Health Sector Strategic Plan

July 2009 – June 2012

Government of Rwanda

Ministry of Health

July 2009

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Acronyms

AIDS	Acquired Immune Deficiency Syndrome
ANC	AnteNatal Care
ART	AntiRetroviral Treatment
BCC	Behaviour Change Communication
BTC	Belgian Technical Cooperation (CTB)
BUFMAR	Bureau des Formations Médicales Agrées du Rwanda
CAAC	PBF Unit in the MoH
CAMERWA	Central d'Achat des Medicaments Essentiels de Rwanda
CBD	Community-Based Distribution
CDC	Centers for Disease Control (Atlanta USA)
CF	Clinton Foundation
CHUB	Teaching Hospital University Butare
CHUK	Teaching Hospital University Kigali
CHW	Community Health Worker
CNLS	National AIDS Commission
CNPV	Centre National de PharmacoVigilance
CNTS	National Blood Transfusion Centre
CPA	Comprehensive Package of Activities
CPAF	Common Performance Assessment Framework
CPR	Contraceptive Prevalence Rate
CSO	Civil Society Organisation
CWIQ	Core Welfare Indicators Questionnaire
DDP	District Development Plan
DFID	Department for International Development (UK)
DH	District Hospital
DOTS	Directly Observed Treatment Short course (for TB)
DP	Development Partner (in Rwanda this refers only to the donors)
DTP	Diphtheria, Tetanus, Pertussis (vaccination)
EDPRS	Economic Development and Poverty Reduction Strategy
EICV	Household Living Conditions Survey
EmONC	Emergency Obstetric and neo-natal care
EML	Essential Medicine List
EPI	Essential Programme on Immunisation
EPI	Essential Programme on Immunisation
EU	European Union
FBO	Faith-Based Organisation
FELTP	Field Epidemiology and Laboratory Training Program
FP	Family Planning
FY	Fiscal Year
FY	Fiscal Year
GAVI	Global Alliance for Vaccines and Immunisation
GBS	General Budget Support
GC	German Cooperation
GDP	Gross Domestic Product
GF(ATM)	Global Fund for AIDS, TB and Malaria
GIS	Geographic Information System
GoR	Government of Rwanda
GTZ	German Technical Cooperation

HC	Health Centre
HCC	Health Communication Centre
HDI	Human Development Index
HF	Health Facility
HH	HouseHold
HIV	Human Immunodeficiency Virus
HMIS	Health Management Information System
HMN	Health Metrics Network
HP	Health Post
HRH	Human Resources for Health
HSCG	Health Sector Cluster Group
HSSP	Health Sector Strategic Plan
HW	Health Worker
ICT	Information and Communication Technology
I-DHS	Mini Demographic and Health Survey
IEC	Information, Education and Communication
IHR	International Health Regulations
IMCI	Integrated Management of Child Illness
IMNCI	Integrated Management of Neonatal and Child Illness
IRS	Indoor Residual Spraying
ITN	Insecticide-Treated Net
JADF	Joint Action Development Forum
JAWP	Joint Annual Work Plan
KAP	Knowledge Attitude Practice (survey)
KHI	Kigali Health Institute
LLIN	Long-Lasting Insecticide-treated Nets
LMIS	Logistical Management Information System
M&E	Monitoring and Evaluation
MCH	Maternal and Child Health
MDG	Millennium Development Goal
MDG	Millennium Development Goal
MDR-TB	Multi-Drug Resistant Tuberculosis
MICS	Multi-Indicator Cluster Survey
MoE	Ministry of Education
MoF	Ministry of Finance and Economic Planning/Minecofin
MoH	Ministry of Health/Minisanté
MoU	Memorandum of Understanding
MOV	Means of Verification
MPA	Minimum Package of Activities
MSH	Management Sciences for Health
MTEF	Medium Term Expenditure Framework
MTR	Mid Term Review
MTR	Mid Term Review
NCD	Non-Communicable Diseases
NF	National Formulary
NGO	Non-Governmental Organisation
NHA	National Health Accounts
NISR	National Institute for Statistics Rwanda
NRL	National Reference Laboratory (LNR)
NTD	Neglected Tropical Diseases

NUR	National University of Rwanda
OC	Oral Contraceptives
OOP	Out-Of-Pocket (expenses)
OVI	Objectively Verifiable Indicator
PBF	Performance-Based Financing
PEPFAR	The President's Program for AIDS Relief
PER	Public Expenditure Review
PETS	Public Expenditure Tracking Survey
PHAST	Participatory Hygiene And Sanitation Transformation
PHC	Primary Health Care
PIS	Pharmacy Information System
PLWHA	People Living With HIV/AIDS
PMTCT	Prevention of Mother To Child Transmission (of HIV)
PRSP	Poverty Reduction Strategy Paper
PTF	Pharmaceutical Task Force (in MoH)
QA	Quality Assurance
QC	Quality Control
RDHS	Rwanda Demographic and Health Survey
RDT	Rapid Diagnostic Test
RH	Reproductive Health
RwF	Rwandan Franc
SBS	Sector Budget Support
SDC	Swiss Development Cooperation
SMART	Specific, Measurable, Achievable, Relevant, Timely
SPA	Service Provision Assessment
SPH	School of Public Health
STG	Standard Treatment Guidelines
STI	Sexually Transmitted Infection
SWAp	Sector Wide Approach
TA	Technical Assistance
TB	Tuberculosis
TF	Task Force
ToR	Terms of Reference
ToT	Training of Trainers
TRAC	Treatment and Research Aids Centre
TRAC+	AIDS, malaria and TB programme
TWG	Technical Working Group
UFGRI	Personnel Department in MoH
UN	United Nations
UNFPA	United Nations Population Fund
UPDC	Unit for Policy, Planning, and Capacity Building MoH
USAID	United States Agency for International Development
USD	US Dollar
USG	United States Government
VCT	Voluntary Counselling and Testing (for HIV)
WB	World Bank
WHO	World Health Organisation

Foreword (Minister of Health)

To be added

1. Introduction

Following the adoption of the Health Sector Policy in 2004, the Ministry of Health (MoH) developed its first Health Sector Strategic Plan 2005-2009 (HSSP-I), operationalising the Government of Rwanda (GoR) Poverty Reduction Strategy Paper of 2002. By the end of 2007 it was apparent that the HSSP-I needed updating because important new programmes had been initiated since the plan was adopted, most activities had been implemented, and many 2009 targets had already been reached or would be reached in 2008. In September 2007, the GoR finalised the Economic Development and Poverty Reduction Strategy (EDPRS) 2008-2012. In order to align the Health Sector Strategic Plan to the EDPRS, the MoH decided that the HSSP-I would be internally and externally evaluated in 2008, and the second Health Sector Strategic Plan (HSSP-II) would subsequently be developed one year earlier than originally envisioned.

The HSSP-II operationalises the EDPRS and Health Sector Policy and will guide the entire sector in the medium term. It provides a framework to inform health sector reforms and interventions in support of the GoR mission to continually improve the health of the population and thereby help to reduce poverty. The HSSP-II will be implemented through the Medium Term Expenditure Framework (MTEF), which is linked to the national budget. The goal and objectives of the HSSP-II have been aligned to the MTEF to ensure consistency in sector planning, budgeting and monitoring for 2009-2012.

All major stakeholders in the health sector were involved in the development of HSSP-II in order to produce a comprehensive, high-quality plan and to create ownership amongst those responsible for its implementation and evaluation. The main components of HSSP-II were identified and the strategic objectives and major outputs were formulated and agreed upon by the MoH and its stakeholders. The endorsement of the HSSP-II was formally agreed by all stakeholders at the Joint Health Sector Review 2009.

1.1. Vision of the health sector

The MoH vision of the Rwandan health sector is to "continually [improve] the health of the people of Rwanda, through coordinated interventions by all stakeholders at all levels, thereby enhancing the general well-being of the population and contributing to the reduction of poverty."

1.2. General objective and purposes of the HSSP-II

The HSSP-II will stimulate and guide appropriate and necessary reforms in order to contribute to the attainment of the health sector vision. The general objective and purposes of the plan are therefore:

General objective:

Tooperationalise the EDPRS in the health sector to help attain national priorities and international targets, including the Millennium Development Goals (MDGs), which Rwanda is committed to achieving

Purposes:

- To provide a logical framework of prioritised objectives, outputs and activities for the sector;

- To plan for the sector as a whole, based on previous achievements and needs still to be met, as well as on the available resource envelope;
- To ensure all stakeholders have a common vision for the sector's development;
- To clarify the roles of stakeholders and promote coordination so that partners can combine resources (human, financial, logistical, etc.) to reduce duplication and promote synergies;

1.3. Content of the HSSP-II

This plan consists of six chapters. Chapter two provides an institutional overview of the health sector before describing the wider national and international policy contexts. It also elaborates the achievements attained thus far, describes the status quo and the constraints and challenges that hamper further improvement. Chapter three contains the strategic framework: mission and strategic objectives; programmes and outputs; and its contribution to the EDPRS Flagship programmes. In chapters four and five, the implementation framework and the monitoring and evaluation framework are elaborated. Chapter six lists the costs of implementation and proposes how the HSSP-II will be financed.

2. Situational analysis of the sector

2.1. Political, demographic and socioeconomic situation

Rwanda is a landlocked country with an estimated population of 9.2 million[1] living within an area of 26,338 km^2 , or 350 persons per km^2. It is the most densely populated country in Africa. The population growth rate is currently 2.6% and it is estimated that Rwanda will attain a population of 16 million by 2020 if the population growth rate remains unchanged.[2] The EDPRS further reveals that this current growth rate may slow economic growth and efforts to reduce poverty.

It is estimated that 57.5% of the population is below 20 years of age and 45.9% is below 15 years. Of young people under 18 years, 28.6 are considered vulnerable (DHS 2005) while 23% % are raised in female headed households (DHS 2005)[3]. Females account for 52.3% of the population with an average life expectancy of 53.3 compared to 49.4 for males. The overall life expectancy is 51.4 years[4].

Rwanda has achieved sustained nominal and real GDP growth over the last 7 years. Nominal GDP grew from RWF 781 billion in 2002 to approximately RWF 2437.2 billion in 2008, while real GDP increased from RWF 1200.4 billion to RWF 1221 billion over the same period[5]. Total tax revenue was 15% of nominal GDP, of which 36% was collected from VAT; VAT is fixed at 18%, making Rwanda's taxation regressive.

Per capita GDP grew from USD 235 to USD 291.3 between 2002 to 2008. This level of per capita GDP (<USD 500) places Rwanda in the poorest category in Sub-Saharan Africa (SSA). This is also reflected in Rwanda's human development index (HDI), which at 0.452 places the country in the poorest category in SSA. Poverty is widespread, affecting 57% of the population, while 37% live in abject poverty[6], showing that the benefits of economic growth are not equitably distributed among the population. This is further demonstrated by Rwanda's 2007 estimated Gini-coefficient of inequality 0.468, placing it 91 out of 124 ranked countries in terms of inequality (World Bank Development Indicators)[7].

In 2006, 80% of the Rwandan population were reliant on agriculture for family income.[8] In 2008 agriculture contributed an estimated 31% to the Rwandan economy, while services (wholesale and resale trade in various products, transportation, and public administration) contributed 47.7%, and industry contributed 15.6% (of which 37.5% is attributed to manufacturing and 55.6% to construction) (MINECOFIN, 2008).

The Rwandan government is committed to sound financial management and transparency in all sectors. There is an emphasis on expanding sustainable and diverse sources of financing including investment, taxation, services, and remittances from Rwandans living abroad.

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[1] NISR 2002. Rwanda General Population and Housing Census (RGPH)
[2] The population is estimated to be 9.3 million end 2007 (based on projections of Census 2002).
[3] NISR/DHS 2002, 2005, 2007. Tome "Perspectives et Prospectives demographiques", medium hypothesis
[4] Population Projections, Gisenyi Meeting, hosted by NISR, February 2009.
[5] MINECOFIN GDP estimates, February 2008
[6] NISR; EICV2, 2005-2006
[7] UNDP estimates 2007
[8] EICV2 2005-2006

2.2. Institutional overview of the health sector

The health sector is led by the MoH (an organisational chart is attached in annex 7.1). The MoH supports, coordinates and regulates all interventions whose primary objective is to improve the health of the population. The mission statement of the MoH is:

"to provide leadership of the health sector to ensure universal access to affordable promotive, preventive, curative and rehabilitative health services of the highest attainable quality."

Although the MoH has overall stewardship of health issues, 15 other government ministries implement activities that either directly or indirectly impact the health of the people. The health sector is also supported by development partners, faith-based organisations (FBOs), and non-governmental organisations (NGOs). A full list of all ministries and stakeholders involved in the health sector is provided in annex 7.2.

Services are provided at different levels of the health care system (community health, health posts, health centres, district hospitals and referral hospitals) and by different types of providers (public, confessional, private-for-profit and NGO). The health sector is composed of administrative structures and implementers agencies at all levels. For separation of functions, implementer agencies are autonomous or semi-autonomous.

At the District level, agencies are District hospitals, pharmacies, community health insurance and HIV/AIDS committees. These agencies are under the supervision of the Executive Secretary of the District as head of all technical departments. The Districts also have an administrative unit in charge of health and child rights in matters of public health and administration services (Planning, Hygiene inspection, supervision of management of agencies and intersectorial collaboration). The unit reports to the Executive Secretary for matters related to autonomous agencies who take decision or request executive body or council of District if applicable. The agencies are governed by boards of Directors.

At sector level, technical agency are health sector and community health insurance branch. These agencies are under supervision techically by in charge of social services in sector administrative and Director of Health and child rights of District and for clinical services by the District hospital.

At village level, there are community health workers who are supervised administratevely by those in charge of social services and technically by health centre. A full list of the functions of each level of the health sector are given in annex 7.3.

2.3. Policy context

Direction for the HSSP II is provided through the key International and National policies and goals which are detailed in the following sections.

2.3.1 International Policies and goals

The most influential International commitments providing direction to the HSSP-II are the MDGs, the African Health Strategy 2007-2015, the Paris Declaration, Accra Accord and Abuja Declaration.

Millennium Development Goals
The GoR has committed itself to achieving the MDGs by 2015. Four MDGs are related to health:

- Goal 1: Eradicate extreme poverty and hunger (malnutrition)
- Goal 4: Reduce child mortality
- Goal 5: Improve maternal health
- Goal 6: Combat AIDS, malaria and other diseases

The HSSP-II includes many strategies and interventions that are oriented towards speeding up the achievement of health-related MDGs. While great strides have been made to meet these goals, Goal 5, to improve maternal mortality, is proving the most difficult to achieve. This plan outlines the additional interventions required to accelerate progress towards realising this MDG.

Africa Health Strategy 2007 - 2015
The HSSP-II is also guided by the Africa Health Strategy 2007-2015, which provides strategic direction to Africa's efforts in creating better health for all along with an overarching framework to enable coherence within and between countries, civil society and the international community. The Strategy emphasises the need to strengthen health systems, provide the poor with services and thereby contribute to equity. It focuses on the health of women and children, where great challenges remain. It suggests that apart from the necessary attention for AIDS, malaria and TB, the substantial disease burden posed by other communicable and non-communicable diseases should not be overlooked. It also encourages sector-wide approaches to guarantee alignment of donor funding with nationally determined plans and priorities.

Abuja Declaration, Accra Accord and the Paris Declaration
Rwanda has signed up to the Abuja Declaration committing 15% of disposable GDP to its health sector. Furthermore, donor commitment to the Paris Declaration for aid harmonisation (2005) and Accra Accord for aid effectiveness (2008) has resulted in improved donor co-ordination.

2.3.2 National Policies

Vision 2020
Developed in 2000, Vision 2020 elaborates a national long-term vision in terms of goals and objectives to be achieved by the year 2020. By that year Rwanda should: be a middle-income country; have halved the percentage of people living in poverty; raised life expectancy to 55 years; and have reduced its aid dependency. It expects to reach these goals by means of seven strategies/pillars, which include decreasing population growth, increasing access to education and improving the health of the people. This document serves as the basis for the elaboration of national and sector plans in the medium term.

Vision 2020 acknowledges the importance of education and health in ensuring an efficient and productive workforce. It also identifies demographic pressure as a major cause of the depletion of natural resources and subsequently, poverty and hunger. To reverse this trend and improve the health status of the population, health policies should target the poorest and seek to improve access, quality, and cost of health care.

EDPRS 2008-2012
The EDPRS provides a medium-term framework for achieving the goals set out in Vision 2020 and provides the national priorities within which the sector strategic plans should be developed. It describes the status quo, targets for 2012, and what Rwanda is going to do to meet these targets. It contains three Flagship Programmes:

1. Sustainable growth for jobs and exports
2. Vision 2020 *Umurenge* – poverty reduction in rural areas

3. Governance

For health, the EDPRS aims to maximise preventive health measures and build the capacity for 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 to control communicable diseases.

On the basis of the EDPRS a Common Performance Assessment Framework (CPAF) was made to monitor progress in the context of general budget support.

Good Governance and Decentralisation Policy
The decentralisation process was launched in 2000, and entered its second phase in 2005, with an administrative reorganisation aimed at reducing the number of provinces from 15 to four (in addition to Kigali) and reducing the number of districts from 106 to 30. Below the district level there are 416 sectors (*imirenge*), 2,150 cells (*akagari*) and almost 15,000 villages (*imidugudu*). The policy states that the minimum requirements are: at least one hospital for each district; at least one health centre (HC) per sector; and at least one health post (HP) for each cell. Additionally, a network of male and female community health workers is proposed below sector level.

The Rwanda Decentralization Strategic Framework (RDSF) has been developed to guide the implementation of the Government of Rwanda's policy of decentralization as set out in the 2000 Policy Paper. The RDSF serves as the overall framework of reference for current and future interventions towards decentralization in Rwanda. It goes beyond sectoral policy in that decentralization is a transversal process that imposes itself as the principal focus of governance reform, the designated motor for the coherency of governance and, finally, as an important vehicle for collaboration between the Government and its national and international development partners. This strategy is additionally meant to secure Vision 2020, the Millennium Development Goals and the Economic Development and Poverty Reduction Strategy in Rwanda as it is reinforcing the link between good governance and the attainment of broad reaching development objectives.

Health Policy 2004
In 2004 the MoH revised its health policy, based on Vision 2020, the PRSP (2002) and the Good Governance and Decentralisation policy. The Policy's seven objectives that guide interventions in the health sector are:

1. to improve the availability of human resources;
2. to improve the availability of quality drugs, vaccines and consumables;
3. to expand geographical accessibility to health services;
4. to improve the financial accessibility to health services;
5. to improve the quality and demand for services in the control of disease;
6. to strengthen national referral hospitals and research and treatment;
7. to reinforce institutional capacity.

2.4. Health sector performance review.

The internal and external evaluations of the HSSP-I revealed that many targets and goals in the prior plan have already been achieved. Table 2.1 below details the progress made on key sector indicator during the lifetime of HSSP-I (2005-2009).

Table 2.1: progress made on key sector indicators

INDICATOR	BASELINE (2005)	HSSP-I target	EVALUATION JUNE 2008	EDPRS revised target for 2012 (2008)
Population (millions)	8.6	NA	9.31	NA
Infant mortality rate / 1000	86 (DHS, 2005)	61	62 (IDHS, 2008)	70
Under five mortality rate / 1000	152 (DHS, 2005)	110	103 (IDHS, 2008)	NS
Maternal mortality rate / 100000	750 (DHS, 2005)	600	NA	600
Prevalence of underweight (Wt/age)	24.3 (DHS, 2005)	18	NA	NA
Prevalence of stunting (Ht/age)	45 (DHS, 2005)	35	NA	27
Prevalence of wasting (Ht/Wt)	4 (DHS, 2005)	3	NA	NA
Total fertility rate (%)	6.1 (DHS, 2005)	NA	5.5 (IDHS, 2008)	4.5
Modern contraceptive prevalence rate (%)	10 (DHS, 2005)	20	27 (IDHS, 2008)	70
Outcome indicators				
% births attended by skilled health workers	31 (DHS, 2005)	60	52 (IDHS, 2008)	>60
% PW receiving one ANC visit	94 (DHS, 2005)		95 (IDHS, 2008)	NA
% PW receiving 4 ANC visits	43.5	65		NA
% youth (15-24 yr) reporting condom use in most recent premarital sex	0.3 (DHS, 2005)	10	NA	NA
% < 1 yr having received DPT3	86 (DHS, 2005)	90	95 (IDHS, 2008)	95

2.4.1 Progress made towards meeting the MDGs

As can be seen in table 2.1, Rwanda has made good progress towards meeting the child mortality MDG. The IDHS (2008), demonstrates that the infant mortality rate is down from 86 in 2004 to 62 per 1000 live births, while the under five mortality rate declined from 152 to 103 per 1000 over the same period. If the rate of this downward trend continues, Rwanda will meet the child mortality MDG by 2015. These impressive achievements are due to an increase in essential interventions: the full Integrated Management of Neonatal and Child illness (IMNCI) package became available in 71% of health centres. Immunisation coverage has increased to 80% for all antigens, but stayed 5% short of the target of 85%, while more than 89.8% (IDHS, 2008) of children have received the DTP3 vaccine. However, challenges remain with reducing malnutrition as a large percentage of Rwandan children are still malnourished: 7% of children under five are wasted, 24% are underweight and 43% are stunted.

The progress made towards achieving the maternal mortality MDG has been less impressive than for child mortality. The 2000 DHS showed that the average MMR during the 5 years before 2000 was 1071 per 100,000 live births. Although this had declined to 750 per 100,000[9] live births in 2005[10], this is still high and far from the Vision 2020 target of 200 per 100,000 live births. Nonetheless, some progress has been made in this area: the rate of deliveries assisted by skilled staff has increased from 39% to 52%, deliveries in health facilities have risen from 24% to 45.2% (IDHS, 2008), average referrals for obstetric emergencies has increased from 2 to 5 per month and the number of women who came for at least one ANC visit increased from 84% in 2005 to 95% in 2007. The percentage of women between 15 and 49 year using modern contraceptive methods impressively increased from 10

[9] 2005 DHS
[10] This is the latest available data on MMR.

to 27%. Total fertility rate decreased from 6.1 to 5.5[11] between 2005 and 2007, but is still far from the target of 50% (CPAF) or 70% (MoH/EDPRS).

Significant achievements have been made in relation to MDG 6 - Combating AIDS, malaria and other infectious diseases. The HIV prevalence rate was 2.8% in 2008[12], 81% of all health facilities offer voluntary counselling and testing for HIV, an estimated 85% of adults and 81% of children with advanced stage AIDS are on antiretroviral treatment and 74% of pregnant women receive antiretroviral (ART) prophylaxis to prevent mother-to-child transmission (PMTCT). 6.9% of children born to HIV infected mothers are HIV infected. The ART services are now operational in 217 health facilities, representing 47% of all health sites in the country (217/464). The proportion of adults and children accessing ARTs have reached 85% of those in need according to the upper scenario of spectrum estimates (63,755/57,007 – numerator form TRACnet & denominator from spectrum estimates, upper scenario).

The IDHS (2008) showed a malaria prevalence rate of 1.1% among women of reproductive age and 2.1% among children between 6 months and 5 years. In 2008, 77% of patients with uncomplicated malaria received correct treatment and 62% of children with a fever receive treatment within 24 hrs. For TB, the notification rate was 89 per 100,000 for all cases and 46 for new sputum smear-positive cases in 2007. 89% of registered TB patients were tested for HIV, and 37.5% were HIV infected. 61.4% of TB patients with HIV were on Cotrimoxazole preventive therapy. Community-based Directly Observed Treatment Short course (DOTS) was implemented in 15 out of 30 districts and TB treatment success rate with DOTS was 86%.

2.4.2 Human resources for health

A priority area of the HSSP-I was Human Resources for Health because, in 2005, only 30% of health facilities met the minimum prevailing staffing norms. Since this time there has been a substantial increase in numbers and in quality and deployment of staff at health centres and district hospitals. There is now 1 doctor for 20,500 people and 1 nurse for 1,700 people, easily surpassing the HSSP-I targets of 1/37000 and 1/3900. The number of community health workers (CHW) has been scaled up from 12,000 to 45,000 and their tasks have been expanded. A number of reforms and initiatives have taken place since 2005, including the decentralization of the management of HRH to the introduction of performance-based incentives, bonding contracts for young medical professionals and upgrading A2 nurses to A1. However, the lack of midwives in the country, in particular in rural areas, remains a problem as do shortages in the number of medical specialists in hospitals, nutrition professionals, staff for disabled care, environmental health and health promotion, maintenance staff for medical equipment, staff to manage the CBHI at all levels and staff at the central level to ensure effective support for services in the field.

2.4.3 Geographical Access

Since 2005, geographical access to health facilities has been improved after the construction and rehabilitation of 3 new district hospitals and 14 new health centres. Transport capacity has increased as 71 ambulances (2.5 per district[13]) and 570 motorcycles have been distributed to health facilities. Nevertheless, unmet need remains considerable. The MoH norm is that the population should have access to a health facility within one hour (walking). However, the District Health System Strengthening study (2008) demonstrated that approximately 40% of patients still have to travel > 1 hour or > 5 km to reach the closest health facility.

[11] IDHS 2008
[12] Spectrum Estimates, Trac Plus
[13] District Health System Strengthening Report, 2008.

2.4.4 Burden of disease

In 2008 there were over five million new outpatient consultations in Rwanda. Figure 2.1[14] shows that the principal causes of outpatient visits were pulmonary infections, malaria[15] and diseases related to poor hygiene, which can largely be prevented through improved hygiene and behaviour change.

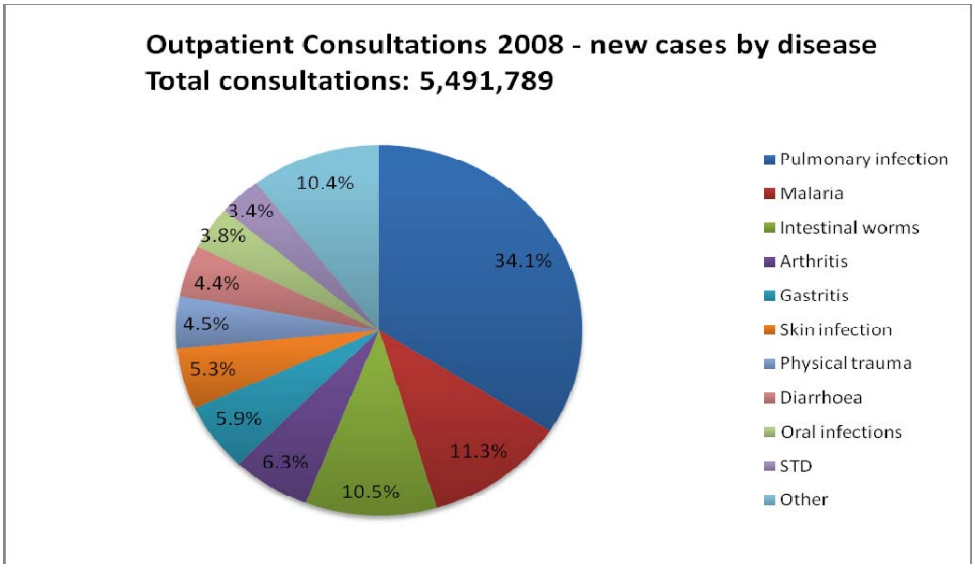

Figure 2.1

Figures 2.2 and 2.3 show the leading causes of mortality in Rwanda for the general population and for the most vulnerable group, children under 5. As can be seen, the main causes of mortality in the general population are HIV/AIDS and related opportunistic infections and severe malaria. These two diseases account for over 35% of mortality cases. In under fives, pulmonary infections, diarrhea, malnutrition and prematurity, also linked to malaria, are the leading causes of mortality.

[14] HMIS, 2009. Data collected from 29 Districts and 85% of reports expected received.
[15] Malaria figures are for outpatient visits with a malaria diagnosis, either confirmed or presumed.

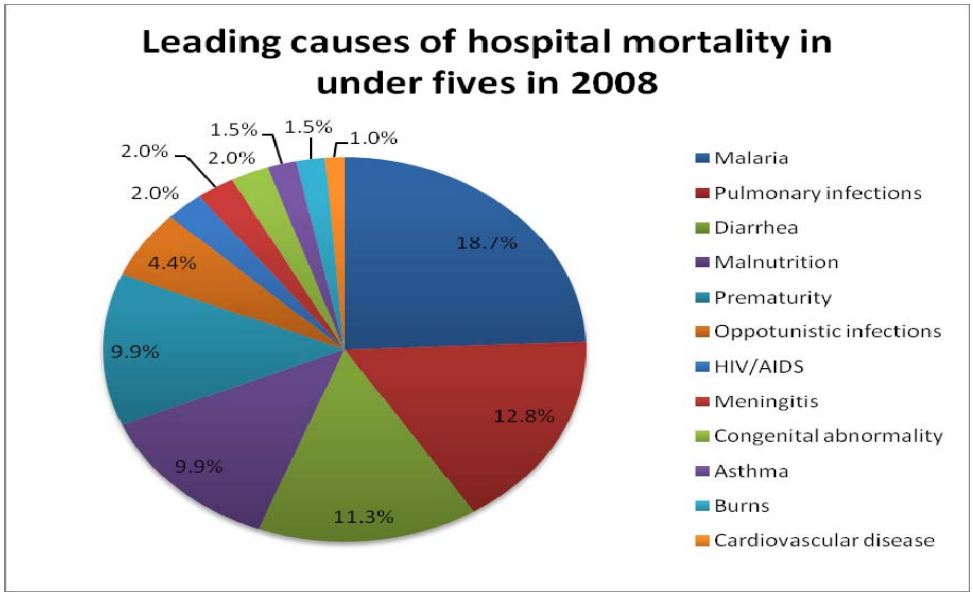

Figure 2.2

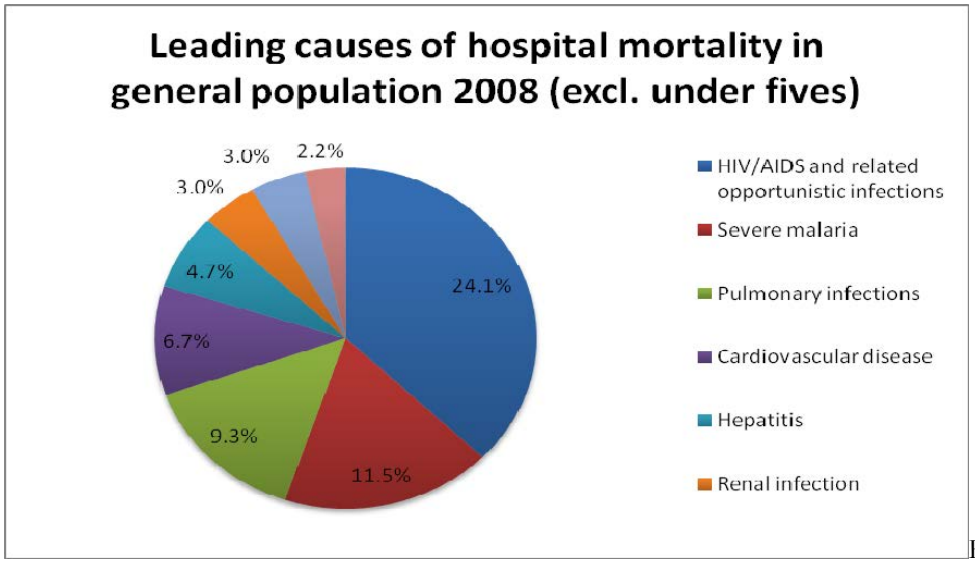

Figure 2.3

3. Strategic Framework

In response to the evaluation of the HSSP-I and a Cabinet directive in late 2007, the key priority areas and objectives of the health sector have been modified. Consequently, programme areas in the HSSP-II have been categorised along two axes to reflect the revised focus of the health sector: 3 strategic objectives which are supported by 7 strategic programmes.

The three strategic objectives contain all objectives and outputs directly related to improving the health of the people. This axis includes three main components or programmes:

1. all services related to, maternal and child health, family planning, reproductive health and nutrition
2. all services related to the prevention of diseases and promotion of health
3. all services related to the treatment and control of diseases

Although the different interventions of MCH/FP/RH/Nutrition can be classified as prevention or treatment programmes, they have been separated into their own objective to illustrate their critical importance to the health sector for the next four years. A special focus is placed on these areas as they contain many of the indicators related to MDG and GoR priority areas in the EDPRS and much effort is needed to ensure these targets are met.

The **7 strategic programmes** are cross-cutting issues that provide an enabling environment for service delivery to be optimally effective and efficient. These components all relate to health system strengthening and improvements in these areas are essential to ensure that the 3 strategic objectives of the HSSP-II are met. This axis includes 7 strategic programme areas (largely corresponding to all 7 components in HSSP-I), each containing a programme objective:

Strategic programme area	Programme Objective
1. Institutional Capacity	To strengthen the sector's institutional capacity
2. Human Resources for Health	To increase the availability and quality of human resources (including basic and in-service training)
3. Health Sector financing	To ensure financial accessibility to health services for all and sustainable and equitable financing of the health sector
4. Geographical Accessibility	To ensure geographical accessibility to health services for all
5. Drugs, vaccines and consumables	To ensure the (universal) availability and rational use at all levels of quality drugs, vaccines and consumables
6. Quality Assurances	To ensure the highest attainable quality of health services at all levels
7. Specialised Services, National Referral Hospitals and Research capacity	To strengthen specialised services, National Referral Hospitals and Research capacity

Levels of Interventions

All interventions that will be implemented in the health sector are divided into three service delivery modes: family oriented community based services (including household behaviour change activities,

community workers service and social marketing), population oriented schedulable services (i.e. outreach services and campaigns for standardized universal services), and individual oriented clinical services (requiring decisions on diagnostic and treatment).

Family-oriented community based services consist of what families and communities can practice by themselves when provided with information and education by health workers. These interventions include mostly preventive and promotive measures as well as some management of neonatal and childhood illnesses. The responsibility of the system is to empower the community through information, education and other strategies as well as make accessible commodities and supplies. **Population-oriented schedulable services** include disease-prevention services delivered to all individuals. Delivery strategy includes both periodic outreaches to communities and/or scheduled services at health facilities. **Individual-oriented clinical services** include all types of individual curative care and delivery services that need to be offered by trained healthcare professionals in a healthcare facility. These interventions are offered in a continuous manner so that they can respond to unpredictable health emergencies. The different objectives and intervention levels in the health sector are illustrated in figure 3.1.

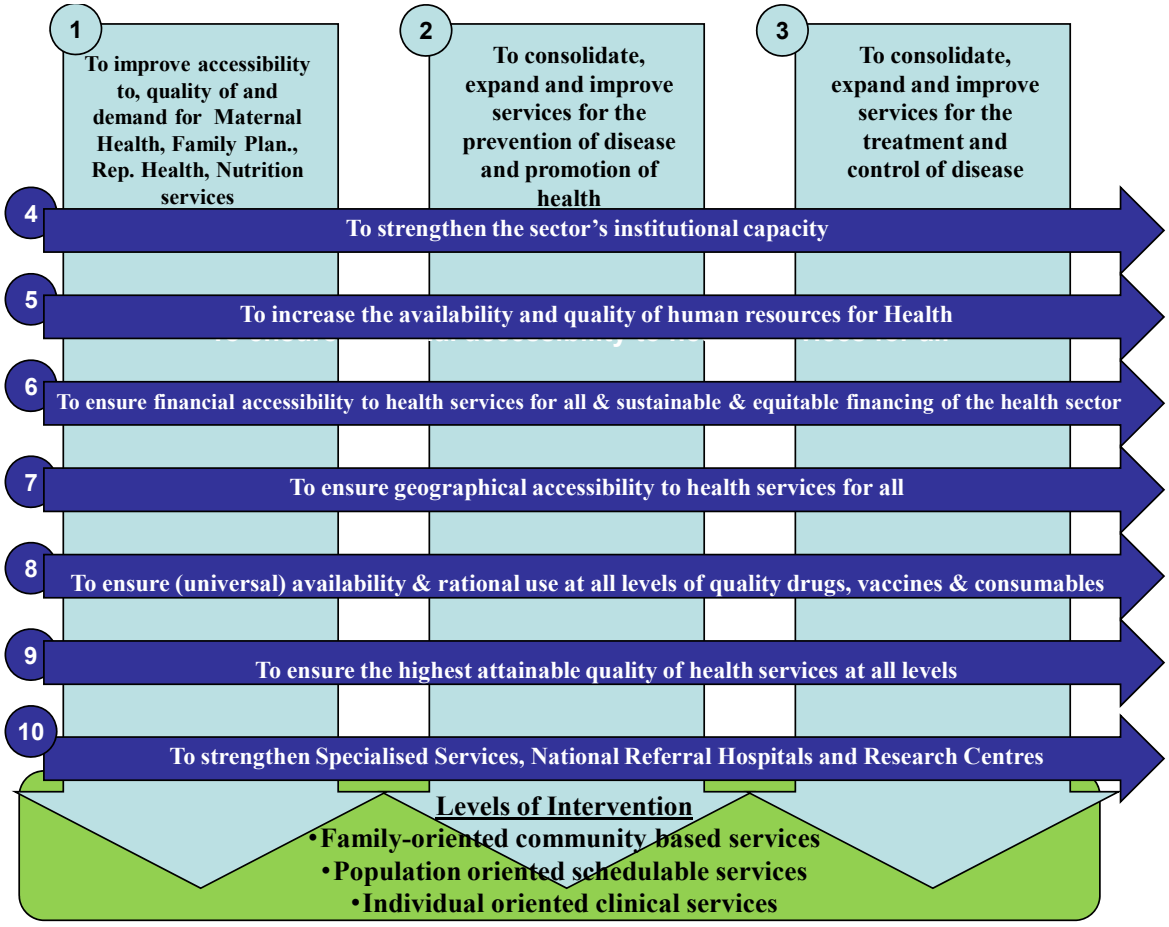

Figure 3.1

3.1. New direction of the HSSP-II

HSSP-II builds on its predecessor, including the scaling up of initiatives developed during the lifetime of HSSP-I. It also contains new initiatives, which include:

- the **performance-based financing scheme** (**PBF**), developed to reward health facilities and staff for good performance (increased utilisation and quality of services), emphasizing output financing mechanisms rather than input financing, will be further expanded
- the **community-based health insurance (CBHI)** scheme will be scaled up even further to ideally ensure coverage for everyone, while looking for more sophisticated and diverse mechanisms to subsidise the premiums for the poor
- **community health** interventions, a way of bringing services closer to the people and increasing coverage with basic curative and preventive care, will be further strengthened
- **Accreditation of quality of services**
- **Health education**
- **Quality emergency transportation**
- **Development of the SWAp**
- **Decentralisation process** that is underway

Other interventions areas will have greater emphasis in HSSP-II than before. Family planning is a top priority in order to reach the ambitious target set for fertility. Maternal health will also receive more attention to decrease the high maternal mortality. **Family planning, maternal and child health, and nutrition**, harbour the majority of essential targets in Vision 2020, MDGs, EDPRS and CPAF, as well as the SBS triggers. To meet the ambitious targets more funds will be directed to these intervention areas.

This HSSP-II also emphasises **non-communicable diseases and injuries**, which are increasing the burden of disease. While there is a need to further control infectious diseases, the HSSP-II will be used to prepare the health system for correct diagnosis and treatment of selected high priority non-communicable diseases and injuries.

More attention will be paid to **promoting healthy lifestyles and preventing disease** with an emphasis on promoting hygiene and addressing unhealthy behaviours (such as drinking alcohol, smoking, dangerous driving, eating unhealthy diets, and unsafe sex) through community health workers and mass media campaigns.

In accordance with the EDPRS, HSSP-II also stresses **good governance**. It includes objectives to improve management and coordination of all sector stakeholders. In accordance with the Paris Declaration and Accra Accord, harmonisation remains a high priority in order to strengthen the SWAP at all levels.

3.2. Strategic objectives

3.2.1 To improve accessibility to, quality of and demand for MCH/FP/RH/Nutrition services

The average Maternal Mortality Ratio (MMR) during the 5 years before 2000 stood at 1071 per 100,000 live births (DHS 2000 which had decreased to 750 for the 5 years preceding 2005 (DHS 2005). Despite the decrease, maternal mortality is still high and is not predicted to meet the target in Vision 2020 of 200 per 100,000. In 2005 over 3,800 (over 70%) deliveries occurred outside a health

facility. WHO promotes four antenatal clinic (ANC) visits, one in each trimester, during each pregnancy. Although the number of women who attended at least one ANC visit in Rwanda has remained stable at 94% from 1992 to 2005, only 13.1% attended the fourth visit (RDHS 2005). The services a woman received during the ANC visits varied. While a woman's weight was taken in 93.7% cases only 7.6% clients had their urine tested. The number of services received was higher in urban-based clinics (RDHS 2005). While 7.6% deliveries were conducted by Caesarean section in urban areas, the proportion in rural areas was only 2.2% (RDHS 2005). This suggests that referrals from rural areas to centres where caesarean sections can be conducted are below the level required to reduce long term morbidity (e.g. fistulas, birth injuries to infant) and mortality (still birth and maternal deaths). The proportion of women who deliver at home that received post natal care was 4.8%. Anaemia in women of reproductive age is 27% with 3.7% having severe anaemia (IDHS 2008).

Objective: To improve the accessibility to, quality of and demand for FP/MCH/RH/Nutrition

Strategic interventions:
- Promote four ANC visits during pregnancy, including provision of PMTCT services
- Ensure that all deliveries are attended by qualified staff at health facilities
- Ensure provision of emergency obstetric and neo-natal services including referrals

Indicators:
- Maternal Mortality Ratio
- % of pregnant women with four ANC visits
- % of deliveries in a health facility

Child health

Targets for Infant Mortality Ratio (IMR) and Under Five Mortality Ratio (UFMR), as demonstrated in table one, have been reached ahead of the end of HSSP-I targets and the established EDPRS targets for 2012[16]. Following a decline from 1992, immunisation coverage has increased from 75.2 in 2005 (RDHS) to 80.4% for all antigens (IDHS 2008), while more than 89.8% of children have received the DPT3 vaccine (IDHS 2008) rising from 87% in 2005 (RDHS 2005). However, while the proportion of children with acute respiratory infections who were taken to a health facility increased slightly from 26.9 to 28% from 2005 to 2008, the data imply that the majority of mothers did not seek medical attention for these children. The same trend is visible in regards to diarrhoeal diseases: almost one-third of children with diarrhoea (xx%) are treated with home remedies while another third (xx%) are not given any treatment at all (RDHS 2005). With 14.1% children reported with diarrhoea in the last two weeks (24.2% infants between ages of 6-23 months) and over 86.9% mothers knowledgeable about ORT (RDHS 2005), there is an obvious concern related to the lack of positive action taken in treating diarrhoea in these age groups. The most common problem in accessing health care for women is reported as 'getting money for treatment' (70.8%) with geographical/logistical barriers reported by only 40% women (RDHS 2005).

Nearly half of all Rwandan children show signs of malnutrition. Children under five who are wasted comprised up 7% all children, 24% were underweight and 43% show signs of chronic malnutrition (stunting) (DHS 2005). Almost half of all children under 5 years had anaemia (47/5%) with 8.3% having severe anaemia (IDHS 2008). Only 50% of districts were implementing a community-based nutrition programme and only 45% of children <5 had been weighed at a health facility or community-based nutrition site RDHS 2005). Only 17% of malnourished children were referred to higher level health facilities for treatment. itamin A was only available in 44% of health posts, 42% of health centres and 60% of district hospitals that provide vaccines[17],.

[17] Rwanda Health Service Provision Assessment, 2007.

Objective: To improve the accessibility to, quality of and demand for FP/MCH/RH/Nutrition

Strategic Interventions:
- Expand integrated community health care package (ICHP) to all 30 districts
- Strengthen Integrated management of neonatal and childhood illnesses in all health facilities
- Continued expansion of immunization services including pneumococcal and rotavirus
- Promotion of exclusive breast-feeding for 0-6 months
- Promote good nutrition practices, including under fives, school children, pregnant women and lactating mothers

Indicators
- Infant mortality ratio
- Infant mortality rate in poorest quintile
- Children under 5 mortality ratio
- % of children with chronic malnutrition/stunted
- % of fully immunised children

Family planning
The marked decline in fertility realised in Rwanda until 1992 lost momentum until 2008 when a decline in fertility rates per 1000 women in all age groups was observed, with overall Total Fertility Rate of 5.5 (4.7 urban and 5.7 rural) (IDHS 2008). The most marked decline has been in age groups 40+ years and in teenage fertility (RDHS 2000). A lower education status is associated with higher fertility (RDHS 2000). Current use of modern contraceptives has increased from 4 (EDSR II) to 27 (IDHS 2008). The most popular type of contraception continues to be injectable contraception (IDHS, 2008). The findings of the RDHS 2000 suggested that most men and women were aware of modern methods, primarily through the radio and that access was not a barrier. However, only 3.4% had discussed with a field worker and 18.6% had visited the health centre but had not discussed family planning, indicating a missed opportunity to discuss family planning with men and women attending at health facilities for other reasons (RDHS 2008). While data exist on unplanned pregnancies in HIV-infected women from small ad hoc studies, this information is not readily available for the general population. In the period from 2005-2008, two health providers from each of the 406 health centres were trained in contraceptive methods.

Objective: To improve the accessibility to, quality of and demand for FP/MCH/RH/Nutrition

Strategic Intervention:
- To improve accessibility and quality of FP services especially long term contraceptives

Indicators
- Total Fertility Rate
- % Women 15-49 using modern contraceptives

3.2.2 To consolidate, expand and improve services for the prevention of disease and promotion of health

EDPRS 2009-2012 stresses that improving health is an important goal in itself and, as a component of human capital accumulation, it also contributes to higher incomes (EDPRS 2008-2012 Sec 4.203). Poverty and poor health are often linked in a vicious cycle. Poverty exposes households to greater

health risks stemming from under nourishment, limited or no access to safe drinking water and basic sanitation, overcrowding, illiteracy, and an inability to access or utilise health care resources. Poor health reduces household savings, constrains learning ability, lowers productivity and leads to a low quality of life.

Most common disease morbidities in Rwanda are infectious diseases, which are preventable through the improvement of hygiene and sanitation, and health related behaviour (Rwanda Service Provision Assessment Survey 2007 p18;2.4). Infectious diseases are the top ten leading causes of morbidity and mortality in Rwanda. Most sicknesses in developing countries are preventable, while the impact of chronic and or non-communicable diseases can be significantly reduced through the adoption of healthy lifestyles. Health prevention focuses on promoting personal and community practices that enhance good health and prevent disease. IEC/BCC activities are used to promote behavioural change and common practices known to improve the health of the population. Environmental health focuses on ensuring safety of food and water, improving hygienic latrines/toilets, safe waste disposal and injection safety and family hygiene.

It is necessary to emphasize health promotion and interventions that prevent disease (drink clean water, wash hands, use of condoms, stop smoking, avoid indoor smoke, safe driving to prevent road accidents, healthy diet, exercise etc.). The occupational health desk promotes use of protective clothing in hazardous work environments and regular health checks for employees to promote a healthy and safe workforce. Information on disease prevention has improved, but more can be done to encourage people to adhere to healthy lifestyles. With more disease prevented, costs for treatment and workload in health facilities will go down.

In 2009, MoH will be launching a National Community Based Environmental Health Promotion (CBEHP) campaign that aims to strengthen the capacity of all 45,000 Community Health Workers under close mentoring and supervision by Environmental Health Officers based at Health Centres. CBEHP plans to adopt the internationally validated Community Health Club methodology in order to achieve rapid and sustainable behaviour change and poverty reduction outcomes.

Objective: <u>to consolidate, expand and improve services for the prevention of disease and promotion of health</u>

<u>Strategic Interventions:</u>
<u>Tobacco Control</u>
- Development of a law to implement the WHO framework convention on tobacco control (FCTC)
- Sensitization of the population about the adverse effects of tobacco use

<u>Alcohol and Drug Abuse</u>
- Development of a regulation on alcohol consumption, especially for <15
- Sensitization of the population about the adverse effects of alcohol and drug abuse

<u>Health Communication</u>
- Development of tools for effective communication for health promotion, including injury prevention and hygiene & sanitation

<u>Lifestyle</u>
- To promote physical exercise

<u>Environmental health</u>
- Improvement of the environmental health and hygiene conditions of the population
- Improvement of Environmental health data

Indicators:

Tobacco Control
- Law passed

Alcohol and Drug Abuse
- Regulation signed

Environmental health
- % of households and institutions using hygienic latrines and handwashing with soap
- %of households and schools exercising safe drinking water handling
- %of health facilities with safe handling and disposal of health care waste
- % of households and institutions using smoke free cookers
- The number of hygiene clubs put in place in Imidugudu

HIV

The **HIV** prevalence rate was 3% among adults aged 15 – 49 years in 2005, 3.6% in women and 2.3% in men (DHS 2005). The HIV prevalence in urban settings was 7.3% compared to 2.2% in rural areas (DHS 2005). Among women and men aged 15-24 who had higher-risk intercourse in the last 12 months, only 26.4% and 39.5%, respectively, reported using a condom at last intercourse (DHS 2005). Among HIV-exposed infants who survived to 18 months, 7.2% were HIV-infected; more information needs to be collected on the causes of early mortality in HIV-exposed children (TRACPlus Annual Report 2008). These data highlight the importance of improving PMTCT, early infant diagnosis and follow-up. DHS 2005 indicated that 2.2% of couples tested were HIV-serodiscordant In 2008, 228,720 couples were tested in PMTCT, and 6076 (2.7%) were HIV-discordant. In addition, in 2008, 101,139 couples were tested in VCT, and 3.8% were discordant (TRACPlus Annual Report, 2008). Given the high risk of HIV transmission in discordant couples, these populations merit special programmatic interventions. HIV prevention are offered to truckdrivers, prisoners and soldiers, whereas interventions currently target commercial sex workers to a very limited extent. High-risk youth and those living or working in the street are not well-reached by ongoing HIV prevention programs.

Of all 452 health facilities in the public sector in Rwanda, 75% offer VCT and PMTCT while 43% offer ART services (TRACPlus Annual Report, 2008). These figures show that decentralization of HIV services has progressed. Nevertheless, there is a need to extend HIV program coverage further within the public sector, and also to involve the private sector in HIV prevention, care, and treatment programs. Additional efforts must be made to integrate HIV/AIDS care into routine health services.

The "Prevention with Positives" strategy must be emphasized within the population of HIV-infected persons in care and treatment. , and evaluate new interventions that may ultimately improve the quality of HIV services.

Strategic Intervention
- Improve sensitization for HIV prevention, testing and treatment, including participation of the communities

Indicators

- HIV prevalence among 15-24 year old men and women
- % of pregnant women who attend ANC that are tested for HIV and know their test results
- % of women and men aged 15-49 who reported using a condom the last time they had high risk sexual intercourse (non-married, non-cohabiting partner)
- % of HIV positive pregnant women who receive ART to reduce the risk of MTCT

Malaria

The core of the national **malaria** strategy is *preventive*, not curative: to decrease and eventually eliminate the local transmission of the falciparum parasite and thus greatly reduce the number of new infections. Total elimination will not be feasible in Rwanda as long as our country is surrounded by countries with high endemicity, but the national target of achieving "pre-elimination" by 2013 will be achieved through full national coverage of effective preventive and curative interventions. The core of the national strategy is to break the transmission cycle by achieving:

- Universal ownership and *use* of long-lasting insecticide treated nets (LLINs)
- Selective indoor residual spraying (IRS) of structures in which people sleep
- Prompt and effective treatment of confirmed malaria, to reduce immediate morbidity/mortality but also to block onward transmission
- Timely and effective epidemic surveillance and response (ESR), to reduce the impact of inevitable small outbreaks.

Each of these components requires major supportive interventions, including, commodity procurement, distribution and appropriate use; development of human capacity at all levels; behavior change within Rwandan households and among health care providers; quality assurance for both diagnostic procedures and treatment; local ownership and decentralized management capacity; and perhaps above all strong monitoring, evaluation and use of data. Rwanda's capacity to implement these programs has increased dramatically since approximately 2006, leading to major reductions in morbidity and mortality:

- 55.6% of households own at least one LLINs (IDHS, 2008), although very few own three; there is still a significant gap, however, between ownership and use – a gap which may increase as the public perceives declining risk of malaria.
- IRS now protects approximately one million Rwandans and has gained wide public acceptance, but it may be difficult to expand because of cost.
- More effective medications introduced in 2006, supported by widespread availability at the community level, has increased prompt effective treatment and reduced onward transmission.

However several gaps have been identified, for example, there is no comprehensive strategy for integrated vector management (IVM), Behavior change communication (BCC), directed to both the public and to care providers remains inadequate, ESR remains inadequate (delayed and uninformative) despite the likelihood of more numerous small outbreaks. Furthermore, systems are not yet in place for monitoring insecticide resistance, managerial use of data for refining strategies, tactics and operations, remains inadequate (partly because of weak data systems).

At all levels, sustainability is a major challenge and will become increasingly so as immediate malaria threats decline. As public perception of malaria risk declines, BCC will have to be strengthened to reinforce preventive behavior. Rwanda's current dependence on international donors will decline, yet continued strong financing for both preventive measures and ESR will remain essential. Communities and district health authorities will have to remain forever vigilant and quick-acting, even as the apparent need for such actions seems reduced.

<u>Strategic interventions</u>

Improve access to and quality of preventive measures

<u>Indicators</u>

- % of children and pregnant women sleeping under an Insecticide treated bednet
- % of households possessing 1 LLIN

- % of households possessing 2 or more LLINs

3.3.3 To consolidate, expand and improve services for the treatment and control of disease

It is recognized that treatment of infected individuals has a wider public health impact, for example in provision of ART to reduce viral load to minimize the risk of spread for TB patients in the control of the disease. In this section surveillance and epidemic preparedness are also included.

HIV
In Rwanda in 2008 Antiretroviral treatment coverage was an estimated 77% of adults and 81% of children in need received **ART** (TRACPlus Annual Report 2008). Of all 452 health facilities in the public sector in Rwanda, 75% offer VCT and PMTCT while 43% offer ART services (TRACPlus Annual Report, 2008). As more **HIV**-infected persons are identified and enrolled in care, there is a need to improve the follow-up and provision of basic care services (prophylaxis of opportunistic infections, TB screening, STI screening, family planning/reproductive health services, provision of bednets and safe water) to both pre-ART patients and patients on ART. The HIV program should continue to promote treatment success and early identification of treatment failure using viral load monitoring.

A national HIV drug resistance surveillance system must be set up and maintained. The laboratory network must be fully established and functional at the central and district levels; and the health information systems must be reinforced at all levels. Complementing this, a robust program monitoring and evaluation framework must be established. This will improve the ability of the national program to identify gaps and ultimately improve planning and management of HIV services. Operational research is an important component of the national HIV program, in order to evaluate the existing program, identify successes and weaknesses

People infected and affected by HIV are vulnerable. A multi-pronged approach to mitigating vulnerability in these populations must be supported. Strategies include income-generating activities, food security, access to health care through community-based health insurance, and access to primary, secondary and vocational education.

Strategic interventions
- Improve accessibility to HIV services
- Improve the linkage between health facilities and communities

Indicators
- % of adults and children with HIV known to be on treatment 12 months after initiation of antiretroviral therapy
- % ARV coverage for all eligible HIV infected people
- % people with advanced HIV covered by antiretroviral combination therapy, disaggregated by age and sex
- Number of health facilities (Hospitals and Health Centres) with integrated HIV services, prevention and treatment: VCT/PMCTC/ART

Malaria
As noted in the section Prevention of disease and promotion of health, the core of the **malaria** strategy is preventive rather than curative, yet malaria remains a significant killer of both children and adults and must be treated promptly after confirmed diagnosis. Increasingly the program's emphasis is on reaching sick children as close to their homes as possible, since even a few hours' delay in reaching care can be fatal. Rwanda is seen worldwide as a leader in developing home-based

management (HBM) of fever and integrated community case management (CCM); yet challenges remain:

- Introduction, effective use, and quality assurance for diagnostic tools at the community level
- Continued effective case management at the community level, as volunteer health workers take on expanded functions and other fevers (especially ARI) become more prominent.
- Pharmaco-vigiliance and monitoring of drug efficacy
- Maintenance of commodity distribution and storage systems, reaching to community levels

As malaria preventive measures spread and "routine" cases decline, the proportion of cases treated in "emergency" situations will increase. This evolution will pose new challenges for human capacity, drug logistics and community support systems.

Strategic interventions

- Diagnostic and curative services expanded

Indicators

- Malaria-attributable mortality in <5 group
  % of under 5 with malaria that receive timely, correct and affordable treatment within 24 hours after the onset of symptoms
- % of suspected malaria cases confirmed by either microscopy or RDT

TB

In 2007 **tuberculosis** (TB) notification rate was 89 per 100,000 people for all cases with 46 for new sputum smear-positive cases. Community-based Directly Observed Treatment Short course (DOTS) was implemented in 15 out of 30 districts, and treatment success rate with DOTS was 86%. The detection rate has stagnated in spite of the multiple efforts to raise it.

Since 2005, there is one specialised MDRTB unit at Kabutare District Hospital. By the end of 2007, 172 started on MDRTB treatment. Progressively, more health facilities are involved in the outpatient follow up of ambulatory patients. Treatment success rate of the first cohort of patients was 86%. Many challenges remain in the fight against TB: NB some could be in prevention e.g. testing but had to decide one way or another.

- Respecting the DOTS strategy
  - Strengthen and expand the TB diagnostic strategy including fluorescence microscopy, culture and second-line DST and rapid test for the detection of resistant cases
  - Increase TB detection among high risk groups (prisoners, TB contacts, children, PLWH)
  - Have evidence-based estimation of TB burden through nation-wide prevalence survey
  - Expanded coverage of community based DOTS nationwide
  - Establish an effective and efficient drug management system
- TB-HIV integrated activities and MDR management activities
  - Scale-up integrated "One-Stop TB services" for TB patients with HIV
  - Increase coverage of Cotrimoxazole preventative therapy for TB-HIV infected patients
  - Ensure enrolment in HIV care and treatment and prevention for all HIV infected TB patients
  - Improve early detection of MDRTB by the introduction of new diagnostic techniques

    - Establish infection control measure in all health facilities
- Engage all care providers including private providers and traditional healers
- Empower people and communities through advocacy, communication and social mobilization
- Develop program-based operational research

Strategic Interventions
Pursue high quality DOTS expansion and enhancement
Address TB/HIV collaborative activities and MDR TB by sensitization of TB patients and communities, and improving case management

Indicators
% TB (DOTS) treatment success rate
% multi-drug resistant TB (MDR-TB) cases successfully treated
% HIV positive people tested for TB

Neglected Tropical Diseases (NTD), parasitic and bacterial infections, represent one of the largest economic and health burdens experienced by the citizens of Rwanda. Mapping exercises indicated that 65% Rwandans are infected with Intestinal worms (AllAfrica.com july 29 2008). Successful NTD programmes have included training of 3000 Community Health Workers and orientation to 238 health providers resulting in 1.5 million Rwandans being treated for soil transmitted helminths, schstosomaisis, and lymphatic filariais (NTD Control Annual Report, 4th August 2008).

A recent study indicates that the prevalence of active Trachoma infections (TF/TI) in Gatsibo and Nyaruguru Districts (<10%) does not warrant urgent intervention in Rwanda. However a few villages were found to have prevalence rates of TF > 5% where it will be necessary to implement components of the WHO 'SAFE' strategy.

Although Rwanda has not yet officially confirmed a case of **Avian Influenza** in animals or humans, the country is classified at high risk for infection and spreading of Avian Influenza within the Pandemic Risk Index (PRI) scale. Geographic location, the presence of several wild birds' species that are susceptible to Avian Influenza, high human population density, presence of traditional poultry husbandry and porous borders are the key risk factors.

A monitoring and evaluation system of epidemic infectious diseases is a very important strategy for adequate response. In this regard, **Integrated Disease Surveillance** and Response (IDSR) is implemented in the country through weekly reports with subsequent regular feed –back mechanism in place. Nevertheless, the system is still facing challenges resulting in poor completeness and timeliness of data submission.

The integrated surveillance system needs to be improved. There is insufficient capacity for epidemic and **disaster preparedness, management and response**, both at national and district levels. Information and communication systems do not provide adequate support at the district level: information collection, analysis, feedback, as well as utilisation of data for planning and management are suboptimal. WHO priority infectious diseases (other than HIV/AIDS, malaria and TB) and other neglected tropical diseases are not sufficiently addressed.

To make the **emergency preparedness and response** system fully functional at national and decentralised levels, operational and emergency response plans will be developed, the international health regulations will be disseminated, hospitals will be prepared to handle an extra load of patients, and staff will be trained on epidemic preparedness and response. Emergency stocks of drugs and

supplies will be ensured and a field epidemiology and laboratory training programme will be established.

Strategic interventions
- Adequate management of cases of NTDs including parasitic diseases
- Improve Rwanda's ability to detect and respond to epidemics and emergencies

Indicator
- Prevalence for soil transmitted helminthes reduced in school aged children
- Surveillance officers provided 2 week training in epidemic investigation, detection and response and field epidemiologists enrolled into training at masters level

Now that prevention and control of the major infectious diseases in Rwanda is making great strides forward, the burden of disease is likely to shift to **non-communicable diseases** (NCDs) within the next decade. So far this group of diseases has neither received much attention nor funding, although capacity for eye care and care for disabilities has been strengthened by the provision of training and equipment. A mental health programme also exists, but no national policies, training plans, or standardised treatment protocols exist for other major non-infectious chronic diseases or conditions, such as hypertension, cardiovascular diseases, diabetes, asthma, cancer, epilepsy, chronic renal failure, or oral health. Diagnosis and case management of chronic diseases can be costly and careful priority setting will have to be done, preferably on the basis of prevalence data, which are currently lacking.

The health sector will start preparing for the future disease burden of common NCDs by: regularly assessing the prevalence of key diseases and conditions; elaborating a policy and strategic plans for NCDs with the highest burden; distributing protocols to health facilities for diagnosis, treatment, equipment, drugs and case management of selected NCDs. CHWs will be trained to offer basic advice and care on NCDs and refer people to health facilities as necessary.

Strategic interventions:
- Development of new policy and protocols on non-communicable diseases prevention, diagnosis and care & treatment
- Conduction of base-line surveys

Indicators
- Prevalence and risk-factors of diabetes, hypertension, CVD, renal diseases and cancer are known
- % of Public and Private Facilities providing chronic-disease care
- Number of people presenting with lifestyle related diseases at health facilities
- Number of people presenting preventable injuries at health facilities

3.3. Strategic programme areas

3.3.1 Institutional capacity

In order to strengthen the sector's institutional capacity, interventions must be undertaken in three different areas: planning, monitoring and evaluation and governance. An analysis of each of these areas is given below.

Planning and M & E
The planning capacity of MoH has been strengthened and relevant annual action plans with budgets based on MTEF and stated sector priorities have been made. All stakeholders in the health sector helped to develop the health chapter of the EDPRS and the first and second Joint Annual Work Plans in 2008 and 2009. Support for planning and management by DH and HC has been initiated.

The MoH supported all 30 Districts in elaborating their five year strategic plans, which are included in the general District Development Plans 2008-2012. On the basis of these five year plans, all health facilities have developed their 2008 Operational Plans, following the objectives and strategies for health in the EDPRS. The SWAp process has just begun but still needs strengthening and strategic thinking at central level to become effective.

A new Monitoring and Evaluation Task Force was created in the MoH in February 2008 in order to develop and strengthen the existing Health Management Information System (HMIS) and M&E system at national level. However, an overall M&E framework, describing what will be monitored and evaluated, how, how often, by whom and for what purpose, is lacking. The HMIS is plagued by software problems, delaying its operation. It is also not yet comprehensive, because some major programmes run parallel information systems, such as TRAC+, CBHI, PBF and CNLS. Data systems on human resources, finance and logistics are not (yet) included. Information from the FBOs, NGOs and private-for-profit sector is also not systematically included in the HMIS. There is an urgent need to streamline and harmonise all these data systems.

The MoH **Planning** Unit will take the lead in the production and timely dissemination of an evidence- and experience-based comprehensive sector wide strategic plan (HSSP-II) and ensure that all sub-sectors have an up-to-date strategic plan, based on the HSSP-II, and that Joint Annual Work Plans are developed with all actors and stakeholders. A health sector intervention mapping exercise (including private sector and civil society) will be completed and a Project Coordination Unit to coordinate all government and civil society health sector projects will be established in the MoH. Government and partners will adopt standardized planning and budgeting tools for district and national levels that reflect health sector priorities as well as sub-sector plans. The MoH will support districts in the production of costed annual work plans.

All initiatives to improve fair financing of health care services will be integrated in a comprehensive health **financing policy**. Linkages between planning and budgeting will be improved by aligning the planning cycle with the new fiscal year (July-June).

Joint annual reviews will be conducted to assess progress on implementation annual plans and of the HSSP-II. Findings will be discussed with all stakeholders and agreed recommendations will be implemented. In order to facilitate **monitoring and evaluation**, the M&E system will provide reliable and timely information on key indicators by producing a data dictionary, training health facility staff on data collection and programme managers on analysis and effective use of information. An overall M&E institutional framework and results matrix will be established. A DHS survey is planned for 2010. The preliminary results can then be used for the external mid-term review of HSSP-II. On the basis of the MTR the HSSP-II will be adapted as needed. An external final evaluation of HSSP-II is planned for mid 2012, in time to feed into the planning process for the next 5-year strategy.

Governance

The best designed health interventions and systems will not succeed or be sustained without strong and efficient governance and effective management. Communication, coordination, delegation, participation and harmonization are key concepts that need to be addressed as part of strengthening the overall governance of the Health Sector.

Communication

Changes in the health sector are happening at an increasingly rapid pace. In such an environment, more efforts are needed to improve the communication at all levels: at the national level, communication is essential to avoid duplication of efforts and ensure all stakeholders are working on a similar agenda and abreast of the most recent developments and initiatives being undertaken;

between the central and decentralized level real-time communication is needed to ensure on the one hand that new strategies, policies and guidelines can effectively be implemented on the ground and one the other that feedback can be provided from the decentralized level to the central level; and at the decentralized level, greater communication and coordination is required between the various entities supporting the health system, in particular between the District Health Unit and the District Hospital and Health Centres.

Coordination

The Health Sector in Rwanda today is extremely dynamic, characterized by a high pressure environment where new policies, procedures, and guidelines are continuously being developed and disseminated. Delivering on the many competing priorities and demands coupled with a positive sense of urgency to make tangible progress can however be jeopardised if not coordinated properly. This has sometimes resulted in duplication of efforts and the development of parallel and competing systems, in particular in cases where available resources are strongly earmarked. To better align Development Partners' inputs with government processes a common management framework will be adopted, a focal point for partner coordination will be established in the Ministry and the capacity of the SWAp coordination committee will be strengthened. To streamline financial support more development partners will be encouraged to channel more of their funds through the Ministry of Finance, preferably as Sector Budget Support. The Health Sector Cluster Group, under the leadership of the Ministry, is the appropriate forum to ensure stronger coordination between all stakeholders, with the support of Technical Working Groups. These should be continuously monitored to ensure they link in with Ministry units and are effectively managed and lead by those responsible units.

At the district level, where less capacity exists to effectively coordinate the many health activities taking place, such coordination is all the more important. A recent survey showed that only less than a third of partners active in any given district participated in the last district health sector coordination meeting. District-level SWAp processes need to be urgently strengthened. To strengthen the decentralisation process a focal point for district coordination and support will be created in the Ministry of Health, that will support districts in planning, monitoring and coordination of partners. The recently developed Joint Annual Work Plan tool will also support this process.

Coordination with other sectors at the local government level is an on-going process though not yet fully operationalized. The Joint Action Development Forum (JADF) take place quarterly, but still needs time to work out their agendas and become fully functional and useful across all sectors and stakeholders. The JADF at district level will be used as the entry point for planning and action in health, in particular community health, to avoid duplication and parallelism.

Delegation

Given the human resource constraints at the managerial level, delegation is essential to reduce unnecessary bottlenecks and delays in achieving results. Recent policy changes, such as the decentralized management of doctor recruitments, are steps in this direction. Delegation and local empowerment should be further strengthened at all levels, though this should be coupled with greater accountability as well. The recent restructuring of the Ministry of Health, which will have a more horizontal structure, should also contribute positively to this trend. To strengthen management standard operating procedures will be introduced at all levels of the health system and information flows top-down and bottom-up will be optimised.

Participation

Through various fora, broad participation is ensured at the national level from health institutions and development partners. More, however, should be done to engage with civil society and the private

sector. This is done effectively in some sub-sectors such as HIV/AIDS, but should be expanded to the broader health agenda.

At the decentralized level, community participation is being increasingly encouraged. Some very good community participation initiatives are in place, such as the *Partenariat pour l'Assurance Qualite (PAQ)* that seek to engage the community with the health facilities. Better dissemination of good practices is needed across the country. Furthermore, a well-functioning Governing Board of a Hospital or a Health Committee of a Health Centre that includes representatives from the community can have significant impact on the quality and efficiency of the facility and its daily performance. While these are in place in all facilities, their ability and capacity to function effectively needs to be strengthened. Peer reviews will be organised across districts in order to monitor progress.

In order to strengthen gender mainstreaming in the health sector, more women will be employed in management positions in the public health system.

Harmonization
Rwanda is a key actor in the regional and global public health landscape. It has helped influence global policy changes by being a successful role model and has strived to take on board best practices developed elsewhere relevant to Rwanda's setting. This must be further encouraged. More attention will be paid to harmonization with regional and global initiatives and policies by participating systematically in regional and global health meetings, organising study tours on new priority issues such as non-communicable diseases and systematically collecting best international practices and adapting them for use in Rwanda.

Objective: to strengthen the sector's institutional capacity

Strategic Interventions:
- Develop capacity for planning and M&E at central and decentralized level
- Develop a harmonized planning and M&E framework
- Strengthen and harmonize all HMIS systems at all levels from the community to the central level
- Maintainance of MOH leadership in sector policy formulation, and Partner coordination
- Improved implementation of SWAp at national and decentralised
- Development of the decentralised levels to strengthen the bottom-up approach in planning and policy formulation and review

Indicators:
- % HF reporting according to existing HMIS norms
- Number of costed, implemented and monitored action plans
- % Development Partners signed up to SWAp
- % of Districts with operational SWAp

3.4.2 Human resources for health

Over the past years there has been a substantial increase in numbers, in quality and in deployment of staff at health centres and district hospitals. Since 2005 a number of reforms and new initiatives have taken place in human resources for health (HRH) ranging from decentralization of the management of human resources to the introduction of performance-based incentives, bonding contracts for young medical professionals, upgrading A2 nurses to A1 and training various specialists. New staffing norms, based on the actual workload at every facility, were agreed in 2008.

While substantial efforts are still needed to increase the *quantity* of health professionals to meet the new staffing norms (in particular for medical doctors), more emphasis needs to be put on *quality* of

trained professionals and their distribution over the country. Currently, health facilities have no budget line for continuous medical education. Specific HR shortages are: medical specialists in hospitals, midwives in rural areas, nutrition professionals, staff for disabled care, environmental health and health promotion, maintenance staff for medical equipment, staff to manage the CBHI at all levels, and staff at central level to ensure effective support for services in the field.There are no clear strategies for distribution and retention of staff and in rural areas newly trained professionals have little social and economic incentives to work. Other challenges are a weak human resource information system and the need to develop some management tools.

A health worker labour market study covering both public and private sectors will be carried out to provide information on how best to proceed to increase the number of staff in health facilities. The number of staff receiving basic **training** will have to increase to cater for needs, in particular CHWs, nurses (upgrading), midwives, medical specialists and environmental health professionals. To this end the productive capacity of health training institutions will have to increase. Review of the medical teaching curricula and the initiation of an accreditation process in teaching institutions will contribute to simultaneously improve the quality of teaching. A training policy for the health sector will be developed In-service training will also be strengthened in order to continuously enhance technical capacity to deliver quality services by developing and using integrated training modules, incorporating necessary updates of all disease programmes, thereby also increasing efficiency of training efforts. Special attention will be paid to continuous training for CHWs to support them in coping with the numerous tasks requested of them.

In order to improve **retention** and **geographical distribution** of health personnel across the country a study will be done into the reasons for high turn-over of staff, a retention strategy and deployment policy will be developed and incentive packages for health professionals will be scaled up and adapted as needed, in particular to increase the number of medical doctors and midwives in remote areas. Districts will be trained and supported to produce HRH capacity development plans in order to improve their HRH management capacity. At the national level the HRH information system will be improved.

Objective: To improve the availability and HRH

Strategic interventions:
- Strenghtening of productive capacity of education institutions for health professionals
- Improvement of management capacity, including retention and equity distribution strategies of human resources for health
- Continous accreditation and professional development, of HRH
- Improvement of technical capacity of community health workers

Indicators
- Ratio of medical doctor to 10,000 inhabitants
- Ratio of qualified nurses 10,000 inhabitants
- % of health facilities with a midwife present
- % of health staff outside Kigali
- % health workers trained to deliver the basic package of services

3.4.3 Health sector financing

Although short of the EDPRS target of 12%, the percentage of total GoR budget for health has increased from 8.2% to 9.1%, translating to a rise of per capita government health expenditure from USD 6 to USD 11. Total health expenditure per capita had risen from US$17 in 2003 to US$34 in

2007[18]. The share of the public budget allocated to the health sector (including that for other ministries than the MoH) is 11.4%, still far from the 15% target recommended by the Abuja agreement. Lower than expected nominal public expenditures levels found in the health sector creates sustainability issues as an important part of health expenditures is funded by external sources (about 56% in 2007). Health programmes are often suddenly stopped when the funding provided by supporting NGOs dries up and programmes that are not externally funded have insufficient funds. The public budget also disproportionately funds tertiary care to the detriment of PHC.

An increasing number of DPs are committing funds and technical assistance to the health sector. Most of the assistance is still used for vertical programmes (i.e. disease-specific programs like Malaria, HIV/AIDS) instead of targeting the entire health system, which would in the long run produce a greater impact on mortality and morbidity reduction. In addition, huge amounts provided by NGOs and some Development Partners are often not accounted for in the budget. However, the sector is moving towards a Sector Wide Approach (SWAp) to enhance coordination and efficiency and reduce duplication. In 2007 all major DPs have signed the Memorandum of Understanding. Additionally three main DPs have signed an agreement with the MoH to provide sector budget support (SBS): the Belgian Government, German Cooperation (GC) and the UK Department for International Development (DFID).A Capacity Development Pooled Fund (CDPF) for Technical Assistance has also been agreed upon and the same 3 DPs as well as the Swiss Development Cooperation (SDC) made financial commitments to make the Fund operational.
Financial access to health care has greatly improved with the community-based health insurance (CBHI) scheme allowing the majority of the population access to healthcare services and drugs after paying their annual contribution of RWF 1000 to the scheme; 85% of the population is now covered by CBHI[19]. Performance Based Financing (PBF), introduced nationally in 2006, has achieved considerable success in improving the quality of health care services. The expansion of CBHI and PBF has helped to increase utilisation per capita of curative care services from 0.54 in 2006 to 0.66 in 2007 and average general emergency referrals from 8 to 16 per month[20].

Although the membership level of the CBHI has increased enormously over the last few years, not everybody has joined the CBHI and the low budget level does not allow the MoH to subsidise all those who cannot afford to pay the CBHI contribution themselves, leaving a substantial number of poor people without access to health services. The budget of the pooling risk fund is insufficient and at district level most pools are unable to pay hospitals timely for costs incurred.

There is a lack of up-to-date comprehensive costing information, although some studies have been done. In particular studies are lacking on the impact of the proposed increase of PBF from USD 1.20 to USD 2.90 per capita over the coming years. At the same time there is not enough attention for improving efficiency of service provision. The health costing study by Twubakane showed that confessional health facilities provide all types of services consistently at a lower cost than public services. There has been little increase in internal revenue raised by district and referral hospitals, while the internal revenues of health centres increased 7-fold since 2002 (PER 2006-2007).

Every effort will be made to increase the amount of non-earmarked financial resources available to the health sector, by increasing the share of GoR expenditures on health to 15% of the total GoR budget, by piloting a progressive CBHI contribution scheme and by convincing more development partners to put (part of) their support to the health sector through sector budget support.

[18] NHA Accounts, 2006.
[19] CTAMS, August 2008.
[20] MoH, 2008. Annual report 2007 – Performance-based Financing in the Rwandan Health Sector.

Financial sustainability will be improved by elaborating exit strategies for project interventions. A study will be undertaken to measure the long-term financial impact on the total health budget of the community-based health insurance, the performance-based financing scheme and the scaled up community health programme, so that measures can be taken to ensure sustainability of these important programmes.

In order to create more incentives for health facilities and CHWs to promote utilisation of quality health services, the budget for PBF will be increased by shifting funds from financing inputs to financing output indicators.

To increase coverage of health insurance to all Rwandan people, identification of indigents has to improve in order to facilitate their inclusion in the CBHI. The MoH will increase the budget allocation to the pooling risk fund and at the same time cross-subsidisation by the rich to the poor will be enhanced by an increased contribution of private and social insurance schemes to the pooling risk fund.

Money should follow priorities and evidence and therefore the health sector budget will allocate more resources to healthy lifestyles and prevention of disease, to family planning, maternal and child health care, reproductive health and nutrition, and to community health, because these very cost-effective interventions will have the highest impact on key health indicators, including health MDGs. In order to be able to do this, the MoH budget for referral hospitals will be decreased, while the latter will at the same time be supported to recover a higher percentage of their costs through insurance and fees.

Objective: To ensure financial accessibility to health services for all and sustainable and equitable financing of the health sector

Strategic interventions:
- Improve alignment and harmonization of aid
- Allocate Health Sector Budget according to priority areas (need)
- Render the Mutuelle system financially and administratively viable
- Extend PBF for HF and CHW cooperatives

Indicators
- public expenditure (including domestic, GBS and SBS) as % of GoR total expenditure
- % population covered by health insurance
- % of eligible hospital bills reimbursed by District Risk Pool
- % health facilities covered by whole package of PBF
- % CHW cooperatives covered by complete PBF package

3.4.4 Geographic accessibility

Since 2005 construction and rehabilitation of three new district hospitals and 14 new health centres has been underway. In further efforts to decrease the geographic barrier to health care, the government plans to create more health posts. The decentralization process included the creation of new administrative structures some of which have no or few health facilities (how many?). The present target of the MoH is for everyone to have access to a health facility within one hour (walking). To improve geographical accessibility emphasis is now placed on referral transportation mechanisms, and strengthening the community health workers initiative as well as building many more facilities (PER 2006-2007). Transport capacity has already improved as 71 ambulances and 570 motorcycles have been distributed to the health facilities.

The major challenge in improving geographical access (infrastructure, equipment and transportation) is insufficient funding. Still this is a very capital intensive area. Clear budget lines are needed and resources need to be allocated towards maintenance for equipment and infrastructure in most health facilities. Train FOSA to include these in their budget should improve this problem

Likewise electrification is capital intensive and given the resource constraints 22% of all health facilities do not have access to electricity, be it from the grid, a generator or solar power. Implicitly communication and IT technology in such facilities does not exist. Currently Rwanda has insufficient personnel (both quantity and quality) for infrastructure and equipment maintenance. The new orientation of the educational policy favours scientific and technical education. The open labour market for the EAC countries will reduce the insufficiency of lower and middle level technicians.

Most resources for this component in the past have come in through vertical programs especially HIV/AIDS. This money has not allowed countries to build infrastructures but has allowed money to equip health facilities for other care. HIV funds have provide 50% of health facilities with electricity and IT for 75% of facilities. Facilities or departments within health facilities that do not offer HIV/AIDS services d do not receive the same benefits. Infrastructures and equipments for general services such as surgery, maternity (especially labour wards), imaging and paediatrics is in many instances obsolete as it predates the 1994 war and genocide.

Equipment for health facilities must be regularly maintained, as to minimize the negative impact on the cost of repair and delivery of the Minimum Package of Activities (MPA) and Comprehensive Package of Activities (CPA). Management guidance regarding maintenance of equipment needs to be in place. Hospitals should be accessible for disabled people and district hospitals need equipment for rehabilitation.

Forward planning in this component and monitoring and evaluation is also important. For instance the number of new health facilities that have been constructed, rehabilitated or expanded annually is unknown. A list of equipment that has been procured for whom and when should be available.

Objective: To ensure geographical accessibility to health services for all

Strategic interventions:
- Construct, extend and rehabilitate HF according to norms and standards
- Equip all HF according to norms and standards
- Develop and implement a procurement and Maintenance framework for medical equipment and energy for the health sector
- Coordinate ambulance system management trough SAMU

Indicators
- % population within less than one hour walking distance of a Health Facility
- % HF with electricity and water
- % HF with a maintenance tracking system
- % of districts with operational SAMU

3.4.5 Drugs, vaccines and consumables

The systems related to the procurement, storage, distribution and accountability of drugs and commodities have been strengthened in the past five years. The quantification and procurement process for ARVs, OIS, Test kits and some laboratory commodities is based comes under the remit of the CPDS (Coordinated Procurement and Distribution System). This has resulted in the timeline between quantification and award of contract to be reduced to 3 to 4 months and delivery of drugs

to approximately 1 to 3 months. In turn delivery of laboratory commodities is 3 to 6 months and laboratory equipment, 12 to 20 weeks. Essential medicine procurement follow the same process and time line as other commodities. While CAMERWA has a 56.5% essential drugs currently in stock, emergency orders will bring this up to 85% by September 2009.

A comprehensive procurement plan for all commodities including essential medicines has been drafted. This initiative will enable MOH to plan, manage and respond to costs, demands etc. more effectively.

The current practice of drug distribution entails health centre pharmacists traveling to CAMERWA to collect the drugs it requires for health care delivery. If drugs are not available the FBO drug store (BUFMAR) is used. If neither can supply the required drugs and supplies a tender is made for purchase in the private pharmacies. This process will be simplified when the planned active distribution system (CAMERWA to the health facilities) is in operation by end 2009. The newly developed procurement plan will incease the availability of drugs at central level.

Drugs are currently supplied using consumption data as forecasting is not practiced at all levels. Plans to introduce consumption demand and an active distribution system that allows for the redistribution of excess drugs with a short shelf life aim to reduce costs associated with drug wastage. Furthermore, the installation of three incinerators that can effectively destroy expired and unwanted drugs will further reduce the present costs.

Accurate information for commodities distribution has been hampering distribution and tracking of drugs and supplies. In early 2009 a computerized warehouse management system will be available to health facilities including drug availability with expiry dates an bar coded packages for efficient tracking. The Logistic Management Information System will be introduced. However increasing both the accuracy of the data and using the information for quality improvement at all levels is are important and will be addressed during the role out of the National Supervisory Framework.

At the national level coordination in the pharmaceutical sector will be strengthened by establishing a Technical Working Group under the Health Cluster. The pharmaceutical policy will be revised and a National Drug Agency will be established.

By the end of 2012 all health facilities will be storing and distributing commodities (including drugs) according to established procedures. To this end warehouses will be rehabilitated, active distribution of pharmaceuticals will be encouraged, procurement procedures for pharmaceuticals will be standardised and the drug pricing policy will be finalised. Local production of basic drugs and commodities will be strengthened. Decentralised units of the Pharmacy Regulation Authority will be fully operational.

To guarantee the quality of pharmaceuticals a registration system will be initiated and regular inspections will take place. Support will be sought to establish a quality control laboratory. Equally important is to ensure rational use of pharmaceuticals, by increasing the number of facilities adhering to the essential medicine list, standard treatment guidelines and the national formulary. Rational drug use will also be promoted at the community level. Drug Therapeutic Committees in district hospitals will be strengthened and a national pharmacovigilance system will be established. In order to operationalise quality and rational use of pharmaceuticals capacity of staff in inspection, registration and rational drug use will be built and a national logistics information system will be put in place.

Use of secure and effective traditional medicines will be promoted. To this end a national policy on traditional medicine will be elaborated. An inventory of traditional healers will be made and they will

be encouraged to join associations. Guidelines on good practices for preparation, conservation and distribution of traditional medicines will be produced and training will be organised.

Objective**:** The ensure the (universal) availability and rational use at all levels of quality drugs, vaccines and consumables

Strategic interventions
- Strengthening pharmaceutical sector coordination
- Improvement of quality control of drugs
- Strengthening procurement distribution and storage
- Development of a drug price regulatory system
- Promotion of local production of drugs, commodities and other pharmaceutical products
- Strengthening the partnership between traditional healers and allopathic medical practitioners and health institutions

Indicators:
- % health facilities/community level are Adhering to the EDL, STGs and NF
- % facilitiessubmitting pharmacovigilance reports
-% health facilities with stockouts of essential medicines per quarter

3.4.6 Quality assurance

The degree of institutionalisation of quality assurance in the sector is still low as structures and systems for quality assurance are weak at all levels of the health system. Regular up to date quality assurance policies, strategies, protocols and guidelines are still lacking or not properly communicated throughout the sector. Measures of and indictors for delivery of quality health services to meet client expectations are not properly developed. Likewise quality improvement programs at all levels are still lacking.

Quality assurance is a cross-cutting issue that needs to become part and parcel of service delivery at all levels. To institutionalise quality assurance effective quality leadership and management structures need to be established: a quality management cell within the MoH, and quality councils in health facilities (target 80%). Norms and standards for minimum, complementary and tertiary service packages will be developed and accreditation and rating standards for health facilities will be introduced.

Community participation is an important aspect of quality assurance as it guarantees that patients' opinions are heard and their satisfaction with services is optimised. Community members will therefore be included in health facility quality councils, a patients' rights charter will be produced and regular satisfaction surveys will be conducted.

Three dimensions of quality have been defined ((defining, measuring & improving), which the health system should be capable of efficiently managing. Quality indicators will be agreed on and included in the HMIS and health facilities will be supervised on them. Curricula for MDs and nurses will be revised to include quality management and 90% of all staff will have received in-service training in quality management. Because quality improvement of services is a dynamic process, new approaches to quality improvement will be studied, piloted, implemented and documented continuously.

Objective: To ensure the highest attainable quality of health services at all levels

Strategic interventions:

- Strengthening the health system to effectively and efficiently improve quality of services with input from civil society and community representatives
- Institutionalizing standard setting, monitoring and regulation
- Developing and ensuring the implementation of an operational plan for accreditation and certification process at all levels of the health system

Indicators:
- % facilities involved in accreditation system by level
- % of accredited health facilities

3.4.7 Specialised services, National Referral Hospitals and research capacity

In this section research efforts, services provided at reference hospitals and specialised services such as blood transfusion services, laboratory services, and the Rwandan Biomedical Centre are described

Research
While there is no need for Rwanda to spend scarce resources on fundamental medical research, there is a need to do operational and behavioural research, directly related to improving, upscaling or financing health interventions in the Rwandan context. However, there is no research policy that could guide the kind of research needed, there is no budget line for research in the MoH and no coordination point. Capacity to write research proposals, mobilise funds and implement studies is very limited. Rwanda does have a medical journal, so dissemination of results does not have to be a problem.

Priorities setting, planning and resource allocation in health care, as well as individual clinical and preventive interventions should be based on proven effectiveness, the called evidence-based approach. To establish that evidence the role of research, as separate from and complementary to monitoring and evaluation, is important. To create an enabling environment for research a Research Committee and Institute for Health Research will be established, a medical research policy will be developed, a research budget will be agreed upon and financial incentives will be paid for research outputs. In order to create a critical mass of researchers 10 positions for will be established and 20 young scientists will be trained on design, statistics and writing up of studies.

Reference hospitals
Rwanda has four reference hospitals, one being the Psychiatric Hospital. Of the reference hospitals only one is situated outside Kigali, in Huye King Faisal Hospital serving as the top end of the referral mechanism. The referral system allows patients to pass from the health centre level through district to central reference hospital. Ambulance transport is provided if required. The table below provides details of the number of beds, admissions and Outpatients attendances for 2008. CHUK, situated in Kigali has 429 beds with 7477 admissions in 2007 and 87% occupancy rates. This has improved on the overcrowding experienced before an additional 43 beds were made available in 2006. The most common cause for admissions are Diarrhoeal Diseases, Respiratory infections, Malaria and Tuberculosis. Specialoised services not found at district hospital level includes specialised investigations, surgery and internal medicine, paediatrics, dental, ophthalmology, ENT, dermatology, neurosurgery, orthopaedics, urology, endocrinology, nephrology, physiotherapy and maternity services.

Table Reference hospitals, capacity and utilisation

Reference Hospital	Number of beds	Number of admissions	Number of out-patients	Bed occupancy

CHUB	137	7477	n/a	n/a
CHUK	429	2311	4015	87%
King Faisal	130	n/a	n/a	62%

Blood Transfusion services

The Blood transfusion service consists of the central blood transfusion unit in Kigali (CNTS) and two further centres in Huye and Mzansa. Together they are responsible for the collection, screening and distribution of blood for all transfusions required in Rwandan health facilities. An additional two centres are proposed.

Donors are volunteers and not compensated for their donations. All units of blood are screened for HIV, Hepatitis B & C, and Syphillis. In 2007 32,543 units of blood were collected and screened. HIV +ve rate was 0.5% while overall rejection rate was less than 10%, primarily due to low Hb..

Sensitisation of health care providers on the dangers of unnecessary transfusions contributed to a reduction in the number of transfusions from 19,052 (2006) to 11610 (2007).

National Reference Laboratories

The National Reference Laboratory (NRL) has the following key functions: to conduct specialized biomedical testing; to develop and support a National Laboratory Network for care and prevention and treatment; to monitor the quality of laboratory tests country wide; to develop national standards, policies and procedures for laboratory services; to support program diseases in epidemiology and surveillance activities ; to contribute towards by medical research.

Specialized testing is carried out at the National Reference Laboratory based in Kigali. Advanced testing for HIV infection including early infant diagnosis, case review and monitoring of drug resistance is provided. Specialized clinical pathology services available include hematology, biochemistry and microbiology . NRL's assistance in disease surveillance includes isolation and identification of pathogens and drug susceptibility assays.

The National Laboratory network is composed of four levels of services, including one National Reference Laboratory, four regional reference laboratories, 42 district level laboratories, over 400 health centers and private laboratories.

At each level of the laboratory network, norms and standards, including test menus by level, infrastructure and protocols are the responsibility of National Reference Laboratory.

Mental Health

The National policy on Mental Health is under development. At central level the reference hospital is responsible for the care of serious mentally ill patients and their families, for the follow up of referred cases from district level and to participate in training and supervisory activities and research into mental health. Strengthening of the promotion of mental health and care of mentally ill patients is proposed from traditional healers and community volunteers at village level through health centres and district hospitals with an emphasis on intergration of mental health into primary health care services.

Rwanda Biomedical Centre

The GoR has tasked the MoH with the creation of the Rwanda Biomedical Centre(RBC) in order to exploit synergies between different institutions of the health sector. The Centre will be comprised by

the following institutions: the KFH, the Medical Research Centre, the Medical Maintenance Centre formerly ACM, the Medical Production and Procurement Centre formerly CAMERWA and LABOPHAR, Rwanda Medical University of Medicine and Health Sciences (Faculty Medicine, KHI and the SPH) and the Institute for HIV, Disease Prevention and Control (IHDPC). The former will be merge CNLS, TRAC Plus, CNTS, NRL, Mental Health (SCPS), PEV and HCC. Its creation is part of a broader reorganization of government and how it delivers services and to strengthen the consultative framework at all levels. The rationalization is to streamline resource utilization to avoid duplication and to operationalize teams in the centre that cut across different entities, for example the training of health professionals in different ministries. The corporate services department within the new structure will allow sharing of Information Technology, Human Resources management, financial management services etc.

There will be a large degree of autonomy within the Rwanda Biomedical Centre as far as the first the 7 institutions are concerned, however the head of each institution will report to the Chief Executive Officer, who, in turn, will report directly to the Ministry of Health. An organizational chart illustrating how the current autonomous institutions of the MoH are incorporated into the structure of the RBC is included in annex 7.4.

While there is no need for Rwanda to spend scarce resources on fundamental medical research, there is a need to do operational and behavioural research, directly related to improving, upscaling or financing health interventions in the Rwandan context. However, there is no research policy that could guide the kind of research needed, there is no budget line for research in the MoH and no coordination point. Capacity to write research proposals, mobilise funds and implement studies is very limited. Rwanda does have a medical journal, so dissemination of results does not have to be a problem.

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Objective: To strengthen specialised services, National Referral Hospitals and Research capabilities

Strategic interventions
- Develop and implement a sector research agenda focused on priority areas
- Ensure community involvement in biomedical research
- The Rwandan Medical Journal is approved and functional
- Ensure an effective, secure and safe blood transfusion service
- Improve the accessibility and quality of mental health services

Indicators
- Proportion of national policies and guidelines referencing research results
- % transfusions given with blood screened according to national guidelines
- % of facilities offering the mental health package at all levels

3.4. Logical framework for the HSSP-II

Programme	*Strategic*	*Outcomes*	*Indicators*	*Targets 2012*

Objectives	*Interventions*			*(baseline)*
3 STRATEGIC OBJECTIVES				
1. To improve the accessibility to, quality of and demand for FP/MCH/RH/Nutrition services	To improve accessibility and quality of FP/RH services especially long term contraceptives Promote four ANC visits during pregnancy, including provision of PMTCT services Ensure that all deliveries are attended by qualified staff at health facilities Ensure provision of emergency obstetric and neo-natal services including referrals Expand integrated community health care package (ICHP) to all 30 districts Strengthen Integrated management of neonatal and childhood illnesses in all health facilities Promote good nutrition practices, including under fives, school	Increased uptake of FP and RH services increased full-immunization coverage in children <1 Safe facility-based deliveries increased Community based health services well utilized	Total fertility rate Maternal mortality ratio % pregnant women with 4 ANC visits) Infant mortality ratio Infant mortality ratio in poorest quintile Children under 5 mortality ratio % Women 15-49 using modern contraceptives % of children with chronic malnutrition /stunted % of fully immunized children % of deliveries in health facility	4.5 (baseline: 5.5, IDHS 2008) 600/100.000 (baseline: 750/100.000, DHS 2005) 50% (baseline 23.9%, IDHS, 2008) 50/1000 (baseline: 86/1000, DHS 2005) 99/1000 (baseline: 114, EICV 2005) 70/1000 (baseline 152/1000, DHS 2005) 40% (baseline: 27%, IDHS 2008), 2008) 27% (baseline: 43%, DHS 2005) 90% (baseline: 75% DHS, 2005) 60% (baseline: 45% IDHS 2008))

	children, pregnant and breastfeeding women Continued expansion of immunization services including pneumococcal and rotavirus Promotion of exclusive breast-feeding for 0-6 months			
2. To consolidate, expand and improve services for the prevention and control of infectious diseases				
Immunization				
	Expanded access to vaccines (catch-up campaigns, new vaccines) Outreach services for immunization	Increased proportion of children immunized against measles Pneumococcal and Rota-virus vaccines included in national immunization schedule	% Measles vaccination-coverage for children 12-24 months	95% (baseline: 75.2%, DHS 2005)
HIV				
	Improve sensitization for HIV prevention, testing and treatment, including participation of the communities	Reduced by 50% HIV incidence in the general population Increased proportion of women accessing PMTCT programs Iincreased proportion of targeted population (50% of population) tested for HIV and	HIV prevalence among 15-24 year old men and women % of pregnant women who attend ANC that are tested for HIV and know their test results % of women and	Reduced from 1% to 0.5% (as proxy for incidence in general population, baseline: 1% Trac Plus, 2008) > 90% (baseline: 75%,TRAC Plus/HAS 2008 Annual Report) 35% for women,

		received results 20% [2008] à 35%	of men aged 15-49 who reported using a condom the last time they had high risk sexual intercourse (non-married non cohabitating partner) % of HIV+ pregnant women who received ART to reduce the risk of MTCT	50% for men (baseline for 15-49 age female: 26%, male: 39%, DHS 2005) 90% (baseline: 67%, TRAC Plus/HAS 2008 Annual Report)
Malaria				
	Improve access to and quality of preventive measures	Increased proportion of children and pregnant women sleeping under insecticide treated bed nets Increased proportion of households possessing one LLIN or two or more LLINs	% of children and pregnant women using ITNs % households possessing 1 LLIN % households possessing 2 or more LLIN	85% of children and pregnant women (Baseline for children 15.8% and 12.8% for pregnant women DHS 2005 ; IDHS 2008) 58% for children and 62.3% for pregnant women) 85% (baseline: 15% DHS 2005; IDHS 2008) 55.6% 80% (baseline: 23.7% IDHS 2008))
Health Promotion and Healthy Lifestyles				
	Development of a Tobacco law to implement the WHO framework convention on tobacco control (FCTC) Sensitization of the population about the adverse effects of tobacco use	Tobacco Law in place and used Population is knowledgeable about the adverse effects of tobacco use	Tobacco Law passed	
	Development of a regulation on alcohol	Regulation on Alcohol and drug abuse in place	Regulation on Alcohol and drug abuse signed	

	consumption Sensitization of the population about the adverse effects of alcohol and drug abuse	and observed Population is knowledgeable about the adverse effects of alcohol and drug abuse		
	To promote physical exercise	Urban population is sensitized about importance of physical exercises	% of institutions (public and private) that have a schedule of physical exercise on a weekly basis	90% (baseline: n/a)
	Improvement of the environmental health and hygiene conditions of the population Improvement of Environmental health data	The use of hygienic latrines and hand washing facilities in households and institutions are promoted Improved drinking of potable water in households and schools Environmental health data included in HMIS	% of households and institutions using hygienic latrines and handwashing with soap %of households and schools exercising safe drinking water handling Environmental health data published on MoH website	Target: 80% for latrines and handwashing (baseline: handwashing with soap 34%, hygienic latrines: 28%, 2005 DHS), 80% (baseline: to be set after survey) Quarterly
		Safe health care waste handling and disposal in health facilities is promoted Use of smoke free cookers in households and institutions is promoted Participatory hygiene and sanitation transformation (PHAST)education ensured	%of health facilities with safe handling and disposal of health care waste % of households and institutions using smoke free cookers The number of hygiene clubs put in place in Imidugudu	80% (baseline: to be set after survey) Target and baseline to be set after survey 100% (baseline: 0%)
3. To expand and improve services for				

the treatment and control of diseases				
HIV/AIDS				
	Improve accessibility to HIV services Improve the linkage between health facilities and communities	Increased number of health centres with integrated VCT and prevention of mother to child transmission of HIV (PMTCT)	% of adults and children with HIV known to be on treatment 12 months after initiation of antiretroviral therapy	>91 % (baseline: 91% TRAC study 2005): stabilize "survival indicator'
		Increased antiretroviral combination therapy coverage for those with advanced HIV infection	% ARV coverage for all eligible HIV infected people	> 90% for all eligible HIV infected people for CD4 < 200 and 70% for CD4 <350
			% people with advanced HIV covered by antiretroviral combination therapy, disaggregated by age and sex	For women 90%, for men 90%, for children 90%, for adults 90% (baseline: 55%, 50%, 80%, 76% respectively
			Number of health facilities (Hospitals and Health Centres) with integrated HIV services, prevention and treatment: VCT/PMCTC/ART	46 hospitals and 508 health centres. (baseline: 44 hospitals with full package VCT/PMTC/ART and 341 health centres with VCT/PMTC and, of these, 142 have a full package VCT/PMCTC/ART, TRAC Plus, 2008)
Malaria				
	Diagnostic and curative interventions expanded	Increased proportion of under 5 with malaria that receive timely, correct and affordable treatment within 24 hours after the onset of symptoms	Malaria-attributable mortality in <5 group	Maintain at < 3%
			% of under 5 with malaria that receive timely, correct and affordable treatment within 24 hours after the onset of	90% in 2012 90% (baseline 85% in 19 HBM Districts)

			symptoms % of suspected malaria cases confirmed by either microscopy or RDT	 80% (baseline 85% in HMIS)
Tuberculosis				
	Pursue high quality DOTS expansion and enhancement Address TB/HIV collaborative activities and MDR TB by sensitization of TB patients and communities, and improving case management	Maintained TB treatment success rate for TB cases registered under Directly Observed Treatment Short Course (DOTS) Increased HIV testing rate among TB Increased success rate for treating multi-drug resistant-TB (MDR-TB)	% TB (DOTS) treatment success rate % multi-drug resistant TB (MDR-TB) cases successfully treated % HIV positive people tested for TB	>87% (baseline 76% 2005 and 86% 2008 TB annual Reports) 87% (baseline: 0% 2005; 86% 2008) >96% (baseline: 60% 2005; 96% 2008)
Non-communicable diseases				
	Development of new policy and protocols on non-communicable diseases prevention, diagnosis and care & treatment Conduct of base-line surveys	Establishment of prevalence of Diabetes, hypertension, CVD, renal disease and cancer and their risk factors Integration of care and treatment for chronic diseases into the packages for all levels of the health system	Prevalence and risk-factors of diabetes, hypertension, CVD, renal diseases and cancer are known % of Public and Private Facilities providing chronic-disease care Number of people presenting with lifestyle related diseases at health facilities Number of people presenting preventable injuries at health facilities	By 2010 Target and baseline TBD Target and baseline TBD Target and baseline TBD
Neglected tropical diseases, epidemics and emergencies				
	Improve Rwanda's ability to detect and respond to	Improved surveillance system and epidemic and	Number of surveillance officers given 2 weeks training in	70 (baseline: 0)

	epidemics and emergencies Adequate management of cases of NTDs including parasitic diseases	emergency response Reduced prevalence of soil transmitted helminthes in school aged children	epidemic investigation, detection and response Number of epidemiologists enrolled into training at masters level Prevalence of soil transmitted helminthes in school aged children	 50 (baseline: 0) 50% (baseline: 65%)
7 strategic programmes				
4. To strengthen the sector's institutional capacity				
Planning and M&E				
	Develop capacity for planning and M&E at central and decentralized level Develop a harmonized planning and M&E framework Strengthen and harmonize all HMIS systems at all levels from the community to the central level	All stakeholders provide accurate and timely data to inform and contribute to the planning process at all levels One HMIS system operationalised in the health sector	% HF reporting according to existing HMIS norms % of costed, implemented and monitored action plans	Target and baseline TBD 100%
Governance				
	Maintainance of MOH leadership in sector policy formulation, and Partner coordination Improved implementation of SWAp at	Operational SWAp at national and decentralised levels Completion of decentralisation process	% of DPs signed up to SWAp MoU % of Districts with operational SWAp % of Districts with 1 Health centre per sector % of HF with the	100% (baseline: 32%) 100% by 2010 (baseline: 0%) Target and baseline TBD Target and

	national and decentralized levels Development of the decentralised levels to strengthen the bottom-up approach in planning and policy formulation and review		full package of activities (CPA,MPA)	baseline TBD
5. To increase the availability and quality of human resources	Strengthening of productive capacity of education institutions for health professionals Improvement of management capacity, including retention and equity distribution strategies of human resources for health Continous accreditation and professional development, of HRH Improvement of technical capacity of community health workers	Health facilities meeting WHO staffing standards Distribution of health staff outside of Kigali A basic package of health care services to be delivered by CHW are defined and all CHWs are trained accordingly	Ratio of medical doctor to inhabitants Ratio of qualified nurses to inhabitants A1, A0 and Master's % of health facilities with a midwife present % of health staff outside of Kigali % CHW trained to deliver basic package of services	1/10,000 (baseline: 0.7/10,000, HRH Database, 2008) 1/5000 (baseline: 0.36/5000 (HRH Database, 2008) 1/20,000 (Baseline: 1,100,000 HRH Database, 2008) 90% (Baseline: 68% HRH Database, 2008) 100% (baseline: n/a)
6. To ensure financial accessibility to health services for all and sustainable and equitable financing of the health sector	Improve alignment and harmonization of aid Allocate Health Sector Budget according to priority areas	Total amount of non-earmarked financial resources available to the health sector increased Universal health insurance	Public health expenditure (including domestic, GBS and SBS) as % of GoR total expenditure % population	12% (baseline: 6.5% NHA, 2006) 100% (baseline:

	and need Render the Mutuelle system financially and administratively viable Extend PBF for HF and Community Health worker Cooperatives	coverage and risk equalization achieved	covered by health insurance %of eligible hospital bills reimbursed by District Pooling Risk % HF covered by the whole package of PBF (HIV & non HIV activities) % CHW cooperatives covered by complete PBF package	91% including RAMA, MMI, and private (RAMA, 2008) 100% (baseline: 66%) 100% (baseline: 70%) 100% (baseline: 0%)
7. To ensure geographical accessibility to health services for all	Construct, extend and rehabilitate HF according to norms and standards Equip all HF according to norms and standards Develop and implement a procurement and Maintenance framework for medical equipment and energy for the health sector Coordinate ambulance system management through SAMU	Geographical access of the population to health services has improved All HFs have electricity and water Availability of maintenance plan at all level Functional unit of SAMU in all districts	% of population living within less than one hour or 5 km walking distance of a HF % of HF with electricity and water % HF with a maintenance tracking system available to HFs % of districts with operational SAMU	Target: TBD (baseline: 40%, District Health System Strengthening Survey, 2008) 100% (baseline:TBD) 100% (baseline 0%) 100% (baseline:TBD)
8. To ensure the (universal) availability and rational use at all levels of quality drugs, vaccines and	Strengthening of pharmaceutical sector coordination Improvement of	Improving coordination and involvement of all stakeholders in the pharmaceutical sector to improve	% health facilities adhering to the EDL, STGs and NF % facilities submitting	100% (baseline:TBD) Target and baseline TBD

consumables	quality control of drug Strengthening procurement, distribution and storage Development of a drug price regulatory system Promotion of local production of drugs, commodities and other pharmaceutical products Strengthening the partnership between traditional healers and allopathic medical practitioners and health institutions	access to quality drugs Improving rational drug use and monitoring of unwanted effects at health facility level	pharmacovigilance reports % health facilities with stock outs of essential medicines per quarter	 Target and baseline TBD
9. To ensure the highest attainable quality of health services at all levels	Strengthening the health system to effectively and efficiently improve quality of services with input from civil society and community representatives Institutionalizing standard setting, monitoring and regulation Developing and ensuring the implementation of an operational plan	All health facilities are fully accredited Policies, norms and standards are regularly updated and communicated All facilities have quality improvement teams and are involved in accreditation system	% of facilities involved in accreditation system by level % of accredited facilities	100% (baseline: TBD) 100% (baseline: TBD)

	for accreditation and certification process at all levels of health system			
10. To strengthen specialised services, National Referral Hospitals and Research capabilities	Develop and implement a sector research agenda focused on priority areas Ensure community involvement in biomedical research The Rwanda Medical Journal is improved and functional Ensuring an effective, secure and safe blood transfusion services Improvement of accessibility and quality of mental health services	Local capacity strengthened to carry out research Research results are used to inform program decisions, and disseminated nationally and internationally Community-advisory research-board is established and functional at national level Secure and safe blood transfusions remain at 100% Mental health is integrated in package of all facilities (Protocols and Guidelines) and in community	% of national policies and guidelines referencing research results % transfusions given with blood screened according to national guidelines % of facilities offering the mental health package at all levels	Target and baseline TBD Maintain at 100% (baseline: 100%, CNTS, 2009) Target and baseline TBD

3.5. Contribution to EDPRS Flagship Programmes

The EDPRS contains three flagship programmes. This section describes the contirbution the HSSP-II will make to achieve the objectives of these three programmes.

1. Sustainable growth for jobs and exports

The contribution of the health sector to this flagship programme is limited, but the intended employment of more health professionals will have a modest impact on the sustainable growth for jobs in the country.

2. Vision 2020 Umurenge – poverty reduction in rural areas

The health sector makes a substantial contribution to poverty reduction in rural areas. First of all, building and rehabilitating health facilities in rural areas, as well as providing an incentive package for

health workers to work there, will increase access of the remote population to health services, and being/staying healthy will enable them to be more economically active, thereby reducing the odds they will stay or become poor. Secondly, the health sector heavily subsidises the community health insurance scheme by paying 100% of premiums for indigents to join the scheme. This will also increase access to health services for the poor, by reducing financial barriers. Thirdly, an effort is underway to greatly increase the number of services that will be delivered at the community level, by training Community Health Workers and equipping them with the necessary tools, drugs and other supplies to provide basic services to the population in their communities. This obviously further increases access to basic health services to the poor, as they will save indirect costs that would otherwise be incurred by visiting a health facility (loss of income and transport costs).

3. Governance

A separate strategic objective has been included to improve governance in the health sector, by increasing participation of the population in planning and monitoring services, improving management, increasing feedback to lower levels, ensuring better coordination between the government on the one hand and development and implementation partners on the other hand. The decentralisation process will be strengthened by supporting districts in planning, monitoring and coordination, encouraging peer review between districts and conducting joint supervision visits (see 12 on previous page for more details).

4. Implementation of HSSP-II

4.1. Major implementation challenges (risks) and solutions

The HSSP-II is an ambitious document, containing many new initiatives. This will necessitate continuous capacity building of many national and district staff, as well as health workers. For example, the development and scaling up of quality health services for non-communicable diseases will make it necessary for health workers at all levels to be trained in new protocols. At the national and district levels, real progress in institutional strengthening and governance will depend on MoH and district staff investing time and effort in learning new ways of working.

CHWs are being charged with numerous new tasks, which will be very demanding on them, in particular because they work on a voluntary basis. Their numbers will need to increase substantially in order to cope with the growing quantity and diversity of tasks. Sufficient incentives (PBF) and regular supervision are a prerequisite to sustained motivation and delivery of quality services.

The planned increase in PBF per capita from USD 1.20 to USD 2.90 will only be possible if very large new money will become available, or if funds used so far to pay for inputs (drugs, equipment, operational costs, or salaries) are transferred to the PBF scheme and awarded to the health facilities on the basis of realised outputs. It remains to be seen how funds could be freed up for PBF in this manner. However, care must be taken that not all health services be financed on the basis of performance, especially where a volume incentive is not appropriate.

The ambitious plans for the coming four years will be costly. Because Rwanda is currently dependent on development partner funding for the provision of some of its most essential services, continuous efforts to consolidate and increase the percentage of the GoR's general budget on health, and to discuss the need for longer term commitments with development partners are necessary.

4.2. Coordination and management of HSSP-II; SWAp

The HSSP-I provided a comprehensive framework guiding the sector-wide approach, which continues to be developed based on principles of partnership and collaboration between the many and diverse implementing partners. The MoU signed in 2007 clearly spells out the intention of all partners to work within the framework of the HSSP-I. Although in 2008 three DPs have started to channel part of their financial support for the health sector through sector budget support (SBS), a considerable amount of external funds continues to be spent through discrete projects. Additionally, other ministries besides the MoH implement a substantial number of activities directly or indirectly impacting on health. And private not-for-profit (FBOs and NGOs) and the private-for-profit sectors provide health services to a large part of the population. At the national level a number of agencies operate to support services in the field or to promote the interests of specific professional groups. Such an environment necessitates diligent aid coordination efforts, which can only be effectively undertaken when specific human resources are deployed to address the many issues involved.

This HSSP therefore plans to establish a separate Desk within the MoH, where collaboration with all these groups will be coordinated. The guiding principle will be that of establishing formal partnerships, in order to:

- streamline funds and management procedures (including procurement of goods and disbursement of funds)
- increase information flows
- avoid duplication of efforts

- promote joint monitoring and review exercises (in collaboration with the M&E Task Force)
- decrease transaction costs associated with individual one-on-one negotiations and consultations between government and partners

Once this Desk is operational, it can serve as the secretariat for the HSCG and its TWGs, ensuring that both regular, properly coordinated meetings of these bodies occurs and that appropriate actions are being followed up. Similar coordination meetings with other ministries and civil society organisations can be organised on a regular basis. This will enable MoH to better fulfil its role as the lead agency in the health sector.

In order to further operationalise the harmonisation between DPs and government, a Common Management Arrangement/harmonization manual will be developed together with relevant stakeholders at all levels, based on the National Aid Policy, SWAp and MoU.

4.3. Roles of central and local government

In the context of decentralisation the roles of central ministries, including the MoH, have changed. The responsibility for the provision of primary and secondary health care services lies with the districts (apart from the national hospitals, which fall directly under the remit of the MoH). Districts receive funds from the GoR through direct transfers by the MoF, and some benefit from donor monies. HFs also collect some revenues through block grants for salaries, PBF, pre-payment schemes and direct payments from patients. The districts will use the HSSP-II, which they have helped to develop, as guidance for elaboration of the health component in their own district development plans, enabling them to put emphasis on issues of particular local importance. The relationship between the District Health Office and the MoH is a technical one, whereby the MoH and its many agencies provide advice and guidance on issues such as quality of care, planning, management of HFs, good governance in health, efficient deployment of human resources, and rational use of drugs. The central level also plays an important role in building and renovation of infrastructure and in in-service training of health workers. In return, the districts are responsible for administrative supervision of health facilities and collect essential indicators on health and services, which are shared with the MoH.

This HSSP will ensure that the HMIS will be integrated (that is, it will incorporate data from all facilities and from CHWs, for all disease programmes) and comprehensive (that is, only essential data will be routinely collected to decrease the workload of HF staff). In order to improve information and communication between the central level and the districts, a District Support Desk will be established at the MoH.

4.4. Annual operational plans and budgets

Within the decentralised environment it is deemed inappropriate to develop a detailed five-year operational plan. The HSSP-II is a strategic output-based plan. Although it contains activities in the logframe, these will have to be further detailed once they are implemented. Therefore the HSSP-II will be implemented through national Joint Annual Work Plans developed annually by the MoH and all partners as part of three year rolling plans within the structure of the MTEF.

At the district level the district health offices will also produce annual operational plans and health districts will receive technical support as needed from the central level in the elaboration of these plans. Annual operational plans will respect the budget cycle timetable and be produced in time to inform the following year's activities. Between different districts, health needs and priorities differ

and so it is entirely appropriate that the development of operational plans is institutionalised at decentralised levels for the
identification of priorities, which are district specific.

Operational plans will show detailed activities and a schedule of when and by whom they will be carried out, logically linked to each output. Each activity will specify a budget, based upon a calculation of required inputs. In this way, the activities of all actors at decentralised levels will be consistent with the overall strategic direction of the HSSP and ensure all components of the health system work towards the same objectives and goals.

5. Monitoring and evaluation

5.1. Mechanisms for M&E

As stakeholders increasingly use these health sector performance indicators to measure the returns on their investment, the requirement to put robust monitoring, review and evaluation mechanisms in place becomes all the more pressing.

The set of indicators defined in section 5.3 below is a selection of the most important indicators for measuring the sector performance in the next 4 years (2009-2012). They are derived from and are informed by the country's long term vision and strategic direction (Vision 2020, MDGs and the EDPRS). Included are some of the most important indicators specified within the logframes, which aim to measure progress towards the attainment of the desired objectives and outputs. The main sources of data for monitoring, review and evaluation of the sector are: the HMIS, sentinel site surveillance systems, household surveys such as DHS, EICV, SPA, MICS, CWIQ, supervision reports, specially commissioned surveys and studies such as NHA, PETS and Health PER, citizen report cards, and disease programme reports.

5.2. Joint Sector Review

Sector performance review will be carried out annually, led by the Ministry of Health, as part of the joint health sector review. The meeting will be attended by both internal and external stakeholders in the sector, and will use the annual and periodic performance indicators as well as process indictors and MTEF monitoring reports as the basis for assessment.

The main purpose of the joint sector review is to take stock of progress made in the sector, identify challenges and the reasons for them. A joint review will harmonise the annual reviews of development partners and thereby reduce the transactions costs of multiple external missions. The results obtained from the review would then be used to inform future strategies and plans and to reconcile plans with available budget by agreeing on most pressing priorities.

5.3. Presentation of key performance indicators

Table 5.1 gives an overview of health-related indicators and targets specifically mentioned in Vision 2020, the MDGs, the EDPRS, the CPAF and the SBS agreement. Baseline data are taken from the latest information available: the I-DHS and DHS 2005 specific studies, data compiled by disease programmes or the HMIS system.

Table 5.1 Key indicators and targets in Vision 2020, MDGs, EDPRS, CPAF and SBS

Indicator	Baseline 2005/6/7	Target Vision 2020	Target MDGs 2015	Target EDPRS 2012	Target CPAF 2012	Target SBS	Target HSSP
Utilisation rate curative services outside Kigali (HC and private dispensaries)	TBD 2009 end					0.6	TBD
Total fertility rate (average no. of children per woman)	5.5 [2]	4.5		4.5	4.5		4.5
Women 15-49 using modern contraceptive methods	27% [2]			70%	50%	✓	50%

Indicator	Baseline 2005/6/7	Target Vision 2020	Target MDGs 2015	Target EDPRS 2012	Target CPAF 2012	Target SBS	Target HSSP
Maternal mortality rate per 100,000 live births	750 [3]	200	268	600	600		600
% of pregnant women with 4 antenatal visits	23.9%[2]			50%			50%
% of deliveries in HF	45.2[2]			75%	60%	52%	75%
Infant mortality rate per 1000 live births	62 [2]	50	28	70	70		50
IMR in bottom wealth quintile per 1000 live births	114 [4]			99			99
U5 child mortality rate per 1000 live births	103[2]		47				70
Children and pregnant women using ITNs	15.8% (children) 12.8% (pregnant women)[3]		85%				85%
% of children <5 stunted (height for age)	45% [3]		24.5%	27.2%			27%
% of children <5 underweight (weight for age)	22% [3]		14.5%	14%			14%
% of children <5 wasted (weight for height)	4% [3]		2%	2.5%			2.5%
% of children fully immunised	75% [3]			85%	95%	92%	85% 95%
HIV prevalence in the population aged 15-24	1.0% [3]	---		0.5%			0.5%
% of still alive (adults & children) and on treatment 12 months after initiation of ART	89 % children[1] 86% adults			90%			
% of HIV Pregnant women who received ART to reduce the risk of MTCT	5.6%1			90%			
Condom utilisation rate by gender	26% women 39% men1			35% W 50% M		✓	30%

[1] HMIS
[2] IDHS 2008
[3] DHS 2005
[4] EICV
[5] SPA 2007

5.4. Evaluation

As mentioned above Joint Sector Reviews with all development and implementation partners will take place annually using all information available. HSSP-II will be externally evaluated at mid-term (in 2010). The exact timing will be chosen in such a way that use can be made of the preliminary results of the DHS survey, also planned to take place in 2010. A final external evaluation is planned for April/May 2012, in time for the results to feed into the planning process for the next EDPRS and HSSP-III.

5.5. Communication on progress

Each year after the Joint Annual Review a report will be produced with findings and recommendations, which will be widely distributed to all partners and stakeholders, on the national and district levels. Likewise any external reviews or evaluations will be disseminated. The M&E unit in the MoH will monitor the implementation of recommendations resulting from the annual reviews and external evaluations.

6. Costing and financing the HSSP-II

The Health Sector Strategic Plan was costing using two different methodologies. This was done to ensure a degree of accuracy was met and to cross-validate some of the costs. One of the approaches takes a bottom-up and system-oriented perspective, estimating the cost of all inputs required to meet the needs of the Health Sector Strategic Plan. Another approach is the Marginal Budgeting for Bottlenecks (MBB), which focuses more on the Millennium Development Goals and looks at what incremental resources are needed to meet key national targets. Both methods are complementary and presented in this chapter. For each, the methodology is briefly described, followed by a summary view of the results of the costing according to key dimension such as the level of care and the programme objectives. The gap analysis is then presented taking into account various scenarios. Both approaches have yielded very comparable results.

6.1. Bottom-up input-based Costing Methodology

6.1.1 Methodology

The Health Sector Strategic Plan was fully costed using an input-based approach, taking into account all the different levels of the health sector:

- District level (primary and secondary levels of care; and district management systems)
- Tertiary care (the national referral hospitals)
- National Programs (national programs managed centrally, including pre-service training institutions)

The district level costing was done based on a detailed bottom-up and needs-based costing carried out in 2008 in order to fully implement Rwanda's District Health System Strengthening Framework. This is a Framework that was developed nationally building on good practices being carried out across Rwanda and on current national norms and policies. As such standards were set as to what key and comprehensive features were needed in order to deliver quality care to the population with a view to attaining the Millennium Development Goals and other national objectives such as Vision 2020 and the EDPRS. Each district was assessed in detail, including all health facilities in the country, and strategies were developed in a participatory manner to address health system constraints. This includes, for example, the need for a larger and better motivated health workforce, efficient drugs & commodities distribution systems, financial accessibility to care for all, decent infrastructure and functioning equipment, a functioning ambulance network, organized and motivated community health workers, nutritional support for vulnerable patients, strengthened IT infrastructure, quality assurance mechanisms in place and strong governance. A results-based logical framework was used which defined a set of goals, strategies and activities needed to comprehensively strengthen the healthcare system. Resource requirements were estimated for the various activities needed to carry out each strategy.

Assumptions made about the input costs for the activities such as salaries, drugs, equipment, maintenance, etc. are based on the current known costs in Rwanda. All costs were broken down either as investment or operational costs. In this approach, the system was fully costed, including both additional investments required to upgrade districts to desired standards and full operational costs to allow the health system to function. Within this approach specific services were not costed out individually. Rather, this was a cross-cutting and system-oriented approach looking at what inputs are needed to effectively and efficiently provide the Minimum Package of Activities at the Health Center level and the Complementary Package of Activities at the District Hospital level. Also

included in this costing were the district-level institutions such as the District Health Unit, the District Pharmacy as well as the District Mutuelle Office.

The tertiary level costing was done based on the available strategic plans of the referral hospitals. As these reflected additional costs, they were added to the current on-going budgets of these institutions.

National level costs were estimated using current budgets and complementing this with key cost drivers for each major program. These include for instances the national needs for drugs and commodities managed centrally such as ARVs and ITNs, as well as medical equipment and human resource needs for national institutions. Needs and available resource estimates associated with the health education institutions previously falling under the Education Sector have also been included.

All these levels of costs were grouped and categorized within the HSSP objectives and programmes. In this methodology, we have assumed that each cost contributes to one of the three Strategic Objectives AND one of the seven strategic programmes. The primary perspective used, however, was a health systems perspective since most interventions cut across vertical programmes. Where the link to a strategic programme was not evident (in particular for the primary and secondary levels of care), an effort was made to estimate and distribute each strategy or cost driver across the three Strategic Objectives. Furthermore, each cost was associated to a cost category (e.g., salaries, drugs, equipment, vehicles, etc.) for ease of analysis.

6.1.2 Overview of costing results

Building on the above methodology, it is estimated that the resources required, both operational and investment, to fully implement ***the Health Sector Strategic Plan will approximate US$ 453 million in Year 1. By the third and final year of implementation, resource requirements will have increased to approximately US$ 516 million.*** On a per capita basis, this represents about US$47 on average per year over the 3 years of the Health Sector Strategic Plan. Across the 3 years, the total needs add up to US$ 1.4 billion. These cost estimates are comparable to the results of the Marginal Budgeting for Bottlenecks costing.

This total resource requirement is broken down by operational (i.e. recurrent) and investment (i.e. one-time) costs. As Table 6.1 shows, investment costs are spread out across the three years, though slightly skewered towards the first two years, reflecting the need for up-front investments to continue the scaling-up of quality services across the country. Operational costs tend to increase over time as services are scaled-up and overall costs increase.

Table 6.1

Cost break-down by Investments vs Operational (US$ million)

	Year 1	Year 2	Year 3	Total	Av. $/cap/yr	% of total
Investment	133.5	137.6	124.2	395.3	13.0	27.4%
Operational	319.4	338.8	391.8	1,049.9	34.5	72.6%
Grand Total	***452.9***	***476.4***	***516.0***	***1,445.2***	***47.4***	***100.0%***

Resource requirements were also broken-down by levels of care. For the purposes of this analysis, costs were broken-down by district and national level. District costs include community care (primarily including Community Health Workers), Primary Care at the Health Centre level; and Secondary Care at the District Hospital level. It also includes costs associated to managing the health system in a decentralized model such as the District Health Units and the District Pharmacies. The

national level includes Tertiary Care such as the referral hospitals, National Programs and Health Education. It is important to take note that some of the costs associated to national programs are in fact directly benefitting the district level such as the pooled procurement of certain drugs and commodities.

Table 6.2 shows that close to 60% of costs are incurred directly at the district level, the majority of which is at the primary healthcare level. The significant amount of resources earmarked as investments at the primary and secondary levels are required to increase geographical accessibility and ensure decent basic infrastructure as well as functioning equipments. It also factors in, for example, the strengthening of the ambulance network.

Table 6.2

Cost break-down by level of care (US$ million)

Levels of care & type of cost	Year 1	Year 2	Year 3	Total	Av. $/cap/yr	% of total
District	***252.2***	***267.2***	***301.5***	***820.9***	***26.9***	***56.8%***
Community Care	**24.5**	**23.2**	**20.7**	**68.4**	**2.2**	**4.7%**
Investment	8.5	5.3	1.6	15.4	0.5	1.1%
Operational	16.0	17.9	19.1	53.0	1.7	3.7%
Primary Care	**135.1**	**140.1**	**157.8**	**433.0**	**14.2**	**30.0%**
Investment	42.0	44.6	40.8	127.4	4.2	8.8%
Operational	93.0	95.5	117.1	305.6	10.0	21.1%
Secondary Care	**72.0**	**82.0**	**99.5**	**253.6**	**8.3**	**17.5%**
Investment	15.6	16.5	15.1	47.2	1.5	3.3%
Operational	56.5	65.5	84.4	206.4	6.8	14.3%
District Health Unit	**20.6**	**21.9**	**23.5**	**65.9**	**2.2**	**4.6%**
Investment	7.3	7.8	7.1	22.2	0.7	1.5%
Operational	13.2	14.1	16.4	43.7	1.4	3.0%
National	***200.7***	***209.1***	***214.5***	***624.3***	***20.5***	***43.2%***
National Level	**113.5**	**118.1**	**123.5**	**355.1**	**11.7**	**24.6%**
Investment	24.5	26.0	23.7	74.1	2.4	5.1%
Operational	89.0	92.2	99.8	280.9	9.2	19.4%
Tertiary Care	**75.0**	**78.3**	**77.7**	**230.9**	**7.6**	**16.0%**
Investment	23.3	24.7	22.6	70.7	2.3	4.9%
Operational	51.7	53.5	55.1	160.3	5.3	11.1%
Health Education	**12.3**	**12.8**	**13.3**	**38.3**	**1.3**	**2.7%**
Investment	12.3	12.8	13.3	38.3	1.3	2.7%
Grand Total	***452.9***	***476.4***	***516.0***	***1,445.2***	***47.4***	***100%***

As discussed throughout this document, the Health Sector Strategic Plan has 3 strategic objectives related to services delivery which are supported by 7 cross-cutting strategic programmes. They are linked in a matrix. For this reason, the bottom-up input-based costing approach assumes that all resource requirements contribute jointly to the strategic objectives and programmes. The tables below show how resource requirements are distributed across these objectives and programmes.

Table 6.3 highlights that the efforts to strengthen treatment services will require 50% of the total needs. Improving accessibility to quality maternal and child health, family planning, reproductive health, and nutritional services will require about US$432 million over the 3 years, or about 30% of the total. Prevention and control of services requires relatively fewer resources, which reflects the

fact that such services are typically much less costly than treatment services. However, the first objective, which relates to maternal and child health, also has a large prevention component.

Table 6.3

Cost break-down by 3 strategic objectives (US$ million)

Client-oriented objectives	Year 1	Year 2	Year 3	Total	Av. $/cap/yr	% of total
1. To improve the accesibility to, quality of and demand for FP/MCH/RH/Nutrition services	**134.8**	**140.1**	**157.3**	**432.2**	**14.2**	**29.9%**
Investment	36.0	36.1	31.6	103.7	3.4	7.2%
Operational	98.7	104.0	125.7	328.5	10.8	22.7%
2. To expand and improve services for the prevention and control of diseases	**82.9**	**86.2**	**88.5**	**257.6**	**8.5**	**17.8%**
Investment	38.8	39.6	35.4	113.8	3.7	7.9%
Operational	44.1	46.6	53.1	143.8	4.7	10.0%
3. To expand and improve services for the treatment of diseases	**235.2**	**250.0**	**270.2**	**755.4**	**24.8**	**52.3%**
Investment	58.7	61.9	57.3	177.8	5.8	12.3%
Operational	176.6	188.1	212.9	577.6	19.0	40.0%
Grand Total	***452.9***	***476.4***	***516.0***	***1,445.2***	***47.4***	***100%***

Table 6.4 shows the break-down by strategic programme objectives.

Table 6.4

Cost break-down by 7 system-oriented programmes (US$ million)

System-oriented objectives	Year 1	Year 2	Year 3	Total	Av cost/ cap/yr	% of total
1. To strengthen the sector's institutional capacity	**15.7**	**16.6**	**18.6**	**50.9**	**1.7**	**3.5%**
Investment	0.6	0.6	0.5	1.7	0.1	0.1%
Operational	15.1	16.0	18.1	49.2	1.6	3.4%
2. To increase the availabilty and quality of human resources	**136.7**	**137.0**	**163.9**	**437.6**	**14.4**	**30.3%**
Investment	25.8	23.4	19.8	69.0	2.3	4.8%
Operational	110.8	113.6	144.1	368.6	12.1	25.5%
3. To ensure financial accessibilty to health services for all and sustainable health financing	**36.7**	**40.2**	**43.4**	**120.3**	**3.9**	**8.3%**
Investment	0.3	0.3	0.3	0.9	0.0	0.1%
Operational	36.4	39.8	43.1	119.4	3.9	8.3%
4. To ensure geographical accessibilty to health services for all	**80.6**	**88.4**	**86.1**	**255.1**	**8.4**	**17.6%**
Investment	59.7	63.3	57.9	180.9	5.9	12.5%
Operational	20.9	25.1	28.2	74.2	2.4	5.1%
5.To ensure the availability and rational use at all levels of quality drugs, vaccines and consumables	**93.3**	**101.7**	**111.4**	**306.5**	**10.1**	**21.2%**
Investment	23.8	25.2	23.1	72.1	2.4	5.0%
Operational	69.5	76.5	88.3	234.3	7.7	16.2%
6. To ensure the highest attainable quality of health services at all levels	**10.6**	**9.7**	**10.2**	**30.4**	**1.0**	**2.1%**
Operational	10.6	9.7	10.2	30.4	1.0	2.1%
7. To strengthen specialised services, National Referral Hospitals and Research capacity	**79.3**	**82.8**	**82.4**	**244.5**	**8.0**	**16.9%**
Investment	23.3	24.7	22.6	70.7	2.3	4.9%
Operational	56.0	58.1	59.8	173.8	5.7	12.0%
Grand Total	***452.9***	***476.4***	***516.0***	***1,445.2***	***47.4***	***100%***

Three programme objectives – Human Resources for Health, Drugs, Supply & Logistics, and Infrastructure & Equipment – account for nearly 70% of resource requirements. The last programme, which primarily concerns the strengthening and running of the national referral hospital is also relatively important, at 17% of the total. The figures show that strengthening institutional capacity and the quality of care are relatively less costly programmes to implement. It must be recognized, however, that these programmes are cross-cutting and consequently not easy to quantify or differentiate in terms of resource requirements, which might have resulted in slight under-costing. Table 6.5 shows how the strategic objectives and programmes relate to each other in a matrix framework.

Table 6.5

Average cost per year by strategic and programme objective (US$ million)

	1. FP/MCH/RH /Nutrition	%	2. Prevention and Control	%	3. Treatment	%	*Average total per year*	*%*
1. Institutional capacity	5.3	1.1%	3.9	0.8%	7.7	1.6%	**17.0**	***3.5%***
2. Human resources for Health	54.4	11.3%	22.9	4.8%	68.6	14.2%	**145.9**	***30.3%***
3. Health financing	14.5	3.0%	11.8	2.4%	13.8	2.9%	**40.1**	***8.3%***
4. Geographical accessibilty	31.3	6.5%	15.3	3.2%	38.5	8.0%	**85.0**	***17.6%***
5. Drugs, vaccines and consumables	22.2	4.6%	25.8	5.4%	54.1	11.2%	**102.2**	***21.2%***
6. Quality of health services	3.1	0.6%	2.2	0.5%	4.8	1.0%	**10.1**	***2.1%***
7. Nat Referral Hospitals and Research	13.3	2.8%	3.9	0.8%	64.3	13.4%	**81.5**	***16.9%***
Average total per year	***144.1***	***29.9%***	***85.9***	***17.8%***	***251.8***	***52.3%***	***481.7***	***100.0%***

6.1.3 Financing gap analysis

The resource requirements described above need to be assessed against the resources available in Rwanda, taking into account the macro-economic outlook of the country. In order to do this 3 scenarios were developed to simulate the potential amount of resources available. These build on similar assumptions to the Marginal Budgeting for Bottleneck approach.

Table 6.6

Scenario	Government Budget	Facility-based revenues	External support
1. "As is"	Current share of Health Sector (HS) budget is maintained throughout HSSPII period (roughly 10% of overall budget)	Low growth, at 2% per annum	Remains at current levels
2. Moderate Growth	Share of HS budget increases to 12% of total GOR budget by 2012 (implies an 18% year-on-year growth)	Growth at 5% per annum	Increases by 5% per year
3. "Meeting the needs"	Share of HS budget increases to reach 15% of total GOR budget by 2012 - the "Abudja" commitment (implies a 27% year-on-year growth)	Growth at 10% per annum	Increases by about 30% per year

Today, the majority of resources contributing to the Health Sector Strategic Plan are external, amounting to about 62% of the total. Government resources amount to about 29%, while facility-based revenue makes up the remaining 9%. The share of government contribution to the Health Sector is expected to increase to about 40% in Scenarios 1 and 2. Though the government's health budget under Scenario 3 increases dramatically the equally large increase in external resources necessary to finance the resource gap means that the relative share of contribution between government sources and external support remains constant.

The 2009 baseline of available resources has been determined largely using the Joint Annual Work Plan (JAWP 2009), which captures the vast majority of resources dedicated to the health sector budgeted for Rwanda in 2009. After excluding administrative and overhead costs, a share of these resources (20%) was further discounted to reflect the fact that some external support is sometimes neither 'on budget' nor 'on plan'. Furthermore, a large share of the external support – nearly 25% - comes in the form of Technical Assistance, which cannot all be counted against specific needs of the health sector plan. This reduced the estimated amount of available resources to about US$200 million from external sources. In addition to the funds indicated from government sources, some

US$ 15 million were added to the government source of funding to account for resources that were previously accounted for in other ministries or sectors such as education. The relevant external resources together with the government resources and those generated at the facility-level were then classified along similar dimensions as the Health Sector Strategic Plan's resource requirements in order to estimate a financing gap. The above scenarios were then used to project these available resources to 2012. The ensuing gap should be seen as indicative: indeed, it remains a challenge to accurately match resource needs with available funds. Nevertheless, the tables below provide an indication of where the largest resource gaps remain.

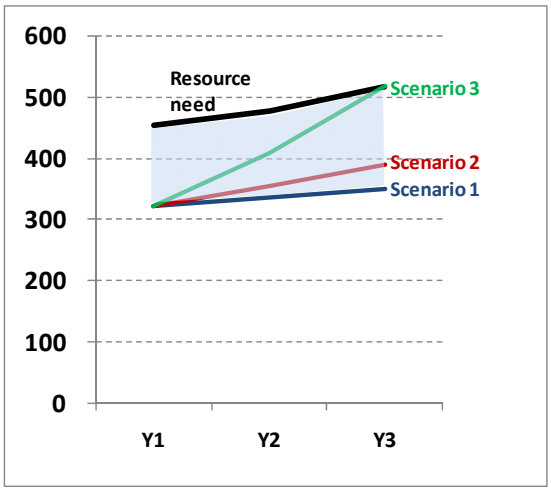
Table 6.7 and Graph 6.8 show the overall gap by scenario for the three years of the Health Sector Strategic Plan.

Table 6.7

Overall Gap analysis (US$ millions)

	Scenario 1			*Scenario 2*			*Scenario 3*		
	Y1	Y2	Y3	Y1	Y2	Y3	Y1	Y2	Y3
Resource Needs	453	476	516	453	476	516	453	476	516
Resources Available	313	324	336	313	341	372	313	401	517
Financing Gap	140	152	180	140	135	144	140	75	(1)
Gap per capita	*14.1*	*15.0*	*17.2*	*14.1*	*13.3*	*13.8*	*14.1*	*7.4*	*(0.1)*

Graph 6.8



As the graph clearly shows, only Scenario 3 would enable Rwanda to meet its needs by 2012. Both Scenarios 1 and 2, which are more likely scenarios especially given the current international economic climate, would leave a significant share of the needs unfunded. This may have an impact on the pace of planned implementation, and of Rwanda's ability to reach its objectives. More importantly, this situation will require a better management of existing resources. Indeed, if all the external resources indicated in the Joint Annual Work Plan were directed towards priorities indicated in this Plan, an additional US$ 50-60 million would potentially be available.

Table 6.8 shows the gap by levels of care, split between national and district level. It should be noted that a share of the resources labelled as 'national' are also contributing directly to district health systems, thus creating a slight bias in the gap analysis. Even accounting for that, the figures clearly indicate that the largest gap to be filled remains at the district level, which means that a degree of reallocation may be necessary over time to address this imbalance.

Table 6.8

Gap analysis, by level of care (US$ millions)									
	Scenario 1			*Scenario 2*			*Scenario 3*		
	Y1	Y2	Y3	Y1	Y2	Y3	Y1	Y2	Y3
Resource Needs	**453**	**476**	**516**	**453**	**476**	**516**	**453**	**476**	**516**
District level	252	267	301	252	267	301	252	267	301
National level	201	209	214	201	209	214	201	209	214
Resources Available	**313**	**324**	**336**	**313**	**341**	**372**	**313**	**401**	**517**
District level	171	177	184	171	186	203	171	218	279
National level	142	147	152	142	155	169	142	184	238
Financing Gap	**140**	**152**	**180**	**140**	**135**	**144**	**140**	**75**	**(1)**
District level	81	90	118	81	81	98	81	50	23
National level	58	62	62	58	54	46	58	26	(24)

The two next tables show the gap analysis by objective of the Health Sector Strategic Plan. As the analysis becomes more detailed, aligning resource requirements with available resources becomes more challenging, if only because it is not always easy to allocate certain costs or revenues to any given objective and programme. This is compounded by the fact that there still remains in the health sector a certain degree of mis-alignment between the needs outlined in the Health Sector Strategic Plan and the earmarking of external resources. Given the large share of external resources supporting the health sector, this naturally creates biases in the analysis.

Table 6.9 shows the gap by Strategic Objective. The figures indicate that the largest gap as a % of the need is in the area of Maternal and Child Health, family planning, reproductive health and nutritional services followed by the Treatment of diseases. The Objective related to Prevention has a smaller relative gap. As with other areas, the resource gap should be treated with caution: distortion resulting from existing available resources not always matching with Rwanda's needs and priorities needs to be factored in. Furthermore, the tables below show that the total gap result may hide inequalities between programs. Indeed, while Scenario 3 shows that the overall financial needs are met in 2012, there remains a significant gap in maternal and child health. This implies that a re-allocation of resources between program areas may be necessary over time.

Table 6.9

	Gap analysis, by Strategic Objective (US$ millions)								
	Scenario 1			*Scenario 2*			*Scenario 3*		
	Y1	Y2	Y3	Y1	Y2	Y3	Y1	Y2	Y3
Resource Needs	**453**	**476**	**516**	**453**	**476**	**516**	**453**	**476**	**516**
1. To improve the accesibility to, quality of and demand for **FP/MCH/RH/Nutrition services**	135	140	157	135	140	157	135	140	157
2. To expand and improve services for the **prevention and control** of diseases	83	86	89	83	86	89	83	86	89
3. To expand and improve services for the **treatment** of diseases	235	250	270	235	250	270	235	250	270
Resources Available	**313**	**324**	**336**	**313**	**341**	**372**	**313**	**401**	**517**
1. To improve the accesibility to, quality of and demand for **FP/MCH/RH/Nutrition services**	79	81	84	79	85	93	79	101	130
2. To expand and improve services for the **prevention and control** of diseases	66	68	71	66	72	78	66	85	109
3. To expand and improve services for the **treatment** of diseases	169	175	181	169	184	200	169	216	279
Financing Gap	**140**	**152**	**180**	**140**	**135**	**144**	**140**	**75**	**(1)**
1. To improve the accesibility to, quality of and demand for **FP/MCH/RH/Nutrition services**	56	59	73	56	55	64	56	40	28
2. To expand and improve services for the **prevention and control** of diseases	17	18	18	17	14	10	17	2	(21)
3. To expand and improve services for the **treatment** of diseases	66	75	89	66	66	70	66	34	(8)

The last table, 6.10, shows a similar analysis by the seven strategic programmes.

Table 6.10

Gap analysis, by Programme Objective (US$ millions)

	Scenario 1			*Scenario 2*			*Scenario 3*		
	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3
Resource Needs	**453**	**476**	**516**	**453**	**476**	**516**	**453**	**476**	**516**
1. To strengthen the sector's **institutional** capacity	16	17	19	16	17	19	16	17	19
2. To increase the availabilty and quality of **human resources**	137	137	164	137	137	164	137	137	164
3. To ensure **financial** accessibilty to health services for all and sustainable **health financing**	37	40	43	37	40	43	37	40	43
4. To ensure **geographical accessibilty** to health services for all	81	88	86	81	88	86	81	88	86
5.To ensure the avail. and rat. use at all levels of quality **drugs, vaccines and consumables**	93	102	111	93	102	111	93	102	111
6. To ensure the highest attainable **quality of health services** at all levels	11	10	10	11	10	10	11	10	10
7. To strengthen specialised services, **National Referral Hospitals** and **Research** capacity	79	83	82	79	83	82	79	83	82
Resources Available	**313**	**324**	**336**	**313**	**341**	**372**	**313**	**401**	**517**
1. To strengthen the sector's **institutional** capacity	14	14	15	14	15	17	14	18	23
2. To increase the availabilty and quality of **human resources**	120	124	128	120	130	142	120	153	197
3. To ensure **financial** accessibilty to health services for all and sustainable **health financing**	26	27	28	26	28	31	26	33	43
4. To ensure **geographical accessibilty** to health services for all	32	33	34	32	34	38	32	41	52
5.To ensure the avail. and rat. use at all levels of quality **drugs, vaccines and consumables**	85	88	91	85	92	101	85	109	140
6. To ensure the highest attainable **quality of health services** at all levels	11	11	12	11	12	13	11	14	18
7. To strengthen specialised services, **National Referral Hospitals** and **Research** capacity	26	27	28	26	29	31	26	34	44
Financing Gap	**140**	**152**	**180**	**140**	**135**	**144**	**140**	**75**	**(1)**
1. To strengthen the sector's **institutional** capacity	2	2	4	2	1	2	2	(1)	(4)
2. To increase the availabilty and quality of **human resources**	17	13	36	17	7	22	17	(16)	(33)
3. To ensure **financial** accessibilty to health services for all and sustainable **health financing**	11	13	16	11	12	13	11	7	0
4. To ensure **geographical accessibilty** to health services for all	49	56	52	49	54	48	49	48	34
5.To ensure the avail. and rat. use at all levels of quality **drugs, vaccines and consumables**	9	14	21	9	10	11	9	(7)	(29)
6. To ensure the highest attainable **quality of health services** at all levels	(0)	(2)	(1)	(0)	(2)	(3)	(0)	(4)	(8)
7. To strengthen specialised services, **National Referral Hospitals** and **Research** capacity	53	55	54	53	54	51	53	49	39

The figures highlight the significant financing gap that exists in the three largest areas, namely Geographical Access (Infrastructure & Equipment); Human Resources for Health; and Specialised Services, National Referral Hospitals and Research. Health Financing also faces a large funding gap,

in part needed to finance the Health Insurance Risk Pools. The programme requiring relatively less resources indicate that they are relatively better financed. This, however, should be qualified by the fact that allocating resources against some of these programmes is not straightforward, in particular between Institutional Strengthening and Quality Assurance. It is also likely that these areas may have been under-costed: indeed one could argue that within the Human Resources or Geographical Accessibility programmes, for example, there are cross-cutting elements of Institutional Strengthening or Quality Assurance. Also, the very large amounts of available resources labelled as Quality Assurance, or Institutional Strengthening can also be explained by the significant amount of external resources directed towards Technical Assistance. Such level of Technical Assistance was not factored into the resource requirements, hence the potential mismatch.

Rwanda has made great progress over the past few years to better manage its available resources. Though the share of internally-generated resources shall grow over the years, it is also very likely that external support will remain necessary for the foreseeable future. It will thus remain critically important to carefully monitor the flow of resources over the coming years to ensure the gaps are met and, most importantly, that the available resources are indeed contributing directly to the needs and priorities of the country.

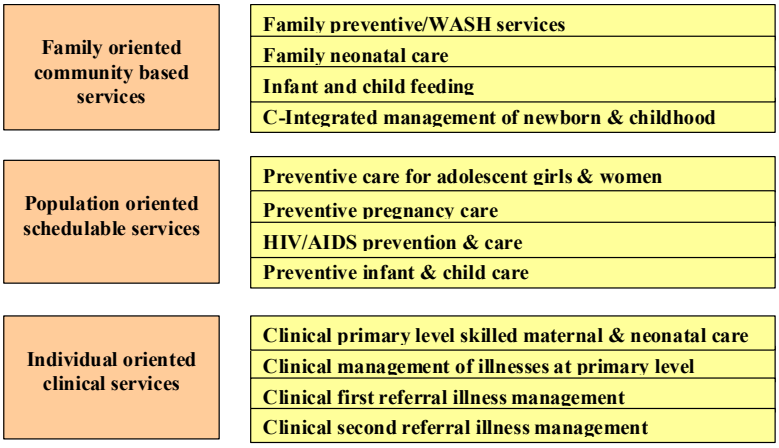
6.2. Marginal Budgeting for Bottlenecks methodology

6.2.1 Methodology

The MBB tool uses 68 indicators to estimate performance of system and 90 indicators to assess effective coverage for specific high impact interventions. These indicators have been chosen based on a comprehensive review of the literature on access, availability, quality, price effects on demand, and effective coverage with health and nutrition interventions.

To be able to systematically identify health system bottlenecks, the MBB tool organizes all health and nutrition interventions into three service delivery modes and twelve sub packages (Figure 6.1). The assumption here is that interventions delivered the same way usually share the same set of constraints and bottlenecks. For example, if shortage of skilled health personnel is a problem for immunization activities, the same problem probably exists for vitamin A outreach and promotion since they are usually delivered by the same human resource team.

Figure 6.1: Service delivery modes and service sub-packages in the MBB



MBB focuses on these three service delivery modes and divides health interventions based on how and where the services are delivered. Service delivery modes determine the inputs and operational strategies more than specific diseases affect cost. As a consequence, budgets in MBB are not organized by diseases but rather acknowledge the patterns of household health behaviors and ensure that funding of service delivery responds to these pattern.

The identification of bottlenecks is performed through a step-wise approach that assesses the availability of essential health commodities, availability of human resources, the accessibility of health care services, the initial utilization of these services, the continuity in the utilization of services, and the quality of the services delivered.

Calculating impact

In the MBB impact module, calculation of the efficacy and the effectiveness of each intervention on under five mortality and maternal mortality is based on the results of the Bellagio Child Survival Study, published in the Lancet and the Cochrane review study. The MBB predicts the effect of intervention packages based on the effective quality coverage (i.e. complying with minimum quality standards to effectively produce expected health benefit) of each intervention and their specific evidence-based efficacies, which are calculated in a residual way. The resulting calculation platform reflects the "efficacy levels" of child and neonatal survival interventions on priority cases of child/neonatal death based on a review of the evidence from population trials in developing countries.

Calculating costs

The costing, budgeting and financing analysis is structured to take into account the strategic changes in the health care delivery policies, addressing both supply and demand constraints. These identify the budgetary expansion required to overcoming the bottlenecks that constrain effective coverage with the three main packages. The costing exercise forecasts the additional resources required for removing a set of health system bottlenecks that are considered barriers to access of health services by the population. It is based on the premise that while a basic package of effective interventions can improve health, the cost estimate should reflect the cost of eliminating the constraints or bottlenecks that hinder the expansion of coverage of the population with that basic package. The cost for scaling up critical health interventions is calculated as the unit price of inputs multiplied by the quantity of inputs necessary to improve coverage with services. Quantity of inputs are derived from the increase in coverage with health services including increase physical access, availability of human resources, availability of commodities and supplies, increased demand and increased continuity and quality of services.

Phasing assumptions for investment and recurrent costs

For the purpose of budgeting and planning the cost estimates are converted into annual additional funding requirements. The additional cost estimates are distributed into yearly additional budget needs following the pace of implementation chosen by Ministry of Health. The choice of the pace of implementation is guided by several factors such as the nature of the intervention considered; the expected inflow of financial resources based on donor commitments or projected domestic resources mobilizations, the countries starting point and their absorptive capacity in the health sector, the human resource constraint and the strategies to solve it, etc. The MBB provides four options to facilitate the "phasing" choices: forefront, linear, incremental and delayed.

Frontloaded investment was chosen for the community and outreach levels as Rwanda plans to rapidly focus efforts on community and outreach services. Frontloaded investment predicts a very rapid start up with most of the investment required realized, and most of the recurrent costs incurred during the early stage of the program. According to the intervention considered, frontloaded investment was also chosen at the health center level. However, in most cases, at the health center

level, a linear pace was chosen. In general, human resources for health were also considered as a recurrent linear cost. The total investment and recurrent cost required were therefore uniformly spread over the duration of the plan and the recurrent cost increases linearly. Finally, investment and recurrent costs at the higher levels of care were in most cases delayed. Despite very high unit costs, these investments are not expected to have a large impact on MDGs outcomes.

Fiscal space scenarios

Cost estimates are analyzed against the macro-fiscal framework of Rwanda. The analysis examines the different ways in which the government can create the fiscal space required to cover the estimated costs. Various Scenarios can be run to see which macroeconomic and fiscal requirements are needed to cover the cost of scaling-up high impact interventions. Health services cost and budget estimates are also related to the scaling-up Scenarios in order to estimate the potential fiscal sustainability of planned expenditure. Different fiscal space Scenarios can be run simultaneously for each year by adjusting various fiscal parameters including:

- GDP per capita through variations of the real growth rate;
- Domestic revenue (as % GDP);
- Budget support (as % GDP);
- Share of the budget allocated to the health sector; and
- Earmarked grants and loans

Scaling-up High Impact Interventions

The high impact interventions currently provided in the Rwandan health system or being considered for introduction are presented below. These interventions include a wide range of health, nutrition, water and sanitation, malaria, HIV/AIDS, and TB interventions that contribute to improving maternal and child health as well as controlling communicable diseases. These interventions are classified by the mode in which they are delivered (family-oriented community-based, population-oriented schedulable and individual-oriented clinical services). As shown in annex 7.5 Rwanda is already implementing most of the high-impact interventions identified at the global level.

The cost of the HSSP-II, July 2009 – June 2012 (Year 3), and estimated impact in terms of mortality reduction of the three Scenarios are considered. Each Scenario calls for a certain level of reinforcement of the key pillars of the health system. The magnitude of the bottleneck reduction exhibited under each Scenario relates to the capacity of the health sector to implement strategies to address bottlenecks. A progressively higher proportion of bottleneck reduction is considered to formulate the three Scenarios.

6.2.2 Overview of costing results

Additional per capita cost and impact on MDG targets

The MBB tool has been applied to cost the HSSP-II for the three-year period running from July 2009 to June 2012. It estimates the additional resources needed to reduce identified bottlenecks and ultimately increases effective coverage of interventions included in the service packages (discussed in section □). Table 6.11 presents the additional costs for three Scenarios that represent different levels of ambition in the reduction of health system bottlenecks in the next three years, with one being the lowest and three being the highest level of bottleneck reduction. The higher additional cost for Scenario 3 results in a much higher reduction in maternal, newborn and child mortality. Scenario 3 corresponds to the targets set in the EDPRS for the health sector.

Table 6.11: HSSP-II additional cost and mortality reduction estimates by Year 3

Service delivery mode	Mortality reduction			Additional cost per capita per year in US$
	Neonatal	Under five	Maternal	
	Scenario 1			
1. Family oriented community based services	4.3%	11.6%		1.71
2. Population oriented schedulable services	4.3%	12.9%	7.2%	1.49
3. Individual oriented clinical services	0.9%	4.5%	8.1%	3.02
Management and technical support				0.34
Total	8.8%	26.2%	15.0%	6.58
	Scenario 2			
1. Family oriented community based services	6.1%	15.5%		2.27
2. Population oriented schedulable services	12.3%	16.1%	10.1%	1.72
3. Individual oriented clinical services	4.2%	6.9%	14.7%	5.63
Management and technical support				0.6
Total	20.3%	33.3%	24.0%	10.32
	Scenario 3			
1. Family oriented community based services	8.1%	18.2%		2.63
2. Population oriented schedulable services	15.0%	18.1%	11.9%	1.86
3. Individual oriented clinical services	6.9%	8.6%	22.1%	6.77
Management and technical support				1.03
Total	26.2%	37.8%	32.3%	12.29

6.11 presents additional cost and impact in terms of mortality reductions for the three Scenarios. The Scenario 1 costs an **additional US$ 6.58 per capita** per year for the final year of the HSSP-II. The investment is estimated to reduce neonatal, under five, and maternal mortality by 8.8 percent, 26.2 percent and 15.0 percent, respectively. Scenario 2 requires an additional investment of **US$ 10.32 per capita** in the final year of the HSSP-II with 20.3 percent, 33.3 percent and 24.0 percent estimated reduction in neonatal, under five, and maternal mortality, respectively. The Scenario 3 calls for a higher additional investment of **US$ 12.29 per capita** resulting in a much higher reduction in neonatal, under five, and maternal mortality estimated at 26.2 percent, 37.8 percent and 32.3 percent, respectively.

In terms of assessing progress towards the MDGs[21]: implementation of Scenario 1 will enable Rwanda to achieve **66 percent of the MDG 4 and 51 percent of the MDG 5** targets by Year 3; with Scenario 2, **73 percent of the MDG 4 and 57 percent of the MDG 5** targets will be achieved; and Scenario 3 projects **79 percent of the MDG 4 and 64 percent of the MDG 5** targets to be achieved by Year 3, annex 7.4).

Additional cost by service delivery mode

Table 6.12 presents the additional costs by service delivery package (see also Figure 6.1). It shows that out of the total additional resource requirements, 21 percent on average is required at the first level of contact (family oriented community based services); 17 percent is required at the population oriented schedulable services level and 54 percent at the clinical services level. At this latter level, most of the additional resources requirements are needed for human resources, infrastructure and equipment and for the second referral level which can be explained by the high cost of delivering health services at this level of care. Finally, around 8 percent of the total additional resource requirement is estimated to be needed for district, provincial and national governance and management.

[21] Compared to a 2007 or 2008 baseline.

Table 6.12: Estimated additional cost by service packages and delivery level (in million US$) (Year 1-Year 3)

	Scenario 1				Scenario 2				Scenario 3			
	Year 1	Year 2	Year 3	Total	Year 1	Year 2	Year 3	Total	Year 1	Year 2	Year 3	Total
1. Family oriented community based services	14.54	16.76	21.52	52.82	17.97	22.37	29.67	70.01	20.15	25.97	34.92	81.05
1.0 HR, infrastructure and equipment	1.75	3.35	4.97	10.08	3.11	5.91	8.75	17.77	3.97	7.55	11.17	22.69
1.1 Family preventive/WASH services	11.99	11.81	13.90	37.70	13.57	13.94	16.78	44.29	14.59	15.33	18.70	48.62
1.2 Family neonatal care	0.02	0.05	0.09	0.17	0.02	0.05	0.10	0.17	0.02	0.06	0.10	0.18
1.3 Infant and child feeding	0.12	0.21	0.31	0.64	0.19	0.33	0.50	1.02	0.24	0.42	0.65	1.31
1.4 Community illness management	0.65	1.34	2.25	4.24	1.08	2.14	3.54	6.76	1.34	2.61	4.31	8.25
2. Population oriented schedulable services	14.54	15.95	20.53	51.02	17.65	18.70	23.25	59.59	19.45	20.10	24.59	64.14
2.0 HR, infrastructure and equipment	7.86	5.68	4.64	18.19	10.02	7.27	5.99	23.28	11.93	8.67	7.16	27.76
2.1 Preventive care for adolescents & adults	1.35	1.73	2.42	5.50	1.91	2.55	3.66	8.12	1.94	2.71	4.04	8.69
2.2 Preventive pregnancy care	0.26	0.20	0.19	0.64	1.02	1.01	1.11	3.13	0.99	0.99	1.09	3.07
2.3 HIV/AIDS prevention and care	0.56	1.05	1.73	3.34	0.85	1.56	2.51	4.92	1.00	1.83	2.97	5.80
2.4 Preventive infant & child care	4.51	7.30	11.55	23.36	3.85	6.32	9.97	20.14	3.59	5.90	9.33	18.82
3. Individual oriented clinical services	7.58	10.28	12.29	30.15	45.32	54.92	69.76	170.01	44.08	68.00	97.34	209.42
3.0 HR, infrastructure and equipment	0.03	0.07	0.12	0.21	13.26	18.50	27.31	59.07	20.32	29.93	45.45	95.70
3.1 Maternal and neonatal care at primary clinical level	1.67	1.91	2.08	5.67	2.61	3.31	3.83	9.75	2.68	3.33	3.80	9.81
3.2 Management of illnesses at primary clinical level	3.92	6.20	7.86	17.98	5.84	9.51	12.26	27.61	6.56	10.82	14.09	31.47
3.3 Clinical first referral care	1.81	1.93	2.04	5.77	1.98	2.13	2.25	6.36	3.61	3.90	4.17	11.69
3.4 Clinical second referral care	0.16	0.17	0.19	0.52	21.64	21.48	24.10	67.22	10.91	20.02	29.83	60.75
District, provincial and national governance and management	3.56	3.46	3.84	10.86	7.12	6.92	7.69	21.73	10.68	10.38	11.53	32.59
Total	**40.2**	**46.4**	**58.2**	**144.9**	**88.1**	**102.9**	**130.4**	**321.3**	**94.4**	**124.5**	**168.4**	**387.2**

Additional cost by programme

The distribution of additional resource requirement among different diseases, programs and components of health systems is analyzed based on the cost estimates for the three Scenarios, as shown in Table 6.13. It appears that on average, 45 percent of the total additional cost over the HSSP-II period would need to go to programs and diseases (the most expensive ones being HIV/AIDS and malaria) and 55 percent to health systems (a big share of which would go to infrastructure, equipment and transports and to human resources).

Table 6.13: Distribution of estimated additional resource requirements by disease, program and health system (in Million US$) (Year 1-Year 3)

	Scenario 1				Scenario 2				Scenario 3			
	Year 1	Year 2	Year 3	Total	Year 1	Year 2	Year 3	Total	Year 1	Year 2	Year 3	Total
Program and disease	**18.55**	**26.42**	**38.08**	**83.05**	**29.79**	**47.49**	**69.53**	**146.81**	**34.17**	**55.87**	**82.32**	**172.36**
Child health	*0.71*	1.43	2.18	4.33	1.12	2.24	3.42	6.77	1.34	2.69	4.10	8.13
Immunization	*2.55*	6.19	10.91	19.66	2.11	5.09	8.96	16.16	1.98	4.77	8.37	15.13
Water, sanitation and hygiene	6.70	3.94	2.38	13.01	7.16	4.27	2.66	14.08	7.44	4.47	2.84	14.74
Nutrition	0.06	0.10	0.15	0.31	0.21	0.43	0.74	1.38	0.23	0.45	0.76	1.44
Maternal health	*0.28*	0.47	0.62	1.36	0.67	1.08	1.31	3.06	0.91	1.44	1.73	4.08
Family planning	*1.51*	1.90	2.62	6.02	2.24	2.88	3.91	9.02	2.23	3.13	4.53	9.89
HIV/AIDS	*0.91*	1.98	3.24	6.13	8.45	17.48	27.08	53.02	11.18	23.11	35.77	70.06
TB	*0.19*	0.40	0.66	1.25	0.34	0.74	1.24	2.32	0.56	1.19	1.97	3.71
Malaria	*4.01*	7.88	12.58	24.47	5.15	9.83	15.43	30.40	5.89	11.10	17.30	34.30
Non-MDGs basic services	1.63	2.12	2.75	*6.51*	2.35	3.45	4.79	*10.59*	2.41	3.53	4.94	*10.88*
Health systems	**21.67**	**20.03**	**20.11**	**61.80**	**58.27**	**55.42**	**60.84**	**174.53**	**60.20**	**68.59**	**86.05**	**214.84**
Human resources	2.49	4.25	5.53	12.28	5.72	10.95	16.08	32.74	7.31	14.25	21.33	42.89
Pre-service training									*0.16*	*0.22*	*0.29*	*0.67*
Salary	*0.96*	*1.93*	*2.92*	*5.80*	*3.01*	*6.65*	*10.94*	*20.60*	*4.18*	*9.33*	*15.46*	*28.97*
Incentives	*1.53*	*2.32*	*2.62*	*6.47*	*2.71*	*4.29*	*5.14*	*12.14*	*2.98*	*4.69*	*5.58*	*13.25*
Infrastructure, equipment and transport	7.03	3.76	1.69	12.47	19.63	17.43	19.74	56.81	26.88	26.51	32.98	86.38
Infrastructure	*3.60*	*1.83*	*0.66*	*6.08*	*10.67*	*10.74*	*14.40*	*35.81*	*14.84*	*17.05*	*24.94*	*56.82*
Equipment	*2.62*	*1.36*	*0.53*	*4.51*	*8.03*	*5.92*	*4.53*	*18.48*	*10.95*	*8.49*	*6.91*	*26.34*
Transport	*0.80*	*0.57*	*0.50*	*1.88*	*0.93*	*0.77*	*0.82*	*2.51*	*1.09*	*0.98*	*1.14*	*3.21*
Logistics	8.04	6.74	6.15	20.92	24.41	15.87	10.60	50.88	13.80	12.09	11.49	37.38
Buffer stocks	*6.92*	*5.39*	*4.54*	*16.85*	*22.17*	*13.18*	*7.38*	*42.73*	*10.44*	*8.05*	*6.66*	*25.15*
Warehouse, equipment and vehicle	*1.12*	*1.35*	*1.61*	*4.08*	*2.24*	*2.69*	*3.22*	*8.15*	*3.36*	*4.04*	*4.83*	*12.23*
HMIS	0.03	0.06	0.09	0.17	0.05	0.09	0.14	0.29	0.06	0.12	0.19	0.37
Governance, accreditation and regulation	1.71	3.42	5.15	10.28	3.88	7.80	11.73	23.41	5.26	10.56	15.90	31.72
Health financing	2.38	1.80	1.49	5.68	4.58	3.28	2.54	10.40	6.88	5.05	4.16	16.10
Total	**40.22**	**46.45**	**58.18**	**144.85**	**88.06**	**102.91**	**130.36**	**321.33**	**94.37**	**124.46**	**168.37**	**387.20**

Additional cost by the national chart of accounts

Finally, annex 7.6 presents additional cost estimates for the HSSP-II period according to the National Chart of Accounts[22]. According to the existing Chart of Accounts that follows the structure of HSSP-I programs and sub-programs, most of the additional resource requirements (42 percent of the total resource requirement) need to flow to program 1606 (Quality and demand for services in the control of disease). The other major programs are program 1604 (geographical accessibility to health services) with 26 percent of total additional resource requirement and program 1602 (human resources for health) with 11 percent of total additional resource requirement.

[22] The Chart of Accounts may be revised to take into account the new HSSP structure.

Total budget requirements for Year 1, Year 2 and Year 3

Total budget by recurrent and capital expenditure

For the purpose of this exercise and to estimate the total HSSP-II budget (presented in Table 6.14), the additional funding needs estimated by MBB for HSSP-II program areas were added up to the baseline budget according to HSSP-II program areas for 2009. The baseline budget for 2009 was estimated on the basis of the JAWP resource mapping which gathers all resources flowing to the health sector in 2009, including Government, facility own revenue, and donors' on- and off-budget. The overall amount presented in the JAWP resource mapping was discounted for overhead and administrative costs to capture only expenditure benefiting to the health sector. In addition, interventions outside those included in MBB were budgeted using a historical approach and the 2009 budget was inflated by 10 percent to capture the increasing cost of delivery and reaching more people.

Table 6.14 and Figure 3 below provide a summary of total budget requirement for the three Scenarios. Total budget estimates for Year 1, Year 2 and Year 3 depict a respective increase of 19 percent, 20 percent and 24 percent from the 2009 budget in Scenario 1. Scenario 2 projects total budget for Year 1, Year 2 and Year 3 to increase by 26 percent, 31 percent and 40 percent, respectively from the baseline budget of 2009. Scenario 3 aims at a 28 percent, 37 percent and 51 percent increase in budget for Year 1, Year 2 and Year 3 from the baseline budget of 2009.

Over the HSSP-II period, per capita expenditure as a percentage of total budget requirements varies between 27 percent and 29 percent between Scenario 1 and 3, meaning that two third of total budget requirements should be allocated to recurrent expenditure. Capital expenditure amounts to US$ 10.9 per capita on average in Scenario 1 and recurrent expenditure to US$ 29.7. Under Scenario 2, the per capita expenditure would be on average US$ 13 and US$ 31.5 for capital and recurrent costs respectively. Finally, in Scenario 3, capital expenditure per capita would amount to US$ 13.6 and recurrent expenditure to close to US$ 33. Overall, total per capita spending over the period would reach US$ 40.6 on average to reach the Scenario 1 coverage targets, US$ 44.5 to reach Scenario 2 targets and US$ 46.6 under Scenario 3.

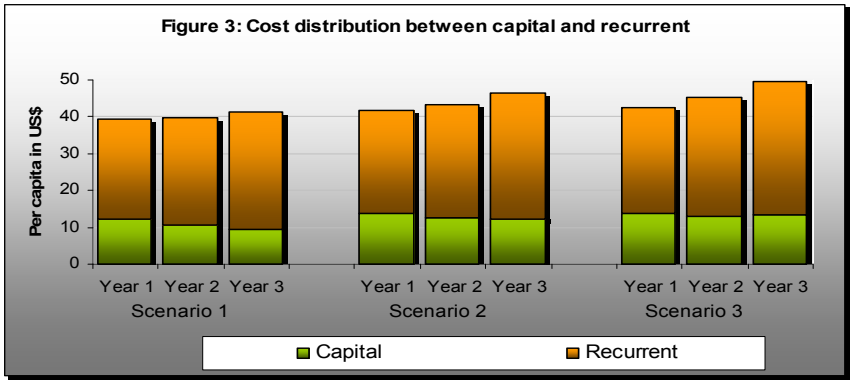


Table 6.14: HSSP-II estimated total budget requirements (in million US$) (Year 1-Year 3)

	Baseline	Estimated budget requirement							Av Cost/ cap/year	% of total
	2009	Year 1	Per capita	Year 2	Per capita	Year 3	Per capita	Total		
Scenario 1	**345.59**	**410.34**	**39.37**	**415.71**	**39.86**	**429.66**	**41.16**	**1255.71**	**40.64**	
Capital	*83.70*	*126.62*	*12.10*	*110.24*	*10.58*	*99.95*	*9.63*	*336.81*	*10.90*	*27%*
Recurrent	*261.89*	*283.72*	*27.27*	*305.46*	*29.28*	*329.71*	*31.53*	*918.89*	*29.74*	*73%*
Scenario 2	**345.59**	**437.09**	**41.84**	**454.39**	**43.45**	**485.42**	**46.32**	**1376.91**	**44.56**	
Capital	*83.70*	*144.17*	*13.72*	*130.38*	*12.45*	*127.34*	*12.17*	*401.89*	*13.01*	*29%*
Recurrent	*261.89*	*292.92*	*28.12*	*324.01*	*31.00*	*358.08*	*34.15*	*975.01*	*31.55*	*71%*

Scenario 3	**345.59**	**443.24**	**42.41**	**475.34**	**45.38**	**522.14**	**49.72**	**1440.72**	**46.62**	
Capital	*83.70*	*143.57*	*13.67*	*137.00*	*13.06*	*141.52*	*13.48*	*422.08*	*13.66*	*29%*
Recurrent	*261.89*	*299.68*	*28.75*	*338.34*	*32.32*	*380.61*	*36.24*	*1018.63*	*32.97*	*71%*

Total budget by HSSP-II strategic objectives and strategic programmes

Among the system objectives, the human resource for health objective is requiring the highest amount of resources (US$ 275 million over the three years in Scenario 3), followed by infrastructures and equipment (US$ 202 million over the three years in Scenario 3) and commodities, supplies and logistics (US$ 116 million). In per capita terms, the total budget requirement under Scenario 1 for the human resource for health objective amounts to US$ 23. Under Scenario 2 and 3 it amounts respectively to US$ 25.4 and US$ 26.7. As far as infrastructure, equipment and transport are concerned, the total per capita cost over the three year period reaches US$ 9.4 under Scenario 1, US$ 16 under Scenario 2 and US$ 19.6 under Scenario 3.

Among the client-oriented objectives, the total budget requirements for infectious diseases are far above the three other client-oriented objectives. This client-oriented objective requires over the three year period a total of US$ 430 million in Scenario 3 or US$ 41.7 per capita which represents 30 percent of the total HSSP-II budget requirements. Under Scenario 1, the per capita total cost would amount to US$ 38.13 and under Scenario 2 it would reach US$ 39.6.

Table 6.15: Total budget requirement by HSSP-II objectives and programmes (in million US$) (Year 1-Year 3)

	Baseline		Scenario 1				Scenario 2				Scenario 3		
	2009	Year 1	Year 2	Year 3	Total	Year 1	Year 2	Year 3	Total	Year 1	Year 2	Year 3	Total
Strategic programme area	**200.76**	**247.99**	**235.55**	**228.81**	**712.35**	**270.74**	**266.87**	**273.68**	**811.28**	**272.98**	**279.82**	**297.99**	**850.78**
Planning and M & E	16.47	16.50	16.54	16.59	**49.64**	16.52	16.60	16.69	**49.81**	16.54	16.64	16.77	**49.96**
As percentage of total	*5%*	*4%*	*4%*	*4%*	*4%*	*4%*	*4%*	*3%*	*4%*	*4%*	*4%*	*3%*	*3%*
Per capita	*1.60*	*1.60*	*1.61*	*1.61*	*4.82*	*1.60*	*1.61*	*1.62*	*4.84*	*1.61*	*1.62*	*1.63*	*4.85*
Health Financing	22.16	24.58	23.99	23.68	**72.25**	26.80	25.49	24.75	**77.04**	29.13	27.28	26.39	**82.80**
As percentage of total	*6%*	*6%*	*6%*	*6%*	*6%*	*6%*	*6%*	*5%*	*6%*	*7%*	*6%*	*5%*	*6%*
Per capita	*2.15*	*2.39*	*2.33*	*2.30*	*7.01*	*2.60*	*2.47*	*2.40*	*7.48*	*2.83*	*2.65*	*2.56*	*8.04*
Human Resources for Health	71.32	75.46	78.89	81.97	**236.32**	79.63	87.39	95.15	**262.17**	81.66	91.57	101.71	**274.94**
As percentage of total	*21%*	*18%*	*19%*	*19%*	*19%*	*18%*	*19%*	*20%*	*19%*	*18%*	*19%*	*19%*	*19%*
Per capita	*6.92*	*7.33*	*7.66*	*7.96*	*22.94*	*7.73*	*8.48*	*9.24*	*25.45*	*7.93*	*8.89*	*9.88*	*26.69*
Infrastructure, equipment and transport	25.58	34.38	32.01	30.89	**97.28**	50.57	52.99	61.01	**164.57**	59.76	64.77	77.54	**202.07**
As percentage of total	*7%*	*8%*	*8%*	*7%*	*8%*	*12%*	*12%*	*13%*	*12%*	*13%*	*14%*	*15%*	*14%*
Per capita	*2.48*	*3.34*	*3.11*	*3.00*	*9.44*	*4.91*	*5.14*	*5.92*	*15.98*	*5.80*	*6.29*	*7.53*	*19.62*
Commodities, supply and logistics	25.59	55.51	42.53	34.05	**132.09**	55.63	42.77	34.39	**132.79**	44.28	37.87	33.80	**115.95**
As percentage of total	*7%*	*14%*	*10%*	*8%*	*11%*	*13%*	*9%*	*7%*	*10%*	*10%*	*8%*	*6%*	*8%*
Per capita	*2.48*	*5.39*	*4.13*	*3.31*	*12.82*	*5.40*	*4.15*	*3.34*	*12.89*	*4.30*	*3.68*	*3.28*	*11.26*
Quality Assurance	19.12	21.03	21.03	21.03	**63.09**	21.03	21.03	21.03	**63.09**	21.03	21.03	21.03	**63.09**
As percentage of total	*6%*	*5%*	*5%*	*5%*	*5%*	*5%*	*5%*	*4%*	*5%*	*5%*	*4%*	*4%*	*4%*
Per capita	*1.86*	*2.04*	*2.04*	*2.04*	*6.13*	*2.04*	*2.04*	*2.04*	*6.13*	*2.04*	*2.04*	*2.04*	*6.13*
Research	4.35	4.36	4.36	4.37	**13.09**	4.36	4.37	4.39	**13.12**	4.37	4.39	4.40	**13.16**
As percentage of total	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*
Per capita	*0.42*	*0.42*	*0.42*	*0.42*	*1.27*	*0.42*	*0.42*	*0.43*	*1.27*	*0.42*	*0.43*	*0.43*	*1.28*
Institutional Strengthening	16.17	16.18	16.20	16.22	**48.60**	16.19	16.23	16.28	**48.70**	16.21	16.26	16.33	**48.80**
As percentage of total	*5%*	*4%*	*4%*	*4%*	*4%*	*4%*	*4%*	*3%*	*4%*	*4%*	*3%*	*3%*	*3%*
Per capita	*1.57*	*1.57*	*1.57*	*1.58*	*4.72*	*1.57*	*1.58*	*1.58*	*4.73*	*1.57*	*1.58*	*1.59*	*4.74*
Strategic objectives	**144.84**	**162.34**	**180.15**	**200.86**	**543.36**	**166.35**	**187.52**	**211.75**	**565.62**	**170.27**	**195.52**	**224.15**	**589.93**
Health promotion	14.92	15.73	16.64	17.68	**50.05**	16.11	17.40	18.85	**52.36**	16.32	17.82	19.49	**53.62**
As percentage of total	*4%*	*4%*	*4%*	*4%*	*4%*	*4%*	*4%*	*4%*	*4%*	*4%*	*4%*	*4%*	*4%*
Per capita	*1.45*	*1.53*	*1.62*	*1.72*	*4.86*	*1.56*	*1.69*	*1.83*	*5.08*	*1.58*	*1.73*	*1.89*	*5.21*
MCH/FP/RH/Nutrition	**20.52**	**24.26**	**28.95**	**34.90**	**88.11**	**24.62**	**29.36**	**35.21**	**89.19**	**24.62**	**29.60**	**35.67**	**89.88**
As percentage of total	*6%*	*6%*	*7%*	*8%*	*7%*	*6%*	*6%*	*7%*	*6%*	*6%*	*6%*	*7%*	*6%*
Per capita	*1.99*	*2.36*	*2.81*	*3.39*	*8.55*	*2.39*	*2.85*	*3.42*	*8.66*	*2.39*	*2.87*	*3.46*	*8.73*
Infectious Diseases	**107.41**	**118.74**	**130.46**	**143.53**	**392.74**	**121.29**	**135.33**	**150.91**	**407.54**	**124.94**	**142.59**	**162.07**	**429.60**
As percentage of total	*31%*	*29%*	*31%*	*33%*	*31%*	*28%*	*30%*	*31%*	*30%*	*28%*	*30%*	*31%*	*30%*
Per capita	*10.43*	*11.53*	*12.67*	*13.94*	*38.13*	*11.78*	*13.14*	*14.65*	*39.57*	*12.13*	*13.84*	*15.73*	*41.71*
NCD and injuries	1.98	3.61	4.11	4.74	**12.46**	4.33	5.43	6.77	**16.54**	4.39	5.51	6.93	**16.83**
As percentage of total	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*
Per capita	*0.19*	*0.35*	*0.40*	*0.46*	*1.21*	*0.42*	*0.53*	*0.66*	*1.61*	*0.43*	*0.53*	*0.67*	*1.63*
Total	**345.60**	**410.34**	**415.71**	**429.66**	**1,255.71**	**437.09**	**454.39**	**485.42**	**1,376.91**	**443.24**	**475.34**	**522.14**	**1,440.72**

6.2.3 Financing gap analysis

Three fiscal space Scenarios were defined to see what macroeconomic assumptions are needed to cover the additional cost of reaching HSSP-II targets. Table 6.16 presents the assumptions of these three Scenarios, from the less ambitious (low Scenario) to the most ambitious (high Scenario). The medium Scenario uses the EDPRS macroeconomic projections.

Overall, the fiscal space assumptions are based on projections from the EDPRS policy document, international commitments and assumptions on the impact of growth and external aid on other parameters. The assumptions for per capita GDP growth are based on or derived from the Government of Rwanda's projections for the EDPRS period. The growth of budget support is expected to be adjusted on GDP growth and domestic revenue as a percentage of GDP is expected to remain constant over the period. The level of increase of earmarked aid is set on the basis of a fiscal space analysis for health done in June 2008 for Rwanda, stating that it is likely that the level of aid will not increase over the coming years. In the high fiscal space Scenario however, it is assumed that significant progress towards the Gleneagles commitment to double the level of aid to Africa are made. Similarly, the Abuja commitment to allocate 15% of the budget to health is driving the assumptions on allocation to health for the high case Scenario. In the low Scenario, it is assumed that the allocation to health will remain constant compared to the baseline. Finally, in the medium Scenario, the EDPRS target is used (12% allocation to health).

Table 6.16: Assumptions for the three fiscal space Scenarios for the HSSP-II period

	Low Scenario: Conservative Scenario	Medium Scenario: EDPRS Scenario	High Scenario: International commitments
Economic growth per capita (%)	Constant (4.4%)	EDPRS projections	EDPRS projections
Domestic revenue (% of GDP)	Constant (13%)	Constant (13%)	Constant (13%)
Budget support (% of GDP)	Constant (7.6%)	Follows economic growth	Follows economic growth
Allocation to health (%)	Constant (10.6%)	Increases to reach 12% by Year 3 (EDPRS)	Increases to reach 15% (Abuja) by Year 3
Earmarked aid for health (US$ per capita)	Constant in nominal terms (US $ 19 per capita)	Constant in per capita terms	Getting close to the Gleneagles commitment by Year 3 (Gleneagles)

Table 6.17 shows the additional costs compared to the present health expenditures and the "fiscal space" for health spending projected for the period of HSSP-II. The table summarizes the additional funding needs as a percentage of total incremental fiscal space for health for the three Scenarios and under the assumptions of the low fiscal space Scenario, the medium-EDPRS Scenario and the high Scenario. The financing gap increases from Scenario 1 to Scenario 3 as this latter Scenario requires more additional resources; in addition, Table shows that only the most highly optimistic fiscal space assumptions would enable to cover the important financing gap identified to reach the EDPRS targets by Year 3 (i.e. the additional cost as percentage of total fiscal space for health per capita per year is below 100 percent).

Table 6.17: Additional health spending and fiscal space for health

Additional Cost Scenarios	Low	Medium	High
Scenario 1			
Additional cost as % incremental total fiscal space for health per capita/year	1148%	209%	51%
Additional cost as % incremental public fiscal space for health per capita/year	1939%	225%	54%
Scenario 2			
Additional cost as % incremental total fiscal space for health per capita/year	1800%	327%	80%
Additional cost as % incremental public fiscal space for health per capita/year	3041%	353%	85%
Scenario 3			
Additional cost as % incremental total fiscal space for health per capita/year	2143%	390%	96%
Additional cost as % incremental public fiscal space for health per capita/year	3621%	421%	101%

In particular the assumptions of the low fiscal space Scenario are far too low to cover the estimated cost of the Scenarios, even the cost of Scenario 1. The additional funding needs for Scenario 1 will represent 1,148 percent of the low fiscal space; the additional funding needs for Scenario 2 and 3 will represent respectively 1,800 percent and 2,143 percent of the low fiscal space Scenario. Therefore, it appears that conservative trends must be avoided if Rwanda is to achieve even limited results in the health sector.

In the case of the medium fiscal space Scenario, the financing gap decreases: the additional funding needs for Scenario 1 as percentage of the total incremental fiscal space reaches 209 percent. For Scenario 2 and 3, it reaches respectively 327 percent and 390 percent. Although the financing gap is less important than the one observed under the low fiscal space assumptions, the medium fiscal space assumptions are not sufficient to cover the cost of scaling-up high impact interventions in Rwanda. It means that the EDPRS targets for the economy in general and the health sector in particular do not succeed in creating sufficient additional fiscal space for health. Therefore, it appears crucial that both government and donors commit to increase resources to the health sector.

Indeed, the results of the fiscal space analysis show that only the high fiscal space Scenario can cover the estimated financing gap for the three Scenarios. If all of the optimistic assumptions of this fiscal space Scenario are fulfilled (coming close to the doubling of aid, allocation to health reaching 15%, high growth assumptions), it is likely that the estimated costs of reaching the EDPRS targets on time (Scenario 3) will be covered. This shows how crucial it is for Rwanda to mobilize more funds for the health sector both domestically and externally and to allocate them to HSSP-II priorities.

6.3. Conclusions

The two methodologies described above have come to very similar conclusions regarding the financing of the HSSP II. The overall costs and gap analysis are very consistent with one another and both provide useful insights into the financing of the Health Sector.

A number of conclusions can be drawn from these findings:

- While Scenario 3 is the ideal scenario that should be aimed for, Rwanda should not count on that. Consequently, it is critical that a clear prioritization be made when implementing the Health Sector Strategic Plan. For example, the construction of new Hospitals or Health Centers may need to be delayed. Or scale-up of certain services may need to be slowed down. Staffing requirements may also need to be curtailed.

- Rwanda's internal and external resource mobilization efforts need to be pursued and strengthened in order to try and meet the scenarios painted above and fully implement the national Health Sector Strategic Plan. Indeed, a strong commitment is needed by all actors to sustain achievements in the health sector and reach the EDPRS and HSSP-II targets by 2012. To this end, it is essential that both government and external partners commit an increasing amount of resources to the health sector and allocate them according to the needs expressed in this costing;

- The amount of resources actually flowing to communicable diseases and especially to HIV/AIDS is very high compared to the overall amount budget and may distort the allocation of resources and lead to financing gaps in other key strategic areas of the Ministry of Health such as nutrition, family planning or reproductive health. Having said that the financing gap analysis should be interpreted with caution due to persisting misalignments between available resources and specific needs, both within and across disease program. Further efforts are thus required to ensure a much greater alignment of resources against Rwanda's priorities.

- Although their contribution to reaching the MDGs is limited, the higher levels of service delivery receive a large amount of the total budget. Reallocations favoring the lower levels of service delivery (community level and health center level) could have a significant impact on health related MDGs.

7. Annexes

7.1. Organisation Chart Ministry of Health

Updated version to be added

7.2. List of other stakeholders/players

Other Ministries and their Health Related Activities

N°	MINISTRY	HEALTH RELATED ACTIVITIES
1.	Ministry of Agriculture and Animal Resources/MINAGRI	-Support households in producing adequate food for nutrition through one cow per family project, and household vegetable and fruit gardens
2.	Ministry of Defence/MINADEF	-Management of health facilities for the military, the police and the provision of health services to prisons -Management of health facilities for the military, the police and the provision of health services to prisons
3.	Ministry of Education/MINEDUC	- Pre Service Training of health professionals through support faculty of medicine, faculty of pharmacy, Kigali Health Institute (KHI), and School of Public Health (SPH) - Pre Service Training of health professionals through support faculty of medicine, faculty of pharmacy, Kigali Health Institute (KHI), and School of Public Health (SPH)
4.	Ministry of Energy and Infrastructure/ MINIFRA - Rwanda Information Technology Agency (RITA)	-Ensure access of safe water to households (Electrogaz) -Development of E- Health
5	Ministry of Environment, Water and Sanitation/ MINIRENA	- Improve Hygiene in public places, through provision of public waste management - Ensure availability to safe water - Construction of latrines, dustbins, and public waste management facilities
6	Ministry of Finance and Economic Planning/MINECOFIN	- Ensure availability to safe water
7	Ministry of Gender and Family Protection/MIGEPROFE	-Prevention and care of victims of sexual violence strengthened
8	Ministry of Information/MININFOR	- Develop media which provides a mechanism for mass communication and information transfer
9	Ministry of Internal Security – National Police/	- Prevention and care of victims of sexual violence strengthened - Management of health facilities for the military, the police and the provision of health services to prisons
10	Ministry of Justice/MINIJUST	- Payment of mutuelles premiums for Gacaca judges and community reconciliators (abunzi) as work incentives and compensation for services - Payment of mutuelles for prisoners released on parole "Travaux d' intérêt Généraux" (TIG)
11	Ministry of Local Government and Social Protection/MINALOC	-Construction of latrines, dustbins, and public waste management facilities - Provision of social health insurance/ community based health insurance through genocide survivors assistance fund (FARG) - Subsidies for the poor and vulnerable people including refugees and those affected by natural calamities to access health care - Construction of health centres and health posts in communities(Community Development Fund (CDF))
12	Ministry of Public Service and Labour/MIFOTRA	- Capacity Building, Functional Reviews, and development of procedures and training
13	Ministry in the Office of the President in charge of Science, Technology, Scientific Research and Information Communication Technologies / Rwanda Clinical Research Centre	- Strengthen research in health
14	Ministry of Youth/MIJESPOC	- Adolescent Reproductive Health - Prevention and care of victims of sexual violence strengthened

Agencies

1. CAMERWA – Central d'achat des médicaments du Rwanda / Central Drug Purchasing Agency for Rwanda
2. ACM – Atelier Central de Maintenance / Central Maintenance Workshop
3. KHI – Kigali Health Institute
4. LABOPHAR – Laboratoire Pharmaceutique du Rwanda / Pharmaceutical Laboratory of Rwanda
5. CNLS – Commission National de Lutte contre le VIH-SIDA / National AIDS Commission
6. CNTS – Centre National de Transfusion Sanguine / National Blood Transfusion Centre
7. LNR – Laboratoire National de Reference / National Reference Laboratory
8. NUR – National University of Rwanda
9. CCPS – Centre de Consultation Psychosociale / Psychosocial Consultation Centre
10. HCC – Health Communication Centre
11. RITA – Rwanda Information Technology Agency
12. RAMA – La Rwandaise d'Assurance Maladie / Rwanda Medical Insurance Agency
13. SPH – School of Public Health / Ecole de Santé Publique
14. TRAC+ – Treatment and Research Centre on HIV/AIDS, TB, Malaria and other epidemics
15. University Teaching and Referral Hospitals /CHUK, CHUB, KFH, Kanombe, Ndera, and Police Hospitals

Major Implementing Partners (FBOs, (I)NGOs and others)

1. BUFMAR
2. BTC/CTB
3. Caho
4. Care
5. Caritas
6. Catholic Blinden Mission
7. Cchips
8. Centers for Disease Control, Atlanta USA (CDC)
9. Champ
10. Compassion Int'l
11. Concern
12. Catholic Federation
13. Clinton Foundation
14. Protestant Federation
15. Catholic Relief Services (CRS)
16. Diane Fossey Gorilla Fund
17. Drew Cares
18. EGPAF
19. EIP
20. Family Health International (FHI)
21. Geneva global
22. German cooperation (GTZ, KfW, DED, CIM, InWent)
23. HDP (ex Memisa Cordaid)
24. Handicap International
25. Health Unlimited
26. Icap
27. Imbuto Foundation/PACFA
28. Interchurch
29. Intrahealth Capacity
30. Intrahealth HIV clinic
31. Intrahealth Twubakane
32. Johanitter Unfall Hilfe
33. Krankenhaus Rwanda
34. Manos Unidas
35. Medicus Mundi
36. Millennium Villages
37. Management Sciences for Health (MSH)
38. Oxfam
39. Partners in Health (PIH)
40. Population Services International (PSI)
41. Red Cross Rwanda

42. Rick Warren/Saddleback Church
43. Save the Children UK
44. Wageningen University Netherlands
45. World Relief
46. World Vision

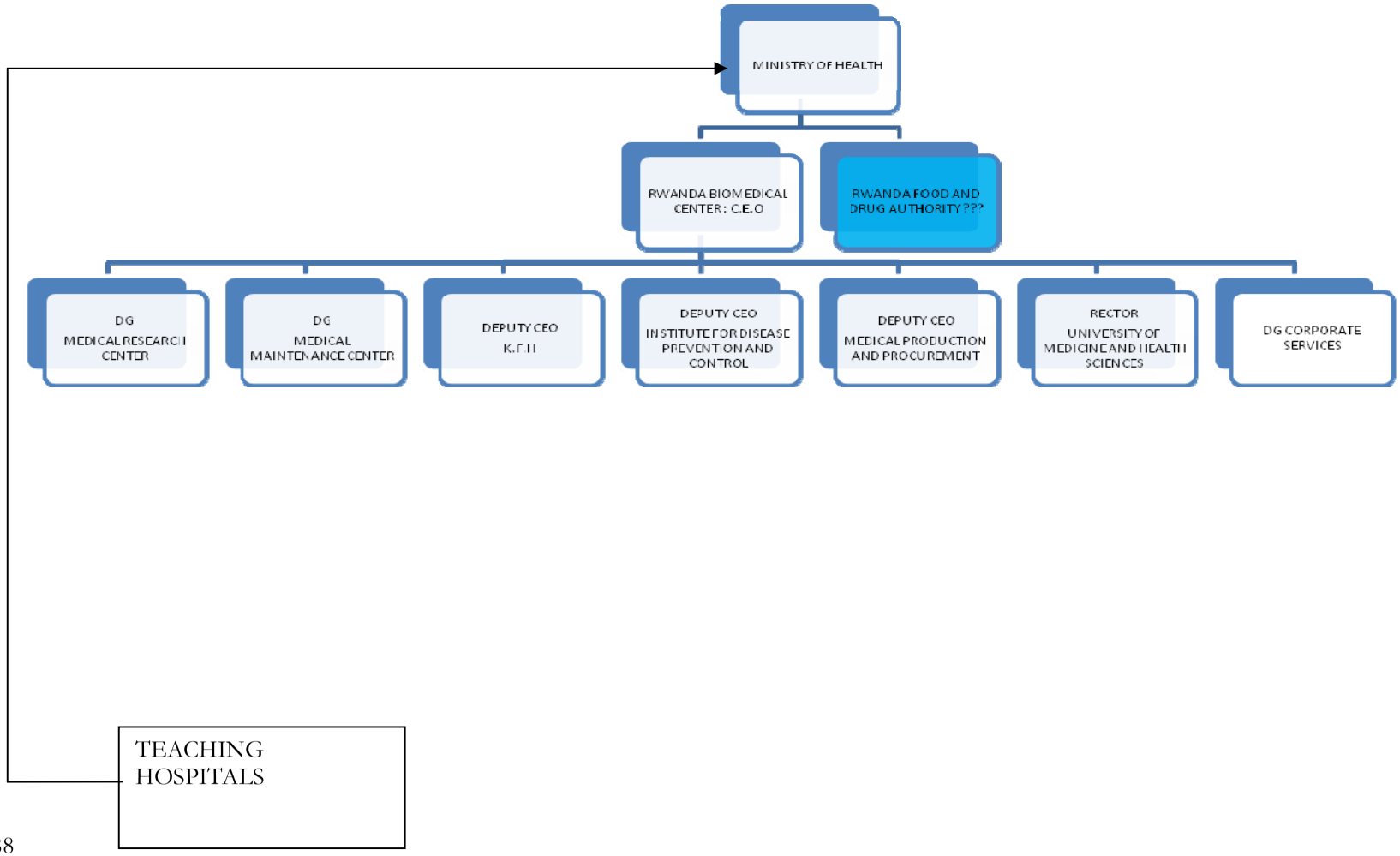
Major Development partners (bilateral and multilateral donors, UN agencies)

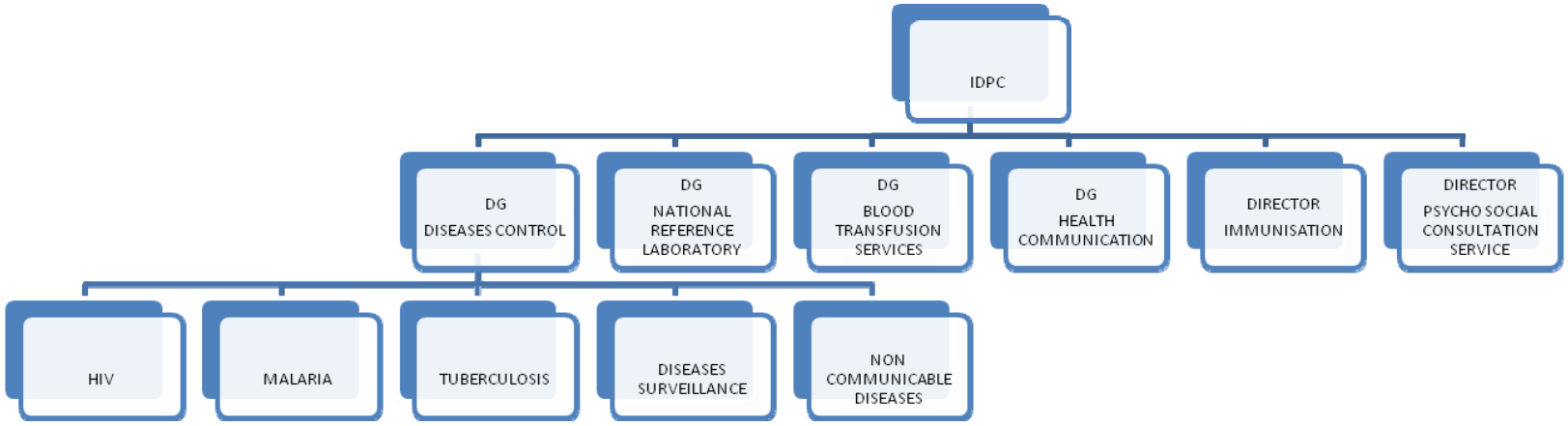
1. African Development Bank (AfDB)
2. Belgian Government
3. Chinese Mission
4. Clinton Foundation
5. GAVI
6. German Government
7. Global Fund for AIDS, TB and Malaria
8. Lux development
9. Swiss development cooperation (SDC)
10. UK Department for International Development (DFID)
11. UNAIDS
12. UNDP
13. UNFPA
14. UNICEF
15. US Government/USAID (PEPFAR, PMI, RH)/CDC/DOD/Peacecorps
16. WHO
17. World Bank
18. World Food Programme

7.3. Functions of different levels of the health sector

Level	Functions
Ministry of health	1. Elaboration of policies, strategies, regulations (norms, standards) ; 2. Capacity building; Monitoring and evaluation; 3. Resource mobilisation; 4. Administrative supervision of national hospitals and specialized autonomous agencies 5. Procurement of essential drugs and consumables.
District	1. Implementation of health sector policies; 2. Capacity building; 3. Monitoring and evaluation;. 4. Resource mobilisation; 5. Administrative supervision of health atonomous agencies (District hospital, Pharmacy, Mutuelle).
Sector	1. Implementation of health sector policies; 2. Capacity building; 3. Monitoring and evaluation;. 4. Resource mobilisation; 5. Administrative supervision of health sector and mutuelle section.
Cell	1. Implementation of health sector policies; 2. Monitoring and evaluation.
Umudugudu	1. Implementation of health sector policies; 2. Monitoring and evaluation.
Autonomous implementation agencies (National centers, Teaching hospitals, District hospitals, Pharmacies, community health insurances/ mutuelle, HIV/AIDS committee, Health centers)	1. Implementation of health sector policies and strategies.

7.4. Organigram of the Rwanda Biomedical Centre

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DIRECTOR
IMMUNISATION
DIRECTOR
PSYCHO SOCIAL
CONSULTATION
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MALARIA
TUBERCULOSIS
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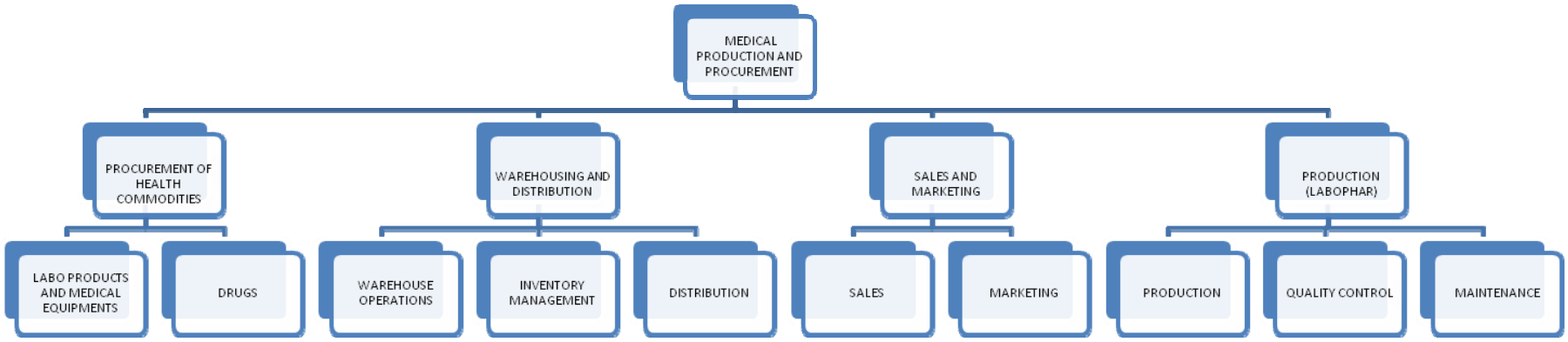
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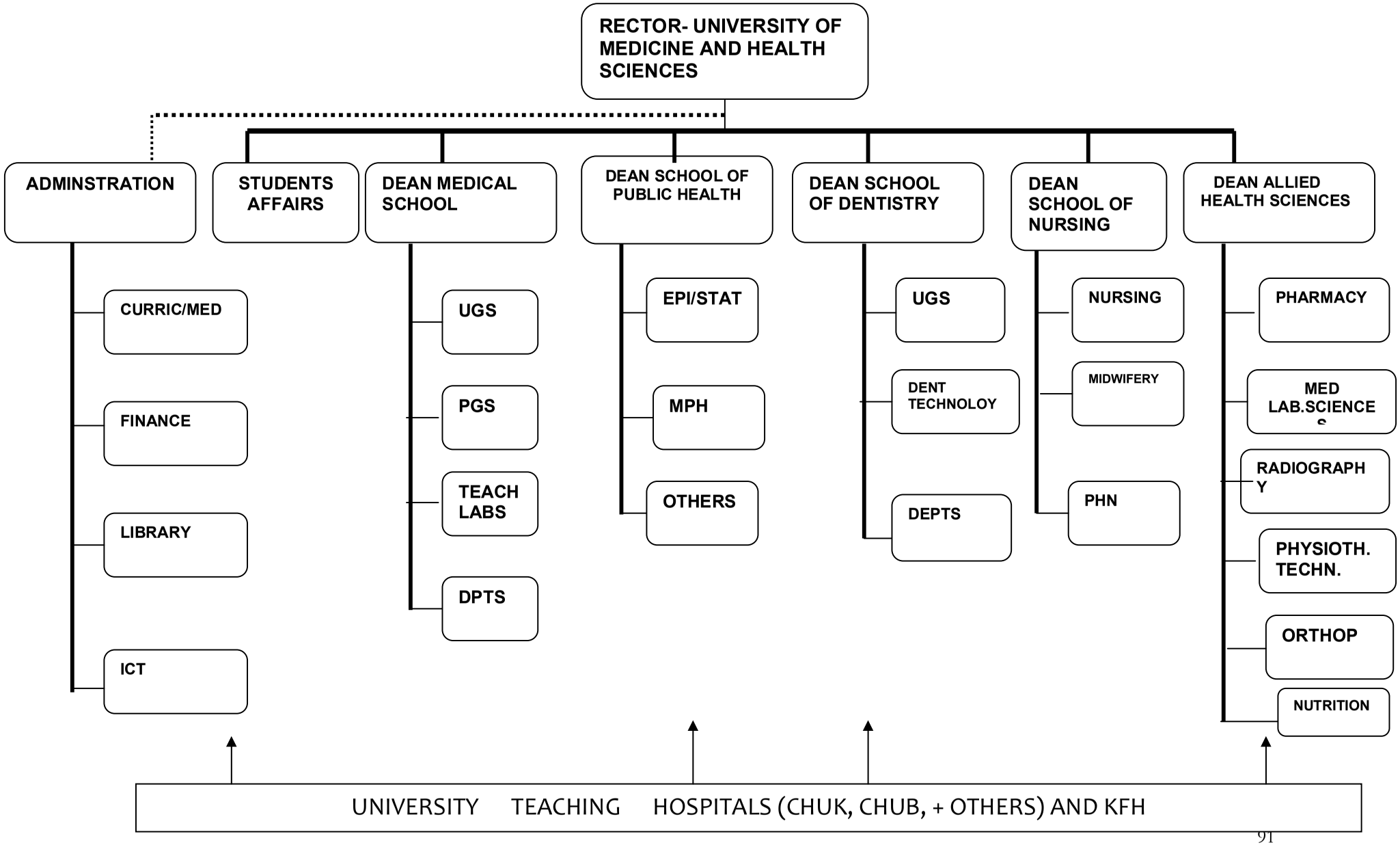
PROCUREMENT OF HEALTH COMMODITIES
WAREHOUSING AND DISTRIBUTION
SALES AND MARKETING
PRODUCTION (LABOPHAR)
LABO PRODUCTS AND MEDICAL EQUIPMENTS
DRUGS
WAREHOUSE OPERATIONS
INVENTORY MANAGEMENT
DISTRIBUTION
SALES
MARKETING
PRODUCTION
QUALITY CONTROL
MAINTENANCE


RECTOR- UNIVERSITY OF MEDICINE AND HEALTH SCIENCES
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DEAN SCHOOL OF PUBLIC HEALTH
DEAN SCHOOL OF DENTISTRY
DEAN SCHOOL OF NURSING
DEAN ALLIED HEALTH SCIENCES
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ORTHOP
NUTRITION
UNIVERSITY TEACHING HOSPITALS (CHUK, CHUB, + OTHERS) AND KFH

7.5. Indicators and targets in policies and plans relevant for HSSP-II

Table 1 Health indicators in Vision 2020

Indicator	Target
• Life expectancy	• 55
• Total Fertility Rate	• 4.5
• Infant Mortality Rate	• 50/1000
• Maternal Mortality Ratio	• 200/100,000
• Malaria and other epidemic diseases controlled	• No target
• HIV prevalence	• 8%
• Child malnutrition	• 10%

Table 2 Strategic health outcome indicators in the EDPRS

Indicator	Target
• Infant mortality rate	• 70/1000
• Infant mortality rate in the bottom wealth quintile	• 99/1000
• Incidence of stunting (height for age)	• 27%
• Maternal mortality ratio	• 600/100,000
• Total fertility rate	• 4.5
• Malaria prevalence among adults in Eastern province	• 28%
• HIV incidence in 15-24 year olds	• 0.5%

Table 3 Intermediate health indicators in the EDPRS

Indicator	Target
• % of women 15-49 years using modern contraceptive techniques	• 70%
• % of women giving birth in health centres	• 75%
• Number of insecticide treated bednets distributed annually	• No target
• % of the population covered by health insurance	• 95%

Table 4 Policy Actions for the health sector included in the EDPRS

2008	• Publish drug pricing policy • Signing of Sector Wide Approach Memorandum of Understanding • Publish health financing policy
2009	• Creation of health financing data base • Defining health personnel fixed positions for rural areas
2010	• Preliminary report of Demographic and Health survey (DHS) • Comprehensive evaluation of Health Sector performance
2011	• Publish final report of DHS • Comprehensive evaluation of Health Sector performance
2012	• Comprehensive evaluation of Health Sector performance

Table 5 Health indicators included in the CPAF

	Indicator	target
Strategic Indicators	Total fertility rate	4.5
	Infant mortality rate	70/1000
	Maternal mortality rate	600/100,000
Intermediate indicators	% of *married* women 15-49 using modern contraceptives	50%
	% of children <5 sleeping under ITN	85%
	Children fully immunised	95%
	Assisted deliveries in accredited HF	>60%
	Utilisation rate of PHC services (CHW, HC and private dispensaries)	1
	Per capita allocation to PBF for HFs and community health cooperatives	$2.90

Table 6 Health indicators used for SBS

Indicator	target
• Women 15-49 using modern contraceptive methods	
• Vaccination rate for DTP- III and Polio-III	
• Condom utilisation rate during last intercourse non-married sexually active women 15-24	
• Condom utilisation rate during last intercourse non-married sexually active men 15-24	
• Utilisation rate curative services outside Kigali	
• % of HFs meeting minimum staffing norms	
• % of HCs providing minimum package of activities (MPA)	
• % of DHs providing comprehensive package of activities (CPA)	
• % of population covered by health insurance	
• Availability of valid data for SBS indicators	

7.6. High level interventions

Error! Reference source not found. presents the interventions that are included in the HSSP-II including the baseline coverage and targets by Year 3 for family-oriented community based services in Rwanda.

Table 1: Family-oriented community-based services in Rwanda

Effective interventions	Baseline Coverage	National Coverage Targets by Year 3		
		Scenario 1	Scenario 2	Scenario 3
Insecticide Treated Mosquito Nets	58%	74%	82%	87%
Quality of drinking water	27%	74%	82%	87%
Use of sanitary latrine	49%	74%	82%	87%
Hand washing by mother	34%	74%	82%	87%
Indoor Residual Spraying (IRS)	20%	74%	82%	87%
Early breastfeeding and temperature management	49%	49%	49%	61%
Universal extra community-based care of LBW infants	0%	32%	48%	61%
Breastfeeding for children 0-5 months	88%	88%	88%	91%
Breastfeeding for children 6-11 months	77%	79%	86%	91%
Complementary feeding	69%	79%	86%	91%
Oral Rehydration Therapy	39%	54%	69%	79%
Zinc for diarrhea management	0%	0%	15%	20%
Artemisinin-based Combination Therapy for children	35%	37%	39%	40%
Antibiotics for U5 pneumonia	10%	17%	20%	25%
Insecticide Treated Mosquito Nets	58%	74%	82%	87%

Table 2: Population oriented schedulable services in Rwanda

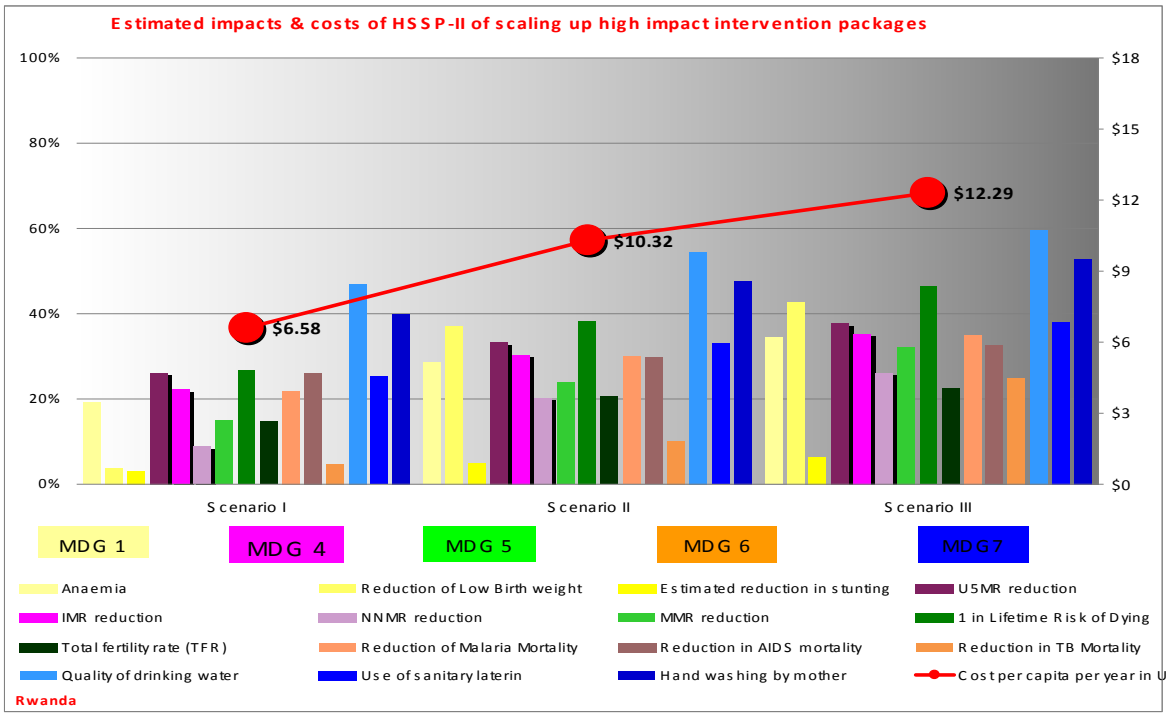
Effective interventions	Baseline Coverage	National Coverage Targets by Year 3		
		Scenario 1	Scenario 2	Scenario 3
Family planning	27%	57%	68%	72%
Antenatal Care	24%	55%	66%	79%
Calcium supplementation in pregnancy	0%	55%	66%	79%
Tetanus toxoid	31%	55%	66%	79%
Deworming in pregnancy	18%	18%	66%	79%
Detection and treatment of asymptomatic bacteriuria	0%	0%	66%	79%
Treatment of syphilis in pregnancy	71%	71%	71%	79%
Prevention and treatment of iron deficiency anemia in pregnancy	36%	55%	36%	36%
Intermittent preventive treatment (IPTp) for malaria in pregnancy	28%	55%	66%	79%
Balanced protein energy supplements for pregnant women	0%	0%	66%	79%
Supplementation in pregnancy with multi-micronutrients	0%	0%	66%	79%
PMTCT	57%	59%	70%	82%
Cotrimoxazole prophylaxis for HIV+ mothers	6%	59%	70%	82%
Cotrimoxazole prophylaxis for HIV+ adults	20%	59%	70%	82%
Cotrimoxazole prophylaxis for children of HIV+ mothers	21%	59%	70%	82%
Measles immunization	90%	90%	90%	93%
BCG immunization	96%	96%	96%	96%
OPV immunization	84%	86%	89%	93%
Pentavalent (DPT-HiB-Hepatitis b) immunization	87%	87%	89%	93%
Pneumococcal immunization	0%	86%	89%	93%
Vitamin A – supplementation	72%	86%	89%	93%

Table 3: Individual-oriented clinical services in Rwanda

Effective interventions	Baseline Coverage	National Coverage Targets by Year 3		
		Scenario 1	Scenario 2	Scenario 3
Normal delivery by skilled attendant	52%	55%	63%	67%
Active management of the third stage of labor	22%	55%	63%	67%
Basic emergency obstetric care (B-EOC)	30%	31%	37%	41%
Comprehensive emergency obstetric care (C-EOC)	44%	44%	49%	61%
Resuscitation of asphyctic newborns at birth	28%	28%	46%	50%
Antenatal steroids for preterm labor	47%	47%	47%	47%
Antibiotics for Preterm/Prelabour Rupture of Membrane (P/PROM)	55%	55%	55%	55%
Detection and management of (pre)ecclampsia (Mg Sulphate)	38%	38%	38%	38%
Management of neonatal infections	58%	58%	58%	58%
Clinical management of neonatal jaundice	51%	51%	51%	51%
Universal emergency neonatal care (asphyxia aftercare, management of serious infections, management of the VLBW infant)	66%	66%	66%	66%
Antibiotics for U5 pneumonia	39%	53%	63%	72%
Antibiotics for dysentery and enteric fevers	46%	55%	62%	66%
Vitamin A - Treatment for measles	55%	55%	55%	55%
Zinc for diarrhea management	9%	28%	50%	59%
Artemisinin-based Combination Therapy for children	69%	85%	94%	99%
Artemisinin-based Combination Therapy for pregnant women	85%	85%	85%	89%
Artemisinin-based Combination Therapy for adults	87%	87%	87%	87%
Management of complicated malaria (2nd line drug)	95%	95%	95%	95%
Management of sever malaria	73%	73%	73%	73%
Detection and management of STI	49%	53%	60%	64%
Management of opportunistic infections	60%	74%	81%	85%
Male circumcision	0%	11%	17%	38%
First line ART for children with HIV/AIDS	96%	96%	97%	98%
First-line ART for pregnant women with HIV/AIDS	38%	41%	79%	99%
First-line ART for adults with AIDS	96%	96%	97%	98%
Children second-line ART	0%	0%	35%	47%
Adult second-line ART	1%	1%	36%	48%
Management 2nd line ART failure	5%	5%	34%	47%
DOTS for TB	58%	58%	58%	62%
Re-treatment of TB patients	11%	32%	45%	65%
MDR treatment with second line drugs	92%	92%	92%	92%
Other emergency acute care	24%	24%	34%	47%

Sixty high impact interventions are included in the service packages at the family/community, population/schedulable and individual/clinical service delivery modes. These are interventions with direct contribution to the achievement of the health-related Millennium Development Goals. The additional cost of scaling up and mortality reductions by Year 3 were estimated using these packages of interventions and coverage levels in the three Scenarios.

7.5 Estimated impact and costs of the three scenarios (Year 1-Year 3)



7.7. Additional cost estimates for the HSSP-II using the national chart of accounts

Annex 1: Estimated additional resource requirement according to the national chart of accounts (in million US$) (Year 1-Year 3)

		Scenario 1				Scenario 2				Scenario 3			
		2010	2011	2012	Total	2010	2011	2012	Total	2010	2011	2012	Total
1601 DEVELOPMENT OF SECTOR INSTITUTIONAL CAPACITY		**3.60**	**3.50**	**3.90**	**11.00**	**7.18**	**6.99**	**7.78**	**21.95**	**10.77**	**10.46**	**11.63**	**32.87**
	160101 Health policies	0.15	0.18	0.22	0.56	0.31	0.37	0.45	1.12	0.46	0.55	0.67	1.68
	160102 Planning	0.01	0.02	0.04	0.07	0.02	0.04	0.08	0.14	0.03	0.06	0.11	0.21
	160103 Management of the health sector	3.23	2.86	2.91	9.00	6.46	5.71	5.82	18.00	9.69	8.57	8.73	26.99
	160104 Information Technology for health	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	160105 Organization, monitoring, evaluation and health information system	0.20	0.44	0.73	1.37	0.40	0.87	1.43	2.70	0.59	1.29	2.12	3.99
1602 HUMAN RESOURCES FOR HEALTH		**2.40**	**4.84**	**7.43**	**14.67**	**5.06**	**10.80**	**17.34**	**33.19**	**6.71**	**14.38**	**23.16**	**44.25**
	160201 Remuneration and incentives	0.78	1.50	2.27	4.55	1.90	4.00	6.41	12.31	2.61	5.48	8.81	16.90
	160202 Pre-service and in-service training	0.04	0.11	0.19	0.34	0.07	0.16	0.28	0.50	0.08	0.20	0.36	0.65
	160203 Planning, monitoring and evaluation	0.90	1.80	2.71	5.40	1.47	2.94	4.43	8.84	1.85	3.72	5.59	11.16
	160204 Nurses and midwives	0.67	1.43	2.27	4.37	1.63	3.70	6.21	11.54	2.17	4.97	8.41	15.55
	160205 Nursing Schools	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	160206 Pharmacy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	160207 Enlarged vaccination program	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	160208 Fight against blindness and physical handicap	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1603 FINANCIAL ACCESSIBILITY TO HEALTH SERVICES		**0.36**	**0.61**	**0.80**	**1.77**	**0.53**	**0.89**	**1.15**	**2.57**	**0.80**	**1.46**	**2.08**	**4.34**
	160301 Organisation and regulation of mutuelles insurance system	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	160302 Subsidisation of health services	0.36	0.61	0.80	1.77	0.53	0.89	1.15	2.57	0.80	1.46	2.08	4.34
1604 GEOGRAPHIC ACCESSIBILITY OF HEALTH SERVICES		**7.51**	**4.69**	**3.00**	**15.20**	**22.40**	**23.89**	**30.77**	**77.06**	**30.28**	**33.90**	**44.96**	**109.14**
	160401 Health infrastructure	3.95	2.47	1.60	8.02	12.63	15.56	23.05	51.25	16.93	21.87	33.24	72.04
	160402 Health equipment	2.79	1.74	1.11	5.63	8.90	7.79	7.36	24.06	12.40	11.42	11.31	35.14
	160403 Health transport	0.77	0.48	0.29	1.54	0.86	0.54	0.35	1.75	0.95	0.61	0.40	1.97
	160404 Development of telemedicine	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1605 AVAILABILITY OF DRUGS, VACCINES AND CONSUMMABLES		**27.26**	**21.04**	**19.34**	**67.64**	**26.48**	**19.94**	**17.63**	**64.05**	**14.83**	**14.60**	**16.36**	**45.80**
	160501 Regulation of pharmaceutical sector	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	160502 Supply of essential drugs and consumables of emergencies	1.70	1.48	1.34	4.51	2.32	1.83	1.51	5.66	2.45	1.90	1.55	5.90
	160503 Planning, monitoring and evaluation of essential drug and consumables	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	160504 Supply of vaccines and injection material	4.27	7.00	11.11	22.38	3.43	5.66	9.01	18.10	3.14	5.21	8.31	16.66
	160505 Research and pharmaceutical information	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	160506 Fight against malaria	1.99	1.23	0.76	3.98	2.07	1.27	0.78	4.13	2.11	1.29	0.77	4.17
	160507 Fight against tuberculosis	0.04	0.05	0.06	0.15	0.05	0.06	0.08	0.19	0.10	0.12	0.14	0.36
	160508 Fight against HIV/AIDS	18.57	10.93	5.96	35.46	17.62	10.62	6.10	34.35	5.95	5.54	5.42	16.91
	160509 Supply of essential drugs and consumables of community health	0.01	0.01	0.00	0.02	0.03	0.01	0.00	0.04	0.03	0.02	0.01	0.05
	160510 Supply of essential drugs and consumables of family planning	0.68	0.34	0.11	1.14	0.95	0.47	0.16	1.58	1.04	0.52	0.17	1.74
1606 QUALITY AND DEMAND FOR SERVICES IN THE CONTROL OF DISEASES		**21.70**	**33.50**	**47.63**	**102.83**	**27.91**	**44.32**	**63.16**	**135.39**	**32.31**	**52.95**	**76.31**	**161.58**
	160601 Fight against malaria	2.38	5.54	9.53	17.45	2.76	6.40	10.96	20.11	3.00	6.94	11.87	21.81
	160602 Fight against HIV/AIDS	7.16	14.82	22.98	44.96	8.42	17.42	26.97	52.81	11.14	23.01	35.62	69.77
	160603 Fight against tuberculosis	0.03	0.06	0.09	0.18	0.05	0.10	0.15	0.30	0.10	0.20	0.30	0.61
	160604 Fight other endemic diseases	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	160605 Non communicable diseases	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	160606 Reproductive health and family planning	0.77	1.49	2.41	4.66	1.02	2.01	3.28	6.31	0.90	2.19	3.87	6.96
	160607 Infant and maternal health	0.47	0.86	1.20	2.54	1.21	2.16	2.95	6.31	1.27	2.19	2.88	6.34
	160608 Nutrition	0.08	0.14	0.22	0.44	0.40	0.58	0.87	1.84	0.40	0.60	0.93	1.94
	160609 Hygiene and environmental health	6.70	3.94	2.38	13.01	7.16	4.27	2.66	14.08	7.44	4.47	2.84	14.74
	160610 Fight against blindness and physical handicap	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	160611 Community health	2.20	3.62	5.17	10.99	3.38	5.65	8.16	17.20	4.15	6.96	10.07	21.18
	160612 Quality of health services	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	160613 Performance base financing Health Center (PBF)	0.00	0.00	0.00	0.00	0.53	0.99	1.42	2.94	0.53	0.98	1.40	2.91
	160614 Information, education and communication for health (IEC)	1.90	3.02	3.64	8.56	2.96	4.72	5.70	13.38	3.35	5.35	6.47	15.17
	160615 Performance base financing District Hospital (PBF)	0.01	0.02	0.02	0.04	0.02	0.04	0.04	0.10	0.03	0.04	0.05	0.12
	160616 Performance base financing Referral Hospital (PBF)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.02
1607 DEVELOPMENT OF NATIONAL SPECIALISED REFERENCE AND RESEARCH SERVICES		**0.01**	**0.02**	**0.04**	**0.07**	**0.02**	**0.05**	**0.09**	**0.15**	**0.03**	**0.07**	**0.12**	**0.21**
	160701 Specialized health services	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	160702 Supervision of district hospitals	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.02	0.00	0.01	0.01	0.02
	160703 In-service training for health	0.01	0.02	0.03	0.05	0.01	0.04	0.06	0.11	0.02	0.05	0.08	0.15
	160704 Health research	0.00	0.00	0.01	0.01	0.00	0.01	0.01	0.03	0.00	0.01	0.02	0.04
	160705 Laboratory analysis	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	160706 Research and monitoring of retrovirus infections	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	160707 Research and monitoring of malaria	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	160708 Research and monitoring of tuberculosis	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL		**62.83**	**68.20**	**82.15**	**213.17**	**89.58**	**106.88**	**137.91**	**334.37**	**95.73**	**127.82**	**174.63**	**398.18**

7.8. List of ongoing or planned projects

NAME OF PROJECT	DONOR
Projet d'Appui Institutionnel à la lutte intégrée contre le Paludisme	Belgium
Controlling malaria in Rwanda phase II	Global fund
Rolling continuation channel for controlling Malaria in Rwanda	Global Fund
Assuring access to Quality care phase II	Global fund
Towards universal access to integrated HIV/AIDS services in Rwanda (HIV round VII phase I)	Global fund
Scaling up access to HIV/AIDS services with focus on prevention	Global Fund
Decentralisation of care and treatment for people living with HIV/AIDS	Global fund
Strenghening Tuberculosis control in Rwanda	Global fund
Strenghening multi drug resistant Tuberculosis control in Rwanda	Global fund
Projet d'Appui au Programme National de Santé Mentale - Phase II	Belgium
Renforcement Institutionnel au Minisante Phase 3	Belgium
Appui au CHUK	Belgium
Rehabilitation et extension Hopital Roi Faycal	Saudi fund
Projet initiative Ester (INT 108)	Lux development
Projet appui aux Districts de Sante de l'ex Kigali Ngali	Belgium

NB. There will be a new project financed by Belgium but it's still in formulation process
These are projects financed trough MINECOFIN, i.e on-budget projects

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7.10. Problem analysis form

All key stakeholders in health will be asked to fill this form. The outcome of this exercise will be summarised by the consultant, discussed during the workshop on 29-30-31 July in Gisenyi and used to identify the strategic objectives of the HSSP-II. Feel free to add more problems and/or options.

Name: .

Organisation:

Major problem[23]	Reason why is it a problem	Strategic options to address this problem[24]	Feasibility of option[25] Score 1-5	Explaining remarks[26]
I		1		
		2		
II		1		
		2		
III		1		
		2		
IV		1		
		2		
V		1		
		2		
VI		1		
		2		

[23] Which are in your view the major problems that hamper the achievement of the goal to improve the health of the people? Constraints can be related to certain diseases not being addressed or over-addressed, to health system issues, financial allocations, institutional and individual capacity, but also to issues external to the sector etc. etc.

[24] There are usually more options to address a problem. You can enter different options. Clearly describe what you mean.

[25] Indicate here for each option how feasible it is . Consider Financial feasibility: costs (can we afford it?), or even better cost-effectiveness (is it value for money?);
Operational feasibility (can it be implemented?); Acceptability (by patients and/or health workers/staff). Score on a scale of 1-5, where 1 is not feasible and 5 is very good feasibility.

[26] Insert here any remarks that will further explain your choices and scores.