hospital, University Central Hospital of Kigali, University Teaching Hospital of Butare, and Ndera Hospital for psychiatric care. The first three will be briefly described here, and more details regarding the Ndera hospital will be mentioned later on under the section on mental health.

The GoR is also continuing the constructing and/or upgrading of the hospitals of Kibuye, Kirehe, Nyabikenke, Rutare, Byumba and Muhororo. In addition, five new

⁵ <http://rbc.gov.rw/> and <http://www.rbc.gov.rw/spip.php?rubrique40>

health centers will be completed across the country such as in Rulindo, Mukura and Mbogo (Ministry of Health).

5.5.1.1 The University Teaching Hospital of Kigali (CHUK)

The University Teaching Hospital of Kigali (CHUK) is the largest public hospital in Rwanda. Located in Kigali, the hospital provides training, clinical research and technical support to district hospitals. CHUK has 25 departments; 17 clinical and 8 administrative. With regard to staff there are 45 specialist and 21 general doctors, 492 nurses and midwives and 128 general practitioners. The hospital has a bed capacity of 500 beds (CHUK, Ministry of Health).

The hospital use modern technology and equipment for minimal invasive surgery such as laparoscopy and endoscopic approaches. In addition, patient's records are filed electronically.

5.5.1.2 The University Teaching Hospital of Butare (CHUB)

CHUB is a national referral hospital located in the southern province of Rwanda (Butare). It includes the Faculty of Medicine of the University of Rwanda and the University Laboratory. Besides from providing medical services, about 325 students are since April 2012 conducting their internship and research at the hospital. Regarding staff there are about 11 general practitioners, 17 Rwandan specialists, 30 residents, 200 nurses and 19 midwives. The bed capacity of the hospital is around 400 beds. There are 14 different departments such as stomatology, pediatrics and medical biology (CHUB, Ministry of Health).

Challenges at the hospital are several. There is a very large human resource gap. The number of specialists is extremely low (for example CHUB has no orthopedic surgeon, urologist, cardiologist nor any specialized nurses). In addition facilities are inadequate, such as theatre rooms and recovery rooms that do not meet international healthcare standards (HRH Program).

5.5.1.3 The Rwanda Military Hospital (RMH)

The RMH was built in 1968 as a military referral hospital. It continued to provide health care to militaries and their families until after the genocide in 1994 when they opened up to the general population. RMH currently treats 80% civilians and 20% military patients. They are offering secondary and tertiary level health, as well as teaching activities. There are 18 clinical departments at the hospital such as dermatology, pediatric, stomatology, intensive care unit (ICU), orthopedics and emergency. The bed capacity is approximately 300 beds (Ministry of Health, Rwanda Military Hospital).

5.5.2 Private hospitals

The private health care facilities in Rwanda are not many. In total there is one general hospital (King Faisal), 50 clinics and polyclinics, one psychiatric hospital, one eye hospital, four eye clinics, eight dental clinics, and 142 dispensaries (ESP Consultancy Service Report). While the public sector has hospitals and health posts spread out nationally, the private clinics are mainly found in Kigali.

5.5.2.1 *King Faisal Hospital (KFH)*

King Faisal is Rwanda's leading state-owned health care provider. It is a private hospital with ambitions to become a regional referral hospital in East Africa. The hospital receives patients who cannot be treated at any of the other hospitals in the country, and offer a variety of surgical services including urology, orthopedic, cardio and neuro surgery, ear, nose and throat surgery, ophthalmology and dentistry. KFH furthermore has clinics that specialize in nephrology, cardiology, rheumatology, dermatology, oncology and endocrinology. KFH is the highest level hospital in Rwanda, and it is only doctors working there who can refer patients abroad if they are not able to treat him or her.

The pediatric department has the most advanced Neonatal Intensive Care Unit (NICU) in the region with six beds where premature babies from other referral hospitals, health centers and private clinics are provided care. The hospital has also established an oxygen plant and an uninterrupted power supply system supporting areas like ICU, High Dependency Unit (HDU) and the laboratory. The hospital has a bed capacity of 160 beds.

Faisal is the most well equipped hospital in Rwanda, in terms of both human resources and equipment. It is for example here that you will find the country's only MRI machine. However, the number of patients has been low for unknown reasons. In 2012 the hospital treated 203,061 Rwandese patients and 3560 foreign patients (most of them from the DRC).

The hospital also offers internships/residency for medical staff, undergraduate and postgraduate students; hosts daily and weekly training programs 'Continuous Medical Education' for doctors and nurses and runs workshops and seminars with participants from Rwanda as well as abroad. KFH is furthermore connected through Telemedicine with other hospitals countrywide such as CHUB and soon district hospitals and universities worldwide. The hospital is accredited by The Council for Health Service Accreditation of Southern Africa (COHSASA) since 2010.

Finally the hospital is enrolled in partnership with several different actors in South Africa, Egypt, Belgium, USA, Switzerland, UK, Germany, South Korea, Australia and Japan:

- Duke, Yale, Stanford Johnson & Johnson Scholar Program, Virginia, Harvard
- International organization for women and development, ENT, Australian Open Heart Team, German Association, Belgium Chain of Hope, Boston Team Heart, Healing Hearts Northwest, Renal Transplant Team (United Kingdom)
- Bechman Coulter, Smith & Nephew, Phillips, Buchman GMBH, Synthesis, Medtronic etc.

The hospital is currently looking for new owners. The interest to take over the business, either as a completely privately run practice or as a Public Private Practice (PPP), has been big. The deadline for expressions of interest/tenders was September 30, 2014, so the future of the hospital was still unknown at the time of finalizing this report (King Faisal Hospital, Ministry of Health, and RDB).

5.5.2.2 *Croix-du-Sud hospital*

Croix-du-Sud is a privately run hospital situated in Kigali. When the clinic was established in 1995 by Dr. Jean Chrystome Nyirinkwaya it only had ten beds and seven departments, focusing on maternal care and deliveries. In 2009 it was the only private referral hospital in Rwanda. By growing little by little, the hospital today has more than 100 beds and a capacity of admitting 100 patients in 18 different departments. The capacity is about 350-400 out-patients daily. The gynecology department has increased and is now dealing with about 2,95 deliveries per day.

The hospital offer services within gynaeco-obstetrics, internal medicine, general medicine, general surgery, pediatrics & neonatology, otorhinolaryngology (ORL), dermatology, dentistry, physiotherapy, emergency services, family planning, prevention, hospitalization, laboratory and ICU.

About 80% of the patients are covered by some sort of medical insurance, many through their employment. Those who are not are paying out-of-pocket.

Dr. Nyirinkwaya, who is also the president of the Rwanda Health Care Federation (a private sector umbrella organization) is thinking of expanding. He wants to build an extension (In Vitro Fertilization (IVF), dialysis, cardiology surgery and/or kidney transplantation services). He also wants to establish a modern laboratory. He is open to enter into a partnership with foreign investors (Croix-du-Sud, RDB).

5.5.2.3 *Dr Agarwal's Eye Clinic*

The internationally acclaimed Dr. Agarwal's eye hospital opened in Kigali in 2013. It is considered to be the first 'medical tourism hospital' in Rwanda. The hospital offer vireo-retinal care services, can serve up to 300 patients per day and undertake 10-15 complicated eye surgeries a day or over 2000 eye surgeries a year. The tertiary eye care hospital is equipped with state-of-the-art technology and deals with diagnosis, treatment and performing surgeries related to cataract, retina, glaucoma and other eye ailments. The techniques used match the international standards comparable to those in Europe and South Africa. The hospital can house up to 30 patients, and 30% of the patients are expected to come from neighboring countries (Dr Agarwal's Eye Hospital, National Export Strategy page 60).

5.6 Accreditation achievements

The accreditation process of hospitals in Rwanda has started, with three teaching hospitals being accredited so far: KFH, CHUK, and CHUB. All have been accredited by COHSASA, a South African company. COHASA provides technical assistance in evaluating the programs. Accreditation processes are also initiated for district hospitals, which is a priority to the MoH and the Minister for Health. The quality assurance activities initiated at district hospitals and health centers include the development of customer care norms at all levels, creation of health care and services quality assurance advisory committees in all hospitals and health clinics, and the introduction of opinion boxes for customers and users (HSSP III page 11).

5.7 Referrals abroad

For a long time, the Government has been forced to send patients abroad for them to receive treatment that the health care system in Rwanda cannot provide. There is no exact figure of how many patients go abroad each year for medical tourism, but it is clear that it is quite an extensive number.

Sometimes the Ministry of Health helps pay for patients, especially children with chronic cardiac or renal diseases, to go to India or Belgium for treatment. This happens when the doctors cannot treat the patient in the country. As a large part of the population is poor and would not be able to go abroad for treatment, they can request the Government to pay for them. In most cases the GoR pays for treatment and accommodation, but the patient has to pay for the transport and food him-/herself. Should the patient be too poor to pay even for that, the Government sometimes gives extra support to cover those expenses as well.

Patients who can afford to pay themselves often seek medical treatment in Kenya, South Africa, India or Belgium. Due to visa issues, it is now very difficult for Rwandans to go to South Africa, which has increased the need for constructing facilities for medical tourism in the country (Ministry of Health).

5.8 Laboratories

At present, there is only one laboratory in Rwanda, the National Reference Laboratory (NRL), which has the capacity of conducting more complicated tests. NRL has with the help of development partners established a laboratory network of two trained professionals per district throughout the country and the NRL is in the process of being accredited. NRL conducts specialized biomedical testing at the central level, and provides quality control and supervision of all other laboratories in the country. NRL also has a "rapid response team" that supports epidemiologic surveillance.

The existing health infrastructure has been overwhelmed by the high demand for health technologies, leaving important areas and mandates uncovered. There is no set and consistent menu of services offered within the laboratory network, and the NRL has an incomplete ICT infrastructure that compromises the ability to attain accurate laboratory data such as type, workload, number and cost per laboratory test. Furthermore, there have been delays with regard to communicating laboratory results which has sometimes made it difficult for doctors to make the correct diagnosis and treat the diseases.

Staff is being trained to improve lab surveillance and confirmation of priority epidemic diseases, including monitoring of drug resistance pathogens (HIV, TB, and other bacterial infections). They have established collaboration with external advanced laboratories and with the Food and Water Laboratory at Huye through entering into a MOU (Ministry of Health).

5.9 Health workers in Rwanda

As mentioned previously, there is a severe lack of qualified medical staff working in the health sector in Rwanda. In 2011 there were 625 doctors, 8,513 nurses/midwives and about 130 medical specialists. This indicates that there is approximately one doctor per 17,500 inhabitants, 1 midwife per 66,000 and 1 nurse per 1,300 inhabitants (Ministry of Health).

The majority of the Rwandan physicians are general practitioners. There is a trend to not specialize as a doctor, as that enables them to work both at public and private practices, and at medical health facilities (hospitals and clinics) or for NGOs as consultants. The change in technology (manual vs. automated, analogue vs. digital) as well as the more advanced needs of treating NCDs has however increased the need for specialists. At the moment there are only about eight orthopedic surgeons, twelve ophthalmologists and no more than five oncologists in the country (Rwanda Medical Council, Rwanda Health Care Federation).

The serious lack of doctors, nurses, technical staff etc. has been a problem since the 1994 genocide against the Tutsis where most medical personnel were either killed or escaped the country. It has ever since been classified as one of the biggest challenges in the country and something which the Government prioritize as one of the main issues to improve. The aim is that Rwanda will have reached the WHO recommended standards of 2.3 health care workers per 1,000 population by 2017. This ratio needs to be achieved for the MDGs to be met (WHO).

Ratio of health workers by population	2000	2005	2008	2011	Target 2014 MDG	Target 2017	WHO norms
Doctors/population ratio	1/75000	1/50000	1/33000	1/17200	1/15000	1/10000	1/10000
Nurses/population ratio	Jan-50	Jan-00	1/1700	1/1294	1/1100	1/1000	1/1000
Midwives/population ratio	----	----	1/100000	1/66149	1/50000	1/25000	

Figure 7: Third health sector strategic plan July 2012-June 2018, Ministry of Health 2012

Rwanda has one medical school, one dental school, eight nursing schools and one school of public health. The College of Medicine and Health Sciences falls under the University of Rwanda (UR) and is located in Butare. The School of Public Health, which is also part of UR is located in Kigali together with the Faculty of Nursing Sciences and the School of Dentistry. There are in total five government schools of nursing and midwifery in Rwanda: Nygatare, Kibungo, Byumba, Rwamagana and Kabgayi (Ministry of Health).

5.9.1 Doctors

The College of Medicine and Health Sciences was established in 1963, and is currently the only academic training institution for medical physicians in Rwanda. The mission of the college is to ensure high quality medical education, carry out biomedical research and provide medical services to the Rwandan population. The college trains at both the undergraduate and post-graduate level in Rwanda and has three main departments: Medicine, Pharmacy and Clinical Psychology. An undergraduate in Rwanda is allowed to practice medicine as a general practitioner. Undergraduate education lasts 6 years of general medicine, followed by one year of clinical internship. Training takes primarily place at four teaching institutions: King Faisal Hospital, The University Teaching Hospitals of Kigali and Butare, and Kanombe Military Hospital (University of Rwanda).

In 1997, a post-graduate training program in medicine was launched in partnership with the Belgians, and students spent one year in Belgium or France for training. The result of this program was 17 graduated specialists by 2004. Currently, seven post-graduate training programs are available to physicians in Rwanda: Internal Medicine, Pediatrics, Obstetrics-Gynecology, Surgery, Anesthesia, Family and Community Medicine, and Ear-Nose-Throat. Other specialists and sub-specialists are extremely rare in Rwanda and are typically trained abroad (HRH Program).

5.9.2 Nurses

Historically, there were three levels of training for nurses and midwives in Rwanda—A2, A1, and A0. A2 level nurses and midwives are trained at secondary school level while A1 nurses and midwives have an advanced certificate following three years of tertiary education. A0 nurses and midwives possess a bachelor's degree. The MoH decided in 2006 that training and deploying A2 level nurses and midwives should stop as their skills were deemed insufficient to provide quality patient care. The minimum requirement for a Rwandan nurse is thus now A1. Despite this, many health facilities continue to use a large number of A2 nurses due to the lack of A1 nurses. It is however believed that this negative trend will change in a few years' time as most nurses and midwives are currently being educated in a three-year program at schools of nursing and midwifery throughout the country. The aim is also to educate more specialized nurses as there is a great lack of those (Ministry of Health).

5.9.3 Hospital management

Hospital management has previously not been a prioritized area in Rwanda or elsewhere in East Africa. The School of Public Health did not have a health management program and the training opportunities for healthcare management were minimal. However, the College of Public Health and Administration now has a master's program in management and the hope is that more individuals will have formal health management training in ten years. Currently there are only about seven individuals with any public health training in hospital management roles in Rwanda (HRH Program).

5.9.4 Challenges

Rwanda is improving the number of doctors and nurses by enrolling a higher number of medical students. However no additional resources such as more the professors etc. have been added, indicating that the quality of the education cannot be maintained. This means that the main current focus is to increase the number of practitioners rather than to emphasize quality, which will come later.

Another issue is that nurses in Rwanda are often forced to take on a greater responsibility and perform medical services that would traditionally be conducted by doctors, because of the lack of physicians. Such task shifting can be useful, but it is very important that they receive the corresponding training and education as well, which is sometimes seen as less important than the education of doctors.

It is quite difficult for people who want to study at the College of Medicine and Public Health unless they are given a scholarship. The cost for attending a two-year master's program is about USD 4-5000. However, the MoH fund the education costs for staff to have a master's degree as this is seen as a priority. Most of the students at the College are therefore working either at the ministry or various medical facilities.

5.10 Community-Health Workers and Accessibility

Service delivery in Rwanda is a challenge due to the fact that most of the landscape is mountainous. In order for poor people to be able to access health facilities, the Rwandan Government decided in 1995 to implement a system of CHWs; with the objective of creating a community health program that was closer to and more accessible to the people. CHWs are volunteers who have been chosen by their communities and received some training from the MoH and medical staff. The CHWs counsel community members and provide education about good health practices (family planning, HIV and malaria prevention, antenatal care) and give vaccinations. They also monitor health and nutrition on a general level, and report disease epidemics in their area of coverage. They do not provide curative services (e.g. prescribing and dispensing medicines). At present, each village has one CHW who is responsible for maternal health (more specifically following-up pregnant women and their newborns, malnutrition screening, community-based provision of contraceptives and preventive NCDs work) and two multi-disciplinary CHWs (one man and one woman) who carry out integrated community case management (ICCM), (assessment, classification and treatment or referral of diarrhea, pneumonia, malaria, HIV and malnutrition in children under five years of age), malnutrition screening, DOT for TB, preventive NCD work and household visits (CHW Strategy).

On the cell level there are two "cell coordinators", who are in charge of all CHWs and whose aim is to follow up, and strengthen their activities at the health posts. At the sector level, there are Health Center Committees (CBCs) that provide oversight on the work from the health center; outreach and supervision activities, and general financial controls. At the district level there are district hospitals, district pharmacies, community-based health insurance (CBHI) committees and HIV/AIDS committees.

On this level there are doctors, nurses, laboratorial staff and other technicians. The district hospitals are able to transfer patients to the national referral hospitals for further care in cases of medical complications. More advanced or severely ill patients which cannot be treated in Rwanda are being referred abroad, more details regarding this can be found in the next chapter (National Community Health Strategic Plan 2013-2018, Ministry of Health p 8 -).

Geographical access to health services has improved remarkably thanks to the construction and rehabilitation of new district hospitals and health centers as well as the system of CHWs. However, the medical treatment that can be received at the village or cell level is very basic, and approximately 23% of patients still have to walk for more than one hour/more than 5 kilometers to reach the nearest health facility (National Census 2012).

Other challenges that still remain in the health sector on the lowest level are that CHWs often have very low capacity; there are insufficient resources to sustain routine community health activities including training, refresher trainings; and to purchase equipment/upgrade infrastructures needed to deliver more health services to the community (National Community Health Strategic Plan 2013-2018).

5.11 The Health budget and financing

The financing of the health sector in Rwanda is guided by Rwanda’s Health Financing Policy. The proportion of Government investment in health has been reduced compared to previous years and the level is currently well below what is deemed necessary in the EDPRS II in order to achieve the objectives.

The previous trend was an increased proportional budget to the health sector: from 8.2% in 2005 to 11.5% in 2010 (HSSP II Situation Analysis Report). However, the budget allocation for health in Rwanda in 2013 was 9.5% of the total budget, which is well below the Maputo agreement of at least 15%. The sector is allocated 17.8% of the foundational funding (Rwf 109 billion) compared to the anticipated allocation of 31% (Rwf 200 billion) in the EDPRS II.

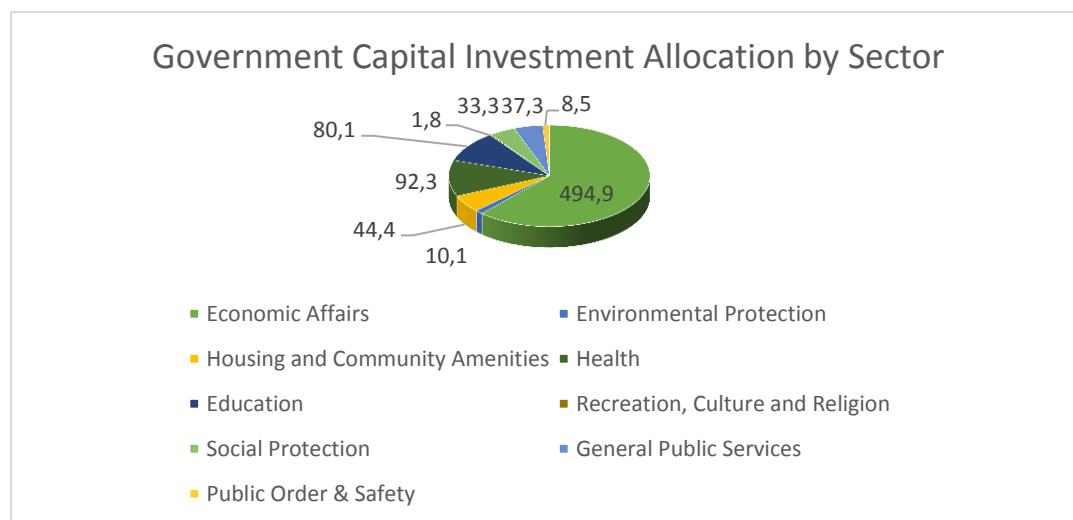


Figure 8: Ministry of Finance and Economic Planning. The figures equal Rwf 803 billion,

The GoR specifies that the health budget will cover prevention of diseases, skill's improvement and salaries of medical personnel, as well as constructing and upgrading hospitals and health centers, purchasing medical equipment such as malaria testing kits, x-ray machines. The coverage of the community health care insurance will continue to be increased.

There are four main funding sources of Rwanda's health sector:

1. Government revenues, including revenues generated from loans, grants, taxation, donations and DP contributions
2. Health insurance pooled funds (Community Based Health Insurance or Mutuelle de Santé) from household expenditures- currently subsidized by the GoR
3. Private and internationally generated funds from health facilities
4. Donor funds

Of Rwanda's annual health budget, the donor share is estimated to be in the range of approximately 70% (WHO Health Profile). External funding has steadily increased during the last couple of years, largely due to funds flowing in from global health initiatives such as the PEPFAR, the Global Fund and the President's Malaria Initiative.

With regard to the general 2013/2014 budget the financing was divided accordingly: domestic revenue (32%), domestic borrowing (23%), development assistance and grants (32%), external borrowing (2%) and concessional loans (11%). 48% of the total budget was spent on capital investments (13.2% of GDP) and 52% on recurrent expenditure (13.8% of GDP). There was a reduction in recurrent expenditures during this year compared to 2012/2013, due to the fiscal consolidation policy of the Government and the decline in external budget support (Policy Brief on the Analysis of 2013-2014- Rwanda National Budget July 2013).

5.12 The main stakeholders

5.12.1 Rwandan stakeholders in the health sector (public and private)

The health sector in Rwanda is led by MoH (an organizational chart is attached in annex 1). The MoH supports, coordinates and regulates all interventions within the health sector. Other important ministries are: Ministry of Trade and Industry and Ministry of Finance and Economic Planning. The RDB was created in 2008 by bringing together the following agencies: Rwanda Investment & Export Promotion Agency (RIEPA), Rwanda Information and Communication Technology Authority (RITA), Rwanda Office of Tourism and National Parks (ORTPN), Centre for Support to Small and Medium Enterprises (CAPMER), Rwanda Commercial Registration of Service Agencies (RCRSA), a unit of Human Resource and Institutional Capacity Development Agency (HIDA), a unit of Rwanda Environmental Management Authority (REMA), and the Privatization Secretariat.

The aim of creating RDB was to enable private sector growth and to make it easier for private sector companies to invest in Rwanda. They work with all aspects related

to the development of the private sector by working with and addressing needs of companies of all sizes and both local and foreign investors.

5.12.2 International stakeholders in the health sector

- Global Fund: has invested more than USD 900 million to support the fight against HIV, TB and malaria in Rwanda. In 2014 they signed a grant agreement for the implementation of Rwanda's national strategic plan for HIV. The support is aligned with existing national systems and strategy and ties future disbursements directly to outcome and impact indicators. This is the first time that the Global Fund is using this approach, and Rwanda has been chosen because of its track record of success in health program and financial management.
- United States of America International Development (USAID): HIV/AIDS (PEPFAR), malaria (PMI), and TB; increase the quality and use of family planning and reproductive health services; improve maternal newborn and child health; and strengthen the overall health sector. The United States is the leading donor of bilateral HIV/AIDS assistance to Rwanda. The HRH project aims to build capacity of Rwandan medical staff. The Centers for Disease Control and Prevention are working on HIV, malaria and non-communicable diseases.
- The Belgian Development Agency (BTC): accessing primary healthcare, through the construction and rehabilitation of infrastructure and through institutional strengthening of the central level and of decentralized instances. Additional support to mental health care.

Other international organizations working with health in Rwanda are for example: UN (UNDP, UNAIDS, UNFPA, UNICEF), the WHO, WB, Clinton Foundation, PiH etc.

5.13 Donor harmonization

Coordination of the development partners in Rwanda is highly organized, according to the 2005 Aid Policy. It is inclusive of all partners (bilateral and multilateral donors, international and local NGOs, private sector) and enables the Government to regulate and monitor the flow of aid while at the same time clearly stating its commitment and expectations.

A SWAp (sector-wide approach) agreement has been signed between the MoH and the development partners of the health sector, for the implementation of the Health Sector strategic plan, the EDPRS and Vision 2020. A clear coordination hierarchy has also been created. These measurements have been taken in order to harmonize projects, interventions, and contributions with the aim to make it easier for the GoR to successfully implement activities.

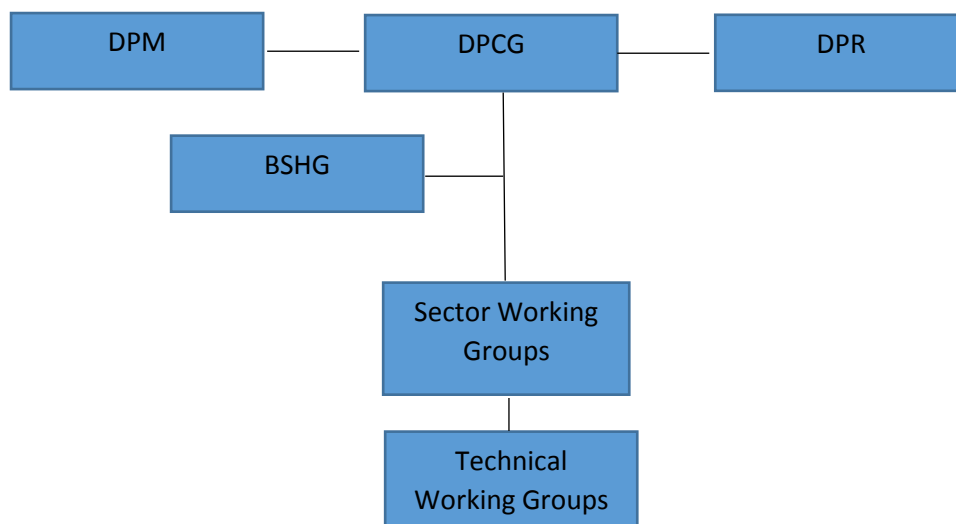


Figure 9: Rwanda's Donor Coordination Hierarchy⁶

The DPCG (The Development Partners Coordination Group) is chaired by the Ministry of Finance and is the country's highest-level coordinating body which oversees the entire aid coordination system. They coordinate an annual DPM (a high-level strategic forum for dialogue between the Government of Rwanda and its Development Partners) and DPR (a senior-level retreat aimed at bringing together stakeholders in Rwanda's development) for dialogue between the GoR and its development partners. The Budget Support Harmonization Group (BSHG) is a technical working group under the coordination group that coordinates budget support. The technical working groups serve as key entities for technical experts to review and discuss program planning and implementation. The Health Sector Working Group (HSWG) is the main coordinating body: co-chaired by the MoH and a rotating lead development partner (Family Planning Policy 2012 page 21, Rwanda Health Financing Policy).

Donors to Rwanda are not allowed to be engaged in more than three sectors, in accordance with donor harmonization documents such as the Paris Declaration.⁷ According to the Division of Labor document, there is a regulation for donors to be engaged in maximum 3 sectors per donor/DP. The GoR is also evaluating the performances of the donor/DPs on an annual basis, to ensure that they follow their commitments.

⁶Development Partners Coordination Group (DPCG), Budget Support Harmonization Group (BSHG), Sector Working Groups (SWGs) and Technical Working Groups (TWGs).

⁷<http://www.oecd.org/dac/effectiveness/34428351.pdf>

6 Policies and regulations

The GoR has since the 1980s been implementing primary health care as the key strategy for improving the health of the population. In February 1995 the MoH started reforming the health care sector, reforms that were adopted by the Government of National Unity in March 1996.

6.1 Health Sector Policy

The new Health Care Policy aimed to contribute to the wellbeing of the population by providing quality health services that were acceptable and accessible to the majority of people and provided with their participation. The policy is based upon three main strategies: (1) decentralization of the health system using the health district as the basic operational unit of the system, (2) the development of the primary health care system through seven core components (see below) and (3) the reinforcement of community participation in the management and financing of services (Health Care Policy, WHO Country Cooperation Strategy page 9).

The Health Sector Policy was revised in 2004, but continued to provide the basis of the national health planning. It is also the first point of reference for all actors working in the health sector as it sets out the objectives, prioritized interventions and provides guidelines for improved planning and evaluation of activities in the health sector. The revised version of the policy elaborates the overall vision of development in the health sector as set out in Vision 2020 and the Poverty Reduction Strategy Paper of 2002 and the Good Governance and Decentralization Policy.

The Health Policy 2004 mentions seven key objectives that guide all the interventions in the health sector: 1. Improve the availability of human resources; 2. Improve the availability of quality drugs, vaccines and consumables; 3. Expand geographical accessibility to health services; 4. Improve the financial accessibility to health services; 5. Improve the quality and demand for services in the control of disease; 6. Strengthen national referral hospitals and research and treatment; 7. Reinforce institutional capacity.

6.2 Vision 2020

Vision 2020 was developed in 2000 by the GoR with the aim to transform Rwanda into a middle income country by 2020. Through the Vision 2020 the country has prioritized health and made family planning and population growth a key component. The strategy also commits MoH to put efforts and resources into shifting primary health care interventions towards the community level. The strategy is based on the following pillars: Reconstruction of the nation and its social capital anchored on good governance, underpinned by a capable state; Transformation of

agriculture into a productive, high value, market oriented sector, with forward linkages to other sectors; Development of an efficient private sector spearheaded by competitiveness and entrepreneurship; Comprehensive human resources development, encompassing education, health, and ICT skills aimed at public sector, private sector and civil society. To be integrated with demographic, health and gender issues; Infrastructural development, entailing improved transport links, energy and water supplies and ICT networks; Promotion of regional economic integration and cooperation (Vision 2020).

6.3 Economic Development and Poverty Reduction Strategy (EDPRS 2008–2012)

The first Economic Development and Poverty Reduction Strategy (EDPRS 2008–2012) provided a medium-term framework for achieving Rwanda’s long-term aspirations, as embodied in Vision 2020, the Seven-Year GoR program, and the MDGs. EDPRS aimed to (1) increase the capacity to innovate, (2) accelerate the rate of poverty reduction, and to (3) maintain Rwanda’s reputation as a country with a low incidence of corruption. The second version of the EDPRS- EDPRS II (2013-2018) builds on lessons learnt during the first economic strategy period and is focusing on ensuring a higher extent of self-reliance and developing global competitiveness. EDPRS II focus on four thematic areas where health is a theme of the eight foundation areas. EDPRS’ main objectives in the health sector are to maximize preventive health measures and build the capacity of CHWs to provide high quality and accessible health care services for the entire population in order to reduce malnutrition, infant and child mortality, and fertility, as well as the control of communicable diseases.

Both the Vision 2020 and the EDPRS II strongly correlate to Rwanda’s Private Sector Development Strategy (PSDS) 2013-2018 as they emphasize the importance of developing the private sector.

6.4 Seven-Year Government Program 2010-2017

This strategy was developed to guide all sectors and governmental institutions towards achieving the development targets by 2018 instead of 2020. Even this document focusses on health care. Social Welfare, the last of the four pillars, clearly emphasizes the need to “decentralize good health services up to the village level through a network of CHWs” throughout the country so that at least 90% of women aged between 15 and 49 use modern contraceptives and other community-based health services. The program particularly highlights services such as HIV/AIDS, TB, and malaria programs, which implementation at the community level has registered considerable progress. The program also singles out nutrition interventions to be implemented at the community level by the CHWs.

6.5 Rwandan Health Sector Strategic Plan (HSSP III)

The Health Sector Strategic Plan (HSSP III) 2012-2018 identifies the community health network as a key health infrastructure that contributes greatly to the delivery

of health services to the majority of the population who lives and works in the community.

At the international level, the most important policies and commitments providing direction to the HSSP III are the MDGs, the Abuja Declaration, the African Health Strategy (2007–2015), the Paris Declaration (2005), and the Accra Agenda for Action (2008). Recently, the Rio Political Declaration on Social Determinants of Health (October 2011) has strengthened the MoH's political commitment to reduce health inequities.

6.6 Procurement

Procurements are processed at the central level through the *Medical Procurement and Production Division (MPPD)*, which is one of 14 entities that were merged to form the RBC. The MPPD operates as an autonomous unit under the supervision of the MoH and it is the main supplier of pharmaceutical commodities, including medical supplies, generic essential medicines and laboratory reagents. The procurement procedures of the MPPD have been standardized and audited by United States Government and The Global Fund has given green light for direct procurement with US government funds.

The MPPD procedures and regulations are known for being up to date but somewhat time consuming due to monitoring and control to ensure a correct and transparent process. If a company breaks the rules, the penalties are very strict. It is similar to the procurement process in Sweden.

In theory, the MPPD is supposed to provide pharmaceutical commodities to the public health care facilities (referral hospitals, district pharmacies, the National Reference Laboratory etc.). The district pharmacies are in turn to distribute the commodities to district hospitals and health centers. Hospitals and clinics should according to this system request for medicines, which will be distributed every three months. In reality, referral hospitals procure some commodities from MPPD, but they also rely on private suppliers such as the Office for the Not-for-profit Medical Facilities in Rwanda (BUFMAR). Health centers and district hospitals are also accessing private outlets for commodities that they are not able to procure from the MPPD or BUFMAR through the respective district pharmacies.

The MPPD manages all procurements funded by donors, typically priority diseases such as HIV/AIDS and malaria. It is for example the only supplier in the country that is authorized to import antiretroviral drugs. Only payments from the US Government are made to another implementing partner, Supply Chain Management Systems (SCMS, funded by PEPFAR to provide global procurement and distribution for essential HIV/AIDS medicines and supplies). The MPPD has a large warehouse, under very strict control, where all pharmaceuticals are stored. A task for the warehouse is to forecast pharmaceutical needs.

The MoH has established a Coordinated Procurement and Distribution System (CPDS) in order to better coordinate procurements, and aims at proper quantification, coordination of donor funding for the procurement of specific

supplies (for HIV and AIDS, malaria, TB, etc.), and coordination of distribution mechanisms. However, so far different tools are used to support supply chain management (forecasting and warehousing management): Quantimed, TRACnet, TRACnet, Sage 500, and Inventory Tracking Tool (ITT) (HSSP III page 61).

The objective of the GoR is to develop a tool that all Procurement and Supply Chain Management (PSCM) efforts from different partners will use, in order to achieve a harmonized PSCM system. The Coordinated Procurement and Distribution system will be supported to improve coordination in the procurement of essential medicines for the public sector (HSSP III).

Procurements follow standardized procedures and are being published on the websites of RBC and DG Market (www.market.gov.rw, RBC).

6.7 Distribution system

When supplying pharmaceuticals to the district pharmacies, the MPPD is using an active distribution system called *Logistic Management Information System* (LMIS). It currently only exists as a paper-based system, but an electronic version is being developed. The ministry has also adopted a standardized reporting system for commodity management at health facilities (including communities) and district pharmacies.

About 85% of the requests coming from the health facilities are provided by the MPPD. However, the distribution chain has been criticized as there are often stock-outs of drugs at pharmacies. One explanation given is that the inadequate quantification capacity at facility levels has made it difficult for the MPPD to predict and procure adequate supplies on a timely basis. The MoH has therefore, with the support of donors, trained district and health facility staff on quantification. It is also anticipated that the implementation of an electronic system will limit this specific issue. Another possible explanation for the stock-out problem is inadequate transportation facilities. The logistical needs are currently being assessed and trucks and other means of transportation will be procured in order to eliminate similar misfortunes.

However, access to medicines in Rwanda is generally good. Most citizens are covered by the community based health insurance 'Mutuelle de Santé', and both services and products are subsidized for malaria, HIV/AIDS, TB and immunization. In order for people to be able to afford health commodities, the GoR has exempted all taxes (including value-added tax) on the medicines and medical products that are of national priority. These exemptions will continue for a few more years in order to improve access. However, a Medicine Pricing Policy will be developed in order to regulate pricing of medical products. This policy will be informed by essential medicine price lists that have been periodically released by WHO (HSSP III page 61).

6.8 Pharmaceuticals – quality control plan

In 2011, the MoH developed a *National Pharmaceutical Quality Assurance plan* (2011–2014), as well as *Guidelines for Medicines Safety Surveillance in Rwanda*. All

hospitals in the country have Drug Therapeutic Committees (DTCs), which will be further strengthened during the HSSP III. In order to ensure that the DTCs are effective in performing quality assurance, qualified personnel will be deployed. HSSP will also create an assurance system for medicine quality and build its institutional capacity.

Another way to ensure quality control of medicines and other medical products is to establish a National Medicines Quality Control Laboratory that will inspect current Good Manufacturing Practice (cGMP) before registration (HSSP III p 62). Currently there's no pharmaceutical production. This in combination with the financial situation and competing priorities have made the country dependent on external resources for procurement of medical products bilateral and multilateral donors have provided. This has made the sustainability of the pharmaceutical supply in Rwanda at risk. The GoR therefore aims to gradually increase the domestic financing of pharmaceuticals, in order to achieve more sustainable of financing. This increase in domestic finance is expected to come from resource mobilization, including public-private partnerships and establishment of revolving funds. An additional source of funding could also be the community based health insurance. However it might be difficult for the poor to afford medicines and other medical products should the prices go up.

The Government is also exploring the possibilities of starting local production in order to reduce expenditure and improve commodity availability. However, the existing manufacturing units Sterile Drugs Unit and part of Non-Sterile Drugs Unit are underutilized and there is a lack of good manufacturing practice. The Government is therefore interested in promoting partnership with private investors in order to establish production units for medical products (HSSP III p 62).

6.9 Plan for maintenance of equipment

Lack of capacity in combination with inadequate funding for equipment maintenance at facility levels are causing challenges to the Rwandan health sector. The GoR has therefore prepared and implement a *physical infrastructure development and maintenance plan*, including a maintenance fund. They will also establish a procurement and maintenance plan for medical and energy equipment. Several workshops will take place and all managers will be sensitized on maintenance. The fund will allow each district hospital to have a budget line for medical equipment maintenance.

To facilitate maintenance of physical assets, including medical and transport equipment, the MoH will explore a greater role in maintenance on the part of the private sector (HSSP III p 67).

6.10 Research Policy

Research on health related issues in Rwanda is benefitting from a strong political commitment within the MoH which has an increased interest in evidence-based

research. A *Health Sector Research Policy* was developed in the beginning of 2012 by the department of medical education and research (Ministry of Health).

There are several high-level research institutions with wide international networks existing in the country, e.g. the Institute of HIV/AIDS and the Disease Prevention and Control (IHDP) within RBC, whose mission is to promote treatment and research in HIV/AIDS, malaria, tuberculosis and other diseases; the School of Public Health; and CHUK and CHUB. Another division of RBC, the Division of Medical Research, has been established to coordinate the various research activities taking place in Rwanda (Health Sector Research Policy 2012).

7 Investments and private sector development

7.1 Business climate and investments

Despite that detailed planning and objectives are agreed upon between the Government, local authorities and the private sector, the country has failed to attract as much Foreign Direct Investments (FDI) as hoped for. There has also been little progress in increasing and diversifying exports (mostly coffee, tea and minerals). As a result, the trade deficit remains large.

The share of all investments to Rwanda's GDP in 2012 was about 22%, out of which only 10% were FDIs. Reasons mentioned for this were for example: lack of infrastructure leading to electricity shortages and increasing transportation costs, slow bureaucracy (buying land, taxation, immigration and permits), low financial access, cost of access to a regional market and lack of diversified exports. Rwanda's small market size and the population's limited purchasing power could constitute another disadvantage (IMF). 11

However, the business environment has significantly improved during the last few years through pro-business reforms, the establishment of key government institutions such as RDB, as well as cost reductions of doing business. As a result, Rwanda was ranked top performer among the ten most improved economies in 2013. Rwanda ranked as the 32nd easiest place to do business in the world and 2nd in Africa after Mauritius, by the World Bank Doing Business Report (World Bank Doing Business). Business registration services in Rwanda are one of the fastest in the world, only six hours. The Government is also trying to expand electricity supply and reduce transportation costs by speeding up border formalities and proposing new major road, air and railway connections. It now only takes six days to transport things on the road from the ports of Mombasa (Kenya) or Dar es Salaam (Tanzania). Due to the EAC Trade Agreements, importers only pay one common tariff (to either one of the ports mentioned above). The railway project which will go through Tanzania, Kenya, Uganda and Rwanda has commenced and will speed up transportation as well (EAC).

Rwanda is very active within the EAC, a union that allows their citizens to move and work across the borders of the individual countries without work permit etc.

Rwanda currently produces around 110 MW of electricity, which is not sufficient to support a strong manufacturing or IT industry and many energy projects are behind schedule. However, the target is to increase the electricity output to 500 MW in the next three years. As part of the Public Financial Management Reform Strategy, tax policy and revenue administration measures have aimed to strengthen revenue. However, this has been done in a fragmented manner and the tax-to-GDP ratio is still low by regional and international standards. The Government's objectives include enhancing revenue mobilization by broadening tax bases, removing exemptions and

improving tax administrations. A new Investment Code is also being developed, in order to discontinue all existing discretionary incentives and exemptions.

In conclusion, FDI to Rwanda has gone up slightly compared to earlier figures. The country received FDIs of USD 356.7 million in 2011 which is an increase compared to USD 343 million in 2010 (indicating a 4.1% rise). A larger part of this money went into the sectors of finance and insurance (23.1%); ICT (20.7%); manufacturing (19.5%), and agriculture (16.3%). The investments came primarily from the EU, EAC, COMESA countries outside EAC and SADC countries. International and regional organizations brought about 7.4 % of foreign investment, while Asia accounted for 5%. There was also a rise of portfolio investment as a result of development of the Rwanda Stock Exchange. Sectors with highest shares of foreign liabilities stock were ICT with 37.6% followed by Finance and Insurance and manufacturing (Ministry of Finance and Economic Planning).

The private sector is dominated by micro-and small-scale companies and there is only a handful large-scale firms. Large-scale companies with over Rwf 75 million are less than one percent of all establishments, while micro ones (less than Rwf 0,5 million) constitute more than 70%. The private sector is however expected to play a larger role in the future.

Rwanda has taken great steps in improving the business climate: in the areas of registering a business and registering property Rwanda ranks 9th and 8th in the world (Doing Business). Registering a business in Rwanda now consists of only two steps that together take two days to complete and if the application is filled in on-line, opening a business is free of charge. However, while investors are content with the regulatory system and corruption-free environment, Rwanda faces high costs for trade due to expensive transportation costs from the harbors of Dar es Salaam and Mombasa. Also electricity is short in supply and relatively costly compared to neighboring economies. Additionally, the lack of an educated work force increases the cost of doing business (RDB).

Topics	DB 2014 Rank	DB 2013 Rank	Change in Rank	V= Doing Business Reform making it easier to do business
Starting a business	9	8	↓ -1	V
Dealing with construction permits	85	122	↑ 37	V
Getting electricity	53	52	↓ -1	
Registering property	8	62	↑ 54	V
Getting credit	13	24	↑ 11	V
Protecting investors	22	32	↑ 10	V
Paying taxes	22	25	↑ 3	V
Trading across borders	162	160	↓ -2	V
Enforcing contracts	40	40	No change	
Resolving insolvency	137	166	↑ 29	V

Figure 10: Doing Business in Rwanda 2014, the World Bank Group

7.2 Trade agreements

The Ministry of Trade and Industry (MINICOM) is in charge of all aspects of trade policy including trade policy negotiations, trade formulation and policy issues relating to all aspects of internal and external trade. The department of trade and industry has professionals in charge of regional and multilateral trade, competition policy as well as internal and external trade. The department currently manages the country's trade negotiations agenda in the WTO as well as COMESA and the EPA negotiations (Acord). The department is responding to the ambitions in Rwanda's Vision 2020 strategy, of building a robust economic base supported by expanding and diversified production of quality goods and services for trading internationally, regionally and nationally.

EAC

The main trade agreement in Rwanda is with the EAC. The EAC countries established a Customs Union in 2005, a Common Market in 2010, a Monetary Union in November 2013 which will ultimately lead to a Political Federation of the East African States. EAC is an inter-Governmental Organization of five states: Rwanda, Burundi, Kenya, Tanzania and Uganda. The EAC aims at widening and deepening cooperation among the Partner States in the political, economic and social fields for their mutual benefit. EAC Community Customs Union covers a market of 141 million people.

The Customs Union and common market protocols provide for free movement of goods, capital, people and services. This involves trading across borders with minimal checks for clearance, no trade taxes on goods originating from the region; charging uniform tariffs on similar products as well as applying the same external tariffs on similar products from outside EAC (EAC).

COMESA

EAC is at the moment negotiating with The Common Market for Eastern and Southern Africa (COMESA) and SADC (Southern African Development Community) about establishing a large free trade area which will cover most of South and East Africa (COMESA, EAC). The market size of COMESA is 340 million people. COMESA was founded in 1994 replacing a Preferential Trade Area that was initiated in 1981. The COMESA region has a membership of 19 states, out of which 14 have since signed the Free Trade Area (FTA) protocol launched in 2000. COMESA also launched a Customs Union in 2009. The objective of COMESA is to achieve the removal of all physical, technical, fiscal and monetary barriers to intra-regional trade and commercial exchanges.

EU

Trade with an EU country goes under the 'Everything But Arms' (EBA) Agreement, making exports customs free. The agreement is reciprocal, i.e. EU will in the future also have free entrance to EAC/Rwanda. Under this act, the EU aims to promote trade with specific African countries including Rwanda. Ratified in 2001 EBA gives all

LDCs full duty free and quota-free access to the EU for all their exports with the exception of arms and armaments. There are at present 49 beneficiaries under this arrangement. In 2011, EBA beneficiaries accounted for exports worth 12% of all the preferences under the EU's Generalized Scheme of Preferences (GSP), which provides tariff reductions for developing countries. Entry into the EBA is automatic and, unlike other GSP arrangements, the EBA has no time-limit.

EBA was strengthened as of 1 January 2014, with a new GSP in place. Under the new GSP, the effectiveness of the EBA scheme will be strengthened. By focusing preferences on those that need them the most (lower-income economies and LDCs), the new GSP has fewer beneficiaries. This will reduce competitive pressure on LDCs and make the preferences for LDCs more meaningful—providing much more opportunity to export (EU).

AGOA

The African Growth and Opportunity Act (AGOA) was signed into law by President Clinton in May 2000 with the objective of expanding U.S. trade and investment with sub-Saharan Africa (including Rwanda), to stimulate economic growth, to encourage economic integration, and to facilitate sub-Saharan Africa's integration into the global economy. Rwanda is eligible to export to the US on a duty-free and quota-free basis under AGOA. Based on the AGOA framework the two countries signed a Bilateral Investment Treaty. Particularly, AGOA has expanded market access for textile and apparel goods into the US for eligible countries (AGOA, MINICOM).

Bilateral agreements

Rwanda has signed a number of bilateral agreements which have a bearing on trade, though some are not necessarily trade agreements. These agreements include those on investment promotion, avoidance of double taxation, trade and business facilitation. The countries with which Rwanda has signed these Agreements include among others the US, South Africa, Mauritius and Belgium.

The other countries, with which Rwanda has Bilateral Trade Agreements, include Burundi, the Republic of Congo, the Democratic Republic of Congo, Kenya, Tanzania and Uganda. The pacts to facilitate cross border trade are directly benefiting the citizens of the signing countries.

Special Economic Zone

Rwanda also has a Special Economic Zone (SEZ), which is designed to address domestic private sector constraints such as availability of commercial and industrial land, the cost of energy, limited transport linkages, market access, availability of skills and reduced bureaucracy. The Kigali Special Economic Zone was designed to accommodate investments in for example heavy and light manufacturing industries, commercial wholesalers and chemical, pharmacy and plastics (RDB).

Rwanda is also a beneficiary of Generalized Systems of Preferences (GSP) schemes with key countries, including Canada, China, India and Japan.

7.3 Taxes

An investor can register for taxes, pay taxes and apply for tax exemptions at the RDB headquarters. This is possible through a partnership with the Rwanda Revenue Authority (RRA).

The main tax rates are:

Type of Tax	Rate
Corporate Tax	30% - Corporate tax is levied on profits earned by businesses
Personal Income Tax	30% - Personal income tax is levied on employment income, business profits as well investment income of individuals with local or foreign sources
VAT	18% - Levied on all consumption goods and services sold in the Republic
Excise duties	Various rates - Levied on specific products both locally manufactured and imported
Income	15% - Levied on dividends, interest, royalties, service fees, performance payments made to artists and athletes

Figure 11: RDB <http://www.rdb.rw/departments/investment/paying-taxes.html>

Tax reductions are decided on a single case basis. If a company promises to educate a certain amount of staff, then they can for example get reductions. If a company establishes itself under the Special Economic Zone (SEZ), many beneficial arrangements are applicable.

The Investment Code dictates the incentives and conditions for foreign investments, this code is presently being revised (RDB, Investing in Rwanda, MINECOFIN).

7.4 Reforms

The GoR continues to promote private sector development in accordance with the major strategies and policies, aiming at fostering both local and foreign investment. This is done by undertaking reforms that will make Rwanda a favorable place for investment. According to the World Bank, Rwanda has the economy that improved the most worldwide since 2005 (Doing Business Report 2014).

One of the reasons for undertaking these reforms is that Rwanda has had problems attracting the set level of investments. An extensive list of all reforms that have been done with regard to private sector development during the last couple of years can be found as annex 2. However a few of the main ones will be mentioned here. The time and cost for company registration has decreased, (it only takes 6 hours to register a company), it has become easier to pay taxes and less expensive for investors and more facilitation can be given by RDB. RDB has also employed Key Account Officers who will be responsible for assisting foreign and local private companies (RDB).

7.5 Sweden and Rwanda: trade

Trade between Sweden and Rwanda is still rather limited. In 2012, exports from Sweden to Rwanda amounted to MSEK156, whilst the import from Rwanda to Sweden amounted to MSEK10 primarily consisting of coffee (Embassy of Sweden).

However, over the past decade Swedish and Swedish related companies have showed an increased interest in doing business in the East African region. The Swedish East African Chamber of Commerce in Stockholm (SWEACC) was established in November 2010, and works actively to promote trade and investment between Sweden and the East African countries.

7.6 Private sector in the health sector

In general, business is rather good in Rwanda. There are clear laws which are up to date, and that are being reviewed often. The relative share of private investment in the health sector is expected to rise spectacularly from 10 % in 2012 up to 70% by the end of EDPRS II (2018). Part of this increase will be generated by interventions where collaboration with the public sector will be improved to facilitate a more important participation of private health actors. As an example, one can mention the programs for maternal and child health (MCH). Private clinics and individual care providers are offering health care related to pregnancy (antenatal consultations, deliveries, family planning) and immunization for pregnant women and children (especially in urban areas). As this requires further financing, the MoH plans to increase its collaboration with the private sector, for example in the provision of modern family planning methods.

Rwandans are very open to trying new methods and systems, which is positive for private sector development. They were for example the first country in the world to start using Prepex for circumcision as a way to prevent HIV. Both the Government and the population are very interested in using this method instead of the surgically one.

The private sector in Rwanda may play a role not only in service provision, but also in the production, promotion, and social marketing of different medical products that are widely used for disease prevention such as condoms and insecticide-impregnated bed nets, or treatments (such as oral rehydration solution). Another role which may be even more important is the production and marketing of generic drugs.

The MoH will furthermore develop and finalize an appropriate legal framework and guidelines that will govern and support the institutionalization of traditional medicine practices. In order to fast track production of natural and traditional medicine, HSSP III will initiate the establishment of small-scale manufacturing enterprises (SMEs). They will also promote establishment of traditional healers' cooperatives. Private sector organization will also be encouraged to help improve the community health at both local and national level.

Several PPP projects are presently under negotiation to mobilize private investments for constructing or rehabilitating existing infrastructure, and for the management of the same health facilities. Examples of such projects include building of two regional reference hospitals, one with Indian investors (Apollo) and the other with Japanese (Togoshukai) investors. There is also the possibility of upgrading the King Faisal Hospital to provide high-quality services for medical tourists and to prevent or at least reduce medical evacuations. Maintenance of medical equipment and instruments is another domain where the private sector will be encouraged to play a larger role. There is one Indian laboratory as well that has been opened lately (Ministry of Health, HSSP III, Rwanda Health Care Federation, Private Sector Platform, Ericsson).

The PPPs will be managed through quarterly coordination meetings, where issues such as private sector tariffs, submission of HMIS data, inspection and access to private sector facilities, adherence to regulations and quality assurance, control of laboratories, and selection and opening of new private facilities in the districts will be discussed.

There is a Private Sector Federation that represents the interest and advocate for the needs of various federations in the private sector. The Rwanda Health Care Federation is one of them, gathering all private sector actors in the health sector such as owners of hospitals and clinics, pharmacies etc. They have just begun conducting a survey on the private actors within the health sector in order to identify which actors there are, what they are doing, if there are areas that need further investment etc. The results of the study will be released beginning of next year.

7.7 Interesting projects/programs

7.7.1 Performance-Based Finance

One interesting project which is now implemented in Rwanda is the Performance Based Financing system or Pay-4-Performance. It is a system that focusses on outputs, and aims to encourage both quality and quantity medical care services, whereby health providers are paid according to their performance. For example, there is a quality service assessment on a quarterly basis, where patients are asked to assess their doctors, nurses, treatment etc. The initiative was started in 2001, with the objective of improving the health care sector (Louis Rusa, Gyuri Fritsche).

7.7.2 HRH program

Apart from the medical health education and internship programs that are accessible to Rwandan medical and health students through the UR, there is a project called the Rwanda Human Resources for Health (HRH) Program presently undertaken in the country. The program was initiated by the MoH in partnership with many of the leading US educational institutions through the USAID in 2012. The program will go on for seven years, with the objective to train and increase the quantity and quality of teachers, nurses, physicians, midwives, health managers etc. in order to ensure a sustainable health care system. The program operates as a resident program in all of the five referral hospitals in Rwanda, as well as in the different educational institutions on college level (Agnes Binagwaho et al. page 2).

The HRH program has faced challenges as it is constructed as a residency program similar to the ones used in the USA. The problem in Rwanda is however that there are few doctors who have the possibility or the time to serve as senior residents. This in turn leads to unused possibilities of capacity building of the Rwandan health care workers who participate in the training (USAID).

7.8 E-health

In the area of Information Management Rwanda has made many gains during the last few years. The country has for example computerized systems that are operational at many levels of the health care system. The Government has high ambitions of using various e-health solutions as a key pillar to develop and strengthen the health sector.

The e-health department at the MoH has become a model across Africa through its focus on the development of a strategic plan on how to integrate routine information systems as part of the Rwanda Health Enterprise Architecture (see below). The architecture functions as a broad roadmap that ensures inter-operability between all databases in the health sector.

Rwanda Health Enterprise Architecture framework

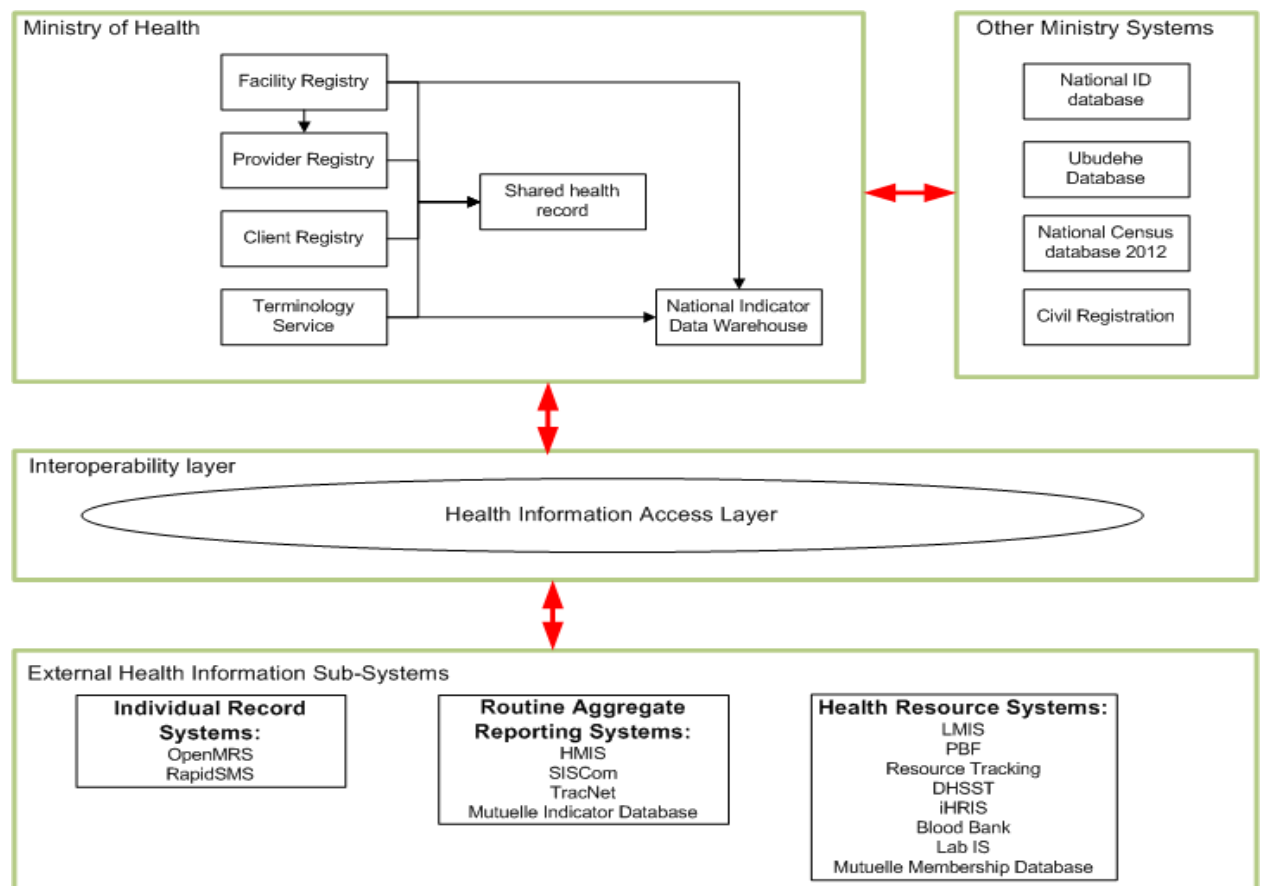


Figure 12: MoH e-health department

The GoR's HSSP III document outlines Rwanda's health sector performance indicators and the sources of data for the monitoring and evaluation of the sector. Being able to perform routine health information monitoring constitutes the critical backbone of establishing a strong health system, something which has proved to be challenging for many developing countries.

There is a whole range of e-health systems that are currently being used in Rwanda:

Health Management Information System (HMIS): The system collects, processes and transforms component performance indicators (financial, governance, operational and help statues), which will help policy makers, program implementers, service providers and the population toward improved health outcomes. The system development faced delays, but was fully functional for data entry from January 2012. Over 500 health facilities are now using the system to report every month. An indicator for Mutuelle has now been built into the system and SISCom (see below) is in transition to be included in the R-HMIS platform.

Mutuelle membership is otherwise linked to the Ubudehe categorization database which can be used in villages without internet or computers.

The Rwanda Community Health Information System (SISCom): SIScom is a text message system that allows maternal health workers to send patient data via text messages and identification numbers of pregnant mothers as well as any incidents during the pregnancy to the district hospitals. When the mother goes into labor, the doctors can read the patient file and do a better follow-up. Monitoring continues throughout the first couple of weeks of the infant's life. This system has improved mother and child health and reduced the mortality rates significantly.

Telemedicine: is currently used to connect three major hospitals in Rwanda.

RapidSMS: The SMS based system was created in 2009 through a partnership between the MoH and UNICEF. It is an alert system developed to support maternal, neonatal and early child health at the community level – and to save mothers' and newborn lives. CHWs will use the tool to track pregnant women, identify and refer women at risk and improve communication with health and district level facilities in case of emergencies. The system was also intended to help CHWs proactively identify and address reasons why women and young children die at the community level, and to suggest possible interventions through situation specific and monthly aggregated feedback loops. The system is used in 21 districts (rapidsms.moh.go.rw).

Logistics Management Information System (LMIS) is together with Electronic Medical Records System (e-MRS) used to maintain and control adequate drug stocks. E-MRS is now operational in about 200 health centers.

Another system is the Treatment and Research AIDS Center Network (TRACnet) for collecting HIV data that uses timely Interactive Voice Response technology to gather information through the web and mobile phones. This makes the information gathering both fast and cost effective. The data is then recorded and reported by community health workers, and later aggregated and analyzed on a national level. About 450 health centers are using this system, and it is considered very important

that data can be sent through SMS as many of these centers do not have internet connections or electricity. This specific e-health system has saved many lives as it allows critical tests to be sent to and analyzed by the national laboratory. The result will then be reported within two weeks, instead of four months as it was previously. TRACplus adds TB and malaria indicators as well.

7.8.1 Challenges

E-health systems are considered to be very important, especially with regard to the lack of human resources and specialized doctors in rural Rwanda. The e-health system enables doctors and other medical staff to easier monitor patient's progress through their patient files, which leads to better treatment. A nationwide fiber optic network is being established in Rwanda, something which has paved way to implement web-based applications that enable fast and effective data collection and information sharing in Rwanda. The establishment of this network has however faced many delays.

Further investments are needed as it is costly to develop the systems and the required infrastructure such as LAN and equipment. A conducted mid-term review also showed that there are too many e-Health interventions being implemented. There is thus a need to harmonize the systems in order to avoid duplication and additional costs and to strengthen the capacity to support the roll-out of the e-health system in order to make it sustainable (HSSP III page 76).

8 Opportunities in the health sector

8.1 Capacity building

The capacity building needs in Rwanda are as previously stated vast. Since the genocide where most doctors were either killed or escaped, there has been a great lack of doctors and nurses. Another issue is that most of the physicians are working as general physicians. In 2011 there were 470 generalist practitioners and 133 specialists working for a population of more than 10 million people. The total number of medical staff has improved during the last years through an increased intake of students at the medical/health education facilities. However the number and qualification of medical physicians in Rwanda is not yet enough. Some believe that it will take at least ten years to bring the numbers up to a sufficient level.

Another issue is that the medical staff does not have enough knowledge of how to use and maintain advanced medical equipment such as MRI scans etc. If this type of capacity is not built, the machines might end up not being used, which is the current situation in some district hospitals.

Rwandan schools and teaching hospitals are unable to offer adequate levels of teaching, clinical training, mentorship, research experience, and opportunities for advanced/specialized studies. Suggestions put forward are thus for facilitators, doctors and professors to come to Rwanda for a longer period in order to work together with the medical staff at the hospitals. It would also be beneficial for Rwandan doctors and students to go for training in Sweden for a limited time period. Part of the current Swedish bilateral development assistance goes to the UR in support of master and PhD students at the Faculty of Medicine and the School of Public Health. This is believed to be good as it also builds sustainable and long lasting capacity of the medical staff in Rwanda.

Initiatives such as the HRH project where capacity is built through partnership between different hospitals and universities are also believed to be favorable as they increase both the quantity and quality of the medical staff. One thing about the HRH project that has been emphasized as particularly good is that the doctor/professor/specialist will come for a year, not just a few weeks or months. Swedish hospitals and universities have a good reputation and it is believed that Rwandan health workers could learn a lot from them.

It would be good to focus on educating and strengthening the education of nurses as well. There is a tendency globally to focus on doctors, while nurses in Rwanda are often forced to conduct medical services that are normally performed by medical doctors. There is thus a great need for them to the adequate education.

Another aspect of capacity building that could be interesting is continuous training/re-certification. This is presently not being done in a systematic way, but would have a great positive impact on the overall quality of service provision in Rwanda. It might also function as a mean to create incentive among health staff.

8.2 Hospital management

The School of Public Health is now offering a master's program in health administration and management. However, there are only a few individuals with public health training in hospital management roles in Rwanda and the training opportunities for healthcare management are minimal. As a result, management capacity in hospitals is variable and often substandard. Rwandan hospitals would therefore benefit from technical and managerial support around e.g. patient management and quality assurance.

Development of hospital management through an institutional partnership between Swedish and Rwandan hospitals would help create sustainable, quality health care that would be beneficial to the entire population of Rwanda. Through such collaboration, it would also be possible to identify further potential areas of joint development such as needs for medical equipment, capacity building and/or infrastructure.

8.3 Hospital facilities and development

The private health care facilities in Rwanda are as shown previously not many. Most of the privately run clinics and hospitals can be found in the capital of Kigali. It is often the same owners who are opening up branches in other cities, frequently offering the same services. The private practices have traditionally chosen to have a general service provision as the owners state that they cannot afford to specialize in certain areas as it is very expensive to buy the needed medical equipment for treatment of for example transplantations and oncology. By focusing on a specialization they also lose out on the large part of the population who are in bigger need of treatment of more common diseases such as malaria, HIV and deliveries. The owners are afraid that they will not get their money back to cover their investment. However, the interest and ambitions of scaling up are there and many of the private owners have expressed their openness to collaborate and run a joint center together with foreign investors.

The private sector in Rwanda is thus in need of more diversity when it comes to service provision. There are also strategically placed cities which do not yet have good clinics. Gisenyi which borders to DRC and Goma is one example. The clinic there would be visited by Congolese patients who are known for having more money to spend.

8.4 Establishment of Specialist Hospitals (Centers of Excellence)/medical tourism

As many other African countries, Rwanda is very interested in becoming a regional medical tourism hub. A strategy for medical tourism was prepared in February 2014 which will help the country develop and identify main strategies for achieving this objective.

The country is currently not able to treat difficult cases of cancer, cardiovascular disease, kidney transplantations etc. This forces patients to seek medical treatment in other countries - primarily India, South Africa or Europe (Belgium). However, flights and accommodations are expensive and most Rwandans cannot afford this, despite the fact that the poorest can be financially supported by the GoR. The same situation exists in the neighboring countries Kenya, Tanzania, Uganda, DRC and Burundi. It is estimated that more than 1,000 Kenyans travel to India for health care treatment each year. There is thus a regional demand for medical treatment, and Rwanda could potentially become a regional hub for health care activities in a long term perspective considering its strategic geographic position.

The following sectors have been identified by the RDB and the MoH as having the highest demand in the region: oncology, cardiology and nephrology. Dentistry, neurosurgery and cardiothoracic surgery have been identified as additional areas of specialty. According to an analysis done for RDB, the market in East Africa alone suggests an addressable market size of USD144 million for Rwanda's target specialties if they were to focus on the three specialties mentioned above. Rwanda is furthermore part of the EAC Business Council and the East African Health Platform which gathers private sector actors: private clinics, all industries, pharmacies, dentists, nurses, physiotherapists, civil society, faith-based organizations etc.

Some projects are already being developed. An Indian eye hospital opened in Kigali in 2013 with the objective of receiving 30% of their patients from neighboring countries. Rwanda's private health care sector is also already providing health services across the borders; to Goma and Bukavu in DRC. The scale of this service provision is however still limited due to the rather low capacity of the existing clinics on the Rwandan side. Patients from DRC are also entering Rwanda in order to receive medical and dental treatment, while Rwandese medical professionals travel across the border on a temporary basis to provide treatment, or to establish practices in DRC.

Another reason why Rwanda is interested in building medical tourism is that it will bring additional funding to the country. This would help Rwanda lower the aid dependency and achieve a more sustainable health care sector. It would bring in money to the investors, as well as the country in large through accommodation, hotel and food expenses of the patients. Increasing the level of medical care available might also encourage other investors to come to Rwanda, thereby leading to greater economic growth.

Should Swedish private sector/investors be interested in starting a center of excellence, RDB will provide facilitation on registration processes, give information about taxes, where to buy land, how to get all necessary certificates etc. With regard to the lack of qualified staff, it might be interesting to have in mind that citizens of EAC countries are allowed to travel and work across the borders. Ugandan doctors are for example already moving to Rwanda to work as it is easy for them to find jobs there and the salaries are higher (National Export Strategy (revised 2014) draft, RDB, Ministry of Health, RBC, Medical Tourism Strategy).

8.5 Medical equipment

Generally speaking, there is a great lack of advanced technical equipment in Rwanda. Only public hospitals can afford to invest in scans etc. For example there is only one MRI machine in the country (which can be found at the King Faisal hospital) and a limited number of X-ray machines. Many hospitals do not have properly equipped theaters and thus cannot offer proper health care. This is one of the reasons why patients are forced to go abroad for treatment. Radiography and x-rays are specifically mentioned as sorely needed.

Another area where Swedish companies can do business is through the exportation of drugs and other medical consumables. The recommended way of selling products in Rwanda is through semi-whole salers. Indian companies are currently dominating the market for drugs, and it might be difficult to compete with their cheap prices, but apart from that the competition is low. The Ministry has strict rules for which drugs that can be procure. One condition is that they have to be WHO pre-approved. If not, the producer/importer will have to pay great fines. Examples of medicines that have been identified as especially interesting for Swedish companies are antibiotics and more expensive drugs used against HIV, malaria etc.

Rwandan counterparts are furthermore interested in products such as bed nets, test kits for HIV, syringes, day-after-pills (which are currently very expensive) and assistive devices for persons living with disabilities (walking cranes and hearing aids for example). The GoR is also very positive and open to try new and inventive products. The purchasing power of the people is limited due to the widespread poverty; however contracts are made with the Government who might be able to pay more for high quality products.

8.6 Manufacturing

There is a great lack of medical equipment in Rwanda and there are often stock-outs of medical products such as antibiotics, bed nets and test kits for HIV. Manufacturing of drugs and other medical consumables is currently limited to the production of water fusion drops. There is a challenge when it comes to qualified staff, but the EAC is opening up potential other markets and places for recruiting qualified personnel. Costs of production are relatively high in Rwanda and doing business can be cumbersome as there are many instances for control and regulation. Apart from that, it is easy doing business, the country is safe, corruption levels are very low and there is a genuine interest from both Government as well as other private sector actors for an increased investment.

Rwanda is heavily dependent on aid and importation of products. The average annual import volume is estimated at USD 70 million (RDB). This import dependency is something that the GoR is identifying as genuinely serious and they have made it their priority to establish local factories for production in the future. One way of doing that is to invite private companies to come and start manufacturing in the country. This would not only limit the risks of stock-outs, but also create work

opportunities and generate income revenues to Rwanda. Another thing which has been mentioned by people working with disabilities is for investors to come and start production of assistive devices such as wheelchairs, crutches and hearing aids.

8.7 Diagnostics centers

There is currently only one public laboratory in Rwanda capable of running more complicated tests. A new Indian privately run laboratory has also opened up. However there is still a great need for other diagnostic centers that may reduce the over-work load in Kigali.

It would also be beneficial to the people of Rwanda if more diagnostic centers were created and spread throughout the country. More diagnostic centers with the capacity of running more complicated tests would assist the general health care system, and enable doctors to make the correct diagnosis and thereby provide the correct treatment to patients more quickly.

The diagnostic process has shortened due to the e-health system but there are still issues remaining. More investments are needed in order to complete the system, and make it sustainable.

8.8 Community based medical insurance system

One way to support the health sector is to invest in the insurance scheme which is currently not sustainable. About 90% of the population is covered by health insurances, most paying only a small fee according to the RDB. As the Government subsidizes the prices for medical care and drugs there are problems in bringing in enough money to cover the expenses. Increased investments in medical insurances would thus not only make the system more sustainable, but also help fund research which could be used to develop and improve the system even further.

8.9 Mobile clinics and e-health

There is no system in place for mobile clinics, even though this has been emphasized as much needed in order to reach people living in the remote areas. Using mobile clinics could also help people living with disabilities who would otherwise not be able to seek medical care.

The e-Health system has been an area of priority for the Government for a long time, and there are strong partnerships with organizations such as UNICEF. However, there is still a need to invest in the system to further enhance it and make it sustainable. A mid-term review shows that certain systems are working well, while others are facing difficulties taking off. Thus there is still a need to develop the system, and to harmonize it in order to avoid duplications. Establishing e-health and ICT systems is expensive and Rwandan health workers and the Government are therefore positive towards contributions by investors.

Swedish health companies have been described by the respondents as having comparative advantages in e-health, and the possibility of developing a patient

registry system across the medical reporting system has been pin pointed as particularly interesting.

8.10 Public Private Partnerships (PPPs)

There is also a possibility of entering into partnership with the Government for the joint running of run health services. Many hospitals, both private and public, are positive to and interested in cooperation on the institutional side or by finding ways to enhance levels of care by entering into a PPP structure with a foreign partner. King Faisal hospital is one example where new owners/investors are sought.

The owners of Croix-du-Sud and Polyclinic have also expressed an interest in leasing out their buildings or running part of the health services after a new clinic has been built.

9 Risks and Challenges

There are several challenges that need to be taken into account when considering establishing a company or investing in Rwanda. The biggest challenge relates to bureaucracy; there are many different laws and agencies to ensure that the system is well under control and regulated. This leads to lengthy processes which risks to slow down the business uptake. Different regulators have different rules and it is not always easy to keep oneself updated on the latest rules and regulations as information is not easy to find. Thus it is important to always keep an eye on the websites of the ministries. There are also agencies, like RDB, to help investors navigate the rules and regulations.

Another potentially challenging issue is the fact that Rwanda is a land-locked country, which increases the costs for transportation. The purchasing power of the people is furthermore not very strong due to the widespread poverty.

Ericsson is the biggest, and one of the few, Swedish companies currently established in the country. They consider it easy to do business in Rwanda, and appreciate the clear laws and regulations, the zero tolerance to corruption and the high level of safety in the country.

9.1 Corruption

Rwanda is famous for its zero tolerance for corruption, well-functioning institutions and a performance-based environment. Rwanda uses a system of mutual accountability which is reaching from the lowest to the highest levels and thereby limits the chances of misuse or embezzlement of funds are modest.

In a global comparison Rwanda is ranked 49 out of 177 countries surveyed by Transparency International in 2013. Even though corruption still exists to a certain extent in the lower levels of administration and further away from the capital, even informal sector firms are less affected than their regional neighbors. Importantly, small formal firms reported lower levels of corruption than the larger firms, which also suggests that corruption is not widely spread and not an impediment for doing business in Rwanda (Transparency International).

9.2 Political risks

President Kagame and his entire Government is highly positive to private sector development and the usage of PPPs. Important reforms have been conducted in order to create a good business environment that will attract more foreign investors, and Rwanda has by the WB been rated as one of the best countries to do business in worldwide. The country has a fragmented and violent past, but a lot has happened in

the last 20 years and the Government has fought hard to rebuild a strong, cohesive country. Democratic elections have been held, many of the old laws and policies are being revised and the country is opening up to the establishment of new political parties and the media.

Despite this, there are still deep scars not only in the country but the region. The main political threat is the sensitive relations with DRC. After the genocide many people escaped to the Eastern province of DRC, and numerous members of Interhamwe were part of various rebel groups. This led Rwanda to send its army into eastern Congo in 1996 to chase them down and bring them to justice. Violence broke out again in 2012 where the rebel group M23 overtook Goma, but the struggle ended after regional negotiations and the backing-up of a U.N. peacekeeping brigade. The relationship between the two neighboring countries is currently good.

It is also difficult to predict what will happen before/during and after the presidential election in 2017. Rwandan presidents are limited to two seven-year terms, meaning that this is President Kagame's last term.

It is also important to mention is that the Government is very committed and engaged in the health sector, and it is important to establish good collaboration and relationship with them.

9.3 Economic risks

A large part of the Rwandan population is very poor and the only possibility for them to afford medical services and medication is if they are covered by Mutuelle. It is thus difficult to make money when having a private company as people covered by Mutuelle cannot access private health care. While part of the population can afford to pay higher prices for better health care services, most cannot. The growing middle class is however requesting and willing to pay for more quality services.

The fact that Rwanda is land locked causes transportation costs to be high. The various projects when it comes to railways and ports, customs regulations etc. are expected to contribute to the reduction of these costs.

The monitoring and regulating institutions in the country, set up to fight corruption, also make it difficult to proceed quickly, which makes production less cost effective. However, while the implementation process is a bit more time consuming than many other African countries it is instead very corruption free and efficient.

In total, the environment is conducive to investments, the Rwandans are early adopters of innovations and the society is well organized. The risks are in many ways less severe than in other countries in the region, and Rwanda can be seen as a suitable country for innovative investments.

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Interviewees

Aimable Musafili. Pediatrician. CHUK

Alon Mutabazi. Production specialist. Cirk Medtech Ltd. Prepex

Calliope Simba Akintije. Hospital director. Ministry of Health Cyangugu Diocese Mibilize Hospital

Cassien Havugimana. Program Director. Health Development Initiative

Christine Akuzwe. Division Manager. Economic Support Services. Service Development Department. RDB

Daniel Handel. Economist. USAID

Edouard Niyonshuti. Director of Business Development Unit. Rwanda Biomedical Center

Elina Scheja. First Secretary / Sr Programme Manager, Growth and economic development. Embassy of Sweden

Emile Rwamasirabo. CEO. King Faisal Hospital, Kigali, President of the Rwanda Medical Council

Faustin Renzaho. Project Manager. National Union of Disabilities Organizations of Rwanda (NUDOR)

Gerard Ngendahimana. Secretary General and CEO. Rwanda Healthcare Federation

Guillaume De Brier. Program Officer. UNAIDS

Innocent Bajji. Division Manager. After Care and Monitoring. Investment Promotion and Implementation. RDB

Jean Damascène Nsengiyumva. Executive Secretary. National Union of Disabilities Organizations of Rwanda (NUDOR)

Jean de Dieu Gatete. Local expert on research and M&E. Officer for Gender, Health and Rights. Health Development Initiative, GIZ

Jean-Pierre Nyemazi. Rwanda Biomedical Center

Joseph Ntaganira. Associate Professor. Department of Epidemiology and Biostatistics School of Public Health

Judy Chang Health Service Delivery Team Leader. USAID

Justus Kamwesigye. Strategic Information Adviser. UNAIDS

Kathleen McGee. Project officer, currently in charge of the PSI activities in Rwanda. PSI

Kåre Johard. Private Sector Development and Youth Employment Sector Coordinator. Min. of Trade and Industry

Patrik Silborn. Senior Fund Portfolio Manager. The Global Fund

Paul Raine. Senior Account Manager. Ericsson

Pierre Celestin Kanimba. Owner. Polyclinic

Pernilla S. Rafiqui. First Secretary/Sr Programme Manager, Research and Higher Education. Embassy of Sweden

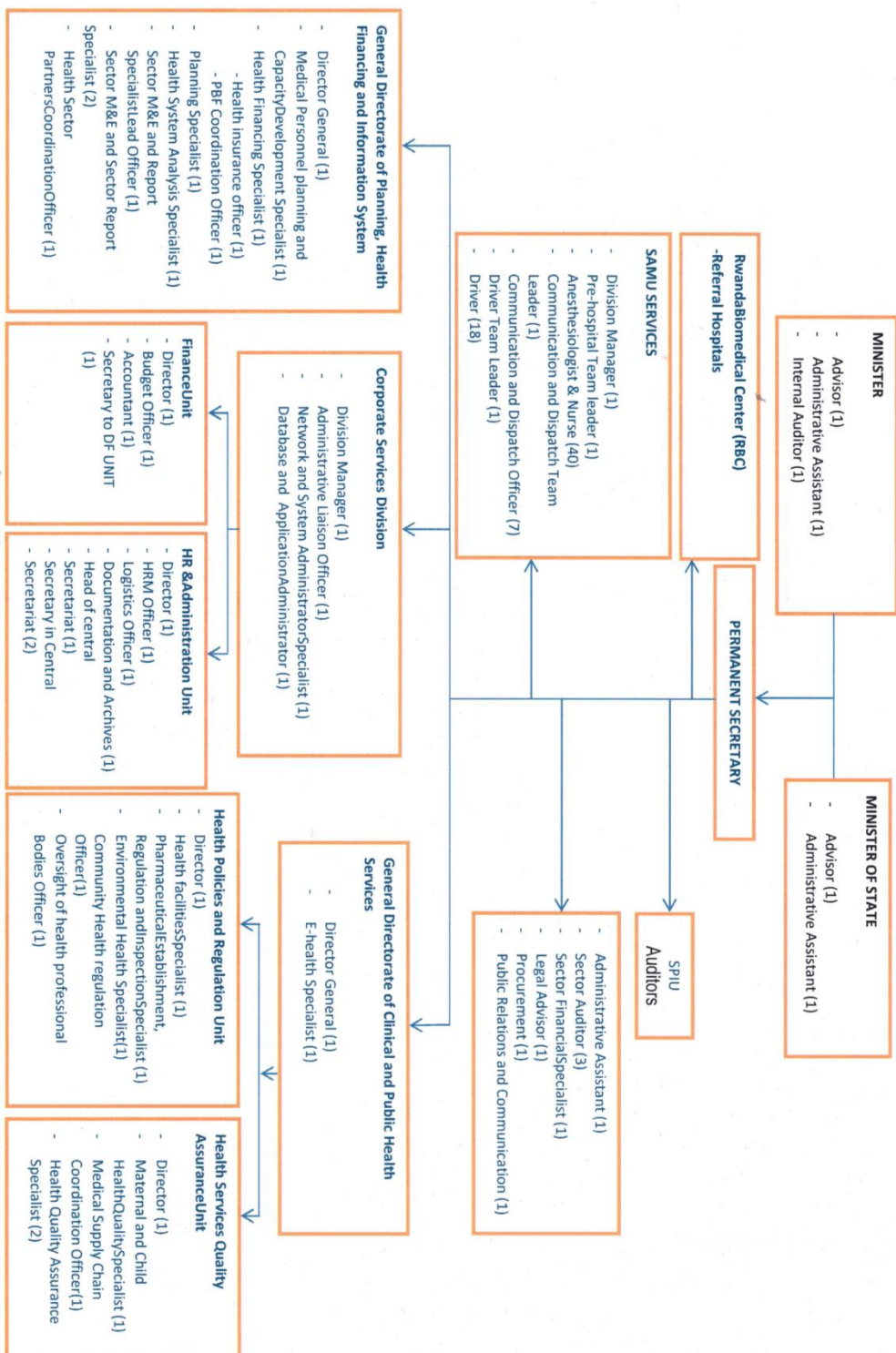
Rose Kamanzi. Tax Auditor. Rwanda Revenue authority

Sushant Mukherjee. Country program Manager. Elizabeth Glaser Pediatric AIDS Foundation

Valens Ntezirembo. Administrative officer. Rwanda Healthcare Federation

William Babigumira. SPIU Director. Private Sector Federation

38. ADOPTED STRUCTURE OF MINISANTE 2014



Appendix 2 – Doing Business

An extensive list of all reforms done with regard to private sector development during the last few years, as found in the World Bank’s Doing Business index

Doing Business 2014:

Starting a Business:

Rwanda made starting a business easier by reducing the time required to obtain a registration certificate.

Dealing with Construction Permits:

Rwanda made dealing with construction permits easier and less costly by reducing the building permit fees, implementing an electronic platform for building permit applications and streamlining procedures.

Registering Property:

Rwanda made transferring property easier by eliminating the requirement to obtain a tax clearance certificate and by implementing the web-based Land Administration Information System for processing land transactions.

Getting Credit:

Rwanda strengthened its secured transactions system by providing more flexibility on the types of debts and obligations that can be secured through a collateral agreement.

Protecting Investors:

Rwanda strengthened investor protections through a new law allowing plaintiffs to cross-examine defendants and witnesses with prior approval of the questions by the court.

Paying Taxes:

Rwanda made paying taxes easier and less costly for companies by fully rolling out its electronic filing system to the majority of businesses and by reducing the property tax rate and business trading license fee.

Trading Across Borders:

Rwanda made trading across borders easier by introducing an electronic single-window system at the border.

Resolving Insolvency:

Rwanda made resolving insolvency easier through a new law clarifying the standards for beginning insolvency proceedings; preventing the separation of the debtor’s assets during reorganization proceedings; setting clear time limits for the submission of a reorganization plan; and implementing an automatic stay of creditors’ enforcement actions.

Doing Business 2013:

Enforcing Contracts:

Rwanda made enforcing contracts easier by implementing an electronic filing system for initial complaints.

Getting Electricity:

Rwanda made getting electricity easier by reducing the cost of obtaining a new connection.

Doing Business 2012:

Starting a Business:

Rwanda made starting a business easier by reducing the business registration fees.

Registering Property:

Rwanda made transferring property more expensive by enforcing the checking of the capital gains tax.

Getting Credit:

In Rwanda the private credit bureau started to collect and distribute information from utility companies and also started to distribute more than 2 years of historical information, improving the credit information system.

Paying Taxes:

Rwanda reduced the frequency of value added tax filings by companies from monthly to quarterly.

Doing Business 2011:

Dealing with Construction Permits:

Rwanda made dealing with construction permits easier by passing new building regulations at the end of April 2010 and implementing new time limits for the issuance of various permits.

Getting Credit:

Rwanda enhanced access to credit by allowing borrowers the right to inspect their own credit report and mandating that loans of all sizes be reported to the central bank's public credit registry.

Trading Across Borders:

Rwanda reduced the number of trade documents required and enhanced its joint border management procedures with Uganda and other neighbors, leading to an improvement in the trade logistics environment.

Doing Business 2010:

Starting a Business:

Rwanda simplified the start-up process by eliminating the notarization requirement, introduction of standardized memoranda of association, making publication on-line, consolidation of name-checking, registration fee payment, tax registration and company registration procedures, and reducing the time required to process completed applications.

Employing Workers:

Rwanda increased the maximum duration of fixed-term contracts and eliminated the obligation to notify and seek the approval of a third party in cases of redundancy dismissals.

Registering Property:

Rwanda continued to ease the registration of property by decreasing the number of days required to transfer a property.

Getting Credit:

Rwanda made it easier to get credit with a new Secured Transactions Act and a new Insolvency Act to make secured lending more flexible, allowing a wider range of assets to be used as collateral and a general description of debts and obligations. Furthermore, out of court enforcement of collateral is now available to secured creditors who also now have absolute priority within bankruptcy. A new collateral registry has been created.

Protecting Investors:

Rwanda adopted a new company law that strengthened investor protections by requiring greater corporate disclosure, director liability and shareholder access to information.

Trading Across Borders:

Rwanda has improved trading times with administrative changes such as increased operating hours and enhanced cooperation at the border along with the removal of some documentation requirements for importers and exporters.

Resolving Insolvency:

Rwanda improved the process of dealing with distressed companies with a new law that aims at streamlining reorganization procedures.

Doing Business 2009:

Dealing with Construction Permits:

Rwanda streamlined project clearances for the second year in a row by combining the processes for obtaining a location clearance and building permit in a single application form. Rwanda also introduced a single application form for water, sewerage and electricity connections

Registering Property:

Rwanda abolished the 6% registration fee and replaced it with a flat rate of RWF 20,000 (about \$34), regardless of the property value. Rwanda also created a new centralized service in the tax authority to speed up the process of issuing the certificate of good standing. As a result, the cost to transfer a property was reduced by 8.81% and the number of days by 56, from 371 days to 315.

Trading Across Borders:

Due to extended opening hours, implementation or improvement of EDI, risk-based inspections, transportation sector led to a decrease in export and import time.

Enforcing Contracts:

Commercial courts began operating in three locations, in Kigali, and Rwanda's Northern and Southern province.

Doing Business 2008:

Dealing with Construction Permits:

Rwanda made obtaining construction permits easier by decentralizing the permit system which reduced the total time of getting a building permit and an occupancy permit. Meanwhile, the total time to obtain electricity connection was decreased. The Government also set up the requirement for waste management facilities and proper sewerage.

Trading Across Borders:

Rwanda has eased trading across borders by expediting the acceptance of customs declarations and by liberalizing the warehouse services market.

This activity forms part of the Swecare pilot-project co-financed by Sida under their Business for Development (B4D) instrument

The report is available electronically on www.swecare.com under Activities – Project – Pilot project within Sida (B4D)



SWECARE FOUNDATION

Phone: +46 8 406 75 50 info@swecare.se www.swecare.com

Visiting address: Swedish Trade Council, World Trade Center, Klarabergsviadukten 70, Stockholm

Postal address: Box 240, SE-101 24 Stockholm, Sweden