THIRD HEALTH SECTOR STRATEGIC PLAN

JULY 2012 – JUNE 2018

Government of Rwanda

Ministry of Health

Final version

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FOREWORD BY THE HON. MINISTER OF HEALTH

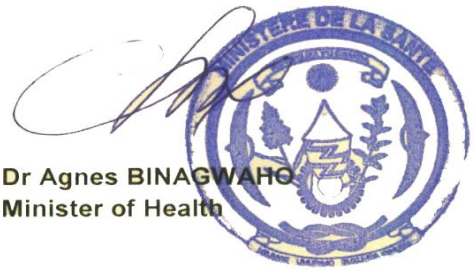
After the very impressive achievements of implementation of the HSSP I and of the HSSP II, I have the honor to introduce the third Health Sector Strategic Plan, for the period July 2012 to June 2018. The Government of Rwanda is committed to tackling illnesses related to poverty and ignorance and improving the health status of the population over the long term through the Vision 2020, and over the midterm through MDGs and EDPRS. The strategic planning is a process, built from evidences provided by regular assessment of progress made year after year by joint health sector reviews, the HSSP II MTR carried out in July 2011, and the EDPRS backward looking made in November 2011. The reviews identified progress made, while challenges and gaps observed have been used to define priorities and objectives for the HSSP III.

HSSP remains the best instrument to make both the Health Sector Policy and EDPRS operational and has been developed in close collaboration with all Partners under the umbrella of SWAp. The development of the HSSP was based on a bottom-up method, including all stakeholders. From the health system, members from the central, and district level participated in workshops to define objectives, targets and implementation strategies. It was a health sector collective effort involving all stakeholders, national and international. They provided crucial inputs and feedbacks in the drafting process. As so, HSSP III strengthens Rwanda already shifting its focus towards sustainable development and already embarked on the policy of decentralisation.

Like HSSP I and HSSP II, HSSP III aims at defining and implementing strategies to maintain and improve maternal and child health through high impact interventions, to prevent, treat and control diseases, to improve quality service delivery, to strengthen the national health system, to strengthen the decentralization process, and to sustain the participation of the population through community health, and community based health insurance, while the health financing policy will be implemented. The emergence and the increasing burden of non communicable diseases has retained our attention, for this reason; they occupy a very important place in the HSSP III.

The plan is costed using the best costing models, and resource tracking tools will be systematically used to monitor utilization of funds. Costing the HSSP III has revealed important gaps generated by our ambitious targets as defined in the revised Vision 2020 indicators and in the 7 year Government implementation plan. Then it is hoped that development partners will continue their financial support and the Government will increase its commitment and sustainable financing mechanisms. HSSP III is a continuation of the previous HSSP, but the best practices and innovations identified have been taken into account in developing interventions, to accelerate the improvement of the population.

Finally, in order to achieve our ambitious targets, an already strong monitoring and evaluation is in place. Even if challenges will be inevitably faced, I am confident that solutions will be progressively found because all stakeholders will unite their efforts, and interventions will be implemented in an effective and harmonized manner that will drive forward progress in the Rwandan Health Sector.



Dr Agnes BINAGWAHO
Minister of Health

ACRONYMS AND ABBREVIATIONS

A	
ACM	Central Maintenance Workshop (Atelier Central de Maintenance)
ACT	artemisinin-based combination therapy
AEFI	adverse effects following immunization
AIDS / SIDA	acquired immune deficiency syndrome
ANC	antenatal care (=CPN)
ARI	ACUTE RESPIRATORY INFECTIONS (=IAVRI)
ART	antiretroviral therapy
ARV	antiretroviral (medicine)
ASM	Maternal Health CHW (Animatrice de Santé Maternelle)
ASRH&R	adolescent sexual and reproductive health and rights
B	
BCC	behavior change communication
BTC / CTB	Belgian Technical Cooperation / Coopération Technique Belge
C	
C-IMCI	Community Integrated Management of Childhood Illness
C-PBF	Community Performance-Based Financing
CAAC	Cellule d'Appui à l'Approche Contractuelle / Performance-Based Financing Department (MOH)
CAMERWA	Central Drug Purchasing Agency in Rwanda (ED)
CB	community based
CBEHPP	Community-Based Environmental Health Promotion Program
CBHI	Community-Based Health Insurance schemes (= Mutuelles)
CBNP	Community -Based Nutrition Program
CCM	community case management (= Community IMCI)
CD	capacity development
CDC	Centers for Disease Control and Prevention
CDF	Common Development Fund (= LODA = Local Development Fund)
CDLS	Commission District de Lutte contre le SIDA
CDPF	Capacity Development Pooled Fund
CDT	Center for Diagnosis and Treatment (TB) / Centre de Dépistage et Traitement
CDV	Conseil et Dépistage Volontaire (see VCT)
CHAI	Clinton Health Access Initiative
CHC	Community Health / Hygiene Club
CHUB	Butare University Hospital (teaching hospital)
CHUK	Kigali University Hospital (teaching hospital)
CHW	community health worker
CNLS	National AIDS Commission / Commission National de Lutte contre le SIDA
CNTS	National Blood Transfusion Center / Centre National de Transfusion Sanguin
COHSASA	Council of Health Services Accreditation of Southern Africa
CPAF	Common Performance Assessment Framework (used for GBS and SBS donors)
CPD	Continuing Professional Development
CPDS	Coordinated Procurement and Distribution System
CPR	Contraceptive Prevalence Rate
CQI	continuous quality improvement
CS	centre de santé (= HC)
CSO	civil society organization
CTB	Coopération Technique Belge (Belgian Technical Cooperation)
D	
DAD	Development Assistance Database
DDG	Deputy Director General
DDP	District Development Plan

DFID	Department of International Development
DG	Director General
DH	district hospital
DHMT	District Health Management Team
DHS	Demographic and Health Survey
DHSST	District Health System Strengthening Tool
DHU	District Health Unit
DIP	Decentralized Implementation Plan
DOTS	Directly Observed Treatment Scheme / Short Course
DP	development partner
DP&R	Disaster Preparedness and Response
DPAF	Development Partner Assessment Framework
DPEM	District Plan to Eliminate Malnutrition
DSS	Department of Health Care (Département des Services Sanitaires)
DTC	Drug Therapeutic Committee
E	
EA	Enterprise Architecture
EAC	East African Community
EDPRS	Economic Development and Poverty Reduction Strategy
EDSR	Enquête Démographique et de Santé au Rwanda (=DHS)
EID	Epidemic and Disaster Prevention, Management and Response
EML	Essential Medicine List
EmOC	emergency obstetric care
EMR	electronic medical records
EMTCT	elimination of mother-to-child transmission
ENT	ear, nose, throat (diseases)
EPI	Expanded Programme for Immunization (WHO)
F	
FAMCO	family and community health
FBO	faith-based organization
FM	financial management
FoSaCom	Formation Sanitaire Communautaire
FP	family planning
FRA	Fiduciary Risk Assessment
G	
GAVI	Global Alliance for Vaccines and Immunization
GBS	general budget support
GBV	gender-based violence
GFATM	Global Fund for AIDS, TB and Malaria
GGB	General Government Budget
GOR	Government of Rwanda
GTZ / GIZ	Deutsche Gesellschaft fur Technische Zusammenarbeit / Deutsche Gesellschaft für Internationale Zusammenarbeit
H	
H&A	harmonization and alignment
HBV	hepatitis B virus
HC	health center (= CS)
HF	health facilities
HF	health financing
HFU	Health Financing Unit
HH	household
HIS	health information system
HIV	human immunodeficiency virus

HMIS	health management information system(s)
HP	health post (= dispensary)
HRH	human resources for health
HSP	Health Sector Policy
HSRP	Health Sector Research Policy
HSSP	Health Sector Strategic Plan
HSWG	Health Sector Working Group (new name for HSCG)
HW	health worker
I	
I-DHS	Interim (or mini) Demographic and Health Survey (done in 2007)
IBC	Input-Based Costing
ICC	Interagency Coordination Committee
ICT	information communication technology
IDSR	Integrated Disease Surveillance and Response
IEC	information, education. and communication
IHDPC	Institute of HIV/AIDS, Disease Prevention and Control
IMCI	Integrated Management of Childhood Illness
IMNCI	Integrated Management of Neonatal and Child Illness
IMR	infant mortality rate (/ 1,000 live births)
IRS	indoor (intermittent) residual spraying
IT	information technology
ITN	insecticide / impregnated treated (bed) nets
ITT	Inventory Tracking Tool
IUD	intrauterine device
J	
JADF	Joint Action Development Forum
JANS	Joint Assessment of National Strategies
JAWP	Joint Annual Work Plan
JBSR	Joint Budget Sector Review
JFA	Joint Financing Arrangement (Agreement)
JHSR	Joint Health Sector Review
K	
KFH	King Faisal Hospital
KfW	Kreditanstalt für Wiederaufbau - KfW Development Bank (SBS partner of MOH)
KHI	Kigali Health Institute
L	
LLIN	long-lasting insecticidal nets
LMIS	Logistic Management Information System
LNR	Laboratoire National de Référence
M	
M&E	monitoring and evaluation
MARP	most-at-risk population
MBB	Marginal Budgeting for Bottlenecks
MDG	Millennium Development Goals
MDR	multidrug resistance
MH	mental health (santé mental)
MIFOTRA	Ministry of Public Service, Skills Development and Labor
MIGEPROF	Ministry of Gender and Family Promotion
MIJESPOC	Ministry of Youth, Sport and Culture
MINAFRA	Ministry of Infrastructure
MINALOC	Ministry of Local Administration, Community Development and Social Affairs
MINECOFIN	Ministry of Finance and Economic Planning
MINEDUC	Ministry of Education, Science, Technology and Research
MINISANTE	Ministry of Health

MIS	Management Information System
MMI	Military Medical Insurance
MMR	maternal mortality rate / ratio (/ 100,000 births)
MNH	Maternal and newborn health
MOH	Ministry of Health
MOU	memorandum of understanding
MPDD	Medical Procurement and Distribution Department
MPPD	Medical Production and Procurement Division (part of RBC)
MSH	Management Sciences for Health
MTEF	Medium-Term Expenditure Framework
MTR	Mid-term Review
N	
NA	not available
NBTS / C	National Blood Transfusion Services / Center
NCD	noncommunicable disease(s)
NGO	nongovernmental organization
NHA	National Health Accounts
NISR	National Institute of Statistics of Rwanda
NNP	National Nutrition Policy
NNSP	National Nutrition Strategic Plan
NPRA	National Pharmaceutical Regulatory Authority
NRL	National Reference Laboratory (Laboratoire National de Référence)
NS	not stated
NSP	National Strategic Plan
NTD	neglected tropical diseases
NU	Nations Unies
O	
OOP	out-of-pocket (expenditure)
OPD	outpatient department
OpenMRS	Open Source Medical Record System
OVC	orphans and vulnerable children
P	
PBC	performance-based contracting
PBF	performance-based financing
PBM	performance-based management
pc	per capita
PEFA	Public Expenditure and Financial Accountability (assessment)
PEP	Post Exposure Prophylaxis
PEPFAR	President's Emergency Plan for AIDS Relief
PFM	public financial management
PH	provincial hospital
PHC	primary health care
PHCS	Pre-hospital Care Services (= SAMU)
PLWHA	people living with HIV and AIDS
PMTCT	prevention of mother-to-child transmission (of HIV)
PNC	postnatal care
pp	per person
PRSP	Poverty Reduction Strategy Paper (2004–2006)
PSCBS	Public Sector Capacity-Building Secretariat
PSCM	procurement and supply chain management
PSI	Population Services International
PTF	Pharmacy Task Force
PW	pregnant women

PWD	people with disabilities
Q	
QA	quality assurance
QC	quality control
R	
RAMA	Rwanda's Medical Insurance Agency (formally employed in public sector)
RBC	Rwanda Biomedical Center
RDHS	Rwanda Demographic and Health Survey
RDT	rapid diagnostic test
RDU	rational drug use
RFMA	Rwanda Food and Medicines Authority
RFW	Result Framework
RH	reproductive health
RHCC	Rwanda Health Communication Center (part of RBC)
RMU	rational medicine use
RTT	Resource Tracking Tool
Rwf	Rwandan Franc
S	
SAMU	Service d'Aide Médicale d'Urgence (= PHCS)
SBS	sector budget support
SCMS	Supply Chain Management System
SGBV	sexual and gender-based violence
SISCom	Sisteme d'Information Sanitaire des Communautes
SMM	Senior Management Meeting
SOP	standard operating procedure
SP	sulfadoxine-pyrimethamine
SPIU	Single Project Implementation Unit
SRH	sexual reproductive health
SS	support systems
STG	Standard Treatment Guidelines
STI	sexually transmission infection
SWAp	sectorwide approach
T	
TA	technical assistance
TB	tuberculosis
TBD	to be decided
TF	task force
TH	traditional healers
THE	total health expenditure
TI	teaching institution
TOR	terms of reference
TOT	training of trainers
TRAC	AIDS Treatment and Research Center (Centre de Recherche sur le SIDA)
TRAC +	Center for Infectious Disease Control (CIDC)
TT	tetanus toxoid
TWG	technical working group
U	
USAID	US Agency for International Development
USD	US dollars
USF	Unité Santé Famille et Protection des Droits de L'Enfant
USG	United States Government
V	
VAT	value-added tax
VCT	voluntary counseling and testing

VLDP	Virtual Leadership Development Center
V/M	Vice-Mayor
W	
WB	World Bank
WHO / OMS	World Health Organization
WRA	women of reproductive age
Y	
YFC	youth-friendly center

EXECUTIVE SUMMARY

The Third Rwandan Health Sector Strategic Plan: Guiding Principles and Concepts

The Third Rwandan Health Sector Strategic Plan (HSSP III) provides strategic guidance to the health sector for six years, between July 2012 and June 2018. HSSP III has been inspired and guided by the VISION 2020, which will make Rwanda a lower-middle-income country by 2020; the Rwandan Health Policy of 2004; and the priorities set out by the Economic Development and Poverty Reduction Strategy (EDPRS 2008–2012).

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

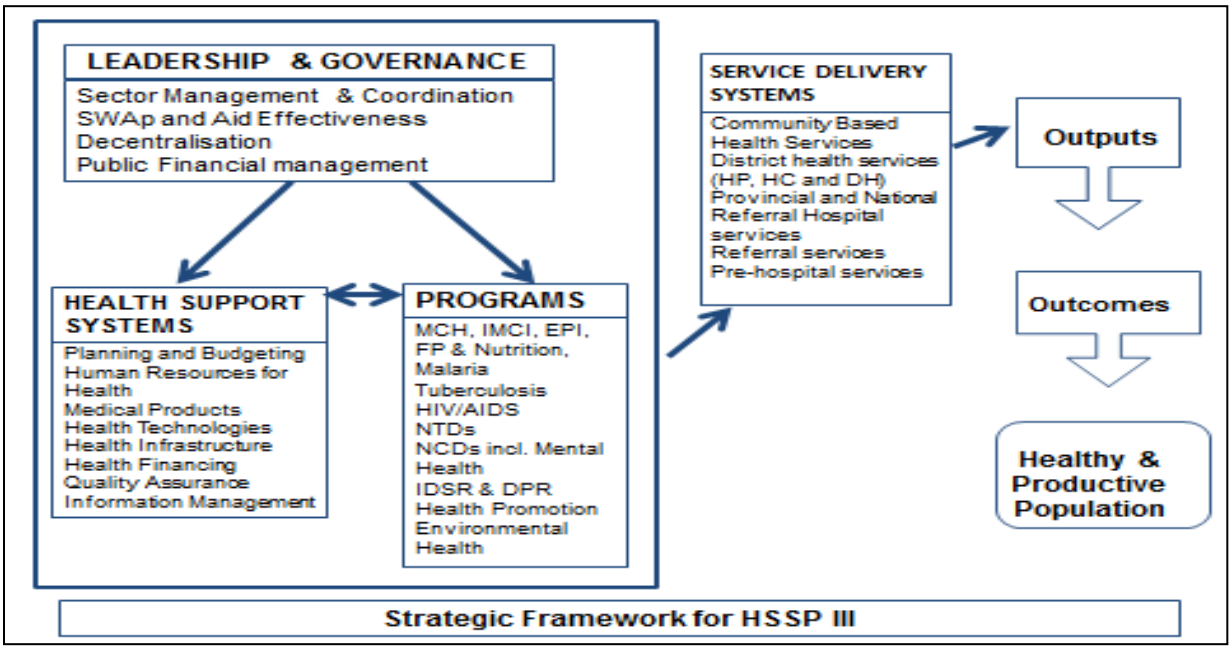
An extensive situation analysis conducted in the second half of 2011, together with a comprehensive Mid-term Review, provided the information about Rwanda's burden of disease and the epidemiological profile needed to determine the five overall priorities of HSSP III, as follows:

1. Achieve MDGs 1 (Nutrition), 4 (Child), 5 (Maternal and Child Health) and 6 (Disease Control) by 2015;
2. Improve accessibility to health services (financial, geographical, community health)
3. Improve quality of health provision (quality assurance, training, medical equipment, supervision)
4. Reinforce institutional strengthening (especially toward district health services, District Health Units)
5. Improve quantity and quality of human resources for health (planning, quality, management)

A conceptual framework, modified from the well-known health systems building blocks of WHO, provides an explanation of how the HSSP III has been structured (see Figure 1), the main assumption being that the various elements **together** will deliver the stated targets. The framework has been adapted to the Rwandan situation and distinguishes four interrelated "components":

1. The various **programs** that provide preventive, promotive, curative, and rehabilitative care;
2. The **support systems** needed to allow programs to deliver results;
3. **Governance**, providing leadership and guidance on policy development, coordination, quality control, fundraising, and oversight and monitoring of implementation;
4. **Service delivery** of the three components above, determined by the quantity and quality of services that are provided at the levels of the community, the district health services, and the national referral hospitals.

With proper guidance by senior management and the support of all stakeholders, strengthening the existing linkages between these components will ensure that the "population receives promotive, preventive, curative, and rehabilitative services of good quality, as close to the population as possible in an integrated manner." HSSP III will therefore build on the achievements of HSSP II and further improve and expand the work undertaken as part of HSSP II, notably in the day-to-day delivery of services to the population. It will bring the various services of all the programs together at the same time and in the same place, to "mainstream" them in a "one-stop event" that is accessible at any time to the client. In short, at the end of HSSP III, the health sector will provide comprehensive and integrated care at all levels of service delivery in a client-friendly way.



In 2012 an intense participative and consultative process ensured that all departments, divisions, units, and other stakeholders (through the various joint Technical Working Groups) agreed on their priorities, interventions, and indicators and targets. This resulted in a fully developed log frame that in turn provided the required information to develop a “zero draft”—the draft before the first draft—of HSSP III. This was discussed and amended by all those working in the chapters/sections mentioned in the HSSP III. The resulting first draft received additional comments and was then presented and endorsed by the Health Sector Working Group meeting.

Against the background of the situation analysis and in line with the conceptual framework, HSSP III provides a detailed account of the objectives, priorities, interventions, and innovations that (1) all the major programs, (2) all the health support systems, (3) the various levels of service delivery, and (4) the governance institutions are planning to continue, initiate, or roll out in the coming years. All four components have defined the essential indicators they intend to monitor annually, each with its baseline and targets for the end of the MDG era (2015) and for the end of the HSSP III (June 2018). Table 1 provides a one-page summary of the sector performance indicators and a quick overview of the sector’s main achievements and future targets.

The HSSP III Log Frame: Indicator Targets (Annex 10) links the goals of HSSP III with the Demographic and Health Survey (DHS) outcome/impact indicators that the sector aims to achieve for the MDGs. Some average indicators of the lower-middle-income countries have been included as the targets for HSSP III in 2018.

The Log Frame also links the objectives of the four components, each with their expected results, indicators, source of information, baseline, and targets through to 2018. The same information (baseline and targets) is provided at the beginning of each section of HSSP IIII, allowing managers to monitor annually their progress against the baseline and their stated targets.

It is expected that the various interventions and innovations adopted for HSSP III will form the basis for the annual and operational planning of all the programs, systems, levels, and governance interventions. In this way, the HSSP III will be operational and at the same time “strategic” in the sense that it sets the agenda and the priorities for the coming years. Planning, budgeting, and monitoring of the health sector will then become continuous and consistent over time. The terms of reference (TOR) of the Mid-term Review (MTR), expected in early 2015, should allow for a review of this RFW and its monitoring scheme. The annual implementation arrangements reviewed in Chapter 8 bring together the main milestones of

the Rwandan annual planning and budgeting cycle. It will serve as a source for harmonized planning by all stakeholders contributing their expertise or resources to the Rwandan health sector.

Estimated Costs

HSSP III has been costed using two different approaches, the Marginal Budgeting for Bottlenecks (MBB) approach and the Input-Based Costing (IBC) approach.

The MBB links the HSSP III firmly to the MDGs and informs the amount of resources needed to reduce mortality (and thus achieve the MDGs) under three different scenarios. The minimum scenario for the full six years expects the additional costs (additional to the current budget) to be around USD $482 million (USD $6.50 per person), moving to $1.1 billion ($16.40 per person) for the highest scenario, resulting in an estimated 15 percent to 30 percent mortality reduction, respectively. Specific forecasts are given for service delivery and for the expected recurrent and investment costs under each scenario.

The IBC uses a bottom-up, input-based approach, indicating the cost of all inputs required to achieve HSSP III targets for the Rwandan fiscal years of 2013–2018. The allocation of the various costs has followed to a large extend the conceptual framework of HSSP III. In this way, IBC concludes that, on average, $316.2 million and $296 million are required annually at the national and district levels, respectively, for a total of $612.2 million per year. The cost over time for (1) all the eight support systems and for (2) the main programs (each broken down for recurrent and investment), provides important details to allow MOH senior management and development partners to discuss priorities and decide on effective resource allocation.

When comparing the MBB with the IBC findings, the resulting figures show the following:

- For the Input-Based Costing methodology, the total budget needed to achieve HSSP III targets is estimated at $3,674.4 million.
- For the MBB costing methodology, there are three scenarios with different figures: (1) the low-cost scenario: $3,535.3 million, (2) the medium-cost scenario: $3,848.4 million, and (3) the high-cost scenario: $4,218 million

Two important conclusions can be drawn from these findings:

- Scenario 3 is the ideal scenario and should be aimed for. However, it requires a considerable amount of money. In case of shortage of resources, MBB proposes two other scenarios with less investment cost, but also with reduced outcomes in terms of bottleneck reduction (see Table 49 and Figure 9 in Chapter 9).
- Rwanda's internal and external resource mobilization efforts need to be strengthened in order to meet Scenario 3. Indeed, a strong commitment is needed by all actors to sustain achievements and reach VISION 2020 and HSSP III targets in a timely manner.

Using MINECOFIN model, the total cost estimate in table 57 is 1,067 billion Rwfs (for 5 years), which corresponds to approximately USD $1,694 million (at an exchange rate of 630 Rwfs/1 USD). The estimation of available resources gives a total of 758 billion Rwfs for 5 years, thus the total gap is estimated at 309 billion Rwfs.

Sector Performance Indicators of HSSP III

Table 1 shows health sector achievements and future targets.

Table 1. Trends 2000–2010 (baseline) and targets for MDG (2015) and HSSP III (2018)

INDICATORS	Baseline VISION 2020	HSSP I 2005	MTR June 2008	MTR Aug 2011	TARGET CY 2014	TARGET June 2018
Source of Information	**2000**	**DHS 2005**	**I-DHS**	**DHS 2010 HMIS 2011**	**MDG**	**HSSP III**
IMPACT INDICATORS						
Population (in millions)	7.7	8.6	9.31	10.5	11.3	11.5
Life Expectancy	49			55	58	68
Infant Mortality Rate / 1,000	107	86	62	50	28	22
Under Five Mortality Rate / 1,000		152	103	76	30	42
Maternal Mortality Ratio / 100,000	1,070	750	590	487	287	220
Total Fertility Rate (TFR)	6.5	6.1	5.5	4.6	4.5	3.4
Contraceptive Prevalence Rate (CPR)		17	36	49	62	72
HIV Prevalence Rate among 15–49 yrs	1.3	1.0	NA	3.0	3.0	3.0
OUTCOME / OUTPUT INDICATORS						
Prevalence of Underweight (Wt/Age) among children 6–59 months	30	18	NA	11	8	4
Prevalence of Stunting (Ht/Age) among children 6–59 months		51	NA	44	24.5	18
Prevalence of Wasting (Ht/Wt)		5	NA	3	2	2
% Births Attended in Health Facilities		39	45	69	78	90
% PW Receiving 4 ANC Visits		13	24	35	50	65
% Children <1 yr. immunized for measles		75	80	95	97	97
# Districts with One-Stop Center (GBV)				4	19	42
% Contraceptive Utilization Rate				31	36	40
% HIV Prevalence	NA	NA		1.5	1	0.6

INDICATORS	Baseline VISION 2020	HSSP I 2005	MTR June 2008	MTR Aug 2011	TARGET CY 2014	TARGET June 2018
Source of Information	**2000**	**DHS 2005**	**I-DHS**	**DHS 2010 HMIS 2011**	**MDG**	**HSSP III**
among PW Attending ANC						
% HF with VCT / PMTCT Services				94	96	96
% Malaria Prevalence Women / Children		NA	1.4 / 2.6	0.7 / 1.4	<1 / 1.2	<1 / 1
% HHs with at Least One LLIN		18	60	82	85	>85
% TB Treatment Success Rate / DOTS		58	86	87.6	88	90
% TB/HIV Patients Receiving ART				67	85	90
Diarrhea prevalence among the under five (% ofU5 with diarrhea in last 2 weeks before survey)				13	11	9
INPUT INDICATORS						
% GOR Budget Allocated to Health		8.2	9.1	11	12	15
Per Capita Total Annual Health Expend (USD)		NA	NHA	$39.10	$ 42.00	$ 45.00
% Population Covered by CBHI		12	75	91	91	91
Doctor / population ratio Nurse / population ratio Midwives / population ratio	1 / 75,000 1 / 6,250 NA	1 / 50,000 1 / 3,900 NA	1 / 33,000 1 / 1,700 1 / 100,000	1 / 16,001 1 / 1,291 1 / 66,749	1 / 13,748 1 / 1,291 1 / 45,000	1 / 11,993 1 / 1,000 1 / 25,000

Note: Where available, HMIS figures have been used for the outcome / output indicators here and in the various sections of the document, as HMIS will allow for annual monitoring of figures.

CHAPTER 1. INTRODUCTION

This chapter provides an overview of the policy context in which the health sector operates and describes briefly the process and methodology for the development of HSSP III.

1.1 The Policy Context: VISION 2020 and the Economic Development and Poverty Reduction Strategy

Two articles of the Rwandan Constitution relate to health, as shown in Box 1.

Box 1. The Rwandan Constitution, Articles 41 and 45

> All citizens have rights and duties relating to health. The State has the duty of mobilizing the population for activities aimed at promoting good health and to assist in the implementation of these activities**.**
>
> All citizens have the right of equal access to public service in accordance with their competence and abilities.

VISION 2020 (developed in 2000) translates these rights in a development path, presenting the country's key priorities aimed at making Rwanda a middle-income country in 2020. Through six pillars and three crosscutting issues, VISION 2020 puts people squarely at the center of its short-, medium-, and long-term plans. The health paragraph of VISION 2020 focuses on the high population growth rate (3.2% per year), maternal health, malaria, and HIV/AIDS. Relevant health indicators with their baselines (2000), intermediate levels (2010), and final targets (2020) have been included in the sector performance indicators in Table 1.

In 2004, Rwanda's Ministry of Health (MOH) revised its Health Policy, based on Vision 2020, the Poverty Reduction Strategy Paper (PRSP) of 2002, and the Good Governance and Decentralization Policy. The Health Policy 2004 mentions seven key objectives that guide all the interventions in the health sector:

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

In September 2007 the Government of Rwanda (GOR) finalized its first Economic Development and Poverty Reduction Strategy (EDPRS 2008–2012). The document provides a medium-term framework for achieving Rwanda's long-term aspirations, as embodied in VISION 2020, the seven-year GOR program, and the Millennium Development Goals (MDGs). EDPRS aims to (1) increase the capacity to innovate, (2) accelerate the rate of poverty reduction, and to (3) maintain Rwanda's reputation as a country with a low incidence of corruption. Recently, GOR has initiated the process to draft a new EDPRS, expected to start in July 2013.

At the international level, the most important policies and commitments providing direction to the HSSP III are the Millennium Development Goals, the Abuja Declaration, the African Health Strategy (2007–2015), the Paris Declaration (2005), and the Accra Agenda for Action (2008). The last two address aid effectiveness (in particular harmonization and alignment) as a major determinant of effective coordination between all stakeholders operating in the sector.

The MDGs commit the international community and each country to a renewed vision of development, one that vigorously promotes human development as the force that will sustain social and economic progress in all countries. In Rwanda, the health sector contributes directly to achieving five of the eight goals: (1) eradicate extreme poverty and hunger, (2) reduce child mortality, (3) improve maternal health, (4) combat HIV/AIDS, malaria and other diseases, and (5) ensure environmental sustainability.

In addition to these policy initiatives, the MOH, the World Health Organization (WHO),[1] and other agencies highlight the need to take equity into account if the MDG are to be attained. Although public health programs have achieved considerable success in reducing mortality and morbidity, they often fail to capitalize on interventions that address the social context and conditions in which people live. Moreover, national-level statistics often mask unfair disparities within and between population groups in terms of health outcomes resulting from unequal access, extreme vulnerabilities, and exposure to various risk factors. Recently, the Rio Political Declaration on Social Determinants of Health, which was adopted during the World Conference on Social Determinants of Health in October 2011, expressed the need for global political commitment for the implementation of "a social determinant of health approach" to reduce health inequities and to achieve other global priorities.

1.2 Methodology for Development of HSSP III

Within the health sector, the Ministry of Health developed its first Health Sector Strategic Plan in 2005 (HSSP I, 2005–2009). After an external evaluation of HSSP I in 2008, the MOH developed and implemented its HSSP II 2009–2012, which was evaluated (Mid-term Review, August 2011).

The development of HSSP III started with collecting the information for a full situation analysis, presented at a retreat in Musanze in February 2012, in which all MOH staff participated as well as all stakeholders in the sector. (Annex 9 lists documents consulted.) Attending were as representatives of development partners (DP), nongovernmental organizations (NGOs), faith-based organizations (FBOs), the private sector, professional associations, and regulatory bodies. On the basis of that document, all stakeholders produced an extensive log frame, summarizing the main priorities and interventions for the new plan together with results and indicators (baseline and targets).

The log frame developed during this workshop provided the essential inputs and ideas for the elaboration of a "zero draft," the first version of HSSP III, which was submitted to the MOH in the first week of March. In an intensive and short period, this zero draft was enriched through detailed discussions among the writing team and the chair, cochair, and members of the technical working groups (TWGs), under the guidance of the steering committee. The subsequent first draft was discussed by the Health Sector Working Group (HSWG). A meeting with some 70 participants provided important additional comments that were included in the second draft, which was submitted to the MOH at the end of March. The second draft was then submitted for an external Joint Assessment of the National Strategy (JANS) in June 2012. The final version of HSSP III was finalized on the basis of recommendations from the JANS report and Ministry of Finance and Economic Planning (MINECOFIN) guidelines for contributions from sectors to the development of the new EDPRS II.

The HSSP III will continue to operationalize the (new) EDPRS and the Health Sector Policy (HSP). It will guide the health sector toward the MDG dates (2015) and beyond (2017). It contains the targets to be achieved (see Annex 10) together with the vision and the overall objective of the Rwanda health sector. In addition to the details on program and system strengthening, HSSP III also focuses on various governance issues, such as sector management, coordination, decentralization, and public financial management (PFM). As before, HSSP will be implemented through the Medium-Term Expenditure Framework (MTEF), which is linked to the national budget, ensuring consistency in planning, budgeting and monitoring in the coming years. For easy reference, a list of ongoing projects is given in Annex 5 and a recent list of adopted policies and strategies in Annex 6.

[1] WHO, 2001, Report by the Commission on Social Determinants of Health (CSDH).

CHAPTER 2.
OVERVIEW OF THE HEALTH SECTOR

2.1 Institutional Structure of the Health Sector

The health sector is led by the Ministry of Health. The MOH supports, coordinates, and regulates all interventions whose primary objective is to improve the health of the population. A MOH organization chart appears in Annex 1. The mission statement of the MOH is shown in Box 2.

Box 2. The MOH mission statement

> 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 on health issues, 15 other government ministries implement activities that either directly or indirectly impact the health of the Rwandan people. The health sector is also supported by development partners (DPs), faith-based organizations (FBOs), nongovernmental organizations (NGOs), professional associations, and regulatory bodies.

Services are provided at different levels of the health care system (community health, health posts [HPs], health centers [HCs], district hospitals [DHs], and referral hospitals) and by different types of providers (public, confessional, private-for-profit, and NGO). At all levels, the sector is composed of administrative structures (boards / committees) and implementing agencies.

At the village level, community health workers (CHWs) are supervised administratively by those in charge of social services and technically by those in charge of health centers. CHWs receive compensation for their work from performance-based financing (PBF) through formally established local cooperatives.

At the sector level, HC committees provide oversight of the work of the various units in the health center, its outreach and supervision activities, and general financial control.

The agencies at the district level are district hospitals, pharmacies, Community-Based Health Insurance (CBHI), and HIV/AIDS committees. For clinical services, they report to the director of the district hospital. For administrative matters, however, the agencies are under the supervision of the party responsible for social affairs of the district, the District Health Unit (DHU). This is an administrative unit in charge of the provision of health services in the district and responsible for planning, monitoring, and supervision of implementing agencies. It is part of the intersectoral collaboration and coordination with DPs and civil society through the Joint Action Development Forum (JADF). The DHU is composed of a district director of health with three technical staff members (planning, health promotion/disease prevention, and monitoring and evaluation [M&E]) and reports to the vice-mayor for social affairs or to the District Council directly, if necessary.

The District Health Management Team (DHMT) will comprise of the district director of health, the hospital director, the director of CBHI, the director of pharmacy, and a representative of the health center managers. It will be chaired by the vice-mayor for social affairs. The role of the DHMT revolves around planning and management, supervision, coordination, financial and resource oversight, regulation, and increasing participation on the part of the local community in the delivery and management of services.

The Rwanda Decentralization Strategic Framework (RDSF), launched in 2000, has now finalized its second phase (reducing the number of districts from 106 to 30) and recently entered its third phase, aiming to increasingly transfer power and authority to the 30 District Councils. According to the Decentralization Implementation Plan, this third phase “needs to improve on the key downward accountability linkages between local government leadership and citizens.”

These changes will have important implications for the performance of the health sector under HSSP III, notably in the areas of planning, budgeting, fiscal decentralization, human resource management, and monitoring.

The various actors operating in the health sector, such as NGOs, CSOs, FBOs, and the private-for-profit sector are discussed in Chapter 7 (Governance).

Table 2 provides a summary of existing administrative structures and related health facilities.[2]

Table 2. Administrative structures by level, with their health facilities

Levels	Admin Structures	Health Infrastructure	HF Numbers
1. Villages / *imidugudu*	14,837	CHW	44,511
2. Cells / *akagari*	2,148	Health Posts / FoSaCom[3]	44
3. Sectors / *imirenge*	416	Health Centers	**450**
4. Districts	30	District Hospitals District Pharmacies	**40** 30
5. Provinces (including Kigali)	5	(DH to be upgraded to Prov Hosp)	5
6. National	1	Nat. Referral Hospitals[4]	**5**
Referral systems		Ambulances / SAMU	154
Registered Private HFs			157
Total Public + "Agree" HFs (= in bold, being HC + DH + Nat Ref Hosps**)**			495

Source: HMIS and QA desk, March 2012. (Annex 4 is a map of HFs in Rwanda.)

Note: The denominators for the various indicators will be decided on a case-by-case basis, depending on the service package that these facilities are expected to provide.

2.2 Health Sector Status, Achievements, and Challenges

The most recent, 2010 Rwanda Demographic and Health Survey (RDHS) shows substantial improvements in impact and outcome figures. Several reference documents recently produced in preparation for HSSP III and EDPRS II (HSSP II Mid-Term Review, health sector situation analysis, and the EDPRS I health sector self–assessment report) present an impressive picture of the current performance of the health sector. The Government of Rwanda, the Ministry of Health, and all stakeholders involved in the health sector achieved outstanding results in improving the health status of Rwanda's population within the very short period between the start of the HSSP I in 2005 and the RDHS.

2.2.1 Sector service delivery achievements in regard to EDPRS 1

Maternal and Child Health

Over the course of the EDPRS I, the total fertility rate improved from 5.5 children/women aged 15–49 (DHS 07–08) to 4.6 (DHS 2010). This coincided with the use of modern contraceptive methods increasing

[2] In the HMIS, Health Facilities (HF) are defined as all **public** sector facilities that provide health services, from Health Centers (including the health posts = FoSaCom in their catchment area) up to the National Referral Hospitals. In the **private** sector, there are dispensaries, (poly)clinics, hospitals and specialized clinics such as lab and dental facilities. Currently, there are 157 registered private dispensaries / clinics.

[3] There are also 15 prison dispensaries, part of the public health sector, but managed by MINTIR

[4] These are KFH, CHUK, CHUB, Rwanda military hospital, and Ndera.

from 27 percent (DHS 07–08) to 45 percent (DHS 2010). For the same period, the proportion of children fully immunized increased from 80 percent (DHS 07–08) to 90 percent (DHS 2010). Assisted deliveries in health facilities increased from 45 percent (DHS 07–08) to 69 percent (DHS 2010). Currently, antenatal care (ANC) visits is already at 98 percent (DHS 2010) for at least one visit, but it is still 35 percent for four ANC visits. The utilization rate of mosquito nets by pregnant women improved from 60 percent (DHS 07–08) to 72 percent (DHS 2010). Maternal mortality rate has decreased from 750/100,000 live births (DHS 2005) to 487/100,000 (DHS 2010). The infant mortality rate (deaths of children <12 months/1,000 live births) is steadily decreasing from 86 percent (2005), to 62 percent (DHS 07–08), to 50 percent (DHS 2010), and the same applies to the under-five mortality (deaths of children <59 months/1,000 live births), which decreased from 103 (DHS 07–08) to 76 percent (DHS 2010). This very positive evolution relates to better access to health care and more attention paid to projects implementing obstetrical and neonatal care in all health facilities.

Nutrition

However in terms of malnutrition: stunting slightly decreased from 51 (DHS 07–08) to 44 percent (DHS 2010), wasting from 5 (DHS 07–08) to 3 percent (DHS 2010), and underweight from 18 (DHS 07–08) to 11 percent (DHS 2010). As stunting is an important indicator for the socioeconomic development of a community, one can consider this phenomenon as an indirect warning sign of the still serious degree of poverty. Nonetheless, the decrease in the underweight results can be allocated to a better geographical and financial access to health care.

Burden of major infectious diseases: HIV/AIDS, Malaria and TB

The overall achievements of the health sector led to improvements in health status of Rwanda's population and reduction of morbidity and mortality rates (malaria, HIV and TB, and other diseases). The 2010 RDHS shows that the HIV prevalence among adults aged 15–49 in Rwanda has remained at 3 percent since 2005. Among women aged 15–49, the HIV prevalence is 3.7 percent, while among men age 15–49 the HIV prevalence is 2.2 percent.

The burden of malaria in Rwanda is declining as shown by malaria incidence and prevalence indicators. Malaria incidence declined from 185 cases per 1,000 in 2005 to 60 per 1,000 cases in 2010 (70% decline). The prevalence of malaria in Rwanda among under-five and women of reproductive age declined from 2.6 percent and 1.4 percent, respectively, in 2007–2008 to 1.4 percent and 0.7, respectively, in 2010. The malaria program reports very high use of long-lasting insecticidal nets (LLIN) use by children (70%) and by pregnant women (72%), with 82 percent of all households owning at least one LLIN.

The national TB Control Program reports high treatment success rates (86%) and very high success rates in the treatment of multidrug resistant (MDR) TB cases (89%). Collaboration between the AIDS/HIV and TB programs resulted in 97 percent of suspected TB cases tested for HIV.

Support systems—human resources for health

Regarding support systems, improvements generally take more time and investment than those in service delivery. However, important achievements are also recorded in this area in a relatively short period of time.

Human resources for health (HRH) has seen almost a doubling of the number of doctors and nurses (doctor / population ratio being 1 / 16,001, and nurse / population ratio being 1 / 1,291), both surpassing the target mentioned in the EDPRS. Only the ratio for midwives has not yet reached the target and stands at a ratio of 1 / 66,749 population. The Human Resources for Health (HRH) Policy and Strategic Plan have been updated; a continuous education plan for physicians is in place, and an innovative four-year Master of Family and Community Medicine has been initiated, as well as e-learning for upgrading A2 nurses to A1.

Support systems—Medical products

Provision of drugs, vaccines, and consumables from the Central Drug Purchasing Agency in Rwanda (CAMERWA), now called Medical Procurement and Distribution Department (MPDD), to the 30 district pharmacies is regular and reliable, and stock-outs of drugs are rare and often related to late requests by the HFs. CHWs receive drugs regularly from the same supply route. New regulations and laws have been developed that await approval by Parliament; a system to ensure drug quality is in place.

Quality assurance and accreditation achievements

Quality assurance (QA) measures have recently been initiated, standards and norms have been defined for district hospitals (infrastructure, equipment, HRH staffing, and pharmaceuticals), and an accreditation process of three referral hospitals has started with an evaluation by an external firm, the Council of Health Services Accreditation of Southern Africa (COHSASA).

Planning and budgeting achievements

Planning at the district and facility levels is aligned to HSSP I and II, annual operational plans show resource commitments from various stakeholders, and the budgeting process is supported by the ceilings provided by MINECOFIN through the MTEF. Joint Health Sector Reviews (JHSRs) take place annually, assessing the performance of the sector based on the annual health management information system (HMIS) report.

Financial accessibility benefits from three recent and interrelated policies: the Health Financing Policy, the Health Insurance Policy, and the Community-Based Health Insurance Policy. Together they translate the HSSP II into concrete policy actions. As a result, achievements are recorded as: increase in public expenditure by the MOH from 6.5 percent to 11percent of the GOR budget, and a reduction in the percent of external assistance from 38 percent to 33 percent. In addition, of all external assistance, 29 percent goes to PBF and 37 percent to CBHI, continuing the dependency of these two “reform drivers” on external funding. Preliminary figures indicate that about 83 percent of the health sector is funded by external assistance, but only 1 percent of all external funds is channeled through sector budget support mechanisms[5].

Governance achievements

In Rwanda, assessment of policy implementation for the last decade revealed significant progress in several areas that pertain to governance, leadership, and management. More importantly, since the passage of decentralization laws and the beginning of their implementation in 2005–2006, including the creation of district governments, a true health governance system became fully articulated and operational. The principles and practices that underlie and define this new Rwandan system include the following:

1. It is demand driven, with communities identifying their needs and priorities, and the health system responding to them;
2. Health districts and administrative districts are coterminous;
3. Local governments are now the focal point of accountability for health service facilities and responsible for their operations;
4. Health personnel and financial resources have been decentralized to the district level, with the MOH bearing responsibility for technical supervision while district governments control the program implementation process;
5. The sector, which is the administrative entity below the district, has become the point of service delivery within the new system, with health centers now present in nearly all 416 sectors;
6. An expanded Community-Based Health Insurance scheme that builds up from sector-level mutuelles is the main organizing and financing mechanism for health care;

[5] There are only three SBS donors (German and Belgian Cooperation and DFID). This number has remained the same since its start, whereas the German Cooperation left the sector in June 2012.

7. A volunteer-based system of CHWs has likewise been expanded and represents the principal point of contact for the majority of citizen-consumers;
8. Performance-based financing (PBF) is at the heart of Rwanda's system for managing human resources for health. Rwanda's PBF program covers both personnel in formal health institutions (e.g., district hospitals and sector health centers) and CHWs at the community level;
9. The Zero Tolerance Policy for corruption has strengthened Rwanda's capacity for strong governance, and the GOR's strong stance on this issue has enhanced the positive results of the decentralization process and general management of health services.

Further, social participation and system responsiveness is a major goal of the Decentralization Policy for the government, as well as for the health sector.

2.2.2 Challenges met during the implementation of HSSP II

Despite the lowered HIV prevalence and the high success rate of the TB treatment (DOTS), major multidimensional challenges still exist with regard to HIV services to sexually active youth and pregnant women (specifically in sex workers), and multidrug-resistant TB cases. For the best success of the next EDPRS, early detection, prevention, and treatment of the noncommunicable diseases deserve attention in developing health sector strategies. Cardiovascular diseases, diabetes, hypertension, cancer, and the related palliative care need to be considered. Strong emphasis should also be given to prevention and care of trauma and disabilities that add a real financial burden on the health sector and the country.

Many of the challenges mentioned by the various disease programs relate to (1) the still-limited technical performance of the staff in health centers and district hospitals, (2) the less than 100 percent coverage of the health infrastructure, requiring expensive and time-consuming outreach services, (3) the sometimes old equipment in the hospitals and HCs, (4) the limited linkage of some programs with the HSSP II (in planning, budgeting, and use of indicators), (5) the challenge of sustaining funding, and (6) the need to refocus several of the programs on new target groups (FP, immunization, community health).

The health sector's strong investment in human resource workforce development is of key importance in reducing poverty by improving the quality of care. However, a lot is still to be done to get sufficient health staff, to strengthen their human and technical skills, to equitably (re)distribute the health providers in more remote areas, to train specialists, and to integrate the district health tasks and responsibilities into the curriculum of medical students. In addition, research and evidence-based planning, policymaking, and medical practice still need to be promoted in the health sector (Ministry of Health, School of Public Health, and National University of Rwanda).

In the current and future context, the pivotal role of the District Health Management Teams under the stewardship of the district mayor (district authorities) should become an absolute priority in the management of health care resources (human, financial, and material). Upgrading five district hospitals as provincial hospitals and delivering newly defined health care packages will efficiently lift the challenges of patient referral and counter-referral. In the next EDPRS, maintenance of biomedical equipment, provision of energy and water, and rehabilitation of existing health infrastructures should be high priorities for improved functioning of the entire health system. Ensuring the availability and quality control of medical commodities, drugs, and consumables, and instituting improved supply chain management should also be priorities.

Financial accessibility through the CBHI faces challenges of both financial and institutional sustainability. The new CBHI reforms will allow more equitable access to health services, but the need for adequate safety nets to take care of the very poor will persist for some time to come.

For PBF, the challenge is to continue to reward priority services, and when results show differences over time (for example, moving from good to poor performers), tariffs need to be regularly adjusted accordingly.

Harmonization and alignment (H&A) suffer from poor participation by other DPs in available pooled funding modalities, some of them contributing substantial resources outside the "harmonized aid

modality." Assessment shows that the amount of off-budget aid flows in the health sector, both at central and district levels, is one of the largest constraints to strategic resource allocation and overall management of the HSSP II. It distorts the MOH's ability to assess equity in terms of resource allocation and does not allow an appreciation of the effectiveness and efficiency of its services.

2.2.3 Conclusions regarding sector achievements and challenges

Several enabling factors and initiatives—such as strong political will and commitment, improved access to health facilities, community-based programs, the introduction of performance-based approaches, and Community-Based Health Insurance—have enhanced good practices in the quality of care and increased access to and utilization of health services, mutual accountability, and efficiency at all levels.

DPs have increased their efforts to align their interventions with the GOR's priorities and the health sector strategic and operational plans. A number of challenges still remain, such as insufficient human resources (quality and quantity) and unsustainable funding, which goes along with issues related to the operational framework at the decentralized levels.

Among the most important achievements and challenges, this overview highlights not only that most of the MDG targets were achieved before 2015, but also that successes were achieved in the decentralization process and expansion of the Community-Based Health Insurance Scheme as well as the important driver of these improvements, the Performance-Based Financing Scheme (PBF).

2.3 Priorities for HSSP III

The extensive situation analysis conducted in the second half of 2011, together with a comprehensive Mid-Term Review, provided the necessary information on Rwanda's burden of diseases (for malaria, HIV/AIDS, TB, and neglected tropical diseases) and its epidemiological profile to decide on the overall five priorities of HSSP III.

The following priorities have been adopted for HSSP III implementation:

1. **Sustain the achievements in the fight for Maternal and Child Health and against infectious diseases**—MDGs number 1 (nutrition), 4 (child), 5 (MCH) and 6 (disease control)—and invest in prevention and control of noncommunicable diseases.
2. **Improve accessibility to health services** (financial, geographical, community health)
3. **Improve quality of health provision** (quality assurance, training, medical equipment, supervision)
4. **Reinforce institutional strengthening** (especially toward district health services, DHUs)
5. **Improve quantity and quality of human resources for health** (planning, quantity, quality, management)

There is a need to improve patient care. This includes better relations between the patient and health care provider; improvement in diagnosis, medical and laboratory tests; and rational treatment. The use of new technologies, including e-health, could efficiently rationalize referral and counter-referral system. In this regard, all new hospitals are to be systematically equipped with optic fiber and up-to-date information communication technology (ICT) equipment. Accreditation and standardization of services in order to achieve best-quality practices and services are to be encouraged. In relation to that, norms of service delivery, standard equipment, master plan, and quality of care have to be included in the performance criteria.

In the future increased continuous attention should be drawn to emergency obstetric and neonatal care, investment in RapidSMS systems for referral of life threatening cases, the nationwide scale-up of Integrated Management of Childhood Illness (IMCI), and integrated mother-child care in all health facilities. To slow the high rate of population growth the increasing use of modern contraceptive methods are encouraging. The role of CHWs in community awareness, seeking and accessing contraceptive methods especially in the poor areas is of great importance. For a greater success, involvement of

husbands/partners in birth control/family planning education and campaigns is highly needed. Direct dialogue with religious leaders on the use of contraceptive methods, the prevention of HIV and other STIs by using condoms will add to the health sector achievements.

Promoting access to water, sanitation and hygiene especially in the health facilities, in the public services and in the communities will remain important for the next EDPRS. Networking with other sectors on crosscutting issues such as sanitation, road safety, nutrition, child growth (intellectual and physical performance), gender equity and gender-based violence, HIV/AIDS, social protection, and transparent public finance management are worth deepening in the next EDPRS and Health Sector Strategic Plan. Regarding information collection, the parallel situation analysis, the in-depth gap analysis, and the EDPRS self-assessment are real opportunities to complement each other and to elaborate harmonized policies and strategies for the next five years, building on the performances of the past and facing the constraints identified by all the stakeholders.

CHAPTER 3.
THE STRATEGIC FRAMEWORK OF HSSP III

3.1 HSSP III Mission and Conceptual Framework

HSSP III will be guided by the same overall vision and goal, shown in Box 3, as its predecessor, HSSP II.

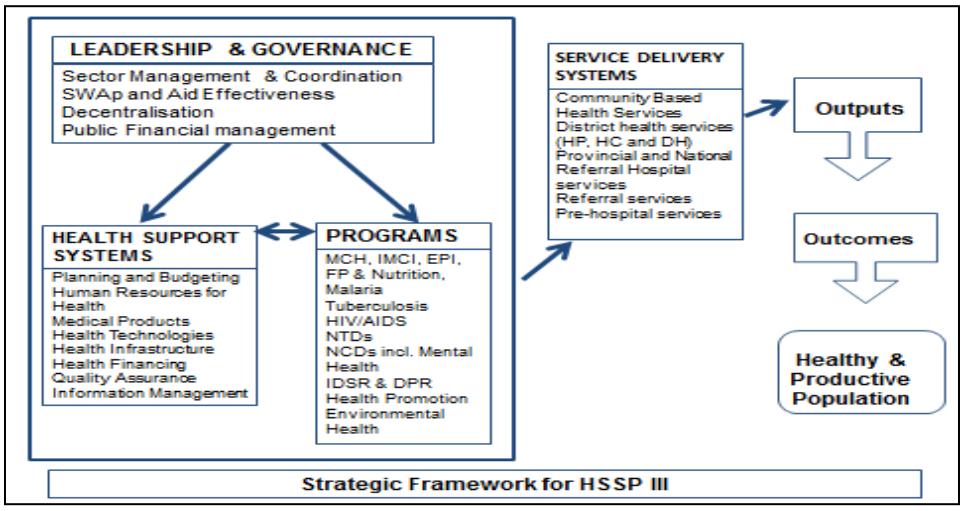
Box 3. The vision and goal of the Rwandan health sector

> *Vision of the Rwandan Health Sector:*
> 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.
>
> *Goal of the Rwandan Health Sector:*
> To operationalize the EDPRS in the health sector in order to attain national priorities and international targets, including the Millennium Development Goals in 2015 and the years beyond till the end of the HSSP III.

Key characteristics of the third HSSP are the interrelated elements (components) that together will improve the desired health outcomes[6]. The conceptual framework for HSSP III is shown in Figure 1. It comprises:

1. The various **programs** that provide preventive, promotive, curative, and rehabilitative care;
2. The **support systems** needed to allow programs to deliver results;
3. Together, these three "components" determine the quantity and quality of **service delivery** at the levels of the community, the district health services, and the national referral hospitals.
4. **Governance**, providing leadership and guidance on policy development, coordination, quality control, fundraising, and oversight and monitoring of implementation.

Figure 1. The conceptual framework of HSSP III



6 Adapted from WHO 2007, *Everybody's Business: Strengthening Health Systems to Improve Health Outcomes*, WHO's framework for action.

With proper guidance by senior management and support by all stakeholders, strengthening the existing linkages between these components will ensure that the "population receives promotive, preventive, curative, and rehabilitative services of good quality, as close to the population as possible, in an integrated manner."

Chapters 4 through 7 each present a component of HSSP III, highlighting its overall objective and summarizing its main objectives, outputs, and indicators (with baseline and targets) as well as its challenges, strategies, and interventions. The link between specific objectives and indicators is given in the HSSP III Log Frame (Annex 10).

3.2 The Result Framework: Objectives, Indicators, and Targets by Component

As mentioned before, the goal of HSSP III links the Rwandan health sector to various national and international policy imperatives (see policy context above). It is: "To operationalize the EDPRS in the health sector in order to attain national priorities and international targets, including the MDGs, which Rwanda is committed to achieve."

For HSSP III, this goal has been translated into the overall objective shown in Box 4.

Box 4. Overall Objective for HSSP III

> Ensure universal accessibility (in geographical and financial terms) of quality health services for all Rwandans.

This overall objective will be attained through the full implementation of (1) the various **programs**, while strengthening (2) the various **systems** that will support them at (3) all levels of **service delivery** together with (4) the **governance** of the sector. The specific objectives for each of these components are given in the HSSP III Log Frame (Annex 10), linking the objectives and interventions of these four components with the relevant indicators (baseline and targets). The four tables below, taken from the Results Framework, intend to provide the reader with a summary of outputs and indicators for all four components.

Table 3. Component 1: PROGRAMS

PROGRAMS	MAIN OUTPUTS	INDICATORS	VALUES	
			Baseline	Targets*
MCH IMCI EPI FP Nutrition GBV ASRH&R	• Access / quality MCH services improved • Infant and <5 mortality reduced • % Fully vaccinated maintained • Access / quality to FP services improved • All forms of malnutrition reduced • GBV cases are reported and managed • Quality / access to ASRH improved • SRH status of adolescents improved	% Births attended in HF	69	90
		% PW with 4 ANC visits	35	65
		% Vaccinated measles <1yr	95	97
		Contraceptive Prevalence Rate (%)	45	72
		% Underweight / Stunting	11 / 44	4 / 18
		# DH One-Stop Center	4 (DSS)	42 (DSST)
		% Teenage pregnancy (<20)	4.7	3.3

PROGRAMS	MAIN OUTPUTS	INDICATORS	VALUES	
			Baseline	**Targets***
HIV/AIDS	• Access / quality of HIV / AIDS services improved	% HIV Prev. in PW / ANC	1.5 (TRACnet)	0.6 (TRACnet)
		% HF with VCT / PMTCT	94 (TRACnet)	96 (TRACnet)
Malaria	• Access / quality of Malaria services improved	Malaria Prevalence women / children <5 yr	0.7 / 1.4	<1 / 1
		% HH with 1 LLIN or more	82	>85 (DHS/HMIS)
Tuberculosis	• Access / quality of Tuberculosis services improved	TB Treat Success rate SS+	87.6	90 (TB Annual Report)
		TB/HIV patients receive ART	67	90
Mental Health	• Mental health integrated in all HC/DH	% HC with MH services	16	100
Neglected Tropical Diseases	• Integrate NTD is general services	% Children of 1–15 yrs dewormed	83	90
Noncommunicable Diseases	• Access / quality to NCD services improved	4 baseline studies	0	1 / yr
		# of HF providing NCD services according to national norms	0	500
Integrated Disease Surveillance & Response / Disaster Preparedness & Response	• Effective and efficient IDSR / DP&R	% HF implement IDSR	12	100
Health Promotion	• Access / quality of health promotion services improved	Diarrhea prevalence among <5 children	2.8	2.0
		% Community Health Clubs with enhanced capacity	14	70 (RHCC Annual Report)
Environmental health	• Environmental health awareness raised	% Food establishments with satisfactory hygiene standards	0	90 (Inspection reports)
		% HF with effective waste management systems	55	>90 (DSST)

* Refers to the targets for 2018

Table 4. Component 2: HEALTH SUPPORT SYSTEMS

SUPPORT SYSTEMS	MAIN OUTPUTS	INDICATORS	VALUES	
			Baseline	Targets*
Planning & Budgeting	• Decentralized planning is the norm • Planning/budgeting tool harmonized	Districts submit annual plans / budgets on time	NA	30
Human Resources for Health (HRH)	• Quantity/quality of HRH respond to needs • Rational distribution based on norms • Performance of TI strengthened	Doctor / pop ratio	1 / 16,001	1 / 11,993
		Nurse / pop ratio	1 / 1,291	1 / 1,000
		Midwife /pop ratio	1 / 66,749	1 / 25,000
		Lab tech/pop ratio	1 / 10,626	1 / 10,000
Medical products	• Generic drugs locally produced • Hosp. Drug Therapeutic Committees • HF with no stock outs	% Drugs locally produced	<2	>11
		% Hosp. Drug Therapeutic Committees	45	100
		% HF with no stock-outs	55	98
		% prescriptions with antibiotics in DHs/HCs	≥65	≤40
		% HF with online tracking system for all procuring entities (e-LMIS)	0	100
		# Pharmacy regulatory legal instruments and establishments of regulatory institutions	18	45
		# of District pharmacies with good storage conditions	0	30
Diagnostic Services (incl lab facilities)	• Nat Ref Lab in construction • Reported stock-outs of Lab / Rx tracer	% Construction finished	30	100
		% of laboratories with at least 2 trained staff in good laboratory practices within the lab network	76	100
Health Infrastructure	• Expand existing HF to universal coverage • Develop maintenance systems	% Sectors without HC	5	0
		% DH with workshop	3	31
Health Financing (HF)	• GOR contribution to health • Performance PBF and CBHI	% GOR budget for Health	11	15
		Per capita expenditure on health (USD)	$39.10	$45.00
		CBHI coverage	91%	91%

SUPPORT SYSTEMS	MAIN OUTPUTS	INDICATORS	VALUES	
			Baseline	Targets*
Quality Assurance & Accreditation	• Align quality indicators to performance	# of HF (DH and RH) under accreditation and on track as planned	3	45
		% Provincial hospitals eligible for accreditation (> 70%)	0	5
		% HCs with functional QA team	0	100
		# HC eligible accreditation	0	200 / 450
Information Management	• Roll out ICT infrastructure and various HIS • Develop e-Health Policy	% HF with functional IT	84	100
		% HCs and DHs using OpenEMR or other individual medical records system	8	80
		% of registered private clinics and dispensaries reporting routinely to HMIS	5	90
		# registered CHWs tracking PWs using RapidSMS	8,183	14,837
		# A2 nurses e-learning	0	1,750

* Refers to the targets for 2018

Table 5. Component 3: HEALTH SERVICE DELIVERY

HEALTH DELIVERY	MAIN OUTPUTS	INDICATORS	VALUES	
			Baseline	Targets*
Community-Based Health Care (CBHC)	• Increased number of skilled CHW • CHW cooperatives financially sustainable	% Functioning cooperatives	30	100
		# of districts providing NCD/AIDS/Palliative care in the community	0	30
District Health Services (DHS): HP, HC and DH	• Planning coordination by DHMTs • % HF with electricity / water • Data private practitioners within HMIS	% Working DHMT 30 districts	NA	100
		% HF with electricity / water	56 / 66	95 / 98
		% Private clinics in HMIS	5	70
Provincial and National Hospitals (PH & NH)	• Capacity-building of hosp. managers • Accred process on track • PH and NH provide supervision to DH	# Trained hosp. managers	15	60
		# National referral hospitals accredited	1	5
		% DH supervised 4x/yr	NA	100
Referral Systems	• # Proper referrals HCs to DH	# of ambulances/district	5	6

	• % HF with referral guidelines in place	% HF with effective ambulance maintenance plans	40	100

* Refers to the targets for 2018

Table 6. Component 4: GOVERNANCE

GOVERNANCE	MAIN OUTPUTS	INDICATORS	VALUES	
			Baseline	Targets*
4.1. Regulatory Framework and Decentralization	• DH decentralization process completed • Planning/budgeting/reporting in DHU done	% DHUs operational	0	96
		% Districts having health commission meetings	16	96
4.2A. Partnerships Arrangements, Coordination	• Collaboration with private sector formalized • All stakeholders participate in district planning	% Districts implement SWAp guidelines	0	96
		% Partners participate in district health planning	0	95
4.2B. SWAp, Aid Effectiveness	• Develop SWAp guidelines / Joint Financing Agreement (JFA) with MOH/DPs • DPs provide resource information in time • Mutual accountability strengthened	% On-budget funding as % of total DP funds	44	55
		% DP provide resource information	95	100
4. Accountability and PFM	• Streamline all PFM systems (central/district) • Financial monitoring and audits strengthened	% On-budget / Off-budget resources	44 / 56	60 / 40
		% HF trained in PFM fiduciary issues	0	100
		% DH clean audits	0	95

* Refers to the targets for 2018

3.3 Contribution to EDPRS II Thematic Areas

Health underpinned the progress made during the implementation of the EDPRS I and, in EDPRS II, it is considered as a foundational sector and as such continues to be essential to Rwanda's economic and social development. The health sector is a crucial foundation for achieving Rwanda's ambitious growth targets because the whole range of promotive, preventive, curative, and rehabilitative interventions contributes to promoting a healthy population, which is an essential precondition for increasing the productivity of the workforce. The health sector also has an influence on the enabling environment for economic and social transformation as envisioned by the EDPRS II, aiming to contribute, among others, to a reduction in the fertility rate, which will help ease the demographic pressure in the country. Beyond these general linkages, the HSSP III seeks to contribute in different ways to the thematic priorities of the EDPRS II, which are economic transformation for rapid growth, rural development, productivity and youth employment, and accountable governance.

3.3.1 Economic transformation for rapid growth

Through the strengthening of primary, secondary, and tertiary health services (from community health workers to provincial and national referral hospitals) and the expansion of specialized medical services, the implementation of the HSSP III will help create the enabling environment necessary for economic transformation as envisioned by the EDPRS II. Only if Rwanda improves the quality and breadth of health services will its population be able to fully participate in economic transformation. Moreover, the availability of high-quality care in-country is crucial to attracting investors and tourists. Investments in developing the required human resources, including more specialist doctors, and in improving and expanding health infrastructures are critical elements in this regard, as is the strengthening of local production capacities for pharmaceuticals and medical products. The health sector is thus also not only

an enabler of economic transformation but itself a potential area of investment for both Rwandan and foreign companies interested in infrastructure, service provision, and production. The role of the private sector will be essential in the development of the health sector during HSSP III. For more information on strengthening of tertiary care services and the private sector, please refer to the corresponding sections in health service delivery (Chapter 6) and governance (Chapter 7).

3.3.2 Rural development

The health sector can make crucial contributions to improving living conditions in rural areas of the country. To do so, the overall objective of the HSSP III includes a commitment to ensure geographical and financial accessibility of quality health services, which is a particular challenge in rural areas due to dispersed populations and a higher percentage of poor people. The HSSP III addresses these issues through strategies that seek to expand the network of health facilities, in particular health centers and provincial hospitals, and to improve the quality and quantity of service delivery by community health workers, health posts, health centers, and district hospitals. Construction works related to the infrastructures extension can create jobs and this will increase the employment rate in rural areas and thus the financial status of the population will improve. In addition to that, some health sector indicators especially regarding infrastructures are counted among the District performance contracts “Imihigo” activities. The more the district fulfills well its performance contracts “Imihigo” activities, the more it attracts potential investors for its further development. In this respect, performance-based financing and the development of human resources are key strategies under HSSP III. As to financial accessibility and protection, the HSSP III aims at attaining and maintaining universal health insurance coverage through CBHI and improving the functioning and sustainability of the insurance system. Environmental health and nutrition interventions are also particularly geared at improving conditions in rural areas.

3.3.3 Productivity and youth employment

As stated above, good health is a precondition for productivity and also helps decrease absenteeism at school and work, thereby providing the foundations for growth and poverty reduction. Productivity will also be enhanced through improved occupational health safety as outlined in the environmental health program of the HSSP III. The improvement of the productivity of health sector personnel is targeted by the HSSP III, notably through the strategies relating to human resource development, including medical education, and further strengthening of performance-based financing. The health of young people is a new focus of the HSSP III, in particular adolescent sexual and reproductive health and rights, which will help empower the Rwandan youth to obtain the qualifications they need at the labor market (e.g., by reducing absenteeism at school due to ill-health and teenage pregnancies). In this area, collaboration with the education and vocational training sectors is crucial.

3.3.4 Accountable governance

With regard to sector governance, the HSSP III stresses the need to strengthen decentralization in the health sector, with a particular focus on improving public financial management at decentralized levels and the accountability of District Health Units and health-service providers to the populations they serve (e.g., through patients’ satisfaction surveys). The mutual accountability of sector stakeholders will be enhanced through the further development of the sectorwide approach (e.g., Joint Action Development Forum Health Commissions at the district level, the Health Resource Tracking Tool and the Technical Working Groups) and closer partnerships with civil society organizations and professional bodies.

3.4 Foundational Sectors Contribute to the Control of Implications on Social Aspects

HSSP III also addresses thematic areas that represent risks to the harmonious development of Rwandan society. Foundational sectors such as health and education can be influential in both limiting those risks and facilitating positive implications.

3.4.1 Economic transformation for rapid growth

Rapid economic growth can have a down side and negatively affect aspects as crucial as equity, vulnerability, and resilience. On the other hand, great progress can be associated with economic transformation in terms of poverty reduction, peaceful coexistence, and environmental protection. Mainstreaming of social investment to the specific thematic areas must be a priority to limit the potential negative consequences. This also requires different sectors to improve coordination and to play a synergistic role in ensuring protection against potential negative effects.

A major shift is expected in the comparative role of the private sector in health interventions. The relative share of private investment in the health sector is expected to rise spectacularly from 10 percent during EDPRS I to as much as 70 percent by the end of EDPRS II (2018). The increased participation of the private sector in health service provision as a driver of the health sector's contribution to rapid economic growth can potentially be a factor leading to increased inequities. The Rwandan regulatory framework has to adapt to this new situation and ensure that the private sector respects the same quality standards as the public sector in terms of drug production and utilization, infrastructures, and of service provision. Adequate supervision and quality assurance mechanisms have to be in place to control private as well as public services.

3.4.2 Rural development

With the drive to encourage the rural population to reside in centers where they will have better access to public services, there will appear increasing differences between health facilities established close to those centers, and therefore serving a larger population, and others health facilities located in isolated areas, where the population will become scarcer. The health sector will have to meet the challenge of adapting available services to this population shift, while at the same time preserving the equity principle that has inspired health care system development in the past. This will require flexibility in the size of facilities and the number of staff allocated to areas with varying demographics. Retention measures will have to be established to maintain an adequate number of staff in isolated areas that are often neglected by the workforce. Underequipped districts or sectors already suffering from a deficit in infrastructures and human resources will have to be the subject of special attention to ensure that their situation does not worsen.

3.4.3 Productivity and youth employment

The changes in lifestyles and in social environment will bring new health risks. Young people should be educated about these risks and informed of preventive strategies they can adopt to protect themselves. Noncommunicable, degenerative, and chronic diseases will represent a growing part of the burden of diseases in Rwanda. Those are well known to be linked to unhealthy life habits (e.g., poor nutrition, tobacco and alcohol use, lack of physical exercise) and young people will have to be warned about these factors and taught healthy choices so they can remain well and productive. Urbanization is also likely to be accompanied by an increase of social issues usually associated with the urban environment: criminality, drugs, and precarious habitat/slums. Health educators and health care providers have an important role to play to educate and advise young people about these dangers.

The growing economy will require an increased workforce that is competent and adequately trained, and the health sector will be called upon to play an important role in the education of health care workers to meet this qualitative and quantitative need. Technical schools as well as higher education institutions will have to adapt their curricula and increase enrollment to meet the growing needs of the health care system. A continuous and regular dialogue will have to take place between the health and education sectors, as well as with the authorities overseeing the recruitment and retention of new workers in both the public and private sectors. New types of competencies needed by the fast-developing medical technologies will have to be transmitted and made available and will represent a respectable contribution to the enrolment of youth into productive economic activities and employment.

3.4.4 Accountable governance

Several existing mechanisms for increasing active participation on the part of the general population in decision-making and priority identification have to be strengthened, for example Joint Action development Forums (JADFs), the boards of directors of health facilities at all levels, public accountability days. Board members need to be trained to fully carry out their responsibilities, and the general population has to be

prepared to participate in public meetings and raise the health issues they are facing, either in terms of accessibility and quality of services, or of living conditions that are conducive to illnesses (water and sanitation, nutrition, etc.). This is a new way for the general population to interact with local authorities and government representatives, it and requires a learning process that public servants, including health care providers, need to participate in actively. A multisectoral approach is needed, as this is a change in mindset and communication skills that concerns all domains of activities.

3.5 Contribution to EDPRS II Crosscutting Issues

3.5.1 Gender

In spite of the positive results achieved during EDPRS and HSSP II, mainstreaming of gender equity as a crosscutting issue remains a priority goal for the health sector during HSSP III. The health delivery system cannot be satisfied by ensuring gender neutrality of access to health services as it contributes to the inequalities and inequities in health outcomes for men and women. Also, there is still a weakness in the collection of sex-disaggregated data for appropriate planning and evaluation of health service delivery.

Women and men have specific health needs at all stages of life that are related to both physical differences and their societal roles. A gender approach is clearly needed for sexual and reproductive health—family planning, general knowledge about reproductive health options and opportunities, men engagement—but also for other key health programs (Malaria, HIV, SGBV, Nutrition, Mental Health). Traditional gender norms play an important role the causal chain in all those areas, sometimes positive, but often detrimental. These norms must be addressed in the strategies to promote gender equity and link it to improvement of the health status of the Rwandan population.

Among the key gender issues that affect the health sector, the following are specifically addressed in the HSSP III strategic objectives and related indicators and priority actions:

- High levels of teenage pregnancy and related risks, for example high abortion rates and maternal mortality;
- High fertility rate, especially among rural, poor women;
- Gender disparities with regard to HIV/AIDS;
- Nutritional disorders, especially among children and women;
- Gender and mental health problems due to pathological reasons, e.g., marital and other social factors;
- High rate of gender-based violence cases;
- Implication of traditional and cultural gender issues on health.

More details on the indicators and policy actions of the HSSP III aiming at improving gender equity can be found in the Annex 8 about crosscutting issues.

3.5.2 Capacity-building

The GOR considers **capacity** to be *the ability of people, organizations and society as a whole to manage their affairs successfully* and **capacity-building** as processes of capacity creation, utilization, and retention at the three levels (individual, organizational, and institutional). Capacity-building, therefore, needs to be considered at the sector strategy level to ensure efforts are focused on national and sector priorities (Vision 2020, Government 7 year Action Plan, EDPRS, and HSSP III). Achievement of national and sector development targets depends on both individuals and institutions having the capacity to deliver. Better coordination of capacity-building is needed to mitigate duplication, overlaps, wastage of resources, and inefficiency; this requires clarity of roles and responsibilities. A good monitoring and evaluation system is also needed to effectively measure the impact of capacity-building investments.

Under the general orientations of the National Health Policy (2005), the health policy environment provides a robust framework for strengthening the health sector, not only in terms of capacity-building of the health workforce, with the recently developed HRH Policy (2011), but also at organizational and institutional levels. The HSS sub-TWG within the Governance TWG has the mandate to coordinate all

stakeholders' efforts to improve the capacities of the health sector. HSSP III gives a general framework in which all the different programs' capacity-building plans are integrated. Based on the capacity-building needs assessment, numerous indicators and policy actions of the health services provision programs (MCH and Disease Prevention And Control) present specific capacity-building interventions in their programmatic area.

To give a more global and comprehensive picture of the sector's capacity-building priorities, the main policy actions are presented according to the HSSP III health support systems categories:

- **For HRH**, pre-service and in service training of health care workers, community health workers and other persons involved in health services provision, with certain types of service providers being particularly targeted, according to needs and strengthening of professional bodies and teaching institutions;
- The production, procurement, storage and distribution of **Medical Products,** as well as the establishment of a regulatory body and of quality control mechanisms;
- For **Health Technologies**, improvement of infrastructures (laboratory at central and peripheral levels), quality control mechanisms, procurement system and appropriate training of lab technicians;
- Development of **Health Infrastructure and Medical Equipment** to ensure geographic accessibility and quality of services provided;
- In the field of **Health Care Financing,** strengthening of financial management system at central, district and HF level for CBHI, PBF, HRT, and improved data collection and data management for evidence-based decisions;
- Establishment of regulations, of a generalized accreditation process and of an institutionalized continuous quality improvement (CQI) system to ensure **Quality of Services**;
- For **Planning and Information Management**, establishment of guidelines, procurement of necessary equipment (for example for EMR) and training of the staff in charge of these tasks; strengthening of a harmonized and integrated M&E system, with systematic data quality assessment mechanisms and data dissemination and use;
- And finally for **Governance**, strengthening of decentralized coordination and financial management, improvement of partners' coordination and of intersectoral interventions.

3.5.3 Regional Integration

The progressive development of regional integration through the establishment of the East African Community (EAC) will eventually lead to free movement of goods, people, labor, services, and capital between the countries of the region, which will have important impacts on the health sector in Rwanda and in the region. Several policy documents have already been produced regarding health management from a regional perspective. In the Treaty for the Establishment of EAC, partner states agreed to take joint action toward prevention and control of diseases in the region. The Protocol on EAC Regional Cooperation on Health, EAC Regional Health Sector Strategic Plan (2012–2016), and Health Sector Budget for FY 2012/2013 provided orientations for the implementation of this shared objective.

Regional integration: issues and related actions

The main issues and the related actions identified in these documents are as follows:

- **Harmonize standards** for high quality health care and effective institutional arrangements, and for policy and budget alignment;
- **Train workers** to ensure mutual recognition of skills in order to benefit from free movement of workers in the region;
- Establish a framework to ensure **equal treatment and movement of patients** within the region;
- Establish a regional **Health Insurance Policy** and mechanisms to facilitate free movement of labor and people at the regional level;
- Strengthen the **health systems** according to regional and international standards (accreditation);
- Harmonize regional regulations in the **pharmaceuticals and food safety** areas;

- Harmonize **traditional medicine** to promote effective methods of treatment as alternatives to modern medicine;
- Integrate **disease surveillance** and response to prevent propagation of epidemics;
- **Build the capacity of human capital** in the health sector by harmonizing medical education to facilitate mutual recognition and the movement of health professionals throughout the region;
- Pursue a common **strategy and communication policy for behavior change** in relation to the adoption of healthy lifestyles for the prevention of communicable and noncommunicable diseases;
- Stimulate **e-health** for capacity-building and management of health information;
- Cooperate to harmonize policies for **research** in the health sector;
- Develop an **environmental health policy** for promotion of hygiene, safe water, and sanitation, and to address health issues caused by the environment across the region.

Regional integration policy areas

The main policy areas of focus in the HSSP III framework that are related to regional integration are as follows:

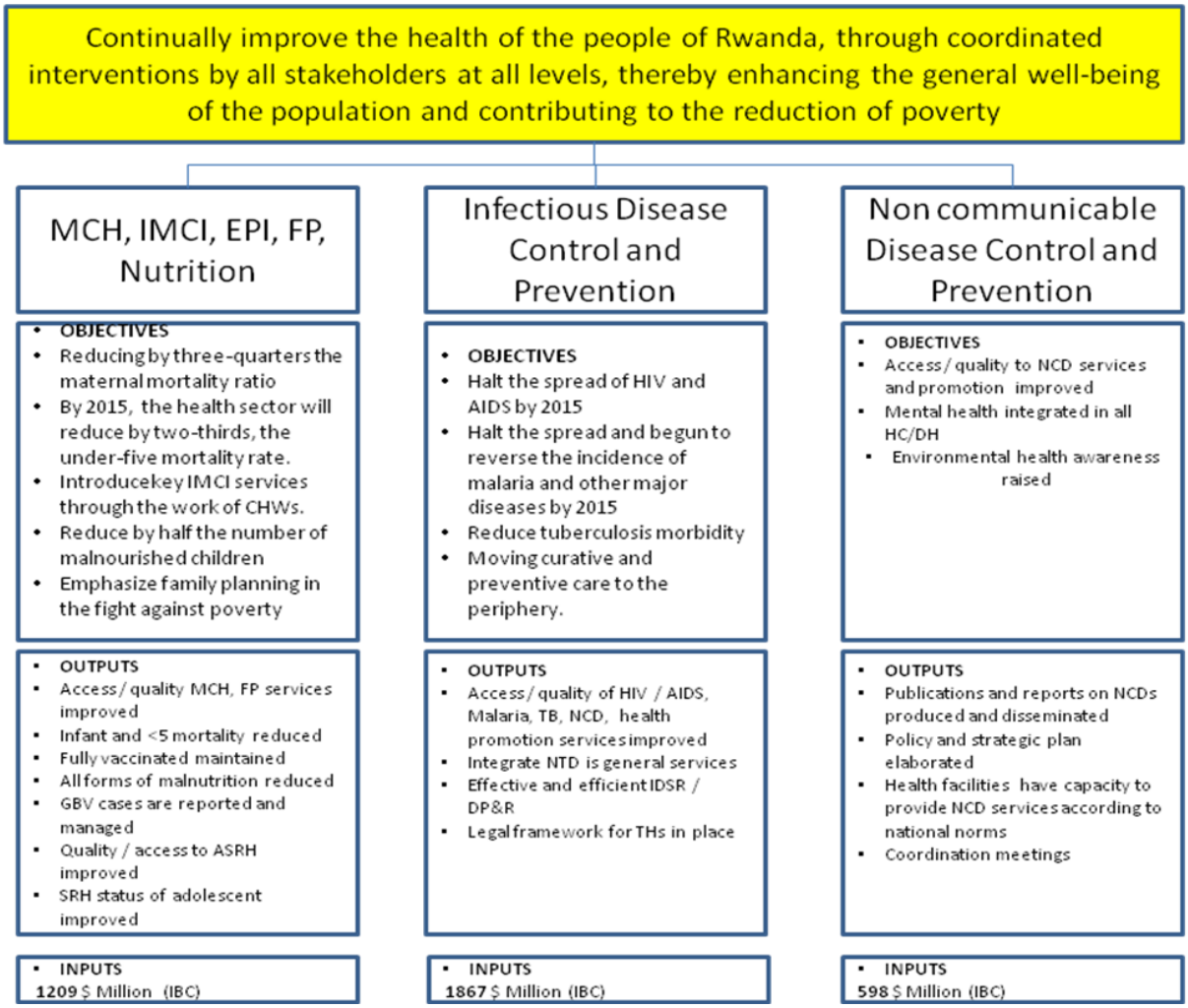
- **Immunization:** Collaboration with neighboring countries to organize immunization campaigns across borders (synchronized immunization campaigns);
- **Integrated disease surveillance and response (IDSR):** Cross-border collaboration with EAC partner states (annual coordination meetings);
- **HIV:** Harmonization of treatment guidelines for truck drivers and other mobile workers;
- **Environmental health:** Implementation of Libreville Declaration on Health and Environment;
- **Health financing (HF):** Harmonization of SHP (sustainable health programming) policies in EAC and moving toward universal health coverage.

CHAPTER 4.
HSSP III COMPONENT 1: PROGRAMS

Overall Objective of Component 1:

Improve access and quality of essential health services: Maternal, Neonatal and Child Health; Family Planning and Reproductive Health; Nutrition Services; Communicable Diseases (STD/AIDS, TB, Malaria), IDSR and Disaster Preparedness and Response (DP&R); Noncommunicable Diseases; Health Communication; and Environmental Health.

Figure 2. Component 1 objectives, strategies, and outputs



4.1 Maternal and Child Health

4.1.1 Maternal and Neonatal Health

Improve Maternal Health	**MDG Target 5:** The health sector will assist in reducing by three-quarters the maternal mortality ratio through overcoming access barriers to services, by education of parents, and by community involvement in maintaining access to health centers. Each pregnancy will be registered, the parents educated, and the couple urged to seek prenatal, safe delivery, and postnatal care and family planning services, including effective engagement with CHW.

Table 7. Baseline and targets for Maternal and Neonatal Health

EXPECTED OUTPUTS / OUTCOMES	BASELINE 2011	TARGETS 2015	TARGETS 2018
% Births attended in health facilities (DH + HC)	69	78	90
% PW receiving 4 ANC standard visits	35	50	65
% Deliveries with 1 PN visit within 1 week	37	50	65
% CHW – ASM providing maternal and newborn health package	20	100	100
% DH with functional C-EMONC	80	100	100
% HC with functional B-EMONC	80	95	100

Note: This table will use the annual HMIS values of the MDG related indicators, as the DHS figures will be available only once every five years. These are available in the Annex 10.

Maternal mortality has gone down substantially in the last five years, from a MMR of 750 / 100,000 in 2005 to 476 / 100,000 in 2010. Several factors have contributed to this reduction, notably the combination of service delivery and system strengthening measures, such as an increased number of assisted deliveries, maternal death audits, the improved referral chain down to the community level, and functional emergency obstetric care (EmOC) facilities in the HCs, DHs, and national referral hospitals.

The coverage of ANC services has significantly increased from 2000 to 2010. According to DHS 2010, 98 percent of pregnant women attended at least one antenatal care visit, while four standard ANC visits increased from 10 percent in 2000 to 35 percent among all pregnant women in 2010. Antenatal care was provided mostly by nurses (94%).

Assistance at delivery has also undergone significant changes. According to DHS 2010, the proportion of births assisted by skilled providers increased from 27 percent in 2000 to 39 percent in 2005 and to 69 percent in 2010. Between 2000 and 2010, the urban-rural gap in coverage of professional assistance at delivery significantly decreased, as did the disparities between provinces. However, 30 percent of deliveries in rural areas still take place at home, compared to 16 percent in urban areas.

Maternal deaths surveillance and response from health facilities (2010) report severe bleeding as the main cause of death (26%), with more than two-thirds of the cases occurring during the postpartum period. The second cause of death is infection (5%), also in the postpartum period. While the absolute number of maternal deaths is decreasing, more than 70 percent of all maternal deaths occurred at the level of district hospitals, due to late arrival and complications.

According to the DHS 2010, most maternal deaths still occur at the community level. Thirty-three percent of women died before giving birth, 44 percent were aged 21–30 years, and 45 percent had had more than three pregnancies. Recent studies also show unsafe abortion practices as an important contributor to high maternal mortality.

Critical challenges in reducing maternal and newborn mortality comprise two categories:

1. **Health system factors**—Inadequate health infrastructure, limited geographical access to health services, inadequate quality of services and human resources, shortage of skilled health providers, lack of sufficient equipment and supplies, limited health management capacity, and inadequate coordination between public and private facilities.
2. **Non-health system factors—**Limited capacity of the CHWs, social cultural beliefs and practices, and **gender** inequality and limited health-seeking behavior.

In response to these priorities, the Maternal Health Program subsector identified nine priority areas and five strategies for accelerating the reduction of maternal and neonatal morbidity and mortality[7].

Priorities in maternal health services

1. Health system priorities
   - Improve the provision of EmOC services and the working conditions of health workers. Set up a commodity security system for reproductive health and improve infrastructure and equipment, especially the delivery room and in-patient obstetric and neonatal services that will lead to improved ANC, delivery, and postpartum care;
   - Ensure that obstetric fistula cases will be found for repair, rehabilitation, and reintegration into their communities;
   - Provide the MOH with effective information, particularly with regard to EmOC, human resources for sexual reproductive health (SRH), monitoring, and quality assessment;
   - Promote and sustain innovations toward maternal and neonatal mortality reductions, such as the provision of safe post-abortion care services (PAC).
2. Non-health system priorities
   - Integrate gender considerations into all strategies and planned activities in maternal and newborn health ;
   - Strengthen participation and involvement of the family and community ("empowerment") in defining their needs and expectations;
   - Scaling up early postnatal services for mother and the newborn;
   - Increase the power of decision-making for women, couples, and young people to enable them to freely decide when to have a child, family size, and spacing between births, while reducing incidence of unwanted pregnancies, abortion, and risk of HIV/AIDS;
   - Increase male involvement in reproductive health–related decisions.

MCH strategies and interventions

1. Advocacy and resource mobilization
   - Advocate for maternal and neonatal goals and promote, implement, and scale up evidence-based decisions;
   - Advocate for cost-effective interventions, and allocate sufficient resources to achieve national and international targets.
2. Health system strengthening
   - Support capacity development at all levels of the health sector;
   - Ensure quality service delivery to achieve high population coverage of maternal and neonatal interventions in an integrated manner.
3. Community mobilization and participation
   - Improve key maternal, newborn, and child care practices;
   - Generate demand for services and increase access to services in families within the community, using the women community health workers in particular.
4. Fostering strategic participatory partnership

[7] MOH/MCH, 2009–2012. Road map to reduce maternal and newborn morbidity and mortality.

- Implement promising interventions among government (as lead), professional associations, donors, NGOs, the private sector, and other stakeholders engaged in joint programming and cofunding of activities and technical reviews.

5. Information, education, and communication/behavioral change communication (IEC/BCC)
   - Promotion of appropriate reproductive health behavior is critical in accelerating reduction of maternal, newborn and child deaths. Male involvement in all issues related to female and child health is essential, if real improvements and positive changes are to be made.

4.1.2 Integrated Management of Childhood Illness

Table 8. Baseline and targets for Child Health (IMCI = CCM)

Reduce Child Mortality	**MDG Target 4**: By 2015, the health sector will contribute in reducing by two-thirds the under-five mortality rate through the use of CHWs to enhance immunization services, strengthen Integrated Management of Childhood Illness (IMCI) services and community IMCI (C-IMCI) in order to reduce the five major child killers: ARI, malaria, diarrheal diseases, HIV, and malnutrition.

EXPECTED OUTPUTS/ OUTCOMES	BASELINE 2011	TARGETS 2015	TARGETS 2018
Per capita <5 visits seeking treatment for ARI + malaria + diarrhea HC / C-IMCI	0.6 / 0.2	0.72 / 0.35	0.8/ 0.5
Average # of <5 children seen by CHW/Month	1.1	3.5	5

Facility IMCI and Community Case Management (F-IMCI and CCM)

Acute respiratory illness, fever, and dehydration from severe diarrhea are major causes of childhood morbidity and mortality. According to DHS 2010, <5 child mortality decreased from 152/1,000 live births in 2005 to 76/1,000 live births in 2010, and infant mortality decreased over the same time period from 86 to 50/1,000 live births. Use of IMCI Computerized Adapted Training Tool (ICATT) and prompt medical attention for children experiencing the symptoms of these illnesses is therefore crucial in increasing child well-being and reducing child deaths. Community Case Management has expanded in 2010. Over 743,589 children were treated by CHWs, compared to 462,104 in 2009. Over two-thirds of children treated had fever symptoms (77%); cough/cold symptoms followed with 12 percent. Outcomes of CCM treatment are generally good. Ninety-one percent were reported cured, while fewer than 8 percent were referred, and a small proportion (0.1%) died while under the care of the CHW (HMIS data, 2010).

Child health priorities

Since 2006 the IMCI program has been revitalized through the adoption of guidelines, standards, and protocols, as well as the training of health providers at the peripheral level and the expansion of CCM. In addition, the scale-up of PBF and CBHI provided a favorable environment for the implementation of the IMCI strategy.

Child health priorities are to reduce under-five mortality through the provision of quality promotive, preventive, and curative and growth monitoring of under-fives through high immunization coverage and provision of care and prevention for victims of sexual and gender-based violence (SGBV). Challenges in IMCI are the inadequate quality and integration of district health services (health workers' and CHWs' skills, equipment, supplies, and referral systems); logistic support of supervisory activities; and insufficient human resources at all levels.

Child health strategies and interventions

The MOH/MCH Unit will develop a new Child Survival Strategic Plan 2012–2017, focusing on the following activities:

1. Increase community access to child survival and CCM activities.
   - Strengthen promotion of best family practices (nutrition, personal and household hygiene);
   - Improve CCM services in all villages and IMCI services in all health facilities;
   - Improve accessibility to Health care for families and communities through CBHI;
   - Improve accessibility to nutrition education and services, such as fortified foods, adoption of kitchen gardens and other community-based interventions.
2. Strengthen health worker capacity for quality provision and monitoring of child survival strategies.
   - Promote IMCI approach during integrated outreach training and activities;
   - Update training guidelines and curricula to include new, innovative interventions;
   - Train staff in the periphery (HC/DH), using an integrated approach combining IMCI / EPI / ANC / prevention of mother-to-child transmission (PMTCT);
   - Introduce and expand Family and Community Centered Early Child Development services ;
   - Conduct quarterly supportive supervision to districts to improve the reporting and monitoring system of child health interventions;
   - Improve the child death surveillance and response in all districts.
   - Ensure effective integration of IMCI in all nursing school curricula;
   - Initiate operational research for identification of the quality of each program area.
3. Raise awareness and demand among communities and families for healthy child development.
   - Develop, update, and disseminate IEC materials on child survival interventions;
   - Conduct orientation workshops for community leaders;
   - Conduct mass media campaign on IMCI and CCM activities;
   - Provide performance-based incentives at all levels for child survival interventions;
   - Support and expand equity-focused targeted services for children in marginalized groups (including people with disabilities).

4.1.3 Sexual and Gender-Based Violence (SGBV)

Table 9. Baseline and targets for gender-based violence (GBV)

EXPECTED OUTPUTS/ OUTCOMES	BASELINE 2011	TARGETS 2015	TARGETS 2018
# DH with One-Stop Center (GBV)	4	19	42

In 2010, 4,405 cases of sexual violence were reported by district hospitals, and one-third of these cases had objective signs of sexual violence. Of the cases investigated, 95 percent were among females. The largest group of victims was composed of females between 5–18 years (57%). Males represented about 5 percent of the cases investigated.

The following strategies have been identified to strengthen interventions against sexual and gender-based violence at all levels:

- Sustain continuous evidence generation activities to inform policy dialogue;
- Using mass media campaign, mobilize communities and local leaders on SGBV;
- Define and create guidelines for community and health workers for SGBV;
- Build the capacity of local leaders and health workers on SGBV;
- Adopt specific targeted planning and management of SGBV vulnerable groups, including children and people with disabilities;
- Expand One-Stop Centers to all districts with a standardized minimum package of activities;
- Expand the multisectoral approach, including other ministries.

4.1.4 Expanded Program for Immunization

Table 10. Baseline and targets for expanded program for immunization (EPI)

Reduce Child Mortality	**MDG Target 4:** By 2015, the health sector will contribute in reducing by two-thirds, the under-five mortality rate through the use of CHW to enhance immunization services, strengthen IMCI services and Community IMCI (C-IMCI) in order to reduce the five major child killers: ARI, malaria, diarrheal diseases, HIV, malnutrition.

EXPECTED OUTPUTS/ OUTCOMES	BASELINE 2011	TARGETS 2015	TARGETS 2018
% Children immunized measles <1 yr (HMIS)	95	97	97
% Districts >80% DTP-HepB-Hib3 coverage	100	100	100
Drop-out rate for Pentavalent 3 (%)	1%	1%	1%
% Districts conducting quarterly surveillance	93	95	95

Rwanda has maintained a very high and equitable coverage of vaccination against avoidable childhood diseases over the past seven years. According to 2010 DHS, 90 percent of children age 12 to 23 months are fully immunized. Of the fully immunized children, 85 percent received their vaccinations before their first birthday as recommended by WHO and the Rwanda Expanded Programme for Immunization (EPI). Only less than one percent of children age 12 to 23 months had not received any vaccinations at the time of the survey.

Challenges to EPI

A detailed EPI situation analysis was conducted early this year (2012). Key challenges to EPI, based on this analysis, are presented below:

1. Service delivery challenges:
   - Reliability of data and key indicators definition and denominator of under one year children is unknown;
   - Reported TT2+ coverage for pregnant women is low because of data collection in different services (vaccination services and antenatal care services);
   - Low measles administrative coverage data in 2011(<80%) show a level that can't prevent measles outbreaks;
   - Number of unvaccinated children with Penta3 remained high in 2011.
2. Surveillance challenges:
   - There is no system of zero reporting if no adverse effects following immunization (AEFI) cases are seen during a reporting period;
   - Weak syndrome surveillance system in place for pneumococcal-related sicknesses;
   - There is a heavy burden of rotavirus diseases in the country according to the data from sentinel surveillance sites.
3. Vaccine supply and quality:
   - Low rate of vaccine distribution at all levels;
   - Absence of computerized vaccine stock management at central level;
   - Vaccine forecasting system poses some problems at lower level.
4. Cold chain and logistics:
   - Current net capacity of the cold rooms at the central level should be improved;
   - Insufficient cold storage capacity at the district and the health facility levels to accommodate new vaccines (HPV and rota vaccine and second dose of measles vaccine);
   - Insufficient vaccine stock follow-up at the district and health facility levels;
   - Insufficient vaccine wastage reporting and follow-up;

5. Communication and social mobilization:
   - No communication plan exists for immunization activities at the national EPI level;
   - No communication focal point exists within the Program;
   - National Communication Health Center meets with the Expanded Programme for Immunization just for supplemental immunization activities and sometimes for the routine EPI.
6. Management and capacity-building:
   - New EPI staff not yet trained;
   - Unpredictable funds to maintain the high level of EPI coverage;
   - Turnover of human resources at peripheral level in the health system;
   - Low level of collaboration with neighboring countries to organize immunization campaigns across borders (Synchronized immunization campaigns).

EPI strategies and Interventions

Highlights of strategies and interventions to address these challenges are:

1. Service delivery:
   - Implement / reinforce Reaching Every District (RED) approach in all districts;
   - Rota vaccine introduction at fixed and outreach sessions;
   - HPV vaccination using school-based approach to continue beyond 2013;
   - Provide a second opportunity of measles vaccination for >90 percent of eligible children;
   - Reactivate synchronized measles campaign;
   - Polio eradication activities (surveillance and catch-up immunization campaigns).
2. Surveillance system:
   - Integrated disease surveillance and response;
   - Reinforce links with laboratories for different conditions (polio, measles, diarrhea, and pediatric bacterial meningitis);
   - Use of standard case definition for pneumococcal and severe diarrheal disease surveillance;
   - Reinforce the measles case-based surveillance in all districts with involvement of the community;
   - Capacity-building for AEFI
3. Vaccine supply, cold chain, and logistics management:
   - Regular high-quality vaccine supply at all levels;
   - Regular auto-disable (AD) syringes supply to all districts;
   - Improvement of means of transportation at the central level and district levels;
   - Vaccine management improvement.
4. Advocacy, communication, and social mobilization:
   - Strengthen of the Interagency Coordination Committee (ICC);
   - Reinforce communication/social mobilization working subcommittee;
   - Develop of integrated plan of communication
   - Advocate with decision makers and ICC partners in order to orient and train the recruited staff;
   - Training and BCC reference materials dissemination.
5. Management and capacity-building:
   - EPI management improvement at all levels focusing on routine management of the program and continuous training of the staff;
   - Maintain existing links and explore integration with other health interventions;
   - Review current staffing and adjust as necessary in EPI Program.

4.1.5 Adolescent Sexual Reproductive Health and Rights

Table 11. Baseline and targets for Adolescent Sexual Reproductive Health and Rights (ASRH&R)

EXPECTED OUTPUTS / OUTCOMES	BASELINE 2012	TARGETS 2015	TARGETS 2018
% HCs offering the minimum package of youth-friendly adolescent services	8%	50%	95%
% Teenage pregnancies (<20 yrs)	4.7%	4.1%	3.3%

In Rwanda, previous surveys and interventions mainly focused on adolescents aged 15–24. Therefore, there is a gap of existing data covering the age group of young adolescents 10–14 years and until now, little is known about their sexual and reproductive health status. The HSSP III intends to fill this gap by encouraging further advocacy and innovative interventions.

Challenges to ASRH&R

Traditional Rwandan society created strong gender norms and ideals for both men and women. These gender norms are especially affecting the sexual and reproductive health of adolescents, since this group is for the first time in their life confronted with sexuality and many physical, biological, emotional, and social changes. The last assessment for adolescent sexual and reproductive health and rights (ASRH&R) (MOH 2011) identified the following challenges in the implementation and monitoring of ASRH&R policies and strategies:

- Limited coordination of activities among ministries and key stakeholders;
- Few youth-friendly ASRH services and products in HF and youth centers;
- No specific school curricula for ASRH&R;
- Inadequate family-centered parental support to youth;
- Few programs targeting out of school adolescents, young adults and high risk groups;
- Little research on ASRH&R in Rwanda, including information on current trends in substance and drug abuse among adolescents;
- Data inconsistency on ASRH&R, with regard to age groups (10–14, 15–19, 20–24);
- Insufficient age appropriate, gender sensitive, culturally accepted IEC materials for adolescents.

ASRH&R strategies and interventions

- Expand access and utilization of quality adolescent- and young adult–friendly sexual and reproductive health services and products;
- Improve sexual and reproductive health knowledge, skills, and attitudes by increasing the availability of and access to information about ASRH&R, and providing opportunities to build skills of adolescents and young adults at school and out-of-school levels;
- Improve access and use of quality ASRH&R services among boys and girls age 10–24 years (in health facilities and youth-friendly centers);
- Develop, scale up, and sustain family-centered parental intervention programs in conjunction with other line ministries;
- Increase community and political support in the effort to create enabling and supportive environments for ASRH&R;
- Enhance supportive legal and sociocultural environment for ASRH&R;
- Improve coordination among key stakeholders and establish sustainable strategies for programs and services.

4.1.6 Family Planning

Table 12. Baseline and targets for Family Planning (FP)

EXPECTED OUTPUTS / OUTCOMES	BASELINE 2011	TARGETS 2015	TARGETS 2018
Contraceptive utilization rate for modern methods for women 15–49 yrs	31%	36%	40%
Contraceptive prevalence among married women 15–49 years	45%	62%	72%
Unmet need for FP	18.9%	12%	6%

Total fertility rate (TFR) in Rwanda has been consistently reduced over the past 10 years and currently stands at 4.6 children per woman. There are regional variations with urban-rural disparities, where rural women have higher fertility rates than urban women.

The use of modern contraceptive methods among married women at the national level has increased from 4 percent in 2000 to 10.3 percent in 2005, 27.4 percent in 2007, and 45 percent in 2010. The preferred contraceptive methods are injected and oral contraceptives, accounting for 26 percent and 7 percent of current users, respectively. The CB provision of contraceptives has contributed to this achievement.

The external family planning assessment (June 2011) reported strong political support for FP and the country's aims to achieve a contraceptive prevalence rate (CPR) of 70 percent by the end of 2015 and 90 percent by 2017. The report recommended: (1) increase availability and (2) improve quality of FP services at all health facilities and communities, and (3) strengthen decentralized management of services as well as (4) increase the budgetary allocation toward contraceptives.

FP challenges

DHS (2010) shows a high level of unmet need (19%). In addition, there are cultural barriers, including misconception and fear of side effects that have to be addressed. Clearly, significant program challenges remain.

Over the next five years, the FP program must devise innovative strategic and operational approaches to overcome those challenges, some of which are:

- As demand and use of FP services increases, it will be a challenge to ensure RH and FP commodity security, including capacity development;
- Myths, rumors, and misperceptions about FP methods and their side effects must be countered;
- There is a gap in SRH education at different levels, including in families and schools; these represent a great opportunity for children and adolescents to learn about such issues at an early age;
- Women have limited decision-making power about use of FP and often insufficient support or participation—and sometimes even violence—from their male partners;
- Perception of FP as "birth control" among the general population, making FP something appropriate only for married people.

FP strategies and interventions

At the same time, the FP program is given a number of opportunities. To continue to achieve impressive results, these opportunities will have to be zealously pursued. The following are some of the existing strategies and interventions envisaged for HSSP III.

1. To improve family planning within the maternal and child health subsector:
    - Ensure focus and expansion of ASRH&R programs in a youth-friendly manner;
    - Expand and sustain CB provision of FP services nationwide;
    - Ensure distribution of condoms in the public and private sector;
    - Deepen collaboration with the private sector to provide FP services;
    - Increase access to long-term and permanent family planning methods (LAPM);

- Ensuring integration of FP services with MCH activities, such as postpartum intrauterine device, immunization, nutrition, etc.
- Promote provider-initiated FP counseling and greater male participation in FP programs.

2. Increase availability and use of FP services (by choice) in public and private sectors:
   - Strengthen FP capacity of providers at all levels (public, community, private, etc.);
   - Increase availability of FP commodities, medical equipment and infrastructure at all levels (public, community, private, NGOs);
   - Enhance reporting, monitoring and evaluation systems;
   - Increase the proportion of modern FP methods, provided through the private sector;
   - Enhance delivery of youth-friendly (adolescents) services within the FP delivery system.
3. Increase knowledge, acceptability and use of the full range of FP methods in the community:
   - Correct myths and misconceptions about FP;
   - Increase community leaders' acceptance of use of contraception by youth;
   - Increase use of FP services by women and their partners;
   - Select champions to advocate on FP and general ASRH&R;
   - Involve CHWs to inform and mobilize communities about FP services; provide a specified package of services;
   - Promote the use of ICT and sociomedia as innovative approaches to scale up FP services.
4. Sustainable FP programming and funding mechanisms developed:
   - Maintain a supportive environment for FP programs at all levels (central to the community), with support from sociopolitical, public, and private players;
   - Develop innovative financing mechanisms and ensure budget allocation for FP programs;
   - Together with Ministry of Education and other line ministries, strengthen school education programs that cover FP topics.
5. Promote and use operation research from national and international FP programs:
   - Disseminate the lessons learned from Rwanda's FP experience internally and internationally;
   - Experiment and scale up effective innovations in priority areas.

4.1.7 Nutrition

Table 13. Baseline and targets for Nutrition

MDG 1. Eradicate extreme poverty and hunger	**MDG target 1:** The health sector will contribute to the reduction of the number of persons in severe poverty by providing effective community health services that will maintain the population of Rwanda health and productive status to participate in the labor force with reduced absenteeism due to poor health		
	MDG target 2: Enhance and expand nutrition surveillance and interventions to reduce by half the number of malnourished children. The health sector will strengthen community-based growth monitoring, nutrition education and support nutrition supplementary community projects, such as gardening and small livestock.		
EXPECTED OUTPUTS / OUTCOMES		**BASELINE 2011**	**TARGETS 2015**	**TARGETS 2018**
% children <5 yrs screened in CBNP		70	82	88
% children in nutrition rehabilitation program (/ total children malnourished)		70	82	88

With the adoption of the National Nutrition Policy (NNP) in 2007, giant strides have been made in nutrition activities in the country. In the past five years, nutrition interventions have led to a reduction of stunted children (down from 51% in 2005 to 44% in 2010), wasting (from 5% in 2005 to 3% in 2010), and underweight children (from 18% in 2005 to 11% in 2010). These improvements can be attributed to the

implementation of the National Emergency Plan to Eliminate Malnutrition (which includes active nutrition screening of children by CHW since 2009), National Protocol for the Treatment of Malnutrition, the National Strategy for the Elimination of Malnutrition, and the District Plan for the Elimination of Malnutrition. These documents have driven a district-based national scale-up of nutrition interventions. Children who are expected to be at risk of malnutrition are referred to the nearest health facility for appropriate treatment, using therapeutic milks, ready-to-use therapeutic food for severe cases, and corn-soy blend for moderate cases. Other approaches have been initiated and include infant and young child feeding, community-based nutrition programs, behavior change communication (mainly using media), and home food fortification (using micronutrient powders).

Nutrition challenges

In spite of these positive results, however, lack of qualified nutritionists and insufficient funds and personnel to implement the national and the district plans to eliminate malnutrition remains a challenge. The low prioritization for nutrition in the health sector in the past has led to inadequate resource allocation, both human and financial. Nutrition is a crosscutting issue and requires the involvement and effective coordination of multiple sectors and stakeholders.

The main priority of the NNP is to eliminate of all forms of malnutrition through the implementation of the joint action plan initiated for the year 2012 and the strengthening of the multisectoral approach.

Nutrition strategies and interventions

- Strengthen early identification and management of under-nutrition, including the response to their underlying causes;
- Strengthen and scale up Community-Based Nutrition Programs (CBNPs) to prevent and manage malnutrition in children under five years, with particular focus on (1) those aged less than two years, and (2) pregnant and lactating mothers;
- Elimination of micronutrient deficiencies;
- Promote nutritional support and management of vulnerable groups;
- Promote food security at the household, community, and national level;
- Promote nutrition in preschool education and school environments;
- Implement multisectoral District Plans to Eliminate Malnutrition (DPEMs);
- Prevent and manage nutritional deficiencies and excess-related diseases;
- Promote behavior change communications for nutrition, including the national campaign of “1,000 days in the land of the 1,000 hills;”
- Promote operational research and scaling-up of best practices;
- Improve coordination with all nutrition partners;
- Improve monitoring and evaluation for nutrition activities, including using mobile innovations in the tracking of “1,000 days” at all levels.

The next three sections provide information on disease prevention and control for HIV/AIDS, malaria, and tuberculosis.

4.2 Disease Prevention and Control

4.2.1 HIV and AIDS

Table 14. Baseline and targets for HIV/AIDS

Combat HIV/AIDS, Malaria, TB, and other diseases	**Target 6A:** The health sector will contribute to the national efforts to halt the spread of HIV and AIDS by 2015 through education of individuals and families in every village (*Umudugudu*) about HIV/AIDS, providing motivation for counseling, distribution of condoms, and making sure that all patients with HIV, AIDS, or tuberculosis receive and adhere to treatment (DOTS for TB) and support.
	Target 6B: The health sector will assist the MOH to have halted by 2015 and begun to reverse the incidence of malaria and other major diseases. CHWs collaborate with IHDPC[8]/Malaria Division, IHDPC/TB Division and other programs by moving curative and preventive care to the periphery, including key IMCI services through the work of CHWs.

EXPECTED OUTPUTS / OUTCOMES	BASELINE 2011	TARGETS 2015	TARGETS 2018
% HIV prevalence among PW attending ANC	1.5	1	0.6
% HF with VCT and PMTCT services	94	96	96
% HF offering ART and HIV-HBV co-infection treatment	83	90	95
% Patients who need ART and receive it	90	94	96

Gains reducing HIV infection and AIDS

Rwanda has made extensive gains in the prevention of HIV using five integrated components: voluntary counseling and testing (VCT), PMTCT, male circumcision, BCC, and HIV treatment for scaling up prevention and treatment services at all levels. According to DHS 2010, approximately 79 percent of women and 74 percent of men have knowledge of HIV prevention.

As a result of the increasing capacity to provide VCT services, the number of clients tested for HIV/AIDS has grown steadily in the country. From 2003 to June 2011, a total of 7,306,000 tests were done for HIV in Rwanda. This number includes tests done in health facilities and mobile VCTs. The decentralization of PMTCT services has resulted in the extension of the coverage of PMTCT services. From July 2010 to June 2011, the number of pregnant women attending ANC was about 324,628. Almost all were counseled and tested for HIV and received their results, out of whom 6,594 (2.05%) tested HIV positive.

The number of HFs providing post-exposure prophylaxis (PEP) services to its staff and to people accidentally exposed to blood is 336 / 481, which is 70 percent of all HF (hospitals + HCs).

Antiretroviral (ARV) treatment has also been decentralized in order to improve geographical accessibility and the continuity of care for people living with HIV/AIDS; from 4,200 patients in 2003, the number of patients under ARV treatment increased to 96,705 patients by June 2011 (based on CD4 count of 350), with a national coverage at 93 percent (based on UNAIDS EPi Spectrum model estimations).

[8] Institute of HIV/AIDS, Disease Prevention and Control

Current HIV and AIDS challenges

However, the situation analysis and the Mid-term Review point out key challenges on what HSSP III needs to concentrate on to complete universal access for HIV prevention and treatment services. As clinical services are getting closer to universal coverage, it is becoming more challenging to reach the remaining potential beneficiaries, who are harder to reach. With the increase in number of people on antiretroviral therapy (ART), the workload and effort to ensure quality services is a growing challenge. Lab capacity is limited for treatment, monitoring, and HIV drug resistance surveillance as recommended by the HSSP II. Quality of treatment, management of treatment, failure and long-term co-infection management need improvement. Nonclinical prevention still has a lot of progress to make: innovative strategies require important changes in the working habits of health workers and other actors.

Program areas where targets are not fully met are youth prevention, most-at-risk population (MARPs) targeted interventions, male circumcision scale-up, female condom promotion, coverage of pediatric ART services, laboratory capacity decentralization and integration of HIV services at decentralized level. Quality of services can still be improved substantially. Maintaining sufficient and stable qualified staff at all health facilities represents the major constraint to expansion of activities with the required quality, partly due to high turnover of trained service providers. Rwanda needs to strengthen preventive measures in order to reach MARPs and to reduce significantly the prevalence, incidence, morbidity, and mortality resulting from HIV/AIDS and its burden on households, the health system, and the economy.

For HIV/AIDS, HSSP III will aim to:

- Reduce new HIV infections;
- Reduce morbidity and mortality;
- Ensure equal opportunities for vulnerable groups and people living with HIV;
- Strengthen the quality management of HIV AIDS.

HIV and AIDS strategies and interventions

1. Reduce new HIV infections:
   - Sensitize the general population and key populations (sex workers, mobile populations, vulnerable children, and people with disabilities) on HIV prevention and ensure access to the minimum package of services;
   - Increase coverage of HIV counseling and testing services to the general population and integration of HIV testing with other routine services and screening programs (cancer, immunization, etc.);
   - Increase accessibility of male circumcision as an additional strategy for HIV prevention through advocacy and community mobilization;
   - Improve treatment monitoring and treatment as prevention, targeting key high-risk populations (sex workers, men having sex with men, sero-discordant couples);
   - Improve condom accessibility and availability;
   - Capitalize and maintain PMTCT achievements toward EMTCT, work with HIV+ women to increase attendance to ANC and improve integration of PMTCT services within RH services.
2. Reduce morbidity and mortality:
   - Increase ARV accessibility and pediatric EID and ART coverage;
   - Improve TB screening and treatment in HIV treatment settings;
   - Increase the skills and knowledge of providers in HIV management and comorbidities (STIs, HBV Infections, TB, and other opportunistic infections);
   - Improve the lab decentralization capacity for HIV, AIDS, STIs, and blood-borne infections;
   - Remove socioeconomic barriers for HIV services and train health providers to provide services in a non-stigmatizing and nondiscriminatory way.
3. Ensure equal opportunities for vulnerable groups and people living with HIV and AIDS (PLWHA):
   - Strengthen social and economic protection and empowerment for PLWHA and orphans and vulnerable children (OVC);
   - Reduce stigma.

4. Strengthen the quality of management of HIV and AIDS:
   - Strengthen M&E systems for HIV at all levels; use data for decision-making;
   - Emphasize pre-service training and align with the HRH strategic plan;
   - Integrate HIV services within the CHW program;
   - Strengthen the multisectoral approach, especially mainstreaming gender in all HIV programs;
   - Accelerate the integration of HIV care and treatment into the national health system and improve and maintain quality of services.

4.2.2 Malaria

Table 15. Baseline and targets for Malaria

EXPECTED OUTPUTS / OUTCOMES	BASELINE 2011	TARGETS 2015	TARGETS 2018
Malaria prevention women / <5 children (%)	0.7 / 1.4	<1 / 1.2	<1 / 1.0
Malaria incidence / 1,000	26 / 1,000	20 / 1,000	15 / 1,000
Slide positivity rate (%)	15	8	<5
% children <5 yrs sleeping with LLIN	70	80	82
Malaria proportional morbidity (%)	4	3	3
% HH with at least 1 LLIN installed	82	85	>85

Progress in malaria control

Success of malaria control in Rwanda has been acknowledged internationally as a result of strong country ownership, leadership, and vision as well as coordinated partnership aligned with GOR priorities and needs. HSSP II (2009–2012) aimed to reinforce and scale up mainly prevention and control interventions such as universal coverage of long-lasting insecticidal nets (LLINs), targeted indoor (intermittent) residual spraying (IRS), and correct and prompt treatment with improved diagnosis, including use of rapid diagnostic tests (RTDs) at the community level, prompt artemisinin-based combination therapy (ACT), integrated community case management (iCCM), and malaria in pregnancy (MIP)—all in the context of strengthening the monitoring and evaluation capacity at the central and decentralized levels.

This comprehensive malaria control program has resulted in a marked decline in malaria morbidity and mortality. Eighty-two percent of all households in Rwanda owned at least one LLIN by 2010 (DHS 2010). With an additional 6.1 million LLINs distributed to all households early in 2011, Rwanda has achieved universal coverage for this intervention. Use of LLINs by under-five children and pregnant women had exceeded 70 percent prior to the mass distribution and is expected to have reached the global target of 80 percent after mass distribution. Rwanda also implements targeted vector control using IRS targeted in a limited number of districts with high malaria transmission. The treatment of malaria cases has already attained universal coverage with nationwide deployment of artemisinin-based combination therapies following confirmation by microscopy and by rapid diagnostic tests (RDTs) in health facilities and at the community level by 60,000 CHWs. As a result, between 2005 and 2010 there was a decline of malaria incidence by 70 percent, malaria morbidity by 60 percent, and malaria mortality by 54 percent, with decline of malaria slide positivity rate by 66 percent. The gains from massive scale up and sustained use of these evidence-based interventions in Rwanda are reflected in the drop of malaria prevalence in under-five children and pregnant women from 2.6 percent to 1.4 percent and 1.4 percent to 0.7 percent respectively in 2007 to 2010. Hospital admission for malaria in under-five children dropped from over 30 percent in 2001 to under 5 percent in 2010. Malaria mortality declined from 50 per 100,000 population in 2001 to below 10 per 100,000 by 2010 (Rwanda MIS 2005; DHS 2010; World Malaria Report 2010).

Current challenges reducing malaria burden

Despite success and high rate of achievements, malaria is still rated the fourth major cause of mortality in Rwanda and remains a significant burden on the economy and the health system. The situation analysis recognizes the following challenges for prevention and management of malaria:

- Unpredictable funding in the long term after 2013–14;
- Inadequate drug management in HCs resulting in shortages of drugs at the HC and community levels;
- Low HR capacity in malaria control, M&E, and supervision at the district level and below;
- The number of malaria cases reported through HMIS in the private sector is limited;
- Private sector care providers are not benefitting from the training provided to public sector staff.

Strategies and interventions to reduce malaria

HSSP III aims to sustain these gains, address these challenges, and move the whole country forward toward elimination of malaria in Rwanda. The following strategies and interventions are envisaged:

1. **Strengthen BCC/IEC** to avail adequate and accurate information on malaria control to the public through multiple communication channels. Capacity-building of CHWs, local leaders and stakeholders will be developed to ensure that they convey appropriate messages on malaria prevention and promote community participation and increase uptake of malaria interventions.
2. **Strengthen malaria diagnosis and treatment**. Parasitological confirmation of malaria with microscopy will be used countrywide; RDTs will continue to be used alongside microscopy in all areas for prompt diagnosis. Quality assurance of both microscopy and RDTs will be promoted at all levels of the health sector. Death audits will be carried out on every malaria death to ensure quality of case management. The quality of the anti-malaria drugs that come into the country will be adequately assessed. In addition, drug efficacy studies will be conducted to evaluate the efficacy of the anti-malarial medicines.
3. **Strengthen vector control**. Ensure and maintain the availability of all malaria prevention measures including promotion and use of LLIN in the entire population through the community-based distribution mechanism. Coordination with other public health programs (EPI, ANC, and MCH services) will be strengthened to ensure continuous and sustained delivery of LLINs.
4. **Strengthen malaria epidemiological surveillance**. M&E and operational research for tracking of progress the mentioned strategies. This strategy will permit Rwanda to evaluate malaria control interventions in the community and vulnerable groups but also organize collaboration with neighboring countries
5. **Strengthen program management and coordination**. Use evidence-based strategies and technical leadership for the prevention and control of malaria and other infectious diseases, through: independent applied research, multi-stakeholder participation, improved quality of services and strengthened health systems.

4.2.3 Neglected Tropical Diseases

Table 16. Baseline and targets for Neglected Tropical Diseases

EXPECTED OUTPUTS / OUTCOMES	BASELINE 2011	TARGETS 2015	TARGETS 2018
% Children of 1–15 yr dewormed	83	86	90

Current NTD control status and obstacles

Neglected tropical diseases (NTDs) disproportionately affect poor people worldwide. NTDs can be easily treated, but the disabling effects of untreated NTDs have an enormous impact on the workforce and, consequently, the productivity of communities. They can prevent children from attending school, reduce future earnings, and in some cases ostracize people from their own communities. Controlling a range of NTDs—not just HIV, malaria, and TB—is a critical step toward meeting the MDGs.

In the past three years, the MOH and its partners provided over 17 million deworming treatments to the Rwandan population. In one recent campaign (October 2009), four million children and 500,000 postpartum mothers were treated. In schistosomiasis-endemic areas, the NTD Control Program has also treated nearly 600,000 individuals.

However, Rwanda's NTD Control Program continues to face obstacles due to insufficient infrastructure and funds. The MOH will need support to provide the non-donated drugs to at-risk and infected populations around the country. Prevention efforts (improvements to water and sanitation) are also major challenges.

Strategies to control NTDs

HSSP III aims to bring NTD priorities to the political agenda with the following strategy:

1. Develop integrated strategic and operational plans for the control and elimination of targeted NTDs;
2. Implement a comprehensive NTD program with a multisectoral approach;
3. Establish an evidence-based Mass Drug Administration Program;
4. Integrate NTDs into community-based interventions;
5. Conduct prevalence studies on NTDs.

4.2.4 Tuberculosis

Table 17. Baseline and targets for Tuberculosis treatment and detection

EXPECTED OUTPUTS/ OUTCOMES	BASELINE 2011	TARGETS 2015	TARGETS 2018
TB treatment success rate (SS+) (annual)	87.6	89	90
% Laboratories with QA	78	88	90
% TB/HIV patients receiving ART by the end of TB treatment	67	85	90

Current TB burden

In Rwanda, the burden of tuberculosis is still high, with notifications in 2008 at about 89 per 100,000 of the population (all forms) and 48 per 100,000 people for smear-positive cases (new cases and relapses). In 2010, the notification rate was 72.2 and 41.4 per 100,000, respectively. According to the 2011 WHO TB report, the case detection rate (all forms) has been stable: 61 percent in 2008, 61 percent in 2009, and 60 percent in 2010. The TB DOTS and integrated collaborative TB/HIV interventions have been expanded to all districts. In 2010, 85 cases have been confirmed as MDR-TB. The overall death rate was 4.8 percent (2008) and 4.9 percent (2009), but it increased to 9.5 percent in 2010. The high rate of deaths was found in the extra pulmonary TB category, at 15.9 percent. For MDR-TB, the death rate before treatment decreased from 15 percent in 2008 to 12.5 percent in 2009, and to 4.4 percent in 2010, which suggests that the diagnosis of MDR-TB is done earlier, in particular through the molecular rapid tests.

TB challenges

Current challenges to TB control in Rwanda are mainly reflected in the notification rates, which remain low in comparison to WHO estimates. Reasons behind this include laboratory-related factors, such as the introduction and decentralization of more sensitive technologies and the need to improve the system to transport samples. Another reason is low involvement on the part of private clinics. However, it is noted that the real burden of TB disease is not well known, as most of the targets are based on WHO estimates.

HSSP III is in line with the Stop TB strategy and will aim to reduce morbidity, mortality, and transmission of tuberculosis through the following priorities:

- Improve case detection and management of TB and MDR;
- Improve TB prevention through community involvement;

- Strengthen TB/HIV integrated interventions;
- Strengthen TB M&E.

TB strategies and interventions

A new TB Division strategic plan will be elaborated at the end of this year (2012). The new strategy will focus on the following interventions:

1. Pursue high-quality DOTS expansion and enhancement.
   - Conduct case detection through quality-assured bacteriology;
   - Provide standardized treatment with supervision;
   - Carry out contact tracing and trace treatment interrupters;
   - Ensure uninterrupted drug supply and effective management systems;
   - Mobilize communities in all districts to participate in DOTS;
2. Provide TB preventive, diagnostic, and treatment services for children in line with international and national standards and guidelines.
3. Expand and strengthen TB/HIV collaborative activities and address MDR-TB and other challenges in special settings and populations (i.e., prisons).
   - Consolidate implementation of TB/HIV services countrywide;
   - Scale up programmatic management of MDR-TB with One-Stop Centers.
4. Contribute to the strengthening of health systems.
   - Actively participate in efforts to improve policy, service delivery, medicines and supplies management, information systems, health workforce training, financing, leadership, and governance at all levels;
   - Strengthen systems for M&E of TB prevention and control.
5. Engage all care providers in TB care.
   - Enhance public-public and public-private partnership in TB control;
   - Maintain CHW participation and involvement in TB prevention and active case identification;
   - Promote community awareness and demand for TB services.
6. Empower people with TB and the communities to participate in TB care.
   - Advocate at the national and district levels for increased resources allocation (dedicated budget);
   - Mobilize communities in all districts to participate in CB-DOTS.
7. Enable and promote operational and other research.
   - Train staff to perform and oversee operational research;
   - Conduct research to develop new diagnostics, drugs, and vaccines;
   - Promote evidence-based interventions as well as the practice of turning evidence into action.

4.2.5 Integrated Disease Surveillance and Response

Table 18. Baseline and targets for Integrated Disease Surveillance and Response

EXPECTED OUTPUTS / OUTCOMES	BASELINE 2012	TARGETS 2015	TARGETS 2018
% HF implementing IDSR	12	50	100
# Staff from public and private health facilities trained on NCDs	0	1,284 / 360	2,442 / 660
# CHWs trained and implementing on NCDs	0	10,000	40,000
% Districts with epidemic preparedness and response plan	0	30%	100%

Integrated Disease Surveillance and Response (IDSR) is a strategy of the World Health Organization African Regional Office adopted by member states in 1998. It aims to improve the availability and use of

surveillance and laboratory data for control of priority infectious diseases that are the leading cause of death, disability, and illness in the African region.

IDSR status and challenges

In Rwanda, communicable diseases constitute 90 percent of all reported medical consultations in health facilities. Malaria, respiratory tract infections, diarrheal diseases, parasitic infections, and zoonoses are predominant, and hence are considered a public health concern. The country has often faced epidemics, including emerging and re-emerging infectious diseases such as influenza A (H1N1), cholera, epidemic typhus, and meningitis. The MOH has been implementing the Integrated Disease Surveillance and Response system since 2000. In July 2008 the MOH established an influenza sentinel surveillance system in six health facilities to describe the epidemiology and seasonality of influenza, monitor emergence of novel influenza viruses, describe the circulating influenza types and subtypes, and promptly detect influenza outbreaks in the country. However, lack of adequately trained health staff; poor data collection, transmission, and analysis due to limited ICT infrastructure; and lack of technical capacity at all levels have resulted in poor timeliness and incompleteness of reporting.

IDSR strategies and interventions

The IDSR priorities and interventions for HSSP III will be:

1. Develop and implement an effective, efficient, national disease surveillance and response system:
   - Increase workforce and capacity for surveillance, preparedness, and outbreak response;
   - Improve the IDSR coverage to all public and private health facilities and communities;
   - Integrate new emerging diseases and public health threats in the IDSR system;
   - Review and update laws and regulations regarding public health surveillance;
   - Support districts in development of epidemic preparedness and response plans;
   - Strengthen intersectoral collaboration to implement the “one health” approach;
   - Organize cross-border collaboration with EAC partner states.
2. Monitor and evaluate standards and quality measures for surveillance and response system:
   - Conduct annual evaluation of the surveillance and response system.
3. Expand operational research to inform policies, advocacy, and best practices:
   - Develop and implement an operational research agenda.

4.2.6 Mental Health

Table 19. Baseline and targets for Mental Health

EXPECTED OUTPUTS / OUTCOMES	BASELINE 2012	TARGETS 2015	TARGETS 2018
Proportion of health centers providing integrated mental health care	16%	100%	100%
% CHWs trained and providing community-based care in mental health	0	50%	100%
% Implementation of National Strategy against drug abuse in prevention and treatment of MH consequences	0%	20%	80%

MH status and challenges

Box 5. Mental health after the genocide

> A report produced in July 2000 by the Statistics Department of MINECOFIN concluded that the horrors of the 1994 genocide had left large segments of the population with severe mental health problems that could not in fact be expressed in statistics. It quoted a 1995 UNICEF report as follows:
> 99% witnessed violence; 31% witnessed rape or sexual assault.
> 69% witnessed someone being killed or injured (57% witnessed killings with a machete)
> 90% believed they would die; 61% were threatened with death

The Ndera Psychiatric Hospital is the only national referral mental health (MH) institution. The national Mental Health Division is housed within Rwanda Biomedical Center. In 2010, 1,585 new cases and 16,471 old cases consulted at the six operational mental health services in the country. The main causes of consultation are: epilepsy (52%), psychiatric disorders (18%), psychosomatic disorders (12%), neurological disorders (8%), various psychological disorders (5%), other conditions (3%), and PTSD (2%).

During the post-genocide period, new challenges related to mental trauma problems and their complexity emerged within communities. A study conducted in 2009 by Dr. Munyandamutsa and Dr. Mahoro on 981 adults revealed that 79.41 percent of the total population have experienced in one way or another, trauma events. The study findings estimate the prevalence of PTSD at 28.5 percent of the total population. 54 percent among traumatized people suffer also from depression.

The Mental Health Division of the Ministry of Health has recently initiated a series of activities, the most important being:

- Revision of the Mental Health Policy (2011) and the Strategic Plan (2011);
- Provision to all DHs with trained mental health nurses;
- Provision to each district of one general medical doctor and one general nurse trained in MH;
- Currently, out of the total number of HCs, about one-third have two to three nurses trained in MH;
- At the community level the training of CHWs in mental health issues has been initiated.

Most importantly, MH care is decentralized and fully integrated in the national health system (in 40 DHs and 80 MHs nurses).

However, dependence on drugs and other psychoactive substances poses a new challenge. There is no strategy today to control drug addiction that generates mental suffering and destabilizes the social fabric. Another challenge is related to the problem of epilepsy that implies diverse cultural interpretations, presents difficulties in diagnosis and care, and whose cost of treatment is a real challenge.

MH strategies and interventions

As the way forward, the MH Division will concentrate on the following priority strategies and interventions:
Strengthen the integrated mental health care model within the health system:

- Initiate referral mental health services in provincial hospitals;
- Perform mentorship in mental health services in DHs, provincial hospitals, and specialized institutions;
- Develop protocols and guidelines for treatment of MH problems and community psycho-social rehabilitation;
- Provide psychotropic drugs in all health facilities;
- Produce and disseminate documentation on mental health issues (pamphlets);
- Coordinate psychological interventions during commemoration of genocide.
- Use the CHW network for community mental health interventions:
- Integrate mental health in the CHW package of activities in all Imidugudu;

- Coordinate psychological interventions during commemoration of genocide;
- Organize sensitization of communities against drug abuse.
- Train mental health staff and in particular psychiatrist doctors:
- Research and initiate internship training and mentorship of general practitioners and nurses working in all HFs;
- Organize specialized training in psychiatry for postgraduate doctors.
- Develop a master plan of drug abuse prevention and control interventions:
- Initiate treatment and detoxification in specialized services.
- Use operational research to develop evidence-based interventions:
- Conduct research on prevalence of mental health issues such as depression in the general population and in particular groups.

4.2.7 Noncommunicable Diseases

Table 20. Baseline and targets for Noncommunicable Diseases

EXPECTED OUTPUTS / OUTCOMES	BASELINE 2012	TARGETS 2015	TARGETS 2018
# Health facilities who have capacity to provide NCD services according to national norms	0	45	500

NCD status and challenges

As in many developing countries, noncommunicable diseases (NCDs) are an emerging problem in Rwanda. That is why MOH established a program for the prevention and control of NCDs within the central MOH. NCDs include cardiovascular diseases, diabetes, chronic respiratory diseases, cancer conditions, injuries and disabilities as well as oral health, ear-nose-throat (ENT), and eye diseases. The increase in NCDs is due to multiple factors, such as adoption of unhealthy lifestyles, an increasing aging population and metabolic side effects resulting from lifelong antiretroviral treatment. The majority of the NCDs are preventable through a broad range of simple, cost-effective public health interventions that target the various NCD risk factors.

Rwanda currently does not have comprehensive data on NCDs and their risk factors. NCD Policy, strategic plan, and standards and guidelines for managing NCDs are not (yet) available to guide interventions. The 2008 update of the Global Burden of Disease Study estimated that NCD conditions accounted for 17 percent of the disease burden in Rwanda in 2004 (of which neuropsychiatric conditions accounted for 4.3%, cardiovascular diseases 3%, chronic respiratory diseases 1.6%, and neoplasm 1.7%). From the available mortality data, cardiovascular diseases (hypertension, heart failure, and strokes) emerge as the most important causes of death among NCDs. The high level of hospitalization for physical trauma (road accidents) also calls for targeted strategies.

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

NCD strategies and interventions

HSSP III priorities for NCDs will concentrate on the following strategies and interventions:

1. Develop a NCD Policy and Strategic Plan;
2. Develop protocols and guidelines for NCD prevention and control;
3. Enact and publish laws and regulations regarding NCD risk factors;
4. Conduct NCD situation analysis and risk factors surveys (e.g., tobacco use, physical inactivity, alcohol, and unhealthy diet);
5. Strengthen NCD surveillance system integrated in HMIS (add NCD-specific indicators to HMIS, improve HMIS diagnosis, use some indicators from disease-specific registries, strengthen e-Health records system);
6. Identify priority areas of research in NCDs and put in place a research forum of NCD experts to identify research priorities and oversee selected research projects;
7. Strengthen capacity for NCD prevention and control in all HFs and community systems;
8. Increase stakeholders' involvement in NCD prevention and control.

4.2.8 Disabilities

Although "Health services for people living with disabilities" is not a separate program within the structure of the health sector, accessibility of quality health services for this vulnerable group represents a priority within HSSP III. This is why the challenges and specific strategies regarding disabilities are addressed specifically in this chapter.

The Rwandan definition of disability is in the law n°01/2007 of 20/01/2007, relating to protection of disabled persons in general. Article 2 stipulates:

> "Disability shall mean the condition of a person's impairment of health ability he or she should have been in possession, and consequently leading to deficiency compared to others. In this law, a disabled person is any individual who was born without congenital abilities like those of others or one who was deprived of such abilities, due to disease, accident, conflict, or any other reasons that may cause psychosocial disability."

Current status regarding disabilities

In the 2002 census, disability was defined as a personal condition established by competent institutions, when a person, due to congenital or acquired physical or mental handicaps, is totally or partially unable to attend to his or her personal and social life, to effect his or her rights and performs duties. Based on this definition, the census estimated that people with disabilities constituted 3.9 percent of the population, totaling 308,501 people. However, the actual number of people with disabilities is likely to be much higher, as the definition of psychosocial disability used for the census was restricted. Globally the World Health Organization estimates that 10 per cent of any population is disabled. This also applies to persons with psychosocial disabilities.

The main causes of disability that informants cited were: genocide and war, poverty (malnutrition, lack of adequate and appropriate medical care), ignorance (use of traditional healers, poor care in pregnancy), disease, accidents, and congenital causes.

HSSP III will prioritize the reduction of morbidity and mortality leading to disabilities.

Strategies and interventions regarding disabilities

1. Put in place preventive, promotive, and rehabilitative interventions to reduce mortality and morbidity causing disability:
   - Produce various types of devices for people with disabilities;
   - Advocate for enforcement of protective legislation, e.g., use of seat belts, policing;
   - Develop and disseminate guidelines on handling of trauma, disabilities, and rehabilitation;
   - Conduct intensive mobilization of communities for early detection and proper treatment of disorders of sight and hearing in order to minimize complications;

- Collaborate with the social development sector to initiate community-based rehabilitation;
- Conduct studies aimed at determining the burden of disability in Rwanda;

2. Improve access to health services for people with disabilities.
   - Rehabilitate health facilities to make them accessible to people with various forms of disabilities.
   - Develop and disseminate a protocol for provision of services to people with disabilities.
   - Train health workers on control, prevention and treatment of injuries and disabilities.

4.3 Health Promotion and Environmental Health

4.3.1 Health Promotion

Table 21. Baseline and targets for Health Promotion

EXPECTED OUTPUTS/ OUTCOMES	BASELINE 2011	TARGETS 2015	TARGETS 2018
Diarrhea prevalence among children <5	2.8	2.1	2.0
% Community Health Clubs with enhanced health promotion and BCC capacity	14%	50%	70%

Health communication activities were until recently implemented separately by the different health departments. Programs with more resources, like HIV, were active in terms of sensitization campaigns both at national and at local levels. Behavior change communication messages were disseminated through various mass media channels with little interpersonal and other forms of communication. There was also a clear lack of coordination of these activities.

This coordination function is now fulfilled by the Rwanda Health Communication Center (RHCC), which has recently been mandated to do this as part of the Rwanda Biomedical Center (RBC). RHCC collaborates with and provides technical support to the many units and programs in the health sector through the services of its focal points. The RHCC's mandate is to:

- Support all health promotion and BCC activities of MOH units, desks, departments, and the RBC;
- Mainstream media information flow within and outside the health sector, including public relations for the Ministry of Health.

Challenges and constraints facing the Health Promotion/BCC function

There are a variety of guiding strategies on health promotion that need to be harmonized for the sector. The existing BCC Policy needs to be updated to adapt to quickly evolving communications technology. Commonly used approaches need to be more dynamic and explore the use of new and emerging media to complement the usual IEC/BCC materials such as pamphlets, booklets, and posters. Coordination of health promotion and behavior change interventions across the health sector also needs to be strengthened, and communication efforts should strategically address all the main diseases affecting the Rwandan population, rather than focus on a few programs that receive specific funding. Donor dependency is undoubtedly a constraint, as it causes lack of financial management flexibility.

Another important challenge is the inadequate health promotion expertise of RHCC staff, both in quantity and in competency. There is lack of funding to ensure specialized training on health promotion. There is also lack of harmonization in content, frequency, and quality of training of key partners such as local leaders, CHWs, service providers, journalists, and so on to ensure adequate dissemination of messages to the general population.

Resources to carry out effective and consistent community outreach activities for infectious diseases and NCDs are also limited, while BCC strategies, training materials and methods used are often not evidence driven. Target audiences are in most cases not sufficiently involved in the design and pretesting of health

promotion interventions. Monitoring and evaluation of health promotion interventions are not considered a priority. There are also gaps in the effective distribution of IEC/BCC materials.

The printing unit based at the Rwandan Health Communication Center that produces materials needs equipment upgrading to fulfill its role.

Health promotion and BCC interventions and strategies

The logical framework describing the priority interventions to overcome the identified challenges focuses on three main strategies:

1. Adopt a more strategic approach to health promotion and BCC.
   - The first key intervention will be to review and finalize the national Health Promotion Strategic Plan. This will ensure harmonization of health promotion interventions and provide the guiding principles for health promotion and BCC practices.
   - The Health Promotion TWG will be strengthened to oversee the process and provide technical guidance, support advocacy, and mobilize resources for the implementation of the Health Promotion Strategic Plan.
   - The Health Promotion Strategic Plan will be rolled out nationally, and will have several key areas:
     - Evidence-based interventions and impact evaluation to assess effectiveness and appropriateness of tools and media utilized;
     - Pretesting as a key component of every health promotion and BCC intervention;
     - Monitoring of all health promotion and BCC interventions;
     - Communication approaches adapted to needs of the audience and include innovative approaches (community theater, use of emerging media, etc.);
     - Peer-to-peer group sensitization through existing networks such as Community Health Clubs (CHCs) and school clubs, particularly for youth and adolescents;
     - Strategic partners (FBOs, CSOs) engaged to facilitate community dialogue on key health-seeking behaviors and practices;
     - Documentation and sharing of best practices and lessons learned;
     - Mainstreaming of gender and equity in all health promotion and BCC interventions.
2. Capacity development of health promotion and BCC providers;
   - Develop the capacity of RHCC staff at the central level in strategic health promotion and BCC theory and practice;
   - Recruit and deploy health promotion BCC staff at decentralized level;
   - Develop the capacity of CHWs and local leaders at the periphery in health promotion-BCC,
3. Efficient coordination of health promotion and BCC programs and interventions:
   - Strengthen the National Health Promotion/BCC TWG;
   - Establish District Health Promotion/BCC TWG;
   - Establish a network of health promotion and BCC practitioners and professionals;
   - Strengthen and expand the existing call center;
   - Upgrade the RHCC printing and production infrastructure;
   - Develop and implement a fundraising strategy to support health promotion and BCC capacity.

4.3.2 Environmental Health and Medical Waste Management

Table 22. Baseline and targets for Environmental Health and Medical Waste Management

Ensure environmental sustainability	**Target 10.** Reduce by half the proportion of people without sustainable access to drinking water.

EXPECTED OUTPUTS/ OUTCOMES	BASELINE 2011	TARGETS 2015	TARGETS 2018
% Food establishments with satisfactory hygiene standards	0	40	90
% Villages with functional Community Hygiene Clubs (CHCs) meeting at least twice a month)	8	50	80
% HF with effective waste management systems	55	83	>90

According to the statistical data collected in health facilities in Rwanda, a large proportion of pathologies requiring consultation in health centers and district hospitals are related to factors in the natural and built environment, including personal and environmental hygiene, water quality, food safety and hygiene, indoor air quality, and management of domestic and medical wastes (e.g., injections).

Current Environmental Health Program activities

In Rwanda, environmental health has received strong political support from the highest country leadership. A multisectoral policy and strategy has been designed and is implemented through a strong coordination mechanism involving all relevant sectors at central, district, and community levels. The Environmental Health Desk of the MOH leads the technical working subgroup handling issues related to health facility waste management, household sanitation, and hygiene promotion. Limited dialogue is taking place between government entities and various development partners (e.g., UN, NGOs, DPs, community -based organizations) and, to some extent, the private sector.

The Environmental Health Program consists of a variety of interventions, such as food safety, drinking water quality surveillance, health care waste management and injection safety, hygiene inspection, hygiene behavior change, occupational health and safety, indoor air pollution, and climate change, natural disasters and emergency environmental health intervention. The unit ensures M&E of all activities being conducted countrywide.

The Government of Rwanda, through the MOH, launched the Community-Based Environmental Health Promotion Program (CBEHPP) in 2009. The overall purpose of this program is to reduce the prevalence of environmental health related diseases, such as diarrhea and intestinal worms through promotion of best hygienic practices. The program strategically uses Community Hygiene Clubs based at the village level to address hygiene issues, such as clean water, sanitation, and behavior change. So far, the program has been started in nine districts and will be rolled out countrywide.

The MOH also developed a draft Food Safety Policy that emphasizes decentralization of hygiene inspections and the grading of food establishments. Hygiene inspections in public institutions are being done by national and district teams.

The Ministry of Health is taking all necessary measures to ensure injection safety and rational management of medical waste, both in health facilities and within communities. There is a national strategic plan for the management of health care waste (2011–2016). Training of health workers has been conducted on health care waste management (HCWM) and injection safety. District hospital incinerators have been purchased and plans to purchase additional ones are underway. Provision of personal protective equipment and availability of post-exposure prophylaxis to victims of accidental occupational exposures (e.g., blood and amniotic fluid during labor and delivery) is being implemented.

Special attention is paid to the transport and disposal of medical waste. If this is done by the private sector, safe conditions for collection and transport should be imposed.

Environmental Health challenges

The main challenges identified during the recent health sector situation analysis are:

- Funding for the CBEHPP is insufficient, and for the most part the Community Hygiene Clubs that have been put in place are not fully functional.
- There is an important lack of human resources for the strengthening of the Environmental Health program at the central level, and even more so at DH and HC levels. Medical and other health workers are not implementing guidelines for hygiene and safe medical practices in HF, partly due to lack of knowledge but also due to lack of incentives (no indicators on hygiene in PBF program).
- Food establishments are still weak in applying hygiene and food safety measures. There are no food quality control kits at the decentralized level to conduct hygiene inspection visits.
- Sanitation and hygiene activities are not well captured by the HMIS resulting in a lack of baseline information and M&E for hygiene and sanitation.

Environmental Health strategies and interventions

To respond to these challenges, the following key interventions have been prioritized.

1. Develop and review various environmental health policies and strategies:
   - Review the current Environmental Health Policy and develop a new strategy (currently underway);
   - Contribute to development of a national BCC Strategy;
   - Establish national guidelines and norms for sanitary infrastructures in HFs and households;
   - Develop several substrategies for indoor air pollution, adaptation of public health to climate change, food safety, and other factors;
   - Develop jointly a national plan for surveillance of health and the environment;
   - Validate several substrategies that are waiting review (hygiene and sanitation law, health care waste management, drinking water quality surveillance, and Food Safety Policy);
2. Strengthen capacity of environmental health entities from the national to the village level:
   - Recruit environmental health officers (EHOs) at central and decentralized levels;
   - Train EHOs at district and sector levels in established procedures;
   - Conduct refresher training for hygiene inspectors and CHWs;
3. Decentralize hygiene inspections to empower districts and sectors:
   - Ensure the inventory of food establishments is in place by December 2012;
   - Introduce hygiene-based categorization of food establishments;
   - Provide hygiene certificates for the best-performing establishments.
4. Implement the Community-Based Environmental Health Promotion Program:
   - Mass education campaigns using IEC materials, social media, and outreach programs;
   - Establish and train Community Health / Hygiene Clubs in all *imidugudu*;
   - Initiate an impact assessment of the CBEHPP.
5. Streamline the implementation of water quality surveillance, food safety, domestic and health care waste management and injection safety, school hygiene, indoor air pollution, disaster management and preparedness, and occupational health:
   - Ensure construction and procurement of waste management facilities (incinerators, transportation vehicles, latrines, etc.);
   - Provide hygiene budget for district hospitals;
   - Integrate hygiene indicators in performance-based financing;
   - Position hygiene technicians and environmental health officers in all health centers.

6. Monitoring and evaluation:
   - Conduct baseline and evaluation surveys;
   - Carry out an annual HH assessment to obtain hygiene data at the community level;
   - Conduct regular sanitary educative inspections and supervision;
   - Integrate hygiene-related data into Sisteme d'Information Sanitaire des Communautes (SISCom) and HMIS;
   - Conduct a situation analysis and needs assessment based on the Libreville Declaration on Health and Environment.[9]

[9]The Libreville Declaration promotes joint efforts between the Ministry of Health and the Ministry responsible for Environment to implement public health measures to reduce the impact of climate change on health of the population.

CHAPTER 5.
HSSP III COMPONENT 2: HEALTH SUPPORT SYSTEMS

Overall Objective of Component 2:

> Strengthen policies, resources and management mechanisms of health support systems to ensure optimal performance of the health programs (output, input, and process levels)

5.1. Planning, budgeting, and monitoring

Table 23. Baseline and targets in Planning, Budgeting, and Monitoring

EXPECTED OUTPUTS / OUTCOMES HSSP III	BASELINE 2011	TARGETS 2015	TARGETS 2018
# Administrative Sectors without a health center	20	10	0

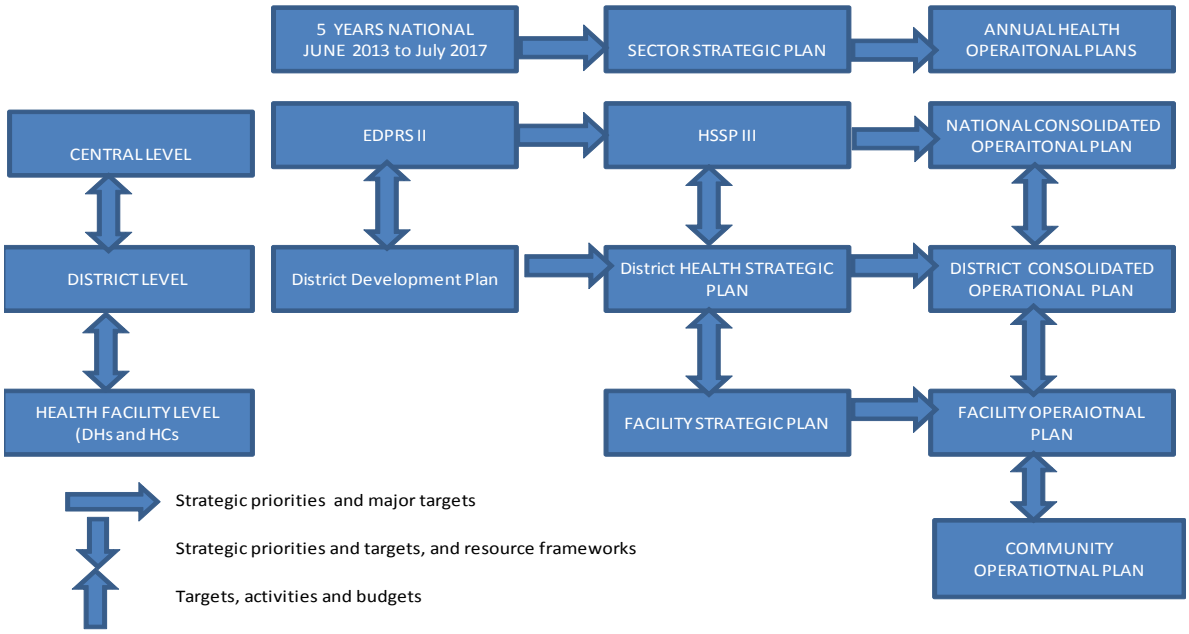
5.1.1 The planning process and annual plans

In terms of priorities, indicators, and the overall planning process, HSSP III is fully aligned with the upcoming EDPRS II. However, as HSSP III starts in July 2012 (and lasts until June 2018), it starts one year ahead of EDPRS, which is expected to start in July 2013 and will last until June 2018. The main advantage of this schedule is that HSSP III will be a fully integrated part of EDPRS II. All districts will develop their comprehensive district plans for the next EDPRS planning cycle and in this way align themselves to the overall EDPRS II. At the same time, all DHUs are charged to develop their five-year health sector–specific plans in collaboration with the management of the district hospitals and the responsible staff in the health centers.

Once the overall five-year health sector plans for all the districts have been finalized and endorsed by the District Councils, the DHUs will initiate the elaboration of the more detailed annual plans with specific interventions and targets. In this process, the DHUs will ensure not only that DH management and HC staff are involved, but also that donors, NGOs, CSOs, FBOs, and the private sector operating in that district are fully part of the planning and monitoring process. It is of utmost importance that all available resources for the district interventions are known and shared, and that all activities are coordinated among the various stakeholders.

Figure 3 shows the horizontal and vertical linkages in the planning process.

Figure 3. The Rwandan planning process by level and time frame



5.1.2 Budgeting and budgeting cycle

As is already current practice at the national level, the planning and budgeting process will be supported by MTEF (with resource ceilings provided by MINECOFIN) and by an elaborate Resource Tracking Tool (RTT). There is a clear commitment to bring the various expenditure tracking instruments—RTT, National Health Accounts (NHA), and Public Expenditure and Financial Accountability (PEFA)—into one system through the Resource Tracking Tool. However, according to the MTR, the potential of the tracking tool, the joint annual work plan and the district health systems tools have not yet been effectively utilized to inform the planning and budgeting process at national and district levels. Results from the RTT are not available to inform the planning and resource allocation process. The Planning Department will coordinate with other relevant departments and units (Health Financing Unit [HFU], M&E, QA, Single Project Implementation Unit [SPIU]) regarding development of guidelines that will bring all the information and resources into one harmonized planning, budgeting, and monitoring tool, preferably in the first year of the HSSP III.

5.1.3 Monitoring

The MTR found that the Ministry of Health's strategic plans are well aligned with the EDPRS. The administrative districts have overall strategic plans between 2007 and 2012 in which the sector plans are included. The health facilities (districts hospitals and health centers) are implementing annual operational plans that are aligned to the HSSP II strategic objectives, showing resource commitments from different sources. There are forward and backward looking reviews with stakeholders to reach consensus on targets, budgets, and CPAF indicators for the coming year and to review performance of the previous year.

5.1.4 Main challenges to planning, budgeting, and monitoring

In summary, the main challenges identified in the planning, budgeting, and monitoring process are:

- *Insufficient capacity of planning and M&E function in the Ministry of Health*: While the sector has strong M&E capacity within many of the operational units (RBC, MCH/clinical units, and districts), there is limited staffing and inadequate coordination and harmonization of M&E activities in the central MOH.

- *Decentralization*: A decentralization strategic plan has been drafted, however the roles of the administrative DHU and the district hospitals (DH) with respect to public health planning, monitoring, and evaluation remain unclear.
- *Inadequate coordination mechanisms of health stakeholders at district level*: the newly formed District Health Unit (DHU) is understaffed and there are insufficient capacities of health staff at district level (planning, M&E, financial management and communication).
- *Board of directors, health committees, and DHU personnel not prepared:* These key actors are unprepared to effectively carry out their responsibilities for the management and monitoring of health activities in their respective institutions.
- *Absence of standardized tools for planning and M&E according to decentralization policies and strategies*: Considerable data are generated from many levels of the health system to monitor the sector's performance. The recent efforts to define a minimum list of indicators for the health sector and streamline the HMIS should reduce the burden of routine data collection on health workers and improve quality of data collection and use.
- *Insufficient technical supervision and mentoring of DHs*: Integrated supervision was introduced over the past fiscal year as a mechanism to monitor the quality of service delivery. However, it has yet to be harmonized fully with other important quality assurance mechanisms, such as PBF evaluations and health facility accreditation. Regular supervision of health facilities by DHUs is limited due to lack of means of transport.
- *Inadequate research and strategic plan development capacity*: A Health Sector Research Policy and Strategic Plan was prepared in 2011, but steps have not yet been taken to develop capacity in this area or to establish mechanisms to promote research activities that are aligned with the health sector's priorities and can help to ensure that strategies implemented have the desired impact.

5.1.5 Planning, budgeting, and monitoring strategic priorities and key interventions

Based on these challenges, HSSP III identifies the following strategies and interventions in planning, budgeting and M&E:

1. Strengthen MOH Planning Unit:
   - Recruit additional staff to undertake the challenges of HSSP III in terms of planning and M&E function;
   - Continue capacity-building of existing staff;
   - Adapt the capacity-building process at national and district levels to MINECOFIN guidelines (in particular on the financial and fiduciary guidelines to be used by the DHU);
   - Quarterly meetings between the MOH, MINECOFIN, and the development partners to assess progress on the basis of HSSP III indicators. The principles of mutual accountability will remain the leading feature of the new strategic plan.
2. Harmonize planning and M&E systems and procedures across institutions and levels:
   - Review existing M&E frameworks and tools to identify good models to expand;
   - Provide support to health institutions in order to implement harmonized M&E frameworks linked to their strategic plans;
   - Standardize planning and budgeting tools.
3. Strengthen capacity in planning and M&E of health workers and program managers:
   - Include M&E and planning in pre- and in-service training for health workers and program managers—with an increasing focus on decentralized institutions such as DHU and district health facilities;
   - The Planning Department will develop a capacity-building plan (curriculum) that will allow the DHUs to draft their annual plans, taking the new guidelines on decentralization, M&E, and financial management (including fiduciary issues) into account.
4. Increase DHU–DHMT / district participation in M&E and planning:
   - Coordinate with the Health Financing Unit and the M&E Unit that the district plans include a credible budget and provide the relevant baseline and target information through the HMIS;

- Strengthen the elaboration of Joint Annual Work Plans (JAWP), the *Imihigo* target setting, and the monitoring process with enhanced M&E system (equity focused, evidence-based, results-based, and addressing national development priorities). These interventions should be linked with those in HMIS and e-Health to enhance use of data within the health sector;
- Initiate quarterly performance reviews of plans and budget execution.

5. Link results and outputs with inputs and budget:
   - The health sector will build local capacity in operations research and implement studies to monitor the cost effectiveness of key interventions;
   - Planning and monitoring follow the calendar year, while the resources follow the budget year, thus making it difficult to link results to funding. It is thus important to harmonize planning and budgeting cycles as well as costs (unit), templates, and other tools and guidelines for central level institutions, districts and health facilities (e.g., JAWP).
6. Increase the number of experts in health economics, planning, and health metrics:
   - Create a master level training in health economics, planning, and metrics.
7. Improve the measurement of quality of services and data dissemination:
   - Develop quality indicators and conduct regular assessment—including customer satisfaction indicators;
   - Systematize use of data for planning, integrating data available from different databases;
   - Reinforce data publication of the health sector.
8. Reinforce and streamline integrated supervision:
   - Continue integrated supervision with better harmonization of existing quality assurance tools (supervision, PBF quality assessment and accreditation) and explore targeted supervision to make the process more cost effective.
9. Continue to improve data quality:
   - The capacity of M&E officers will be built, M&E tools and procedures will be standardized, and data quality assessment will be institutionalized.
10. Assess performance and impact of the programs on the health of the population:
    - Program impact and outcome evaluation are undertaken and key performance indicators have been set (defined in program M&E plans)

5.2. Human Resources for Health

Table 24. Baseline and targets for Human Resources for Health

EXPECTED OUTPUTS / OUTCOMES	BASELINE 2011	TARGETS 2015	TARGETS 2018
% HF with adequate HR based on the norm	NA	50	TBD
Doctor / population ratio	1 / 16,001	1 / 13,748	1 / 11,993
Nurse / population ratio	1 / 1,291	1 / 1,291	1 / 1,000
Midwife / population ratio	1 / 66,749	1 / 45,000	1 / 25,000
Lab tech / population ratio	1 / 10,626	1 / 10,500	1 / 10,000
% DH/DHU preparing staff census with iHRIS	0	100	100

The overall objective of Human Resources for Health (HRH) under HSSP III is to ensure availability of an adequate, equitably distributed, quality, motivated, and productive workforce responsive to the country's changing needs and demands. Three key strategies, based on identified priorities, will be applied to achieve the set objectives, namely:

1. Increasing the quantity, scope, and quality of HRH to adequately respond to the country's HRH needs;
2. Expanding and strengthening of the capacity of teaching institutions (TI) to augment HRH production;
3. Improving HRH management, ensuring rational deployment, adequate and equitable distribution, and retention of HR staff.

Human resources for health are one of the most important resources for a functional health system. For example, it is documented that reaching 80 percent coverage of skilled attendance at birth requires a threshold of 2.28 qualified medical personnel (doctors, nurses, and midwives) per 1,000 population (WHO's World Health Report, 2006). It is also well known that there is a direct association between the level of skilled attendance and reduction in maternal mortality ratio. However, availability of quality health workers is an interactive process between factors associated with production, recruitment, deployment, motivation, retention, and appropriate management of exit from the workforce. These issues need to be taken into account when addressing HRH challenges.

5.2.1 Available human resources in Rwanda (2011)

The GOR has made considerable progress in the last five years in the area of HRH. As seen in Table 25, the set targets for health worker: population ratios for doctors and nurses were surpassed. While the ratio for midwives improved—even doubling between 2008 and 2009—the target was not achieved.

Table 25. Progress made in HRH from 2008 to 2011

	BASELINE (2008)	**TARGETS (2010)**	**PROGRESS July 2009–June 2011**
1. Ratio medical doctors to population	1 / 33,000	1 / 20,000	1 / 16,001
2. Ratio nurses to population	1 / 1,700	1 / 5,000	1 / 1,291
3. Ratio midwife to population	1 / 100,000	1 / 20,000	1 / 66,749

As of February 2011, there were a total of 661 doctors: 470 Rwandan general practitioners, 133 Rwandan specialists, and 58 expatriate specialists (Rwanda Medical Council). Currently, the doctor : population ratio is estimated at 1 doctor for 16,001 population. The gap to attain the HR norms for doctors was estimated at 930 doctors (HRH Strategic Plan, 2011–2016).

Data of 2009 show a shortage of health workers, especially among (1) medical specialists (with a gap of 685 at district, provincial, and tertiary hospitals), (2) midwives, with a gap of 531 to achieve the norms, (3) biomedical engineers and technicians (in maintenance departments at central and hospital level), with a gap of 10 for engineers (A0) and 160 for technicians (A1); and (4) laboratory technicians, with a gap of 349. However, by December 2011, for most of the health cadres, there was an increase in numbers, thus narrowing the gap (see Table 26). On the other hand, the pharmacists have recently witnessed a worrisome reduction, a situation that is likely due to movement to more lucrative positions in the private sector. The doctors, nurses, and laboratory technicians are insufficient in terms of quantity. The majority of nurses and laboratory technicians are A2, but the required level is A1.

Table 26. Staffing gaps against norms for allied health professionals (2009 & 2011)

	Total Actual 2009 (District)	Total Actual 2011 (District)	Norm target	Gap to Norm (2009)	Gap to Norm (2011)
Anesthesiology	90	118	160	70	42
Dental techs	78	66	80	2	14
Hygienists	160	223	540	380	317
Lab techs	931	880	1,280	349	400
Biomedical Engineers (A0)	1	2	10	9	8
Biomedical Technicians (A1)	20	20	180	160	160
Mental Health	50	67	80	30	13
Midwives	49	143	580	531	437
Nutritionists	74	124	540	466	416
Ophthalmologists	28	29	40	12	11
Pharmacists	111	65	80	-31	15
Physical Therapists	58	70	80	22	10
Radiology techs	44	59	80	36	21
Social Workers	766	925	660	-106	-265

Source: District Health Systems Strengthening Tool (DHSST), Dec. 2009 and HRIS 2011

On average there is about 1 nurse for a population of 1,500. There have been three categories of nurses in Rwanda—A2, A1, and A0. A2 level nurses are trained to the secondary school level, A1 nurses possess an advanced certificate in nursing obtained after three years of nursing school, while A0 nurses possess a bachelor's degree. The overwhelming majority of nurses are A2. Currently, A1 nurses represent less than 10 percent of the total pool of nurses. A2 nurses are relatively evenly spread throughout the country, though there are still disparities between districts, with a number of under-served districts in the South, West, and Northern Provinces.

For the available health workers, the distribution favors urban areas, thereby exacerbating the low staffing levels among health facilities in rural settings. For example, there are virtually no midwifes in health centers and few in district hospitals, as most of them are found in the referral hospitals. Even there, they are still inadequate.

5.2.2 Status and challenges regarding the quantity, scope, and quality of HRH

Over the past years there has been a substantial improvement in numbers, quality, and deployment of staff at health centers and district hospitals. Since 2005, a number of reforms and new initiatives have positively impacted on HRH, ranging from decentralization of the management of human resources to new norms and standards. In light of the above initiatives and reforms, human resource information systems, planning, forecasting, career development, and succession planning capacity will require significant development at all levels, but particularly at decentralized levels. HRH needs at each level will need to be assessed, the A2 nurses and laboratory technicians—cadres that are being phased out—will need to be upgraded to A1, and the staff in the decentralized levels will be trained in health service planning and management.

The MOH HRH strategic plan covering the period 2011–2016 focuses on:

- Ensuring a coordinated approach to HRH planning across the sector;
- Increasing the quantity of HRH through increased numbers of trained and equitably distributed staff;

- Increasing the quality of HRH, including improved productivity and performance of health workers;
- Increased capacity to plan, develop, regulate, and manage HRH.

5.2.3 HRH strategies and interventions

Efforts will be made to harmonize the HRH strategic plan and its implementation with the HSSP III, including aligning their end periods.

Norms and standards.

Furthermore, the MOH has developed HRH norms and standards based on workload and aligned to the essential health care package for the various levels of care that will inform the required human resources for the sector. With the new norms and standards, A2 nurses and laboratory technicians are being phased out, which calls for proper planning for upgrading them from A2 to A1 level.

HRH policy

The health sector is developing a guiding HRH Policy that will facilitate and make HR planning relevant and responsive to the HR needs. The role of the HRH Technical Working Group will be crucial in advising the MOH on policy, strategic plans and their implementation.

Training and education

Teaching institutions. Expanding and strengthening the capacity of Teaching Institutions (TI) by providing pre-service and in-service training

The Faculty of Medicine at the National University of Rwanda (NUR) still remains the only academic institution that trains physicians both at undergraduate and postgraduate levels. The Faculty consists of three departments: Medicine, Pharmacy, and Clinical Psychology.

Seven post-graduate clinical training programs are available to physicians in Rwanda: Internal Medicine, Pediatrics, Surgery, Obstetrics & Gynecology, Anesthesia, Ear-Nose-Throat (ENT) Surgery, and Family Medicine and Community Health (FAMCO). Presently the NUR is developing several diploma courses, such as Emergency Medicine, Neonatology, Emergency Obstetrical Care, and Family Medicine and Community Health. During HSSP III, additional specialized programs such as Orthopedic Surgery, Neurosurgery, Neurology, and other subspecialties in Internal Medicine, Pediatrics, and Obstetrics and Gynecology will be initiated. In public health, the National University of Rwanda's School of Public Health (SPH) provides four master's degree programs. Another higher learning institution, the Kigali Health Institute (KHI), provides university-level training in ten allied health disciplines with qualifications at undergraduate and post-graduate degrees, as well as post-graduate certificates. Currently, only KHI is training laboratory technicians at A0 level and has a program to upgrade A2 laboratory technicians to A1. Over the period of HSSP III, the training of laboratory technicians and clinical officers will be expanded to increase the production.

For nurse and midwifery training, there are currently five nursing schools (Byumba, Kabgayi, Kibungo, Nyagatare, and Rwamagana) under the MOH, and responsible for A1 nursing and midwifery education, which is now the minimal acceptable standard for nurses and midwives. This means that most A2 nurses and midwives will need to upgrade to A1. The schools are relatively small and have insufficient teaching capacity to meet the national desired annual enrolment of 250 students. Furthermore, the schools are faced with inadequate laboratory capacity, major lack of equipment and supplies, and inadequate hygiene facilities.

In order to meet the desired HRH norms and standards, substantial efforts are needed to increase the quantity of health professionals. The capacity of TI will be strengthened by increasing the number of TIs; expansion of infrastructure, equipment and staff; and further development and training of teaching staff. At the same time, improving and maintaining quality of the health professionals will receive great emphasis through strengthening of the professional bodies to monitor and evaluate the TIs for quality of training, accreditation, and best practices.

In-service training and mentoring

Furthermore, the Continuing Professional Development (CPD) program will be strengthened and extended to all health professionals. The quality of the training institutions will be further improved by reinforcing international partnerships with external training institutions. The referral hospitals will, in addition to providing specialized care, perform teaching and research functions and provide clinical mentorship to lower levels. Similarly, provincial hospitals will provide clinical mentoring to district hospitals that will in turn provide mentoring to health centers.

Professional regulation

Professional regulatory bodies play an important role in the health system by controlling the practice of health professionals and protecting the public from unsafe practices. Currently there are Medical and Nurses & Midwifery professional councils. Other health professionals are encouraged to establish councils. One of the strategies to scale up the health workforce will be capacity-building for HRH regulation and increasing regional harmonization of professional regulation.

During the implementation of HSSP III, professional bodies in Rwanda will strive to comply with requirements of member states of the East African Community to harmonize professional legal frameworks, education, and practice standards and regulatory tools.

Recruitment and retention

Under the current decentralized system, districts have the mandate to identify and fill existing staff vacancies. However, low human resource management capacity has contributed to delays in recruitment, placement, and promotions. The MOH will provide technical support and supervision to the districts to perform these functions in the short term. During HSSP III, the MOH, in liaison with MINALOC, will promote evidence-based HR planning and advocate for adjustments in budget ceilings to allow for recruitment, deployment, and distribution of required personnel to meet the existing staffing norms.

Furthermore, inadequate salaries and limited opportunities for career growth and further training are key factors contributing to HRH attrition, particularly resulting from movement from the public to the private sector. The MOH and the Rwandan health professional councils are in the process of establishing career progression structures that will define career paths for all cadres of professionals, and identifying and operationalizing appropriate staff retention strategies. This will encourage retention and continuing professional development.

In the face of instability and high turnover of staff, especially in the remote areas, Rwanda has adopted performance-based financing to improve motivation and retention. However, the PBF indicators measured are at the facility level, and do not link to employee-level performance goals or evaluations. An individual employee evaluation form exists but is not applied consistently. The use of this form will be revived, and it will be used as a tool for supervisors, alongside HR management standard operating procedures (SOPs) to manage individual employee performance. PBF will continue to be reviewed for further improvements and other forms of incentives, financial and non-financial, will be explored.

Human resource information system

For better planning and management of HR, there is a need for decision makers to have timely and updated information on the state of human resources. To that effect a human resource information system (HRIS) has been installed and the necessary data are being entered. The HRIS will be strengthened by improving data collection, using appropriate software and a user manual, providing advanced training, and monitoring HRIS use. This system will be extended to all institutions nationwide for regular update and usage. The data will be captured, compiled, and analyzed to feed into the national human resource observatory, accessible to all managers for use and informed decisions. (See Section 5.8 for additional information.)

5.3 Medical Products Management and Regulation

Table 27. Baseline and targets for Medical Products

EXPECTED OUTPUTS / OUTCOMES	BASELINE 2011	TARGETS 2015	TARGETS 2018
% HF with NO stock-outs of tracer drugs	55	95	98
% Generic drugs locally produced	<2	>6	>11
% Prescription of antibiotics in DH / HC	≥ 65	≤ 60	≤ 40
% Hosp with Drug Therapeutic Comms	45	90	100
% HF with online tracking system for all procuring entities (LMIS)	0	80	100

The overall objective of the MOH in providing medical products is to ensure equitable access to essential medical products of assured quality, safety, efficacy, and cost-effectiveness. This overall objective requires appropriate national policies, standards, guidelines and regulations; information on prices, international trade agreements and capacity to set and negotiate prices; good manufacturing practices and quality assessment of priority products; procurement, supply, storage and distribution systems that minimize leakage and other waste; and strengthening of rational use of medicines, commodities, and equipment.

The priorities for medical products management and regulation in HSSP III include:

1. Strengthening the health commodities supply chain;
2. Providing a legal framework;
3. Institutionalizing quality assurance
4. Reducing dependency on external resources;
5. Increasing local production;
6. Improving human and institutional capacity;
7. Regulating and institutionalization of traditional medicine;
8. Strengthening blood transfusion services.

5.3.1 Strengthening the national health commodities supply chain

Selection and procurement: A National Essential Medicine List (EML) exists and is regularly revised. It is the basis upon which selection of products for procurement is made. Pharmaceutical and health products procurement use the international open tender approach as the principal method with standard operating procedures for procurement that include an Internal Tender Committee for bid evaluation.

Medical Procurement and Distribution Department

The Medical Procurement and Distribution Department (MPDD, former CAMERWA) is one of the 14 entities that were merged to form the Rwanda Biomedical Center (RBC). It operates as an autonomous entity under the supervision of the MOH. MPDD is the primary supplier of pharmaceutical commodities, including generic essential medicines, medical supplies, and laboratory reagents. It is the only supplier in Rwanda that is authorized to import antiretroviral drugs. In theory, MPDD is supposed to provide pharmaceutical commodities to public health facilities, including referral hospitals, district pharmacies, and other public sector institutions, such as the National Reference Laboratory (NRL). District pharmacies, in turn, are meant to distribute pharmaceutical commodities to district hospitals and health centers. In practice, referral hospitals procure some pharmaceutical commodities from MPDD, but also rely heavily on private suppliers, including the Office for the Not-for-profit Medical Facilities in Rwanda (BUFMAR). Similarly, district hospitals and health centers access the private outlets for any commodities that they are not able to procure from MPDD or BUFMAR through their respective district pharmacies. Further investments will be put into MPDD to strengthen its capacity to play its overall pharmaceutical supply role.

MPDD manages all procurement funded by donors, which are typically for priority diseases such as HIV/AIDS and malaria. Only in the case of the U.S. Government (USG), the payments are made by an USG implementing partner, Supply Chain Management Systems (SCMS) rather than by MPDD. Within MPDD, the warehouse section works on forecasting pharmaceutical needs.

Coordinated Procurement and Distribution System

For better coordination of procurements, the MOH established a Coordinated Procurement and Distribution System (CPDS) that aims at proper quantification, coordination of donor funding for the procurement of specific supplies (for HIV and AIDS, malaria, TB, etc.), and coordination of distribution mechanisms. However, different tools are used to support supply chain management (forecasting and warehousing management): Quantimed, Pipeline, and TRACnet, Sage 500, and Inventory Tracking Tool (ITT). During HSSP III, a common tool will be developed that all procurement and supply chain management (PSCM) efforts from different partners will use to achieve a harmonized PSCM system. The CPDS will be supported to improve coordination in the procurement of essential medicines for the public sector.

Storage

Although infrastructure and equipment for storage at MPDD exist, along with standard operating procedures at the central level for receipt, storage, and inventory management of medicines and commodities, storage space both at central and at district pharmacy levels is insufficient. In this regard, HSSP III will focus on expanding and improving infrastructure and equipment for storage of medical product at central and decentralized levels (MPDD and the MOH's Division of Public Hygiene), as part of quality assurance, but will also strengthen active distribution mechanisms to reduce need for huge storage facilities.

Distribution

MPDD uses an active distribution system to supply pharmaceuticals to district pharmacies, which further supply HFs. The Logistic Management Information System (LMIS), currently in use, is a paper-based system. Implementation of the electronic version is in progress. The MOH has also adopted a standardized reporting system for commodity management at health facilities (including community) and district pharmacies.

About 85 percent of the requests from health facilities are provided by MPDD, while the remaining supply is covered by other supply agencies. The inadequate quantification capacity at facility levels is partly responsible for MPDD's inability to predict and procure adequate supplies on a timely basis. With support from partners, the MOH will train the district and health facility staff on quantification. It will improve the reporting system by promoting and training staff on proper use of electronic LMIS.

There are challenges in geographic accessibility for distribution of health commodities due to inadequate transportation facilities, resulting in occasional stock-outs of drugs. To eliminate these mishaps, the logistical needs to support effective distribution will be assessed and trucks and other transport facilities will be procured to facilitate distribution of medical products to all areas.

Access to medicines is generally good; almost everyone in the population is covered by Community-Based Health Insurance. Services and products are subsidized for HIV/AIDS, malaria, immunization and tuberculosis. To make health commodities affordable, the GOR has exempted all taxes, including value-added tax (VAT) on the medicines and medical products of national priority. These exemptions will continue during HSSP III in order to improve access. However, to regulate pricing of medical products, a Medicine Pricing Policy will be developed and informed by the essential medicine price lists periodically released by WHO.

Rational Medicine Use (RMU)

The national Essential Medicines List (2010), Therapeutic Formulary (2007), and Standard Treatment Guidelines (STG, 2007) facilitate prescribing appropriate treatments for common illnesses. During HSSP III, the STG and national Therapeutic Formulary will be revised. Drug Therapeutic Committees (DTCs) have been established in several hospitals to promote Rational Medicine Use (RMU) and to discourage

self-medication. RMU is beginning to be promoted through the media and professional forums. Training on pharmaceutical management, including pharmaco vigilance, good dispensing practices will continue to be conducted at all levels of the health system. A national pharmaco-vigilance system will be developed and training curricula will be revised to integrate pharmaco-vigilance along with logistics, RMU, and antimicrobial resistance (AMR).

5.3.2 Establishment of a legal framework

Policy and legal framework. A pharmacy law was enacted by parliament in 1999. A National Pharmaceutical Policy was approved by senior management in the MOH and awaits final approval and signature by the Minister. Following the validation by stakeholders in late 2009, HSSP III will advocate for expedited approval of the bills awaiting Cabinet and Parliamentary approval and in particular seek to establish a specific procurement regulation and procedure for health products in order to expedite and facilitate procurement of medical products.

Currently, the Pharmacy Task Force (PTF) under the MOH combines the responsibilities of an implementing, policy formulation, and regulating agency and provides minimum services related to product licensing, quality assessment, and monitoring of supply channels. During HSSP III, an autonomous National Pharmaceutical Regulatory Authority (NPRA) will be established, thus separating the two functions of implementation and regulation from policy.

The NPRA will build on the work done by PTF and continue to harmonize medicine registration, medicine regulatory authorities and inspection procedures within the East African Community (EAC). A policy has also been developed within the EAC, regarding Trade-Related Aspects of Intellectual Property Rights (TRIPS), with flexibility for pharmaceutical manufacturing and transfer of technologies.

5.3.3 Pharmaceutical quality assurance

The MOH developed a National Pharmaceutical Quality Assurance plan (2011–2014) in May 2011 and the Guidelines for Medicines Safety Surveillance in Rwanda (February 2011). Drug Therapeutic Committees have been established in all hospitals, and during HSSP III they will be further strengthened. Qualified human resources will be deployed to ensure that the DTCs function effectively in QA. Furthermore, HSSP III will establish a medicines quality assurance system and build its institutional capacity. A National Medicines Quality Control Laboratory will be established and inspections of current good manufacturing practice (cGMP) will be conducted before registration of medicines to ensure the quality of medicines and other medical products being procured.

5.3.4 Reducing dependency on external resources for medical products and supplies

The financial situation and the competing priorities have resulted in dependence on external resources for procurement of medical products where almost exclusively Bilateral and Multilateral donors have provided financial and technical support for key programs. This has put sustainability of pharmaceutical supply at risk. During HSSP III, GOR intends to gradually increase its domestic financing of pharmaceuticals with the aim of reaching sustainable levels of financing. The MOH will explore internal mechanisms for resource mobilization, including through public-private partnerships and establishment of revolving funds. Further exploration will also be made for CBHI financing component for medicines and medical products.

5.3.5 Increasing local capacity for production of medical products and supplies

The existing local production capacity within the existing manufacturing units, e.g., Sterile Drugs Unit, and part of Non-Sterile Drugs Units are underutilized. In addition, lack of good manufacturing practice hampers the potential for production. Local production of some of the medical products could reduce expenditure and improve commodity availability. Consequently, HSSP III will invest in establishing production units for medical products. The MOH will promote partnership with private investors in the local production of medicines and other commodities, and in enhancing good manufacturing practices.

5.3.6 Improving human and institutional capacity

The pharmaceutical sector is challenged by insufficient staffing and inadequate office space, especially at peripheral levels. There is also high turnover of the cadres into the private sector. To improve human and institutional capacity for the pharmaceutical sector, HSSP III will plan and invest in training increased numbers of pharmaceutical professionals and continuous staff development. Pharmaceutical units, especially at district level, will be reviewed in terms of HR and space, ensuring that the right expertise and infrastructure are in place. These same departments will be provided with adequate transportation to enable distribution to peripheral facilities.

5.3.7 Regulation and institutionalization of traditional medicine

A plan has been developed to identify and register traditional healers (THs) in Rwanda, and registration is already taking place through support at the health center level. In addition, the policy and ethical code of conduct to regulate the practice of traditional healers has been drafted. However, the absence of a plan for the production and regulation of relevant traditional medicines and poor coordination with THs leaves the use of traditional medicines largely unexplored. HSSP III will develop and finalize an appropriate legal framework and guidelines that will govern and support institutionalization of traditional medicine practice in the Rwanda National Health System. HSSP III will initiate the establishment of small scale manufacturing enterprises (SMEs) in relation to natural and traditional medicine products to fast track production. Furthermore, HSSP III will promote establishment of TH cooperatives to enhance collaboration and coordination.

5.3.8 Strengthen National Blood Transfusion Services

The National Blood Transfusion Services (NBTS) comprises one national and five regional centers for blood transfusion, which serve 47 hospitals and 5 other health facilities (in total, 52 HFs). At the national level, NBTS (Kigali) is housed in the premises of the RBC (being a department as part of MPDD[10]) with limited space and little room for expansion. Only three mobilization officers have been trained, together with local blood donor committees. During HSSP III, appropriate locations for NBTS will be secured, which will facilitate the operations of its network with regional centers, and further training of staff will be undertaken using short- and long-term training programs. Most importantly, NBTS will pursue accreditation by the American Association of Blood Bank standards and, once accredited, will put in place a quality assurance system to sustain the standards.

The NBTS obtains blood through a blood donor recruitment program (voluntary, not remunerated). Full screening is done for HIV, hepatitis B and C, syphilis, and malaria, and when needed traceability is guaranteed. The provision of blood by the NBTS to the health facilities is free of charge, costs being subsidized largely by external funding. This raises concerns regarding the financial sustainability of blood transfusion services. HSSP III will explore alternative sources of financing, including through the CBHI scheme. Consequently, resource mobilization will continue to be high on the agenda to facilitate collection, treatment, and storage to ensure sustainability of free-of-charge blood and blood products to the population.

[10] Organizational Chart for Rwanda Biomedical Center (Annex 2 undated).

5.4 Diagnostic Services

Table 28. Baseline and targets for Diagnostic Services[11]

EXPECTED OUTPUTS / OUTCOMES	BASELINE 2011	TARGETS 2015	TARGETS 2018
% Laboratories with at least two trained staff in good laboratory practices within the lab network.	76	100	100
Number of A0 and A1 Lab Technicians in place in DH and HC	151	291	516

The overall objective for health technologies is to ensure availability of effective, quality, and timely diagnostic support to the management of illnesses and health conditions at all levels in line with internationally accepted norms and standards.

HSSP III will achieve these objectives through the following:

1. Establishment of health technology based on international norms and standards;
2. Ensuring an uninterrupted and timely supply chain of equipment and consumables;
3. Availing qualified and adequate technology personnel;
4. Strengthening diagnostic and research capacity;
5. Establishment and implementation of a national Quality Assurance Program for health technology.

5.4.1 Ensure technology infrastructure according to norms and standards (including ICT)

Over the period of HSSP II, significant progress was made in the area of health technologies. Policy and technical standards were defined for all levels (health post; health centers; district, provincial, and central hospitals) and laboratory routine activities were decentralized to the peripheral level. Each district has two professionals trained and supervised to improve laboratory performance. The National Reference Laboratory, with support from DPs, has established a sound performing laboratory network throughout the country, conducts specialized biomedical testing at the central (referral) level, and provides quality control for all other laboratories. The NRL is in the process of obtaining accreditation, together with the laboratories of the Kigali Teaching Hospital, the Rwanda Military Hospital, and the King Faisal Hospital. The NRL also has a "rapid response team" that supports epidemiologic surveillance.

Despite the successes above, the demand for health technology has overwhelmed the existing health infrastructure. With competing priorities for domestic funding, health technology infrastructure has been largely donor and partner dependent, leaving important mandates and areas unfunded. There is no prescribed and consistent menu of services within the laboratory network. Incomplete information communication technology infrastructure for the NRL compromises the ability to attain accurate laboratory data such as workload, type, and number and cost per laboratory tests. Furthermore, communication of laboratory results encounters unnecessary delays. Absence of relevant logistics and transport interferes with the supervision and mentoring by higher levels and also prevents effective laboratory outreach services.

Work in this area under HSSP III will focus on construction and equipping of a new NRL building, improving space in laboratory networks according to norms and standards, updating the laboratory information system at NRL and district levels, and full accreditation of the NRL to meet international standards. Health technology advances under HSSP III needs to widen in scope to cover latest diagnostic, therapy, and laboratory technology. Dentistry and surgical equipment needs must be addressed to ensure adequate provision of care.

[11] Diagnostic services include equipment and consumables of the Medical Laboratory and Radiology (X-Ray, CT-scan, MRI, etc.).

5.4.2 Ensure an uninterrupted and timely supply chain of equipment and consumables

Inadequate and irregular availability of equipment, supplies, and reagents has posed a big challenge to the sustainability of test packages, with interruption in diagnostic services, and often resulting in less cost-effective interventions. Lack of robust inventory systems and weak procurement and supply chain management (PSCM) further aggravates the situation. Investments will be made during HSSP III to assess the medical equipment and diagnostic needs, based on the disease pattern and burden, and to use this to better inform procurement and supply chain management. The needs at each level of health service delivery will be quantified and the capacity to plan and manage equipment, reagents, and supplies, using relevant software, will be strengthened through training in PSCM.

5.4.3 Availability of technology staff (lab and radiology)

A number of challenges remain regarding staff: there are inadequate numbers of qualified personnel and no capacity-building plan for health technology staff at all levels. Consequently, maintenance, supervisory, and mentorship capacity remains weak. Lack of inputs to implement the skills gained after training, lack of motivation, and absence of a career path has led to “brain drain” and exacerbated the situation of inadequate HR. A further challenge is inadequate knowledge and skills on quality system management. The change in technology (manual vs. automated, analogue vs. digital) has increased the need to retrain existing staff.

HSSP III will address capacity-building through training of trainers, training of the relevant cadres, and supervision and mentoring support to laboratory personnel in the laboratory network to improve performance. Qualified staff will be recruited to narrow the HR capacity gaps.

5.4.4 Strengthening diagnostic and research capacity

HSSP II has seen improvements in availability of guiding documents and has enjoyed the support of both the GOR and donors. However, challenges have been encountered in timely and proper diagnosis. Apart from stock-outs of reagents and consumables, the performance of specialized laboratory tests at the central level has been suboptimal, often with lack of appropriate diagnostic equipment, especially for outbreak investigations and testing for drug resistant pathogens. Delays and loss of results due to insufficient information management systems continue to compromise timely and correct treatment and management of illnesses.

Diagnostic capacity

HSSP III will expand specialized testing by procurement and installation of appropriate diagnostic equipment, based on the most recent technology in laboratory and imaging sciences. Staff will be trained to improve lab surveillance and confirmation of priority epidemic diseases, including monitoring of drug resistance pathogens (HIV, TB, and other bacterial infections). Collaboration with external advanced laboratories and with the Food and Water Laboratory at Huye to provide the specific services will be enhanced through entering into a memorandum of understanding with these institutions. A procurement plan for diagnostic equipment, reagents, and supplies will be developed and implemented. Servicing and maintenance of diagnostic equipment and instruments will be contracted to competent private entities.

Research capacity

During HSSP II, there was insufficient training on research, and it was not set as a top priority in previous planning. During HSSP III, collaboration between the NRL, research institutions, and training institutions will be enhanced to support training in research methodologies using up-to-date tools. Research results will be published and disseminated to inform policy and improve diagnostics.

5.4.5 National Quality Assurance Program for health technology

Quality is of paramount importance in provision of effective diagnostic services. The challenges that have been faced in ensuring quality have included lack of sufficient facilities for preparation and administration of proficiency panels, inaccurate calibration of equipment, and inadequate instrument servicing and maintenance. Given the importance of maintenance of a quality management system for health technologies, HSSP III will emphasize proper documentation, use of SOPs, and quality control samples,

as well as periodic external quality assessments. Capacity-building of NRL will enable development and implementation of a national Quality Assurance Program for laboratory diagnostics. A system of accreditation of lower laboratories and other diagnostic centers will be established and assessed at regular intervals. Training will be undertaken in quality assurance and biosafety, and a continuous education program will be a requirement for annual assessment of the various technologists and technicians.

5.5 Health Infrastructure Development

Table 29. Baseline and targets for Health Infrastructure

EXPECTED OUTPUTS / OUTCOMES	BASELINE 2011	TARGETS 2015	TARGETS 2018
% Adequate infrastructure in HF based on norms and standards	8	27	50
% DH with effective maintenance workshops	<5	50	80

Infrastructure systems include the fixed assets like buildings, as well as their control systems and software required to operate, manage, and monitor them. They also include communication facilities, plants and vehicles and other utilities.

The overall objective under HSSP III for infrastructure and maintenance is to:

- Improve access to functional health infrastructure and equipment that comply with international standards and norms:
- Develop maintenance systems;
- Strengthen relevant HRH capacity for infrastructure development and maintenance.

5.5.1 Improve access to a functional health infrastructure that complies with international standards

The availability and access to health services have greatly improved during HSSP II through constructing and equipping four district hospitals and five health centers. A developed network of public sector health facilities exists to meet the health needs of Rwanda's population. This network is structured as a pyramid with four referral hospitals at the apex followed by 40 district hospitals and 450 health centers. Each district has at least one district hospital and an average of one health center per 20,000 populations.

The initiation and implementation of community health services has increased outreach and brought health services closer to the people they serve. The referral system from community to health centers and from health centers to hospitals has greatly improved with PBF. In addition, the emergency medical assistance service (SAMU) is now fully operational in all districts with 154 ambulances (five ambulances in each district fitted with tracking systems as the standard requirement) and a call center managing the flow.

According to the Rwanda District Health System Strengthening Tool, a web-based database maintained by all of the districts with data on 465 health facilities, 19 percent of health centers and 2 percent of district hospitals had no access to power in 2009, a figure that has been decreased to 15 percent of health centers and 0 percent of district hospitals in 2010. HSSP III will endeavor to bring power to the remaining health centers by installation of solar power where HFs are not part of the power grid. Even where HFs are connected to the power grid, back-up will be installed in the form of generators.

Despite these achievements, around 5 percent of the sectors (20 / 416) remained without a HC. Approximately 23 percent of the population is estimated to live more than 5 kilometers from the nearest HF, while on average the population needs one hour to visit the HF (Integrated Household Living Conditions Survey [EICV], 2010). Furthermore, the minimum package of services provided at different

levels has been expanded from time to time without requisite infrastructural expansion. Other challenges include lack of or insufficient diagnostic equipment and standardized medical equipment.

During HSSP III, emphasis will be given to (1) developing and operationalizing health infrastructure standards, norms, and guidelines in line with international standards and (2) using a central procurement system for medical equipment to ensure harmonized and standardized medical equipment procurement. In addition to provision of equipment, each health facility will be provided with appropriate transportation, energy source (grid / generator), adequate water supply and drainage systems, appropriate sewage disposal system, and a good solid waste and hazardous waste management system. They will also be equipped with an appropriate communications infrastructure (telephone, Internet, or both).

A health map will be prepared to guide infrastructure investment. Completion of ongoing construction and equipping of health facilities will be done, as well as construction of an additional two new hospitals (Nyabikenke and Rutare) and 15 new health centers. An inspection team will periodically assess the state of both public and private health facilities, including their equipment. HFs will be virtually linked with telephone, Internet, and video networks to enable long-distance support from higher levels of expertise.

5.5.2 Develop a maintenance system

The maintenance of medical equipment has been complicated by various factors, including the absence of a HF maintenance tracking system, lack of adherence to national equipment donation standards by DPs, NGOs, and other actors, as well as by health facilities. Inadequate funding for equipment maintenance at facility levels is complicated by the absence of a separate budget line for this activity. To address these challenges, focus during HSSP III will be on preparing and implementing a physical infrastructure development and maintenance plan, as well as the establishment of a procurement and maintenance plan for medical and energy equipment. In this regard, ten maintenance workshops (two in each province) will be constructed and provided with appropriate tools and equipment. A national quality control system for the main equipment office will be established, and all managers will be sensitized on maintenance. A maintenance fund will be created in the budget for the health sector. This budget will be decentralized to allow each DH to have a budget line for medical equipment maintenance. Central procurement of spare parts for equipment will form an integral part of medical equipment investment in HSSP III. To facilitate maintenance of physical assets, including medical and transport equipment, the MOH will explore a greater role in maintenance on the part of the private sector.

5.5.3 Develop the technical capacity of HR

A curriculum for biomedical technicians has been developed and training has already started to reduce the skills gap in the maintenance area. In addition, efforts are ongoing to strengthen support by technicians from district hospitals to health centers. However, there is inadequate number of biomedical engineers to staff the maintenance units. Skills for biomedical technicians remain limited. More specifically, there is lack of specialized training on equipment that needs special skills, such as radiographic units. The HR capacity development needs for infrastructure and maintenance will be determined and appropriate investment integrated into the overall health sector human resources plan. To ensure adherence to the Medical Equipment Policy during HSSP III, the necessary biomedical engineers and biomedical technicians will be trained, ensuring that at least 70 percent of all maintenance staff will be trained by end of HSSP III.

5.6 Health Financing

Table 30. Baseline and targets in Health Financing of HSSP III

EXPECTED OUTPUTS / OUTCOMES	BASELINE 2011	TARGETS 2015	TARGETS 2018
% GOR budget allocated to Health	11.5	13	15
Per capita total annual expenditure on health (USD)	$ 39.10	$ 43.00	$ 45.00
% Population covered by CBHI	91	91	91

Recognizing the important role of financing, in 2001 African heads of state committed themselves to allocate at least 15 percent of their national annual budgets to improving the health sector. In May 2005, the 58th World Health Assembly adopted a resolution that urges member states to ensure that health financing (HF) systems include a method for prepayment of financial contributions for health care, to promote sharing risk among the population and avoiding catastrophic health-care expenditures and related impoverishment of care-seeking individuals (WHO 2005).

The Rwanda's Health Financing Policy and the health financing strategic interventions are harmonized and aligned with the key national development documents (Vision 2020, EDPRS, Health Sector Policy, and Health Sector Strategic Plan II). The goal of the Health Financing Policy (GOR 2009, p. 18) is shown in Box 6.

Box 6. Goal of the Rwandan Health Financing Policy

> To ensure that quality essential health services and particularly MDG-related interventions are financially accessible to the whole population in an equitable, efficient, and sustainable manner under a results-based financing framework.

The Ministry of Health is guided by a number of principles in the development and implementation of the Health Financing Policy: (a) equity, risk-sharing, and solidarity; (b) efficiency, evidence-based decision-making and result-based financing and management, transparency and accountability; and (c) ownership, empowerment and participation, and partnerships.

5.6.1 Overview of health financing in Rwanda

Achievements

Rwanda has been successful in improving resource mobilization from both domestic and external sources. The key achievements in health financing include:

- Revenue collection
- Revenue pooling
- Purchasing of services

In terms of *revenue collection***,** there has been increased revenue mobilization from domestic sources, mainly organized in Community-Based Health Insurance schemes and other private insurances; from public funds (from tax-based funding); and from external funding channeled through general budget support, sector budget, and project support. Table 31 shows that the largest share of total health expenditure (THE), 63 percent in 2010, came from donor funding, compared to 53 percent of THE in 2006. External funding steadily increased, largely due to the funds flowing from new global health initiatives (which usually target specific diseases) such as the Global Fund, the President's Emergency Plan for AIDS Relief (PEPFAR), and the President's Malaria Initiative. As a result of increased donor funding, THE has increased to $401 million (in 2010), which translates into $39.10 per capita (having increased from $34 per capita in 2006) and a reduction in household out-of-pocket spending (15% of THE, down from 28%).

Table 31. Source of funding for the health sector in Rwanda (2009/10)

Financing Sources (FY2009/10)	% of THE*
Donors / Rest of World	63
Government of Rwanda	16
Household OOP Spending	15
Employer Funds	5
Unspecified	1
Other Private	<1
Total	100

Source: Preliminary Results of NHA, 2009–2010.

In terms of *revenue pooling*, health insurance coverage in Rwanda has increased over the years. The CBHI database showed 85 percent CBHI coverage in 2011, while the formal sector schemes and private insurance account for about 6 percent of the population, bringing the total health insurance coverage to 91 percent. CBHI schemes now cover the entire country in all 30 districts. A new CBHI Policy was developed in 2010 and implemented, starting in July 2011, to address the emerging challenges of CBHI implementation: institutional capacity-building, financial sustainability, and equitable access. Funds from GOR, donors, and mandatory contributions from other insurance schemes directly supporting the CBHI initiatives are useful in helping to cement CBHI implementation. Further pooling of resources is achieved through public funds transferred to health facilities, as well as other insurance schemes, such as Rwanda's Medical Insurance Agency (RAMA) and Military Medical Insurance (MMI).

In terms of *purchasing of services*, GOR remains the biggest provider of health services in terms of coverage with 40 district hospitals and 450 health centers in the country. GOR purchases services in three ways:

1. Providing direct financial support to health facilities;
2. Through performance-based funding to health facilities;
3. Direct contributions to the CBHI fund to cover the percentage of the population identified as poor.

DPs support the efforts of the government through general budget support (GBS), sector budget support (SBS), contributions to PBF, and support to CBHI. In addition, they implement projects that are specifically targeted at health problems and also make funds available to only a few districts of the country, as opposed to the whole country.

Households, if not covered by any insurance, will pay directly out-of-pocket for services through user fees at the point of use.

The PBF funding model has now taken root. It has been rolled out to the entire country's health centers and gradually to other levels of the health system. PBF, as a mechanism for purchasing services, is the second largest expenditure item and represents 10 percent of the total Medium-Term Expenditure Framework (MTEF) for health. The PBF allocation is more than double the planned public expenditure on human resources for health, including salaries and wages. It introduces an incentive for facilities to maintain an optimum staffing level in order to maximize financial income and incentives for staff. PBF also has a significant impact on institutional deliveries, preventive care visits by young children, and improved quality of prenatal care, and it encourages voluntary counseling and testing by individuals and married couples.

5.6.2 Health funding challenges

Despite the excellent performance in health financing, the following key challenges remain:

1. In terms of revenue collection:
   - There is still a need to strengthen the management structures of the CBHI at the sector, district, and national levels and to consider appropriate interventions for ensuring the sustainability of CBHI funds.
   - Despite the existing coordination, alignment, and harmonization frameworks in place, for example the sectorwide approach (SWAp), the flow of external funds is sometimes not aligned to existing government channels.
   - There is a need to develop a resource-allocation formula that enhances equity in allocation of "needs-based grants" to district and facilities.
   - Awareness and understanding of the population on the new policy is insufficient and must be improved.
2. In terms of revenue pooling:
   - Health insurance schemes are segmented and fragmented, and may impede the achievement of the objective of equity and risk-sharing.
   - It is necessary to manage the transition issues from flat-rate premium contribution to a more equitable premium contribution.
   - A regulatory body (Rwanda Health Insurance Council) has recently been formed but is not yet operational.
   - There are limited incentives for cost control in CBHI and other insurance schemes (such as RAMA) with the fee-for-service provider mechanism and limited capacity on claims review and medical audits in the district.
3. In terms of purchasing:
   - The different incentives created by PBF need to be reviewed for improving staff motivation and efficiencies at health facilities.
   - Transaction and administrative costs at the initial stage of CBHI implementation are relatively high.

5.6.3 Five Health Financing Pillars: Strategic directions and priority interventions for 2012–2018

The strategic direction for health financing is based on the following principles: *financial protection, progressive financing,* and *cross-subsidies*. The key priorities and interventions are presented under the five key Health Financing Pillars:

- Pillar 1: Financial Access and Protection
- Pillar 2: Efficiency in the allocation and use of health resources and coverage of high impact interventions improved
- Pillar 3: Increase internal resource mobilization for sustainable funding of the sector
- Pillar 4: Improve coordination and effectiveness of external assistance in the sector (formally Sector Partnerships (NGOs, CSO, DPs)
- Pillar 5: Institutional environment for sustainable financing strengthened

Pillar 1: Financial Access and Protection

This will ensure that risk pooling for improved financial access and household income protection of Rwandan families in the health sector is strengthened. The key priorities and related activities include:

1. Attain and maintain universal health insurance coverage.
   - Continue to promote a more effective, equitable and efficient health insurance coverage, with the view to improve regulation of the health insurance industry.
   - Continue to ensure that the poor have financial access to health care by improving allocation of donor and tax funds for CBHI that cover the poor.
   - Reduce fragmented implementation of health insurance across sectors with limited cross subsidy (CBHI, RAMA, MMI).

2. Ensure equitable and affordable premium contribution.
   - Regular review of premium contribution, with progressive contribution rates under the CBHI, so that premiums paid are determined based on people's wealth categories.
   - Ensure financial sustainability of CBHI through appropriate policies in contribution, copayments, earmarked resources, and donor support.
   - Ensure regular update of wealth categorization (*Ubudehe* database).
   - Computerize of all CBHI schemes across the country.
3. Ensure CBHI benefit package is adequate, responsive, and equitable.
   - Strengthen referral system and clearly define the benefit package at each level;
   - Establish a feedback and appeal mechanism as a platform for addressing stakeholder issues on CBHI services and ensure client satisfaction;
   - Ensure that essential drugs are available for CBHI patients;
   - Collaborate with accreditation body on sharing of data on relevant indicators to reduce administrative cost. Service-provision costs (through routine calculation of unit costs) and administrative costs will be studied and monitored regularly.
4. Establish effective partnership with health care providers.
   - Take full advantage of strategic purchasing power of CBHI by linking payments with quality of care, and by implementing an appropriate mix of provider payment mechanisms.
5. Ensure fair and equitable distribution of resource among CBHI districts and sections.
   - The HFU and its partners will conduct regular monitoring and evaluation of existing risk equalization mechanisms.

Pillar 2: Efficiency in the allocation and use of health resources and coverage of high impact interventions improved

1. Rationalize resource allocation to interventions and districts.
   - Rationalize resource allocation to interventions and districts to promote equity, i.e., develop a system of needs-based transfers to district and facilities that will incorporate information on the population served, poverty level, disease burden, and any other support received through development partners.
2. Subsidize health care providers for achieving high coverage of vital interventions through PBF.
   - Make PBF more dynamic and more balanced in rewarding priority services, taking into consideration the key principles of equity, disease burden and other relevant variables;
   - Ensure increased allocation of PBF resource to improve health interventions at the community health level;
   - Review and design an innovative PBF model and fund mobilization mechanism.

Pillar 3: Increase internal resource mobilization for sustainable funding of the sector

1. Generate additional resources for health.
   - It is important to reduce reliance on external resources, while at the same time identifying mechanisms for increasing resources from domestic sources. The key intervention targeted for increased domestic funding for health is advocating for additional resources from earmarked taxes. Specifically, "sin taxes" (e.g., those levied on alcohol and cigarettes) should be earmarked specifically for the health sector.
2. Ensure financial sustainability of the insurance fund.
   - Conduct financial sustainability and actuarial studies;
   - Review fund mobilization system;
   - Determine appropriate reserve level and ensure ability of the system to absorb financial shocks;
   - Advocacy for policy development on innovative mechanisms for generating additional resources, i.e., earmarked taxes
3. Strengthening PFM capacities at the health sector district level.

- The public financial management (PFM) processes in the districts need to be standardized and known by trained staff. This will be achieved through improving awareness of and providing relevant training on PFM at the district level. In addition, the importance of accountability and efficiency will be emphasized, highlighting the health priorities and needs of the population vs. resources available to meet these needs.

Pillar 4: Improve coordination and effectiveness of external assistance in the sector, formally Sector Partnerships (NGOs, CSO, DPs)

1. Enhance partnership between MOH and health stakeholders.
   - Advocate for improved existing partnerships and develop new partnerships with DP, civil society, and private sector players (including private sector health providers);
   - Develop and update guidelines for establishment of health sector CSOs and their collaboration with the MOH.
2. Strengthen the health sector. The Health SWAp in Rwanda is relatively new and requires the implementation of specific interventions in order to ensure more effective channeling of funds:
   - Effectively implement and monitor the SWAp roadmap;
   - Encourage DPs to move away from off-budget support to on-budget and on-plan support;
   - Strengthen the role of CSOs in health sector participation;
   - Empower CSOs with specific skills to allow their maximum participation in the health sector;
   - Aid effectiveness (harmonization/alignment) and accountability at national level.
3. Develop strategic public-private partnerships to support implementation of HSSP III:
   - Develop partnerships with private corporations and industries tapping into their social corporate responsibility to support HSSP III priorities:
   - Develop effective partner coordination for alignment and accountability, ensuring that the Health Sector Working Group is functioning effectively, with all stakeholders participating.
4. Increase predictability of aid:
   - Advocate for increased predictability of external funding by entering into longer financial commitments with development partners and negotiating donor support mechanisms that minimize donor spending on vertical programs and off-budget support.

Pillar 5: Institutional environment for sustainable financing strengthened

1. Strengthen managerial capacity of CBHI at all levels.
   - Develop the capacity (through trainings) of district CBHI managers and staff to effectively manage the schemes;
   - Develop relevant and responsive procedures, guidelines, policies, and systems to support effective undertaking of the CBHI management activities.
2. Strengthen health financing stewardship and governance within MOH.
   - Developing and implementing of a coherent Health Financing Strategic Plan that will serve as basis for aligning efforts of stakeholders;
   - Strengthening management and regulation capacities of relevant MOH structures in Health Financing;
   - Regularly undertake National Health Accounts or similar financial tracking surveys and expenditure reviews;
   - Regular conduct of costing exercises for MPA, CPA, referral hospital package, and essential packages;
   - Strengthening the Rwanda Health Insurance Council with the view to ensure effective regulation and of the health insurance industry and handle the long-term vision of integrating Rwanda's various health insurance schemes;
   - Continue enhancing the capacities of local structures to effectively participate in health financing activities in the district.
3. Strengthen capacity to utilize financing tools in the annual planning and budgeting process:

- Equipping various stakeholders involved in budgeting (at all levels) with costing skills and key health financing principles, through appropriate trainings;
- Institutionalization of Evidence-Based Budgeting at all levels, especially the district level;
- Building capacity of relevant stakeholders at all levels of the health sector in the Health Resource Tracking tool, especially the district level.

4. Improve national capacity on evidence-based policy development:
   - Integrating gender perspective in health financing data collection, analysis and policies;
   - Enhancing capacity for using HRT data together with data from other existing data systems (HMIS, District Health System Strengthening Tool, etc.) to develop more comprehensive reports on health financing-related issues;
   - Building local capacity for health financing and health economics research.

5.7 Quality Assurance, Standards, and Accreditation

Table 32. Baseline and targets in Quality Assurance and Standards

EXPECTED OUTPUTS / OUTCOMES HSSP III	BASELINE 2011	TARGETS 2015	TARGETS 2018
% HC with functional QA team	0	50	100
# HC eligible for accreditation	0	40 / 450	200 / 450
# HC accredited	0	0	150
# HC that have linked accreditation – PBF	0	450	450

EXPECTED OUTPUTS / OUTCOMES HSSP III	BASELINE 2011	TARGETS 2015	TARGETS 2018
% DH with functional QA team	0	100	100
# of Health Facilities (DH,RH) under accreditation and on track as planned	1	13 / 45	45 / 45
# Provincial hospitals eligible for accreditation	0	5	5
# DH accredited	0	5	15
# DH that have linked accreditation – PBF	0	All DHs	All DHs

EXPECTED OUTPUTS / OUTCOMES HSSP III	BASELINE 2011	TARGETS 2015	TARGETS 2018
% Nat Referral Hosp with functional QA team	20	100	100
# Nat Referral Hosp eligible for accreditation	1	100	100
# Nat Referral Hosp accredited	1	2	5
# Nat Referral Hosp that have linked accreditation – PBF	0	All Hosp	All Hosp

During the HSSP III, the overall objective with respect to quality assurance will be to expand its operations to all institutions in the sector, regulate health care provision, and ensure the population of Rwanda receives quality, effective, and safe health care—be it promotive, preventive, curative, or rehabilitative. To achieve this objective, HSSP III will:

1. Define and update norms and standards of care at all levels;
2. Regularly evaluate the quality of care and adherence to set norms and standards;

3. Institutionalize a continuous quality improvement system for all health care providers.

5.7.1 Definition and updating of norms and standards of care at all levels

Some substantial achievements have been made in quality assurance during HSSP II. The MOH is committed to improving the health of the Rwandan population by improving the quality of preventive, curative, and rehabilitative services offered to them. In this regard, the Ministry has defined the Quality Assurance Policy and Strategy and the Essential Health Care Package (EHCP) for the different levels of care alongside their norms and standards. A quality assurance task team will be established to review existing health care services. Norms and standards will be revised on the basis of international guidelines and introduced in the health care delivery system. New instruments and tools for self-assessment and external assessment of quality of care, based on clear and measurable indicators, will be developed and health providers will be oriented on the use of these tools.

5.7.2 Regular evaluation of the quality of care, and accreditation

The accreditation program in Rwanda was initiated in the three teaching hospitals: King Faisal Hospital in Kigali (KFH), the Kigali University Hospital (CHUK), and the Butare University Hospital (CHUB). The accreditation program in these facilities is being guided by an external firm, the Council of Health Services Accreditation of Southern Africa (COHSASA), which provides technical assistance in evaluating the program.

The baseline external survey in 2006 in each of the three hospitals revealed an immense quality gap. Since then substantial improvements have been registered. KFH was accredited in February 2011, while CHUK is now being rated with 55 percent achievement. The program in CHUB has stalled due to lack of technical assistance and the Rwanda Military Hospital and Ndera Hospital are yet to start. Five big laboratories (NRL, KFH, CHUK, CHUB, and MH) are also undergoing accreditation.

For district hospitals and health centers, the quality assurance activities initiated include development of customer care norms at all levels, creation of health care and services quality assurance advisory committees in all hospitals and HCs, and introduction of opinion boxes for customers and users. In addition, all hospitals now have a dedicated customer care service.

5.7.3 Institutionalize a continuous quality improvement system for all health care providers.

HSSP III will build on the achievements made thus far by establishing a full-fledged national accreditation body that will be responsible for assessing each health facility, from health centers to the national referral hospitals. Tools will be developed to support quality assessment geared toward accreditation by using international standards, and all the referral hospitals will receive external accreditation. The health facility accreditation system in Rwanda will be scaled up to include provincial hospitals and district hospitals in a phased process. The system will not be restricted to public facilities, and it will eventually apply also to private health facilities. In addition to health facility client surveys and feedback, regular community and client satisfaction surveys will be undertaken to inform the Quality Assurance Program and guarantee continuous quality improvement (CQI). To support and strengthen institutionalization of continuous quality improvements, PBF will be linked to quality assessments through accreditation.

5.7.4 Institutionalization of a continuous quality improvement system

It is important to establish a system of quality that is sustainable, but currently there is low institutionalization of quality management at all levels. However the institutionalization of quality assurance has started in the sector.

A desk within the MOH has been created, and it receives some support from DPs. Several initiatives have been undertaken by the team in charge of quality assurance within the MOH. While a significant challenge of inadequate resources remains, this is being partly addressed with the support of DPs, the GOR budget, and the PBF mechanism. Building on the existing desk in the MOH, a strong quality assurance coordination structure with clear roles, responsibilities, and accountability will be expanded within the MOH. Quality assurance will be institutionalized through its integration into the health care

plans of each health delivery level and each health facility. Accreditation and quality improvement will be extended to all health facilities, including those from the private sector. All health facilities, both public and private, will be required to develop a quality improvement plan. The Quality Assurance Program will have a dedicated budget line and a dedicated QA team at all levels will be appointed. Capacity will be built among health care providers in CQI, emphasizing a team-building approach and conducting technical supportive supervision. Advisory councils at all levels will be established to guide the MOH in quality management.

Regulatory services

Ultimately, quality of care depends on the quality of health professionals and how their profession and practice are regulated. An accreditation system for professional training institutions and practice will be established to ensure quality of training institutions. Teachers in the training institutions will be provided with appropriate orientation and training, while training curricula for health professionals will be reviewed to include up-to-date quality assurance, quality measurement, and continuous quality improvement skills. Furthermore, the legal frameworks of the professional councils will be reviewed to provide them with the mandate to enforce adherence to quality of care. A registration and licensing system for all types of health care providers will be put in place, ensuring that each health provider adheres to the set minimum qualifications and skills before being allowed to practice. The MOH, in its effort to enforce regulatory services, will support all health professionals by establishing regulatory bodies.

5.8. Health Information Management

Table 33. Baseline and targets in Health Information Management

EXPECTED OUTPUTS / OUTCOMES	BASELINE 2011	TARGETS 2015	TARGETS 2018
% HF with functional IT infrastructure	84	95	100
# A2 nurses who have completed e-learning course to upgrade their skills	0	700	1,750
% HCs and District Hospitals using openEMR	8	50	80
% Registered private clinics and dispensaries reporting routinely to HMIS	5	70	90
# Registered CHW tracking PW using RapidSMS	8,183	14,837	14,837
% HF receiving at least one formal feedback report from HMIS each quarter	0	50	100

5.8.1 Information management achievements

Rwanda has made many gains during the course of HSSP II in the area of Information management. These have included achievements in the automation of systems that are operational at many levels of the health system (HMIS, SISCom, RapidSMS, LMIS, etc.) and incorporate an innovative mix of paper-based and technological solutions. The sector has improved reporting compliance for the HMIS to nearly 100 percent (thanks in part to PBF incentives) and addressed issues of data quality by introducing a standardized data quality assessment methodology at national and district levels. Over the past few years. private clinics and dispensaries in the Kigali urban districts have begun to report routinely.

The Ministry's e-Health Department has become a model across Africa through its focus on country ownership and the development of a strategic plan with a clear vision to integrate routine information systems as part of the Rwanda Health Enterprise Architecture initiative—a broad roadmap for ensuring inter-operability between all health sector databases in the interest of improved continuity of care. In fact, e-Health innovations are so important and crosscutting that many of them are distributed throughout different sections of HSSP III rather than being consolidated in this section, as in the past.

On the ICT infrastructure front, the multisectoral initiative to establish a nationwide fiber optic network has paved the way to implementing web-based applications and improved timeliness and efficiency of data collection and information sharing—though the pace of connectivity has faced major delays.

Human resources to support information management have also made great gains. M&E staff and data managers are recruited and trained in each district hospital and all health centers have dedicated data managers. At the central level, additional staff has been recruited and trained to serve in key departments of e-Health, HMIS, and ICT.

5.8.2 Information management constraints and challenges

However, the HSSP III SWOT (strengths, weaknesses, opportunity, threats) analysis still identified important gaps, particularly in the area of data use and further harmonization of data collection in certain areas (environmental health, vital events registration, logistics management). In addition, a number of systems have shown their merit but need to be scaled up across the country (Open Source Medical Record Systems [OpenMRS], Laboratory Information System, RapidSMS, e-IDSR). Other systems, such as the Logistics Management Information System (LMIS), have stalled and are way behind schedule.

In addition, the multiplicity of software platforms have become a sustainability issue for the MOH as systems and health services are transitioned from donor funding to the regular budget. Similarly, the Mid-term Review found that too many [e-Health] interventions are being implemented and there is a need to strengthen capacity to support the system roll-out and to ensure sustainability.

The challenging issue of data use is compounded by the fact that there is not yet a formal data sharing in place and information systems are only now shifting over to web-based platforms, which can be accessed more widely—both at central and peripheral levels. Most routine information systems report data up, but have limited feedback reporting or mechanisms to support local data use.

The MTR found that other challenges related to building the information system are constraints imposed by other sector ministries (infrastructure, ICT). The delays in the implementation of the nationwide fiber optic network and the absence of an affordable national data center has required the MOH to establish its own data center—a resource that needs considerable investment that would be better spent as a multisectoral initiative. Retaining staff in each ministry to support ICT and programming is difficult with the growing private ICT sector, though some promising private/public partnerships have begun.

On the data quality front, many of the remaining issues relate to a system that overburdens health workers with the collection of too much data of uncertain utility, overly complicated or poorly designed recording and reporting tools, and the lack of quality population denominator data for health facility catchment areas at the various higher levels.

5.8.3 Proposed information management interventions

1. Enhance information management and use (HMIS and related systems)
    - Beginning January 2012, a new Health Management Information System (based on District Health Information System-2) was launched. This web-based system should improve access to data at all levels of the health system and will serve as a sustainable platform for integrating additional modules.
    - In addition, there will be a strong emphasis on capacity-building to institutionalize data use for decision-making at all levels.
    - Establish routinely produced information products such as feedback reporting and periodic health bulletins, and align reporting calendar with the Rwandan Fiscal Planning cycles.
    - The HMIS team will also develop automated pathways to transfer data from their source systems to the data warehouse, and develop the web portal to facilitate sharing data and the country health profile. Standard operating procedures for data management and quality assessment developed in 2011 need to be disseminated and used at all levels.
2. Support planning and budgeting for districts (DHU and DHMT) and health facilities:

- Provide harmonized planning tools and technical support to the districts and health facilities to generate and use multiple data sources for planning & M&E;
- Develop a strategy to enhance data use by DPs and researchers.

3. Harmonize and enhance catchment area populations and vital registration (MOH, Justice, MINALOC, NISR).
4. A priority multisectoral intervention that was not completed in the past years is to harmonize procedures and implement technology options to improve vital registration. HSSP III will establish close collaboration with NISR and other relevant institutions to update catchment area populations annually. Multisectoral vital registration will contribute to the reduction of maternal and child death through audits.
5. Develop or enhance key resource management systems for the MOH:
   - Logistic Management Information System
   - Human Resource Planning / Management
   - Develop health insurance information system for CBHI
   - Expand the blood bank information system
   - Support lab information systems and enhance the East African Community's regional lab system
   - Track all resources of the health sector using the Resource Tracking Tool (RTT)
6. Provide a platform for remote access to specialized clinical services through the implementation of telemedicine software in selected hospitals.
7. Maintain support to e-learning.
8. Continuous training of teachers and students in using the e-learning platform and development of additional modules to support in-service training of different types of health workers.
9. Ensure better continuity of care through the use of Electronic Medical Records (EMR).
   - This includes the roll out of EMR to remaining health centers and the development of additional modules for health care as well as for use in facility and patient management.
10. Continue the implementation of key elements of Rwanda's Enterprise Architecture (EA) System to optimize inter-operability and integration of existing and planned data systems.
11. Develop and implement the following components of the EA:
    - National Registries (health facilities, providers and clients);
    - Shared Health Records, Terminology Services, Inter-operability Layers.
12. Establish an e-Health Policy framework.
13. Develop policies that will govern and support e-Health in the health sector for public and private institutions. These will focus initially on policies to promote data sharing, protect confidentiality of individual data and enhance hosting of health data.
14. Provide ICT infrastructure:
15. Reinforcement of the ICT Data Center and Internet node:
    - Provide reliable connectivity to the health facilities including virtual private networks to reduce connectivity costs and ensure confidentiality of data;
    - Provide and update IT hardware infrastructure at all levels.
16. Provide support and maintenance for sustainability of e-health/HMIS systems:
    - Maintain the IT help desk that provides the support services;
    - Maintain end-user license agreements where applicable;
    - Develop financing mechanisms to cover ICT related costs.
17. Provide capacity-building in all e-health systems:
    - Integrate system-specific training in the Rwandan e-Health Center of Excellence;
    - Ensure all e-health staff is adequately trained in new developments;
    - Ensure all users are trained to use the relevant systems.

5.9 Knowledge Management and Research

Table 34. Baseline and targets for Knowledge Management and Research

EXPECTED OUTPUTS / OUTCOMES	BASELINE 2011	TARGETS 2015	TARGETS 2018
% GOR budget dedicated to research	0.4	1	2

According to the recently developed Health Sector Research Policy (HSRP, February 2012), research in Rwanda is benefiting from strong political commitment within the MOH and in the country at large. In the MOH there is the department of medical education and research, responsible for policy development. There are several high-level research institutions with wide international networks, such as the Institute of HIV/AIDS, Disease Prevention and Control (IHDPC) within the Rwanda Biomedical Center (RBC), with its mission to promote treatment and research in HIV/AIDS, malaria, tuberculosis and other diseases; the School of Public Health; and the two academic hospitals (CHUK and CHUB). Within RBC, the Division of Medical Research has been established to coordinate the various research activities. There is also a TWG specifically for health sector research, next to other TWGs (Annex 7). Among MOH staff there is increasing interest in the development of evidence-based policy-related research.

The HSRP aims to fortify and expand upon the stated political commitment of the GOR in terms of guiding research in the health sector in Rwanda. It defines research as:

> Any activity intended to increase the stock of knowledge related to health that can be generalized and used to draw conclusions, devise new applications, and guide decision-making.

This definition includes the following kinds of research:

- *Basic scientific research* related to health, including investigation into fundamental scientific phenomena without a particular application in view;
- *Applied/operational research*, which is any generation of new knowledge with a specific practical aim;
- *Experimental research*, intended to develop new or significantly alter and improve materials, products, systems and services;
- *General-purpose data collection*, including population- or facility-based surveys (DHS, FSS, DHSS) and censuses.

The document defines the mission of Rwandan health research as:

> To promote research which improves the availability of high quality information and its effective use in decision-making at all in a manner that ultimately enables Rwanda to continuously improve the health status of its people.

The goals of the Rwanda Health Research Policy are to:

- Promote a culture of research in Rwanda;
- Ensure facilitation of health research in Rwanda;
- Reflect the guiding principles for health research in Rwanda;
- Coordinate research in health sector and protect the population.

5.9.1 Health management and research challenges

Several challenges are impeding a rapid expansion of research, such as:

1. Limited research capacity and limited numbers of qualified and experienced researchers;

2. Insufficient research infrastructure, including limited effective coordination mechanisms;
3. Insufficient funding[12] to carry out all necessary and desirable research.

There is a need to increase publication in international peer-reviewed journals. Importantly, a research agenda for the country has not (yet) been defined, resulting in insufficient priority setting on the issues that are most pressing to address to improve the health of all people in Rwanda.

Taking into account the existing structures for review of health research proposals, there is also a need to increase the number of committees that are able to review research proposals for both scientific and ethical quality. This will reduce the burden on existing committees, and will help to build and expand capacity for research at a variety of institutions. Scientific review committees and ethical review committees are needed at all institutions that have health research in their mandate. It is important to coordinate all these committees centrally, so as to prevent duplication of research efforts and to ensure that the committees are using identical standards and procedures.

9.9.2 Health management and research strategies and Interventions

Against this promising (but limited) background, HSSP III will focus on the following strategies:

1. **Build human resource capacity**: The MOH will hire more staff for data management and dissemination, and for operational research, and will strengthen research staff capacity (capacity-building, PhD).
2. **Strengthen coordination among research institutions**: The MOH will strengthen research coordination mechanisms and develop an agreed-upon and prioritized research agenda. The agenda will help both domestic and international investigators to guide design of new research proposals in a way that is aligned with the real research needs of the country. The MOH will also support efforts for publication of research results in international peer-reviewed journals.
3. **Initiate new research activities**: The MOH, in coordination with the staff of the various research institutions, will stimulate the development of national research proposals (Rwandans being the first authors) that will be submitted for funding to the relevant technical and ethical committees.
4. **Provide financial resources**: To the extent possible, the MOH will increase funding for relevant research initiatives that contribute to evidence-based policy development.

[12] The WHO recommends that Ministries of Health allocate two percent (2%) of their annual budgets for funding health research.

CHAPTER 6.
HSSP III COMPONENT 3: HEALTH SERVICE DELIVERY

Overall Objective of Component 3:

> Strengthen policies, resources and management mechanisms of health services delivery systems to ensure optimal performance of the health programs (output, input, and process levels)

The way in which health services are organized and managed has a significant effect on how well they serve the needs of the population. Service delivery can be defined as the way that inputs are combined to allow the delivery of a series of interventions or health actions. Service delivery is the chief function that the health system needs to perform (WHO World Health Report, 2000). The service delivery system is where the forces of supply and demand for health care meet, and the point at which all the resources and norms come together to be transformed into curative, preventive, promotive, and rehabilitative services.

Rwanda has established a strong foundation for service delivery. A developed network of public sector health facilities with defined service packages, guidelines, and protocols at each health facility level exists to meet the health needs of Rwanda's population. This network is structured as a pyramid with five referral hospitals at the apex followed by 40 district hospitals, of which 5 will soon be upgraded to provincial hospitals, and 450 health centers. The health centers, in turn, supervise health posts and community health workers, and other community-based associations for community outreach activities.

In addition, at the central level there are specialized programs and technical working groups to provide high-level policy and technical guidance coordinated by the Rwanda Biomedical Center to further enhance effectiveness of the existing health facility service-provision system. Ministry of Health structures and departments oversee and support the different service provision levels to ensure accountability and delivery of real-time, quality health care services.

6.1 The Community-Based Health Program

Table 35. Baseline and targets for Community-Based Health Program

EXPECTED OUTPUTS / OUTCOMES	BASELINE 2011	TARGETS 2015	TARGETS 2018
% CHW cooperatives functioning and financially sustainable	30%	80%	100%
# of districts providing NCD/AIDS/PALLIATIVE care in the community	0	25	30

The Community-Based Health Program is a crosscutting intervention that interfaces with most of service delivery (EPI, FP, nutrition, TB, malaria, mental health, CCM, C-BNP, EH), but also with many of the system strengthening interventions (finance, M&E, transport).

6.1.2 CBH Program achievements

The main achievements of the CBH Program over the last few years are:

- The package of services to be provided at the community level by community health workers (CHWs) has been clearly defined in the National Community Health Strategic Plan 2009–2012, which is currently being implemented.
- Most villages in Rwanda now have three CHWs each: two, called the "binome" (one man and one woman), are trained to provide care and treatment of the three main diseases (malaria, pneumonia and diarrhea), and a third CHW is responsible for mother and child/newborn health,

making sure that women go to the HC for ANC/other health care services and delivery in time. There is also a "social worker" trained on prevention, nutrition, and environmental health that works at the village level but is not part of the CHW team. There are presently 44,511 CHWs providing first-line care, prevention, and treatment who are closely linked with the formal service delivery system. Other community interventions implemented by the CHWs are the community-based provision of family planning contraceptives (C-FP), Community-IMCI (=CCM) and Community-Based Nutrition Program (CBNP). In addition, this year, CHWs will start providing basic mental health services including orientation of mental health cases to HF.

- The Community Performance-Based Financing (C-PBF) addresses the compensation of these CHWs through contribution of money to a total of 445 cooperatives in which they participate as members. Their technical performance is evaluated every quarter to determine their income in C-PBF. Provision of trainings and user kits to CHWs also motivate them to continue their community services.
- The cost of health services for the referrals made by the CHWs (for patients that participate in the mutuelles) is paid for at the level of the HC, the DH, or even at the level of the referral hospital. This stepwise referral system ensures that patients do not easily "bypass" the system, and that those who bypass the existing referral system pay the bill themselves.
- A Community Health Information System (including both HIV/AIDS and general health-related data) that combines all the information required to supervise CHWs' work is being rolled out at the national level. All CHWs have been given mobile phones to enable them transmit data/information on health emergencies or seek advice for effective service provision. The "RapidSMS and *mUbuzima* " project uses the mobile phones for real-time reporting on all community health data and particularly on new pregnancy, birth, maternal death, and other indicators related to maternal and child health from community to the central level. The system has the potential to include more indicators, and it could serve as important tools for effective community health program monitoring.

6.1.2 CBH Program challenges

Challenges to the community health program relate to coordination (e.g., coordination of the many training programs), supervision, and the financial management of the PBF system.

- Sustainability of the Community Health Program is highly dependent on the functioning of the cooperatives. The income-generating activities of these cooperatives could eventually compete with the CHWs health activities. The management of the cooperatives and the involvement of the CHWs need to be well coordinated.
- The CHWs require proper skills to deliver their community curative care. Their skills need to be upgraded continuously.
- There is a real risk that the three CHWs per village will become overburdened with all their tasks. The Community Health desk is therefore planning to expand the CHW team with two additional members who will share existing and upcoming tasks and hence reduce workload.
- The technical supervisor (nurse at the HC) and/or the controller of the cooperative sometimes lack adequate transport mechanisms to supervise and support CHWs.
- The server hosting the database breaks down and loss of telephones takes a long time to replace.
- There can be delays in transferring of PBF to cooperatives, which demotivates the CHWs.
- There can be mismanagement of cooperatives' funds by committees or other stakeholders, like community health supervisors at the health center level.
- There can be inadequate follow-up on the part of supervisors, and this leads to CHWs dividing funds among themselves instead of investing.
- There sometimes is a lack of goodwill to assist in development of cooperatives by some local leaders.

6.1.3 CBH Program strategies and interventions

The main strategic priority interventions to address the CBH Program challenges include:

1. Focus on capacity-building of the health staff involved in the community health program at central, district, and decentralized levels through:
   - Program design, implementation, M&E, and coordination of CHW activities at all levels;
   - Developing curriculum and training plan for CHWs to provide quality community health services in the areas of Nutrition, FP, CCM, MNH and in disease prevention and care (NCD/AIDS/PALLIATIVE care).and Training of Trainers (ToT) of HC staff for training and supportive supervision of CHWs;
   - Early childhood development and family approaches.
2. Strengthen the coordination of community health services at the local and national levels:
   - Mobilize communities for their full participation in health care provision through dialogue with religious leaders on the use of contraceptive methods, involvement of husbands/partners in birth control and FP, bringing pregnant women to the HC for antenatal consultations and delivery, home visits to ensure adherence and improve IEC/BCC of healthy practices, personal, and environmental hygiene;
   - Reinforce integration of holistic community services to provide comprehensive and coordinated community health interventions;
   - Reinforce sustainable community drug supply chain and storage;
   - Advocate/mobilize resources to support implementation of the community health programs;
   - Support legal registration of CHW cooperatives;
   - Train cooperative members on financial management and accountability;
   - Ensure quarterly payment through C-PBF, based on data reported by CHWs;
   - Build partnerships between local leaders, government services, and development partners operating in the area and civil society and private sector organizations for a joint effort to improve community health at the local and national levels;
   - Develop a monitoring system that will capture community health activities and provide real-time feedback and guidance to targeted formative supervisions and audits.
3. Regarding the RapidSMS system:
   - Recruit local RapidSMS system facilitators and managers to enable sustainable application, regular data reviews, and generation of reliable information;
   - Recruit RapidSMS system administrators to upgrade and maintain the system for its sustainability and continuous improvement;
   - Hands-on application of RapidSMS and *mUbuzima* to (1) better inform providers and decision makers, (2) generate quick evidence-based actions and decisions, and (3) usefulness and sustainability of RapidSMS system;
   - RapidSMS and *mUbuzima* refresher training to ensure efficient use mobile phones to submit real-time quality data.
4. Sustainability of the CHP is highly dependent on the functioning of the cooperatives.
   - Evaluation of CHWs cooperatives functioning and financial sustainability;
   - The CH desk will monitor the situation and eventually develop a strategy to address any shortcomings.

6.2 District Health Services (HP, HC, and DH) and Management (DHU)

Table 36. Baseline and targets for District Health Services

EXPECTED OUTPUTS / OUTCOMES	BASELINE 2011	TARGETS 2015	TARGETS 2018
% HF with electricity / water	56 / 66	80 / 80	95/98
% Functional DHMT in all districts (based on TOR)	NA	100	100
# of health Facilities (DH, RH) under accreditation and on trach as planned	0	13	45
% HF using clinical protocols	0	80	100

The health infrastructure in Rwanda is a three-tiered system in the public sector composed of a large network of health facilities. In this document, the term *health facility* (HF) refers to health institutions offering health care services (not including dispensaries, who report through health centers). As of March 2012, there were 495 nonprivate health facilities in Rwanda (see Table 2). Public health facilities represent 64 percent of the total number of health facilities in Rwanda; of the remaining HFs, 28 percent are run by faith-based organizations (FBOs), referred to as *"Agréé"*, 1 percent are parastatal; an estimated 5 percent are private; and 2 percent are run by communities.

6.2.1 District Health Services status and accomplishments

The initiation and implementation of community services has taken the health service closer to the community. This is further enhanced by bringing the qualified health staff from district hospitals to health centers at least once a month on pre-arranged and notified visits. The establishment of a quasi-universal (89% coverage) system of Community-Based Health Insurance has largely contributed to the improved accessibility to health care services.

For each level of health facility, a standard package of services has been established ensuring the availability of minimum requirement of human resources, equipment, drugs, and commodities. The procurement and distribution system has been decentralized through a network of district pharmacies to bring the supply of medical products closer to the service delivery level. To motivate health care providers to offer quality services to the population, a Performance-Based Financing system has been put in place, and local leaders are accountable to fulfill their commitments through *Imihigo* contracts.

The MOH has produced various protocols, guidelines, and standards for quality health services. Notable examples are the financial management procedures manual for HF, the standard operating procedures for health management information systems, and the district health system guidelines, which clarify the organizational structure for district health services. But some documents need updating (for example, new guidelines for provincial or regional hospitals as an intermediary referral level between district hospitals and tertiary hospitals, and as training centers).

A District Health Unit (DHU) and DHMT have recently been put in place to coordinate the different actors of the health sector at the decentralized level (DH, HC, NGOs, DPs, and community-based interventions), to clarify and allocate the tasks of the different actors, and ensure an adequate integration of the multidimensional determinants of the health status of the population. (An organization chart of the DHMT and DHU appears in Annex 3.)

Another area of focus is ensuring that all health facilities have access to electricity and water during HSSP III. Furthermore, a curriculum for biomedical technicians has been developed (training has already started) to reduce the skills gap in the area of equipment maintenance. Efforts are ongoing to strengthen the mobility of the technicians from DHs to health centers.

6.2.2 District Health Services challenges

Even with the impressive achievements described above, there are areas that require further work. These challenges include:

1. HR management
   - Human resources are insufficient in quality and quantity.
   - There is high turnover of qualified staff and of local authorities.
   - There is an inadequate number of biomedical engineers (for the maintenance unit) and limited skills among the biomedical technicians.
2. Infrastructure and equipment
   - It still takes more than an hour for 27 percent of the population to reach the closest health facility (<5km). Around 51 out of 416 sectors (12%) are still without a HC.
   - The budget for decentralized infrastructures is insufficient, causing poor quality building materials.
   - Fifteen percent of health centers still have no electric power.
   - There is a disparity of communication resources (Internet).
   - The minimum package of services provided at different levels has been expanded from time to time without a concomitant infrastructural expansion.
   - There is inadequate dissemination of protocols and guidelines.
   - Detailed norms and standards for infrastructure and equipment, including maintenance, are lacking.
   - Many districts don't have appropriate infrastructure for their pharmacies.
3. Equipment
   - Procurement of medical equipment is not adequately standardized, which causes disparate medical equipment brands within hospitals.
   - Inadequate funding for equipment maintenance at facility levels is exacerbated by the lack of a separate budget line for this activity.
   - Specialized training on equipment that requires special skills (i.e., radiographic units) is lacking.
4. Regarding DHU and DHMT coordination with all actors, there is a lack of:
   - Supportive supervision from the district;
   - Health coordination at the operational level (district);
   - Collaboration with the private sector.

6.2.3 District Health Services strategies and interventions

To respond to these and other challenges in the District Health Services provision and management, a number of priority strategies and key interventions have been identified in the following areas:

1. HR management
   - Increase number of clinical and support staff
   - Reinforce implementation of retention strategies from the central level to the district level
   - Strengthen performance management system (CPD)
2. Infrastructure and equipment
   - Increase the number of health facilities and renovate the existing ones
   - Provide the inventory of the existing equipment and conduct need assessment
   - Development of national quality control system for the main equipment
   - Provide standardized equipment and strengthen their maintenance system
   - Ensure extension of infrastructure (HCs)
   - Recruit and train biomedical engineers and biomedical technical staff.
   - Support local educational institute at Kigali Institute of Science and Technology and KHI to develop and improve a specific curricula for biomedical technicians.

- Construct maintenance workshops at the provincial level.
- Create a decentralized procurement and maintenance unit in each DH.
- Train hospital managers.
- Acquire tools and equipment needed for maintenance.

3. Drugs and medical supply chain
   - Create a decentralized procurement office in each DH (see infrastructure/equipment strategy above).
4. Transport (supervision and supplies)
   - Provide sufficient means of transport
   - Maintain existing means of transport
5. Data collection and ICT tools
   - Harmonize data collection tools and provide electronic data management system
   - Assure data quality system (training, monitoring and evaluation)
   - Include data from private practitioners.
6. DHU and DHMT coordination with all actors
   - Put in place the DHU and DHMT team to coordinate health services delivery
   - Strengthen leadership in district hospitals.
   - Strengthen integration of health system at all levels
   - Define roles / resp. for district coordination

6.3 Provincial and National Hospitals (including specialized hospitals)

Table 37. Baseline and targets for Provincial and National Hospitals

EXPECTED OUTPUTS / OUTCOMES	BASELINE 2011	TARGETS 2015	TARGETS 2018
# Nat ref hospitals accredited	1	4	5
# Prov Hospitals eligible for accreditation (>70%)	0	5	5

6.3.1 Current status of provincial and national hospitals

Since 2005, HSSP I and II have emphasized primary health care, establishing a health system that ensures geographic and financial access to the Rwandan population. A strong network of health centers provides most people with proximity services, and the Community-Based Health Insurance System (CBHI, Mutuelles de santé) has permitted a steady increase in utilization of primary health care services. The referral system, permitting patients to be transferred from health centers to district hospitals and, if necessary, to referral hospitals, has also made great progress and has increased the demand for tertiary care services.

Another important factor increasing the demand for tertiary care is the epidemiologic transition currently taking place in Rwanda: with the rapid progress made during the last decade in the prevention and control of infectious diseases (malaria, HIV, TB), the life expectancy of the Rwandan population is increasing, and the relative burden of disease associated with noncommunicable diseases (NCDs) is also increasing. This trend will undoubtedly continue with the improvement of the main population health indicators and present new challenges to the health system in terms of specialized care for management of these NCDs.

Two other elements contributing to the current need for high quality specialized health services are:

1. The rapidly increasing flow of tourists from highly developed countries who require first class, specialized services in case of need during their stay in Rwanda;
2. The need to provide in-country specialized medical services to decrease the number of Rwandan residents who need to be evacuated to other countries for medical treatment.

At the present time, Rwanda has five referral hospitals whose mission is to provide tertiary care to the population: King Faisal Hospital (KFH), Rwanda Military Hospital, CHUK, CHUB, and Ndera Hospital for psychiatric care. The total number of medical specialists in Rwanda is still very low (about 100 among a total of 661 medical doctors), and they are unable to respond to the increasing demand, both in terms of numbers and because of insufficient infrastructure and equipment. King Faisal Hospital is a private hospital that receives those patients who cannot be properly treated in the other two referral hospitals. It has recently been formally accredited by COHSASA (South Africa) and therefore is considered at the top of clinical care in the country.

With a limited number of specialists and many tasks in patient care, the staff in the two academic hospitals manage to train doctors and at the same time specialists. For example CHUK (500 beds and some 40 specialists) is training 50 graduated doctors to become “general specialists.”

Finally, a few years ago both CHUK and CHUB initiated the process to receive accreditation from COHSASA. CHUK is now at 55 percent and CHUB around 35 percent to get accreditation. One of the constraints was the absence of qualified (and expensive) facilitation. This has now been solved.

6.3.2 Challenges facing referral hospitals

Referral hospitals are facing important challenges. They are receiving all referrals from the 40 district hospitals and don’t have sufficient resources (neither human resources nor infrastructures) to respond to this high demand. They don’t have enough specialists (quantity and quality) within these broad specializations to provide the quality of care they aim for. For example, CHUK does not have pathologists, neurologists, or oncologists, and has only a limited number of specialized surgeons (8), gynecologists (9), and anesthesiologists (3).

The ambition of Rwanda in the field of tertiary health care is to provide high-quality specialized care in all medical specialties to meet the national need and, in certain cases, that of neighboring countries. For that purpose, Rwanda is planning to strengthen its network of referral hospitals, both in numbers and in scope and quality of services, and also to establish centers of excellence for management of certain targeted pathologies. These referral hospitals and specialized treatment centers would also play an important role for the education and training of medical specialists and for advanced clinical research.

During the six years of the HSSP III implementation, the main emphasis in the development of tertiary health care services will be the upgrading of five selected district hospitals to become provincial hospitals. Two other referral hospitals will be created, one in the Eastern Province and another in the Western Province so that the whole country will be covered by referral hospitals.

These hospitals will be upgraded according to their present situation, improving their infrastructures and equipment—particularly laboratory and diagnostic technology such as radiology—so that they can play the role of referral hospitals for their respective province. Specialized treatment technology and medications will be made available through the national procurement system. In terms of recruitment of additional human resources, focus will be put on essential specialties: internal medicine, OB/GYN, pediatrics, surgery, anesthesia, psychiatry, oncology, cardiology, pneumology, traumatology, and orthopedics. Quality of services in the provincial hospitals will be monitored and assessed through the accreditation system; the objective is that all five provincial hospitals will be eligible for accreditation by the end of HSSP III.

The referral system will go from the district hospitals to the provincial hospitals and, if necessary, to the national referral hospitals. This system aims at decreasing the burden of referrals coming from the district hospitals that are presently putting excessive pressure on the national referral hospitals. The provincial hospitals will also play a role of supervision and mentoring to the district hospitals through regular formative supervision visits. This will improve the quality of services at the district hospital level and help in strengthening the referral mechanism from district to provincial hospitals.

Other important projects for improvement of the tertiary care network during the HSSP III implementation period are the establishment of a regional reference hospital and of centers of excellence for selected pathologies, such as the Oncology Center that is already in place at Butaro. These projects will be financially supported by public-private partnerships, with substantial funding coming from foreign investors. For the regional reference hospital, it could be established either by upgrading King Faisal Hospital, which is at the present time the top national institutions for clinical care, or by building a completely new hospital. There are two projects currently under negotiations, respectively with Indian (Apollo) and Japanese (Togoshukai) investors.

Enriching the scope of subspecialty care being offered in the referral hospitals will continue after HSSP III period, depending on the priorities and financial opportunities that will arise in the coming years.

The financial resources needed for recruitment of additional human resources and for upgrading the infrastructure and equipment of the 5 provincial hospitals and two new referral hospitals have been included in the projections for the costing of HSSP III.

About USD $20 million have been allocated for improving infrastructure of district hospitals (whether building new ones or upgrading existing ones). The estimated cost for building a new district hospital is around USD $10 million, so that the funds needed for upgrading the future provincial hospitals are available.

As mentioned above, private investments will be mobilized for the establishment of the regional reference hospital, and religious institutions will be encouraged to upgrade health facilities managed by faith-based organizations.

A tertiary care strategic plan will be developed to provide more details on the specific investments that will have to be allocated to different institutions for the strengthening of these new referral hospitals as well as the existing ones.

6.3.3 Provincial and national hospital strategies

The following strategic priorities are identified (log frame), with the associated key interventions.

1. Strengthen leadership in hospital management
   - Build capacity of health managers (senior and middle level)
2. Provide quality services and customer care
   - Expand clinical training opportunities; increase number of clinical subspecialties in training schools
   - Put in place mechanisms to implement the customer care norms and standards guidelines in health facilities
   - Put in place complaint management strategies
   - Conduct customer care satisfaction surveys
   - Organize mentorship for this level
   - Implement staff retention schemes
3. Improve financial and procurement management
   - Strengthen provincial/referral hospitals medicines and medical supply chain
   - Advocate revision of procurement law regarding medicines and medical supply
   - Strengthen hospital accreditation process
   - Strengthen private and public reimbursement health insurances schemes (bill recovery software)
   - Increase GOR budget to referral hospitals
   - Complete tariffs review to reflect the actual cost of services
4. Ensure functional infrastructure and equipment
   - Renovate and upgrade referral hospitals in accordance with set standards

- Procure equipment, avail biomedical engineers

5. Provide education and training, and undertake research
   - Strengthen implementation of HRH Policy.
   - Strengthen postgraduate and specialist training, and promote clinical research
6. Provide technical support to district hospitals
   - Develop continuous supervision plan and clinical mentorship to DH.

6.4 Pre-Hospital Care Services and Referrals

Table 38. Baseline and targets for the Referral System

EXPECTED OUTPUTS / OUTCOMES	BASELINE 2011	TARGETS 2015	TARGETS 2018
# Ground ambulances/district	5/DH catchment	5/DH catchment	6/DH catchment
% HF with effective ambulance maintenance plans	40%	80%	100%

The country has established a well-functioning referral and counter referral system, starting from the community to health centers, and from health centers to hospitals. CHWs have been trained to treat common conditions and identify cases that need to be taken to the health post or health center. Community-level “Smart SMS” by CHWs has helped to link the demand (community emergencies) with supply side (the health centers and ambulatory services). A training program is being developed to ensure that all health workers are skilled in pre-hospital (emergency) care during their pre-service training.

From the health center, patients with pathologies that cannot be handled at the primary care level are referred to the district hospital. This geographic access is further enhanced through the Pre-Hospital Care Services (PHCS, also known as SAMU, for Service d’Aide Médicale d’Urgence). This service is now fully operational in all districts with 168 ambulances (five ambulances per district as per standard, all fitted with a tracking system) and a call center managing the flow. SAMU staff, together with DH staff working in emergency departments, underwent periodic advanced life-support trainings in various emergency fields.

6.4.1 Referral systems strategy to upgrade five hospitals

According to the MOH referral systems strategy, five district hospitals will be upgraded to the provincial level to diminish the burden placed on referral hospitals by the high demand from district hospitals. At all levels, the transfer to a higher-level institution has to be approved by the competent health staff of the referring health facility.

This referral system is reinforced by the non-reimbursement of costs by the CBHI system, if patients do not respect the rules. The referral hospitals therefore do receive mainly serious (referred) cases that cannot be treated elsewhere. This triage system appears effective, even in the capital, Kigali.

6.4.2 Current challenges to the referral system and SAMU

The following challenges are the main ones limiting the functioning of the referral system as a whole and, more specifically, of the Pre-Hospital Care Services:

- Inadequate attention to ambulance maintenance by district hospitals;
- Insufficient number of ambulances, and some are not well equipped, especially in DHs;
- Concentration of policy, regulation, control, and operational functions in the maintenance unit; lack of a legal framework for SAMU;
- Several medical emergencies do not reach health facilities on time;
- Poor equipment and need of upgrading the 912 call center.;
- Insufficient experienced staff in emergency medicine policies and strategies development;

- Lack of sufficiently trained staff for SAMU and emergency care providers;
- Lack of sufficient anesthesia technicians;
- Lack of emergency teams in provinces outside Kigali;
- Lack of infrastructure for SAMU services: drug and equipment storage, training room.

6.4.3 Strategies and interventions to strengthen emergency medical services

The following priority strategies and key interventions will strengthen emergency medical services.

1. Leadership and governance
   - Define Pre-Hospital Care Services National Policy and legal framework;
   - Define regulation framework (related PHCS policies, procedures, and guidelines);
   - Establish an operational framework (implementation, M&E);
   - Update the guidelines in order to strengthen the referral system;
   - Improve compliance on referral system guidelines;
2. Quality Pre-Hospital Care Services delivery and customer care:
   - Increase number of skilled staff (regulation and operational);
   - Recruit nurses and anesthetist technicians;
   - Recruit communication operators;
   - Improve the school curriculum for pre-service training;
   - Strengthen capacity-building by trainings (clinical and supporting staff);
   - Emergency simulation exercises with different emergency providers;
   - Strengthen SAMU staff skills through local, regional, and international courses.
3. Infrastructures and equipment:
   - Construct modern emergency medical services call center and SAMU HQ;
   - Acquire new communication equipment to upgrade 912 call center;
   - Make available sufficient pre-hospital and emergency medicines and equipment;
   - Put in place standards for pre-hospital equipment, with maintenance plan;
   - Install four offices of PHCS (one in each province).
4. Strengthening medic transport:
   - Review ground ambulance distribution/HF criteria (rational deployment);
   - Review ambulance deployment plan/management (with emphasis on HCs);
   - Purchase new ambulances;
   - Set up air ambulance;
   - Strengthen deployment of ambulance boats in Kivu Lake;
   - Review PHC services tariffs.
5. Reimbursement procedures:
   - Put in place appropriate reimbursement mechanism for both public and private entities.
6. Procurement process:
   - Review procurement process related to PHCS.

CHAPTER 7.
HSSP III COMPONENT 4: GOVERNANCE

Overall Objective of Component 3:

> Strengthen the Health Sector Governance mechanisms (decentralization, partnership, aid effectiveness, and financial management) to ensure optimal performance of the health sub-programs.

Governance refers to "strategic policy frameworks that are combined with effective oversight, coalition building, regulation, attention to system design, and accountability" and "the provision of appropriate regulations and incentives." Related to this definition is the question: What are the main objectives of governance in the health sector? WHO distinguishes five objectives that are discussed in different sections of this document, as follows:

1. Regulation and legal frameworks: discussed in Section 7.1;
2. Standards and quality assurance (including M&E): presented in Chapters 5 and 8;
3. Internal and external coordination: presented in this chapter;
4. Voice and participation: presented in several places under the *Imihigo* system;
5. Efficiency and effectiveness: discussed under Health Financing in section 3.3.6.

Closely related to Governance is the issue of decentralization, which is discussed in Section 7.1.

7.1 Regulatory Framework and Decentralization

The important governance functions related to the health sector are the legal framework, decentralization, and coordination with the various stakeholders.

Table 39. Baseline and targets in Regulation and Decentralization

TOPIC	EXPECTED OUTPUTS / OUTCOMES	BASELINE 2011	TARGETS 2015	TARGETS 2018
4.1. Regulatory framework, decentralization and Intersectoral activities	% District that hold at least two effective DHMT meetings with stakeholders (comprehensive district annual planning, budgeting, reporting timely)	0	90%	96%
	% Districts having quarterly health commission meetings.	16%	84%	96%
	% GOR funds disbursed to districts (grants: national health budget plus district transfers)	31.4%	45%	60%

7.1.1 Governance structures and stakeholders

The situation analysis distinguishes five different sets of actors. Together they are the stakeholders involved in the governance of the health sector:

1. State actors in the public sector (MOH, other ministries, and local governments);
2. Health providers (public sector, private sector, and NGOs, CSOs, FBOs)
3. Civil society and professional bodies;
4. Beneficiaries and clients;

5. Development partners (bilateral and multilateral) and international NGOs, such as MSH, the Clinton Health Access Initiative (CHAI), and others (mainly involved in supporting national programs).

Governance structures in the health sector distinguish between (1) central and local administrative structures with constituency representative functions and (2) implementing agencies, responsible for providing health services to the population. The various levels of the health care pyramid are thus governed by the formal structures shown in Table 40.

Table 40. Governance structures in the health sector

LEVELS	ADMINISTRATIVE STRUCTURES	IMPLEMENTING AGENCIES
National	Parliament / Government	Ministry of Health
Province	Governors	Provincial Hospital (not yet in place)
District	District Councils / Executive Committee / District Health Unit	District Hospital / Hospital Board
Sector / *Umurenge*	Elected councils / Executive secretary and staff	Health Center / Health Center Committee
Cell / *Akagari*	Elected councils / Executive secretary and staff	Health Post / Community Health Worker
Village / *Umudugudu*	Village council / Village coordinator and staff	CHW

Performance contracts.
In addition, staff at all levels sign performance contracts with their supervisor / responsible person (Imihigo system). These performance contracts are formulated in terms of outcomes and outputs and mention in detail what the person is expected to achieve. In this way, these contracts are a planning, M&E, and accountability tool. For example, the thirty district mayors not only sign an annual performance contract with the president, but the deliverables mentioned in that contract (including health-related outputs coming from the sectors) are checked and verified before a decision is made about signing another contract for the next year. The district mayors sign performance contracts with each of the sectors belonging to their districts, thereby establishing a chain to the lower levels.

Similarly, the minister of health signs a performance contract with the president of Rwanda once a year in which baselines and specific targets are included for the various priorities of the sector. The outcomes, outputs, and indicators included in that contract are derived from EDPRS and other GOR priorities.

Operational collaboration.
As shown in Annex 2, the establishment of the Rwanda Biomedical Center has brought together under one roof a variety of institutions, most importantly (1) the Department of HIV/AIDS, Disease Prevention and Control, (2) the Department of Medical Production and Procurement, (3) the Medical Maintenance Division, (4) King Faisal Hospital Department, (5) the Rwanda University of Medicine and Health School, (6) Rwanda Health Communication Center, and (7) the Division of Medical Research. Together, these institutions are governed by a director general supported by a Board of Directors. An important consequence of this restructuring is that the Rwanda Medical Faculty and other training institutions that provide pre-service training to medical staff (nurses, midwives, lab technicians, etc.) have been brought under the responsibility of the MOH. However, this might change in the not too distant future.

While the national and international NGOs, CSOs, and FBOs are internally organized and have regular technical dialogue with the MOH, the operational collaboration with the private-for-profit sector, the civil society, and the professional bodies remains to be improved. In order to bring all these actors actively into the sector, HSSP III will need to develop strategies, interventions (including indicators) of private sector, civil society, and professional bodies engagement.

7.1.2 Legal and regulatory framework, legislation

According to the Rwandan Constitution, "Public administration shall be decentralized in accordance with the provisions of the Law. Decentralized entities shall fall under the Ministry in charge of local government".

The Ministry of Health holds responsibility for central functions such as policy and priority setting, procurement, financial management, budget execution, and audits. However, within the Rwandan system of decentralized governance, elements of devolution, delegation, and deconcentration are combined as a means of establishing and empowering decentralized administration.[13]

Improving accountability and transparency is an important goal, and it is to be achieved by making local leaders directly accountable to the communities they serve, as well as to the president, through the *Imihigo* performance contracts. The system aims to increase the responsiveness of public administration by transferring planning, financing, and control of services to the point closest to where they are delivered.

Available national (and multisectoral) policies and strategies are listed in Annex 6. All the sector policies will be updated and harmonized with HSSP III, which itself will be submitted to Parliament for approval.

The District Council is the sole level of local government that has legal standing with full administrative, political, and financial authority; all other levels are territorial units of and accountable to the district, including the health implementing agencies.

7.1.3 Decentralization

As noted above, decentralization is enshrined in the Constitution of Rwanda. Article 167 provides for decentralized entities and reiterates that they are the foundations of community development. Decentralization has been a key policy of the Government of Rwanda since 2000, when the National Decentralization Policy was adopted with the overall objectives of (1) ensuring equitable political, economic, and social development throughout the country and (2) making the district the center of the development trajectory necessary to reduce poverty.

The National Decentralization Policy was approved in 2001. It defined three phases of implementation, as follows:

1. From 2001 to 2005, a first phase was implemented that aimed at establishing democratically elected and community development structures at the local government level. The focus was to put in place the necessary legal, institutional, and policy reforms to institutionalize decentralization in Rwanda.
2. In the second phase, from 2005 to 2010, the focus was on carrying out a territorial restructuring, which considerably reduced the number of administrative entities (from 11 to 4 provinces plus Kigali City, 106 to 30 districts, 1,545 to 416 sectors, and 9,165 to 2,148 cells) and aimed at consolidating progress on national priorities.
3. For the third phase, the Ministry of Local Government has developed a decentralization implementation plan for 2011–2015. The MOH, together with relevant DPs, translated this plan for the health sector and developed district health system reorganization guidelines (May 2011). In May 2011 the GOR approved a revised Financial and Fiscal Decentralization Policy. In the light of these developments, the MOH, together with MINECOFIN and under the leadership of MINALOC, will update its guidelines and include resource allocation, planning, budgeting, budget execution, financial reporting, and fiduciary issues

Decentralization and strengthening of local governance is also reflected in the EDPRS, the Vision 2020, and the Government of Rwanda program for 2010–2017.

[13] Ministry of Local Government, January 2011. Decentralization Implementation Plan (DIP) 2011–2015.

In summary, decentralization in the Rwandan health sector means:

- Local governments (DHUs) are the focal point for delivery of and accountability for health services, being responsible for all their operations.
- Health personnel, infrastructure, equipment, and financial resources are decentralized to the district level. The MOH remains responsible for policy development, technical guidance (protocols, tools) and supervision, while district councils (DHUs) control the program implementation process in the 30 districts.
- In the 2011–2012 fiscal year, considerably more funds were channeled directly to the districts due to reduction in interagency transfers.
- Sector-specific solutions (silos) must be avoided.

In this changing context, HSSP III will initiate the following activities in support of decentralization:

1. Develop a *health sector decentralization roadmap* (Strategic Plan) as part of HSSP III that is aligned to the overall GOR decentralization policies and strategies in consultation of MINECOFIN, MINALOC, and the Ministry of Public Service, Skills Development and Labor (MIFOTRA).
2. *Update decentralization guidelines* for effective implementation of devolved service delivery;
3. Based on DHMT guidelines, *clarify roles/responsibilities* of the MOH and district administration / DHU and between DHU and the service providing units (DH, HC, pharmacies, and CBHI). Inform all stakeholders to ensure that they understand the legal and regulatory framework.
4. *Develop a relevant and strong capacity-building program for all district managers* (DHU, DHMT, and DH) in planning and financial management. This should include team-building measures and on-the-job trainings. An institutional capacity program will be developed for the districts to address current weaknesses in the PFM and fiduciary systems.
5. *Establish a health commission* under the Joint Action Development Forum (JADF) according to the provisions of the ministerial order determining the responsibilities, organization, and functioning of Joint Action Forum at district and sector levels. This should not only promote the implementation of SWAp, but also advance the aid effectiveness (harmonization and alignment) and accountability agenda at district level.

7.1.4 Regional integration

The GOR has adopted an active policy of integrating its various socioeconomic activities in the integration of the countries in the East African Community. For the health sector, examples are the procurement of medicines and medical / laboratory equipment, where joining forces will allow economies of scale and hence better prices for the products the country needs.

Regional integration may also include the active sharing of information and training opportunities in laboratory techniques, sector management, and medical education. Relevant platforms for exchange such as conferences in the EAC region can be envisaged.

These activities will continue and expand under HSSP III where opportunities arise (e.g., collaboration with universities in Kenya and Uganda).

7.2 Sector Organization and Management, Coordination and SWAp

This section discusses the organization and management of the sector, in particular the various partnerships and coordination modalities, SWAp, and aid effectiveness and technical assistance.

Table 41. Baseline and targets in Sector Management

TOPIC	EXPECTED OUTPUTS / OUTCOMES	BASELINE 2011	TARGETS 2015	TARGETS 2018
4.2A Partnerships and coordination (management)	% DPs, private sector, civil society, professional bodies participate in HSWG meetings	70	86	96
	% Stakeholders participating in district health planning	0	85	95
4.2B SWAp, Aid Effectiveness (H&A)	% On-budget funds disbursed as % of total DP funds	44	50	55
	% DP providing resource information	95	100	100

The institutional structure of the health sector has already been presented in Chapter 2, while the governance structures and stakeholders have been summarized in Chapter 7. An overview of the main strategies with their responsible structures is given in Figure 4.

Figure 4. Strategies and structures by level of responsibility

Strategies	Structures
1. National Level	
Vision 20/20, EDPRS	DP Coordination Group every quarter
Sector Strategies (HSSP III)	MOH/HSWG and other Ministries
2. Health Sector	
HSSP III Program and System Areas (policies and strategies)	HSWG (every quarter) Technical Working Group (7)
	Specific Technical Working Groups and subgroups
3. District Level and Below	
Each of the 30 districts and 416 Sectors have 5-year development plans and annual sector-specific plans	Joint Action Development Forum (Health Commission)

At the national level, various MOH programs and institutions provide technical oversight of the implementers, such as the (1) the MCH Unit, (2) the Malaria Division, (3) the TB Division, (4) the HIV/AIDS Division, and (5) the National Reference Laboratory, all minus the MCH unit under the umbrella of the Rwanda Biomedical Center. Each one exercises their oversight through the (1) development of guidelines (protocols, standards, and tools), (2) the analysis of health data relevant to its disease or service, and (3) the training and capacity-building of health workers.

Organograms of the MOH and RBC are provided in Annex 1 and Annex 2, respectively.

7.2.1 Sector coordination and partnership

Internal coordination within the MOH

As mentioned before, the MOH provides oversight and direction to ensure that the sector achieves its stated goals and objectives. Through its programs and institutions (departments, units, desks, and sub-desks), the MOH provides technical oversight and guidance (policy, norms, standards, guidelines) to the implementers at the various levels. Within the MOH, coordination between the programs and institutions

takes place through the weekly Senior Management Meetings (SMM, chaired by the minister of health) and through many (technical) ad hoc meetings between technical departments, units, and cells. It is especially at the level of the SMM that the synergy, coordination, and priorities of the different structures (programs, RBC, training institutions, departments) are established to deliver on HSSP objectives.

Coordination with other stakeholders

Regarding stakeholders outside the MOH, the following structures ensure the involvement of all parties:

1. **The Health Sector Working Group (HSWG).** Under the memorandum of understanding (2007) for the Rwandan SWAp, the HSWG comprises representatives of the MOH, development partners, and civil society. It meets every quarter under the leadership of the Permanent Secretary. According to the TOR of the HSWG (September 2010), its goals are:
   - Improve coordination of activities and harmonization of procedures of both GOR and DPs, in order to increase effectiveness and efficiency of aid in the health sector;
   - Ensure better alignment of DPs behind the Health Sector Strategic Plan (HSSP), with an enshrined principle of mutual accountability.

2. **Technical working groups (TWGs)**. TWGs are operational entities where technical and policy issues are discussed by staff of the MOH with relevant and interested representatives of development partners, NGOs, FBOs, and CSOs. TWGs operate under the authority of the HSWG. People participate in their technical capacity and do not represent their (funding) agencies.

   The objective of the TWGs is to support and advise the MOH in the implementation of subsector strategies and policies and develop relevant guidelines and tools to be used by the implementing agencies. The total number of TWGs and subgroups are consolidated to around 23, organized under seven main working groups[14] (details are in Annex 7).

3. **Single Project Implementation Unit**. The establishment of a Single Project Implementation Unit (SPIU), since March 2011) aims at reducing the number of separate projects and will eventually reduce the administrative burden of the MOH in managing and reporting on the various projects with off-budget resources. The creation of the SPIU is particularly relevant as only 4.5 percent of aid to the sector qualifies as program-based approach. Moreover, the health sector is challenged with a large number of small projects as well as the inability of the sector's largest DPs to use government systems (see below).

Against this background, important initiatives to be undertaken by the MOH will include:

- Actively building capacity of the NGO, CSO, FBO, and private sector to participate in the various coordination structures. Invite the regulatory bodies and professional associations (doctors, nurses, etc.) to become part of these coordinating bodies.
- HSWG strengthening its coordination, guidance, and supervision of the work of the TWGs.
- Strengthening the Joint Action Development Forum at the district level for effective coordination and accountability purposes. Bring the private sector into the JADF. Strengthen the health commissions of the JADF to provide feedback to the JADF General Assembly.

[14] These working groups are (1) MCH/FP (including nutrition and community health), (2) prevention of diseases (including BCC, environmental health), (3) treatment and control of diseases, (4) health system strengthening (HSS), (5) social mitigation, (6) health sector research, and (7) e-Health.

7.2.2 The private sector

HSSP III is expected to bring a major shift in the comparative role of the private sector in health interventions.[15] The relative share of private investment in the health sector is expected to rise spectacularly from 10 percent during EDPRS (until 2013) up to 70 percent by the end of EDPRS II (2018).

Part of this increase will be generated by interventions where the private sector is already actively involved and where the collaboration with the public sector will be improved to facilitate a more important participation of private health actors. Among these, one can mention the programmatic area of maternal and child health (MCH). Private clinics and individual care providers are offering health care related to pregnancy (e.g., antenatal consultations, deliveries, family planning) and immunization for pregnant women and children (especially in urban areas). The MCH Program is planning to increase its collaboration with the private sector, particularly in the provision of modern FP methods.

The role of the private sector is not only in service provision, but also in the production, promotion, and social marketing of different medical products widely used for disease prevention (e.g., condoms, insecticide-impregnated bednets) and treatment (e.g., oral rehydration solution). Maybe more important in terms of increase of the role of private actors is the production and marketing of generic drugs. During HSSP III, the GOR intends to gradually increase its domestic financing of pharmaceuticals with the aim of reaching sustainable levels of financing. The MOH will promote partnership with private investors in the local production of medicines and other commodities and will explore internal mechanisms for resource mobilization, including public-private partnerships and establishment of revolving funds. Further exploration will also be made for a CBHI financing component for medicines and medical products.

Apart from modern medicines and medical products, the MOH will develop and finalize an appropriate legal framework and guidelines to govern and support institutionalization of traditional medicine practice in the Rwanda National Health System. HSSP III will initiate the establishment of small-scale manufacturing enterprises (SMEs) in relation to natural and traditional medicine products to fast track production. Furthermore, HSSP III will promote establishment of traditional healers' cooperatives to enhance collaboration and coordination.

Civil society organizations are already recognized as important partners in the implementation of health-related activities at the community level. Other private sector organizations will be encouraged to join efforts to improve community health at the local and national levels.

Among the main priorities of the health sector, HSSP III is aiming to improve geographic accessibility of health services and develop provision of tertiary care services. To achieve those objectives, additional health infrastructures will have to be built. Several projects of public-private partnership are presently under negotiation to mobilize private investments for building of new—or rehabilitation of existing—infrastructure and for the management of these health facilities.

These projects include:

1. Development of a network of health posts to provide primary care at the local level (before reaching the health center);
2. Two projects for building a regional reference hospital, one with Indian investors (Apollo) and the other with Japanese (Togoshukai) investors. There is also the possibility of upgrading King Faisal Hospital to provide high-quality services for tourists and to prevent or at least reduce medical evacuations.

Maintenance of physical assets, including medical and transport equipment, is another domain where the private sector will be encouraged to play a larger role. This is particularly true for servicing and

[15] Under private sector, the HSSP III includes not-for-profit organizations (NGOs, CSO, FBOs) and the for-profit organizations such as private practitioners and private corporations and industries.

maintenance of diagnostic equipment and instruments (laboratory, medical imaging) that will be contracted to competent private entities.

The health sector M&E system will have to train and provide reporting templates for HMIS to private health facilities so that the quantity and quality of services provided by these private actors can be adequately documented.

The increased involvement of the private sector in the different health domains mentioned above will require important changes in the relationship between private investors, service providers, and the MOH as the public institution mandated to establish norms and standards in health services and to ensure that these norms are respected. The partnership between the public and private sectors for joint health interventions will be managed through quarterly coordination meetings, where important issues of collaboration will be discussed, such as private sector tariffs, regular submission of HMIS data, inspection and access to private sector facilities, adherence to regulations and quality assurance norms (accreditation), control of laboratories, and selection and opening of new private facilities in the districts.

As a strategy to attract private investment to support HSSP III priorities, the MOH will develop partnerships with private corporations and industries, tapping into their Social Corporate Responsibility initiatives as well as enhancing a policy and institutional environment conducive to private investment.

7.2.3 Intersectoral activities

Intersectoral activities are an essential part of the health of individuals and communities because the determinants of health are defined in a much broader context than the health sector itself. Social determinants of health, according to the Commission on the Social Determinants of Health, appear in Box 8.

Box 8. Social determinants of health

> "The poor health of the poor, the social gradient in health within countries, and the marked health inequities between countries are caused by the unequal distribution of power, income, goods, and services, globally and nationally. The consequent unfairness is visible in the circumstances of people's lives—their access to health care, schools, and education—and their chances of leading a flourishing life. This unequal distribution of health is not a "natural" phenomenon….
>
> The structural determinants and the conditions of daily life constitute the social determinants of health."

In line with these findings and recommendations of the Commission on Social Determinants of Health, the MOH should increasingly play a role in public policies and strategies of other sectors, such as (female) education, water and sanitation, agriculture, and transport. It is within this broad collaboration that important gains can be made in reducing morbidity and mortality of the Rwandan population. More specifically, the MOH is already involved in several intersectoral activities.

1. Most important is its membership (since 2009) in the interministerial committee to eliminate all forms of malnutrition through the implementation of the Nutrition Joint Action Plan (JAP). This plan has been translated in the National Nutrition Strategic Plan (NNSP) and the District Plan to Eliminate Malnutrition (DPEM). This intersectoral program focuses its interventions at community and household levels (home-based food fortification). HSSP III will prioritize participation in the preparation of the next five-year NNSP and DPEM, while scaling up the community-based nutrition program nationwide.
2. In addition, the MOH is actively involved in the community-based family centered interventions, focusing on early child development and family hygiene together with several other ministries.

3. All ministries are involved in addressing sexual and gender-based violence, where the MOH has taken the lead and will expand its current four One-Stop Centers to all districts.
4. Other intersectoral programs in which the MOH is actively involved are the Adolescent Health Program, the mapping of marginalized groups in society, and the inventory of people with disabilities (PWD), together with efforts to support their social reintegration in society.

These (and new) intersectoral programs will be undertaken under HSSP III.

7.2.4 SWAp and Aid Effectiveness (H&A, mutual accountability)

At the level of MINECOFIN, harmonization and alignment (H&A) has been established at the national level through Joint Sector Reviews. Annual targets for each sector have been defined, based on EDPRS. Achievements per sector (and for each donor) are summarized in the Common Performance Assessment Framework (CPAF). They are discussed between GOR, the sector ministries, and the DPs. The Joint Budget Sector Review (JBSR) uses these CPAF indicators for decisions on the next year disbursement. In addition, the CPAF framework has institutionalized mutual accountability between GOR and DPs. The HSWG (MOH and DPs) will prepare the reports with the CPAF indicators that will be submitted to MINECOFIN for discussion.

The Development Partner Assessment Framework (DPAF) defined ten indicators that measure DPs' achievements against annual targets. Some DPs are fully aligned to the sector structures, including adherence to the jointly established planning and reporting calendar, the timely participation in the resource mapping, and the participation in the various national and district coordination structures. However, the use of parallel systems (for budget execution and accounting, including financial reporting, procurement, and external auditing) still prevails among many partners. While the MOH has information about what (off-budget) money is being spent where, thanks to the detailed Resource Tracking Tool, alignment by DPs to GOR systems and procedures is still limited. There is room to improve information sharing among all partners to allow strategic resource allocation and overall management by the MOH both at central and district levels. Within the health sector, the GOR possesses a strong degree of ownership over the development agenda. This asset is countered by the fact that the use of GOR systems is quite low.

In general there is a need to review the constraints faced by several DPs regarding use of government systems (planning, budgeting, PFM, procurement, and M&E) and explore (1) what DPs can do more to be on-budget and provide medium-term financial projections, (or, if not possible, at least to be on a "shadow" budget known only to sector partners) and (2) what the government can do to strengthen its systems and bring them closer to the DPs' reporting requirements. Using various sources of information—like the health Resource Tracking Tool, the NHA, and household studies, such an in-depth study might bring out relevant suggestions that could end the limited collaboration between some of the partners.

In this changing context, important initiatives under SWAp and aid effectiveness will include:

- Review the current MOU/SWAp and the individual MOU/SBS. Decide whether to bring them together under one new "Joint Financing Agreement" (JFA) between the GOR/MOH and DPs. Continue the dialogue, asking DPs to move their funds on-budget and advocate for long-term commitments to improve sector planning;
- Undertake a feasibility assessment on possible increased alignment to HSSP III by DPs (in budget execution and accounting, including financial reporting, procurement, and auditing);
- Set-up a task force to actively inventory and address (reduce) off-budget resource flows;
- Strengthen the SPIU and revise and update the SWAp roadmap for the district and national levels;
- Strengthen the Health Commission of the Joint Action Development Forum (JADF) at the district level for effective accountability purposes.

7.2.5 Capacity Development and Technical Assistance

At the level of the GOR, an overall Capacity Development (CD) Program has been developed by the Public Sector Capacity-Building Secretariat (PSCBS). The program aims to support CD at individual, organizational, institutional, and policy levels across all sectors to achieve capacity creation, capacity utilization, and capacity retention. A conceptual framework has been developed that includes the identification of priorities, the responsible bodies, the gaps, the design of a support package and, finally, the mobilization of support. It is expected that this framework will be further detailed by the MOH in the coming years under HSSP III. The focus of PSCBS is on short-term training and technical assistance (TA), while the MOH would like to prioritize long-term capacity-building for its staff. Mobilization of financial resources among the DPs is therefore an important priority for the MOH.

As part of capacity development within the health sector, the MOH requires limited TA from national and international consultants to support the sector with challenges that most often relate to technical issues and/or innovations. Such support can be short term (for a limited period of a few weeks or months) or long term (periods of one year or more). Currently, the MOH does not have a TA plan or clear criteria to decide whether to request TA or not. However, a Capacity-Building Transfer Plan for foreign TA has been developed and is currently being implemented. It should be noted that almost half of the disbursements in the health sector in 2010/11 was categorized as technical assistance in the Development Assistance Database (DAD), which may be considered a threat to the consistency and continuity of health programs. As part of HSSP III, the MOH is expected to develop (1) guidelines to decide on the use of TA and (2) in the medium term, a technical assistance plan where gaps that require TA are identified and funding of TA is addressed. In principle, TA will only be justified if it brings expertise that is not available within the MOH. Areas of expertise that qualify for such support are often of a technical nature or relate to innovations that the MOH will undertake.

7.3 Public Financial Management, Funding Modalities, and Accountability

This section discusses the overall financial management of the health sector, including funding, funding modalities, and accountability issues.

Table 42. Baseline and targets in Public Financial Management

TOPIC	EXPECTED OUTPUTS / OUTCOMES	BASELINE 2011	TARGETS 2015	TARGETS 2018
4.3. Accountability and PFM	% On-budget / off budget resources increased	44 / 56	53/47	60/40
	% DH with clean (internal or external) audits	0	90	95

According to the MTR, the GOR's public financial management (PFM) reform has contributed to improvements in many key areas of PFM, especially at the national level. However, recent Public Expenditure and Financial Accountability Assessments (PEFA 2008 and 2010) and other reviews reveal weaknesses in the present budget execution and accounting system, in annual financial reporting, and the end-of-fiscal-year financial statements. The main problem is the very limited individual and organizational capacity in PFM, and the few qualified and experienced accountants. This requires a comprehensive institutional capacity-strengthening plan to safeguard measures to mitigate fiduciary risks. With the current process of fiscal decentralization to the districts, these weaknesses need urgent attention, especially at the level of the DHU and the district council. A comprehensive capacity-building plan, developed jointly with other sectors and coordinated by MINECOFIN, is required to avoid sector specific "silos."

7.3.1 Public Financial Management initiatives

Against this background, important initiatives for PFM will include:

- Design a roadmap for rolling out PFM in health facilities (DHs and HCs), based on a broad capacity assessment. The roadmap should be linked to the broader PFM reform that takes place at the national level and include similar concerns from other sectors.
- Improve awareness and capacity on public financial management in the district, based on guidelines, policies, health priorities, and needs of the population.
- Advocate that district hospitals become "budget agency" or reporting entity.
- Develop integrated PFM tools for the health sector (e.g., guidelines and manuals for districts, integrated and compatible information systems, etc.)
- Advocate for policy development on mechanisms to generate additional resources, such as earmarked taxes on alcohol, cigarettes (sin tax), etc.
- Establishment of PEFA and other information on health payroll control and status of public procurement at the district level.

7.3.2 Funding and funding modalities

As mentioned earlier, DPs in the health sector are heterogeneous. Some have advanced in harmonization, such as the One UN, streamlining UN agencies procedures, together reducing their specific requirements on procurement and thus becoming more aligned. A few have harmonized their funding modalities. Five DPs—Germany, Department of International Development (DFID), the European Union (EU), African Development Bank (AfDB), and the World Bank)—provide general budget support (GBS) through Treasury, while three DPs—Belgian Cooperation, German Cooperation (through KfW), and DFID earmark their funds to the sector, providing Sector Budget Support (SBS). Four DPs provide pooled funding for Capacity Development (CDPF): Belgian, Germany, Great Britain and Switzerland).

The Common Development Fund[16] (CDF) is the main mechanism for funding the districts. Many DPs provide SBS through this mechanism; other DPs use a mixture of SBS and off-budget support, targeting their funds directly to the beneficiaries (at central or district level). The total amount of off-budget support is higher than the total on-budget resources, (GOR and DPs combined), as shown in Table 43.

Table 43. On-budget and off-budget resources in the health sector, 2010–2011.

	RFW	USD	%
Domestically financed MOH	44,727,798,207	74,546,330	34%*
District transfers / block grants	19,760,767,865	32,934,613	17%*
Development Partners On-Budget	62,195,735,473	103,659,559	48%*
Total On-Budget	126,684,301,545	211,140,503	44%**
Total DPs Off-Budget		272,040,880	56%**

* *Compared to total on-budget*

** *Compared to total on and off-budget*

Sources: On-Budget Data: MINECOFIN Budget Law; Off-Budget Data: Resource Tracking Tool. Exchange rate = 600Rfw/$

There seems ample room to improve and streamline the harmonization among the DPs in Rwanda. Especially if the larger partners, such as the US Agency for International Development (USAID), Global Fund for AIDS, TB and Malaria (GFATM), and the Global Alliance for Vaccines and Immunization (GAVI), were to become part of such aligned funding under the One Plan, One Budget, and One Report

[16] Recently renamed Local Development Fund (LODA).

framework, transaction costs would be reduced and effectiveness of the HSSP III could be substantially improved.

In general, predictability is poor, as most DPs just provide one year of information for the MTEF process. While the Health Resource Tracking Tool is in place, it has not yet been able to provide the HSWG with the annual sector commitments before the onset of the planning process (ideally during the time when MINECOFIN provides the ceilings to sectors). This is complicated by the inability of some of the DPs to know their budget, due to differences in budget calendars.

Overall, the use of parallel systems for budget execution and accounting—including financial reporting, procurement, and auditing (external)—still prevails. It is in these areas where alignment with GOR procedures should be more actively pursued.

HSSP III has made several practical suggestions on how to improve the flow of funds and bring more DPs on-budget (as most are already on-plan). They have already been highlighted in the section on Aid Effectiveness and will not be repeated here (see Section 5.6).

7.3.3 Accountability, audits and fiduciary issues

With zero tolerance for corruption and a widespread, functioning performance-based environment with mutual accountability from the lowest to the highest levels, the chances of misuse or embezzlement of funds are modest. An example of this positive situation is the Medical Procurement and Distribution Department (MPDD), former CAMERWA, whose procurement procedures have been standardized and audited by USG and GFATM gave the green light for direct procurement with USG funds.

HSSP III will bring the use of audits and the adequacy of auditing systems to a higher level by:

- Systematizing financial audits in all health institutions in the district (HC, DH, DHU), in the Provincial and National Hospitals and in the various departments and units of the MOH.
- Advocating for an increase in numbers and capacities of internal auditors at district level, while reinforcing auditing capacities at central level;
- Fiduciary risk concerns weaknesses in the planning, budgeting, and reporting information for *donor*-funded spending. Given the large proportion of overall health sector spending accounted for by external sources, this increases the level of fiduciary risk for this broad PFM component. Although risks are countered by the MOH-led SWAp and by the Resource Tracking Tool, HSSP III should be an opportunity to improve on comprehensiveness and transparency, especially since this issue is also related to funding and AID effectiveness (see above).
- A Fiduciary Risk Assessment (FRA) is planned once every two years by an independent external team, working on the basis of a TOR, agreed by the MOH and all participating (harmonized) DPs.
- Key risks with regard to external scrutiny, audit, and domestic accountability are very much related to the relative few qualified OAG staff. The effectiveness of the audit function will strengthen as general financial management, accounting, and audit capacity deepen. It will also be strengthened further once the newly established Public Accounts Committee (PAC) becomes effective. These are general issues that affect all sectors and are being addressed in the Public Finance Management Reform Strategy (PFMRS). HSSP III should actively advocate support to PFMRS within the health sector.

7.4.3 Risks and risk management

Table 44. Risk analysis and risk mitigation for the implementation of HSSP III

RISK IDENTIFICATION	ANALYSIS OF RISK			RISK MITIGATION
	Likelihood	Consequence	Overall Risk	
1. Service Delivery risks				
Inadequate guidelines on performance standards / norms in service delivery	2	2	Low	Quality Assurance unit provides supervision / control
Trained staff (doctors, nurses) leave the public sector	2	2	Low	Improve conditions of service. Draft plan
Quality of patient care is not improving	2	3	Medium	Speed up accreditation process; intensify supervision and Capacity Building
2. Planning, budgeting, reporting risks				
The planning / budgeting tools are not adequately used at district level	3	2	Medium	Capacity-building plan for DHU and DHMT developed rolled out
3. Financial Management risks				
Fiduciary risk assessment and PEFA are not undertaken	2	2	Low	HSWG to discuss and negotiate TOR
Fiscal decentralization process is stalled or remains sector bound (“silos”)	2	3	Medium	DPs raise the issue with MINECOFIN at Joint Sector reviews
4. Decentralization risks				
Staff in DHU show limited technical capacity	3	3	High	Define recruitment / selection criteria and develop specific training program (CapB)
Relation DHU and Director DH / DHMT is strained	2	3	Medium	Develop guidelines on district mgmt
5. Funding related risks				
Several DPs reduce their contributions due to austerity back home	3	3	High	MOH develops a back-up scenario with alternative options
No alternative for the annulation of round 11 by GFATM reduces performance of several programs	3	2	High	MOH with DPs develop a back-up scenario with alternative options
Most resources remain off-budget, H&A remain rhetoric intentions.	3	2	Medium	MOH to commission a study IHP+ constraints. MOH to develop JFA.
OVERALL RISK	**2.4**	**2.5**	**Medium**	

Figure 5. Risk matrix calculator

	CONSEQUENCES				
LIKELIHOOD	**Negligible–1**	**Minor–2**	**Moderate–3**	**Major–4**	**Severe–5**
Almost certain–5	**M**	**H**	**H**	**VH**	**VH**
Likely–4	**M**	**M**	**H**	**H**	**VH**
Possible–3	**L**	**M**	**H**	**H**	**H**
Unlikely–2	**L**	**L**	**M**	**M**	**H**
Rare–2	**L**	**L**	**M**	**M**	**H**

Rating Risk Levels
(VH) Very high risk—Requires close executive attention and detailed action/plan
(H) High risk—Needs close management attention
(M) Medium risk—Specify management responsibility and monitor conditions closely
(L) Low risk—Manage by routine procedures

CHAPTER 8.
HSSP III MONITORING AND IMPLEMENTATION ARRANGEMENTS

8.1 Monitoring and Evaluation of HSSP III

Table 45. Baseline and targets for monitoring and evaluation of HSSP III

TOPIC	EXPECTED OUTPUTS / OUTCOMES	BASELINE 2011	TARGETS 2015	TARGETS 2018
5.0 M&E system for HSSP III	% Annual targets met from HSSP III	0	60	70
	% HCs that receive supportive supervisions from district hospitals	89	95	95

This chapter presents the overview of the technical framework to guide the analysis of progress and performance toward the goals and targets of HSSP III. A key component of the HSSP III monitoring and evaluation technical framework is its Result Framework (RFW). This identifies the key indicators for monitoring progress that were selected by program staff and the planning team through the logical framework exercise.

The other components are:

1. The presence of a unified, country-led platform and procedures for collecting, analyzing and sharing data;
2. Procedures for routinely assessing the performance of the health system at achieving its objectives: Demographic and Health Survey (DHS), District Health System Strengthening Tool (DHSST), and Service Availability and Readiness Assessment (SARA);
3. Formal mechanisms for periodically sharing performance results and revising targets and interventions (M&E TWG, JHSR, JADF).

8.1.1 Indicators, data sources, and review

Based upon the national sector performance indicators (presented in the Executive Summary) and the log frames for each of the HSSP III components, a total of 96 indicators have been brought together from the primary data sources shown in Table 46. Most of these sources are already well established in Rwanda.

Table 46. Number of indicators with their sources

Type	Data Source	Sum of Count of Indicators
Health Facility Survey	DHSST	8
	HF Survey/SARA	10
	NHA	1
Household Survey	DHS	9
	HH Survey	3
MOH Reports	DPAF	1
	MOH reports	29
Routine Data	e-learning system logs	1
	HMIS	28
	HRIS	8
	IDSR	1
	LabMIS	1
	QA database	4
	SISCom	2
Accreditation base	Accreditation base	3
Grand Total		109

The **HMIS (Health Management Information System)** is the primary source of routine data on health services provided through health centers, district hospitals, and referral services. The HMIS was substantially revised in 2011 to collect more relevant data. It has been built on a new web-based platform that should enhance data sharing and use. In addition, reporting formats have been introduced for all referral hospitals and private facilities, so coverage of reports should become even higher than it was in the past.

The **SISCom (CHW Information System)** also supplies important data on the increasing contributions of CHWs to the provision of health services. That system has been functioning since 2010. It has had minor adjustments to the data elements collected since January 2012. Both the SISCom and HMIS are managed by the Ministry's HMIS Department at the central level.

The **HRIS (Human Resource Information System)** was relaunched at the end of 2011, and the data are now maintained in a decentralized manner by hospital HR managers with support from the central level HR team. It now has active records of over 16,000 health professionals. This system is managed by the Ministry's HR Department.

The **Resource Tracking Tool (RTT)** was upgraded in 2010 to a web-based platform; it provides important data related to financial resources committed to and disbursed to districts by donors and GOR. The Community-Based Health Insurance now has in place two important data sources: the **Mutuelle Indicator Database** that tracks key performance indicators from over 400 Mutuelle section offices (with data going back to 2009) and the new **Mutuelle Membership database** implemented in 2011 that helps to manage Mutuelle memberships and renewals. These systems are all maintained by the Finance Department of the central Ministry of Health.

In addition to these primary routine data collection systems, several platforms have been established to help pull together data from a variety of sources into a single integrated view.

The **District Health Systems Strengthening Tool** is now it its fourth year of use and has been enhanced with an elegant web-based front-end and interactive dashboards, designed to make data much

more accessible to district and national level staff—especially for planning. This system has been initiated by Clinton Health Access and is being transitioned to the Decentralization & Integration unit of the MOH.

A **national data warehouse and dashboard portal** has also been configured by the HMIS team. It draws data from the HMIS, SISCom, DHS and other sources, and will become the one-stop shop for indicator data related to HSSP III. The Ministry's HMIS and M&E teams are in the process of designing specific information products (analytical reports) that can be produced annually and updated for use during each Joint Health Sector Review working group to support decision-making and course correction. The HMIS Department manages the data warehouse and centralizes requests for data across all HIS systems based on a Data Sharing and Confidentiality Policy approved in 2012.

As for nonroutine data sources, the HSSP III planning process has benefited from recent data from **DHS 2010 (Demographic and Health Surveys)**. As part of this M&E plan, an interim DHS is planned for 2014 and another full DHS is planned for 2017. In addition, the Ministry is planning on adapting the Service Availability and Readiness Assessment, together with the DHSST, to track the progress of service performance—roughly in line with the timing of the DHS.

Rwanda has also tried to institutionalize the **National Health Accounts (NHAs),** through training with the School of Public Health and through the design of resource tracking. The next NHA is expected to be published in 2012.

A **Rwanda National Census** scheduled for 2012 will provide much-needed data for updating the denominators for calculating key service coverage indicators and better understanding the impact of certain equity and public health initiatives. Several of the disease control programs have scheduled surveys to collect data more frequently, particularly among high-risk populations and in highly endemic areas. These include the Malaria Indicator Survey, AIDS Indicator Survey, an HIV incidence survey and the Behavioral Surveillance Study (BSS) and IBBSS (Integrated Bio-Behavioral Surveillance Study).

There are still a number of data sources that need to be further developed. In particular, the Ministry's desire to introduce the concept of **localized MDGs** will require the design and implementation of HH level data collection, carried out by CHW at the village level—possibly relying on lot quality assurance sampling techniques (LQAS). A significant number of indicators are to be collected from ad hoc reports from programs and service units within the Ministry. These need to be reviewed in the interest of including them in some more structured routine reports. Other data sources will be put in place over the next two to three years when new initiatives start—such as a database on accreditation of district hospitals and health centers.

More than one third (36%) of the indicators are collected through routine information systems, while another third (33%) through surveys—more than half of which are contained in the demographic health survey (DHS). Because of the strong focus on outcome and impact indicators, largely collected through infrequent surveys because of the high cost, the HSSP III M&E plan also proposes to collect similar (proxy) indicators from routine health information systems for more frequent use. For example, in addition to using the contraceptive prevalence rate from the DHS, the M&E team will monitor the health facility contraceptive utilization rate (based on numbers of users reported through the HMIS) every quarter.

In terms of periodicity, over half of the indicators are to be assessed annually, while 25 percent will be assessed according to the DHS schedule (2014, 2017). Thirteen percent of the indicators (mostly from HMIS and SISCom) will be available and reviewed quarterly.

Data quality has been a continuous concern of the Ministry of Health and its donors, especially for routinely collected data. Several measures have been implemented to assess and improve data quality for the HMIS and other reporting systems. These include:

1. Annual data audits conducted by the Global Fund;
2. Quarterly data quality audits (DQA) since 2011, adapted from the Measure DQA Tool that are conducted by staff from district hospitals in health centers;
3. Monthly data validation exercises that are part of the PBF data quality management system.

The results of quarterly and annual data quality audit reports will be published on the MOH website and discussed during Joint Health Sector Reviews in order to maintain progress already made in this area.

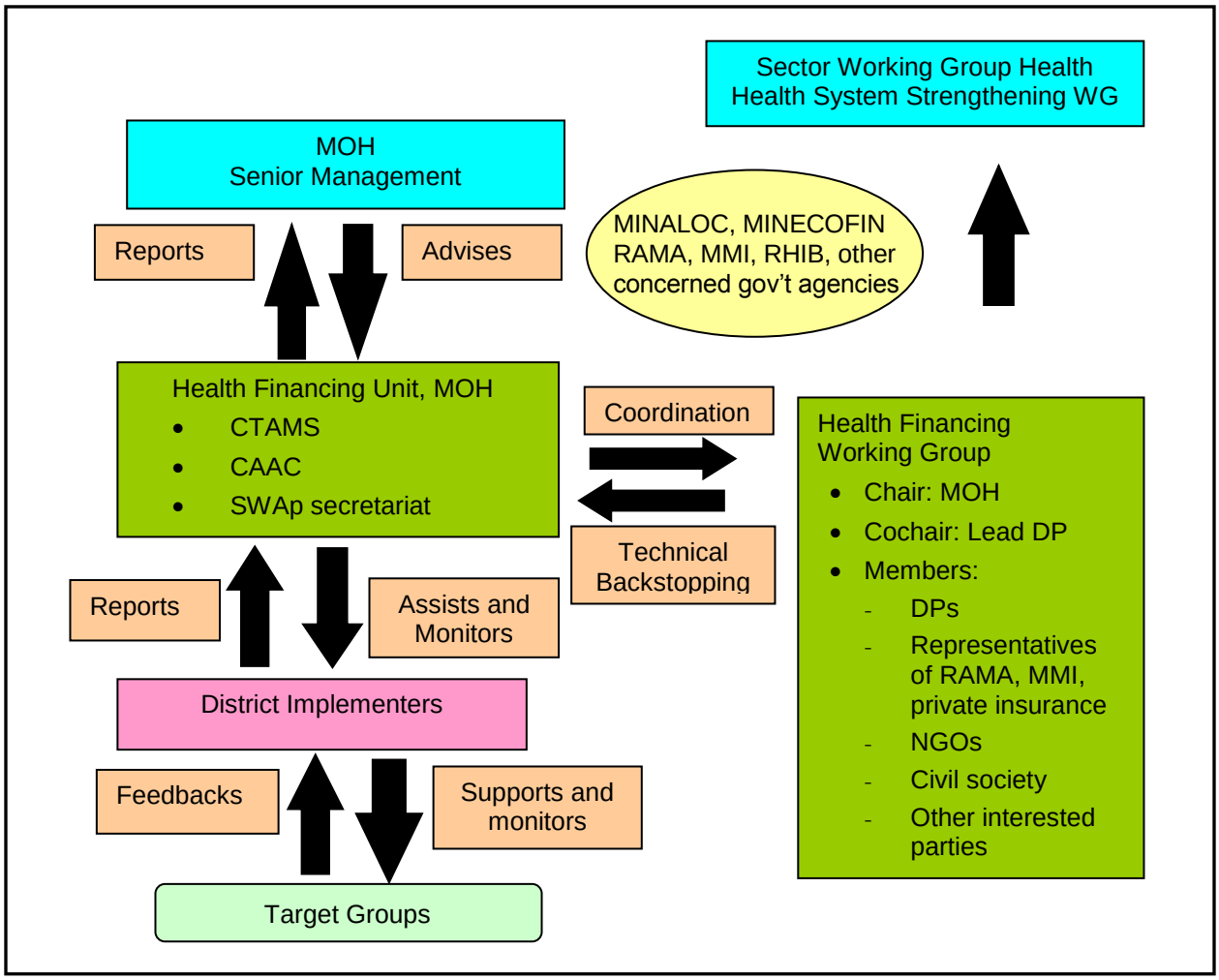
PBF incentives for timely reporting have dramatically improved reporting rates and completeness, while the recent exercise to harmonize health facility registers and recording tools is expected to improve data accuracy.

In addition a PRISM assessment (Performance of Routine Information System Management) was conducted in 2010 and will be repeated in 2014. This tool helps to identify HMIS bottlenecks and measures data use at different levels of the health system.

8.1.2 Reporting, monitoring, and evaluation

There is clear need for a vibrant monitoring and evaluation plan and systems that allow for meaningful reporting, monitoring and evaluation of the different components of the health financing system, as well as the entire system as a whole. The role of M&E lies with the Health Financing Unit of the Ministry of Health. As such, they will develop a comprehensive plan and will be responsible for undertaking the activities of this plan. A detailed M&E plan will be developed as part of the planned Health Financing Strategic Plan. The M&E framework will includes output and outcome indicators of performance, against which the health financing system will be assessed annually over the HSSP III period.

Figure 6. Relationships between key stakeholders in health financing



8.1.3 Mechanisms and timeline for monitoring HSSP III

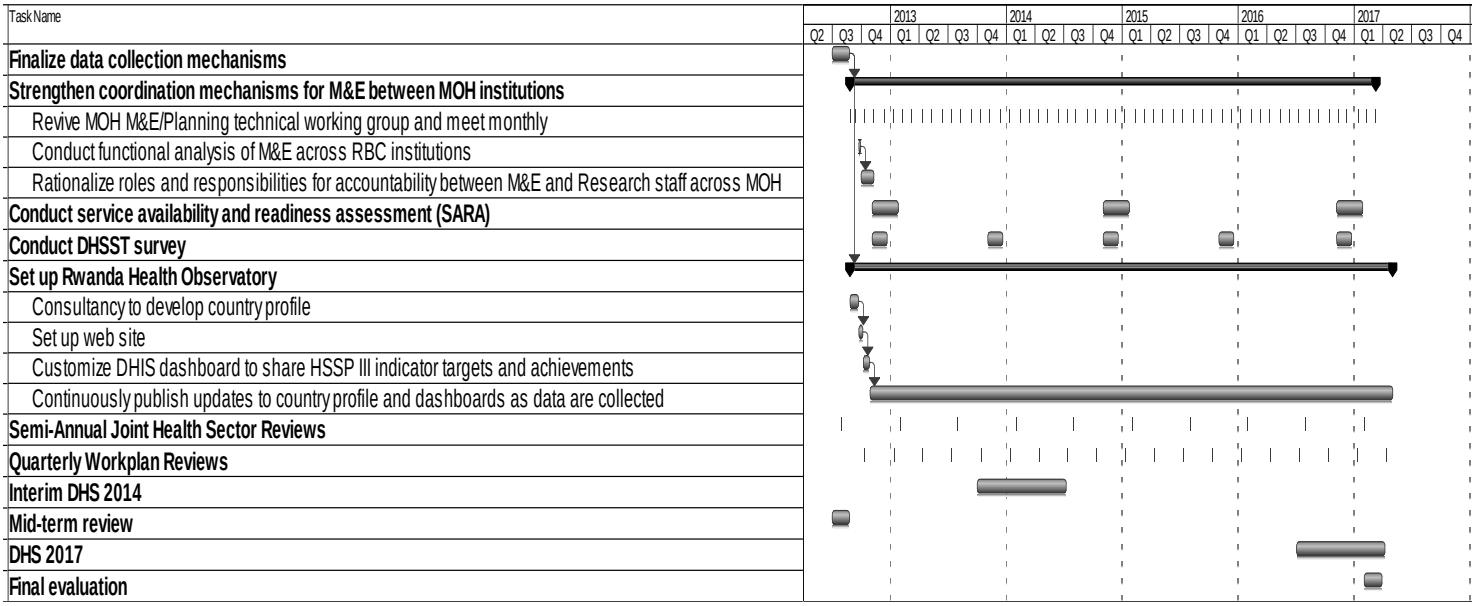
The selection of indicators and establishment of efficient systems for data collection are only part of the M&E system. It is crucial to continue strengthen mechanisms for the routine review of sector performance and the adjustment of implementation strategies if required. Key mechanisms currently in place are the JADF (Joint Action Development Forum), semi-annual Joint Health Sector Reviews (JHSR)—including the quarterly integrated field visits that began in 2010—and various TWGs. The MTR and Joint Assessment of National Strategies (JANS) reviews found that central-level coordination of M&E is not well structured, and most M&E capacity is distributed throughout health program offices with limited central coordination. A functional analysis of the RBC was conducted mid-2012 to help rationalize these functions across the RBC; the results are likely to be useful for the remaining MOH departments as well. The draft M&E Policy and Strategic Plan of 2010 should be revisited and implemented to enhance these functions. The M&E/Planning Technical Working Group will be re-activated and meet regularly as one mechanism for improving coordination, reviewing progress, and mobilizing resources in this area.

Health programs at the central level and DHMT should meet at least once a year with stakeholders (retreat) to review their relevant indicators using the new data-sharing tools and make adjustments as necessary to their operational plans and *Imihigo* contracts. With the introduction of localized MDGs, an annual review of progress should be introduced even at the village level (*Umudugudu*), so that communities themselves can assess their performance and mobilize resources to help meet HSSP III goals and objectives.

A Mid-term Review of HSSP III is scheduled for early 2015 (depending upon the timing of the interim DHS), with a final evaluation at the end of the plan in 2018.

The annual Joint Health Sector Review process is to be enhanced with the introduction of a structured technical performance review, including a systematic health facility assessment based on the DHSST annual census and the Service Availability and Readiness Assessment tool (in approximately 20% of facilities) that will be subject to a technical review by all program units before being published on the MOH website and discussed during the review. Figure 7 shows a timeline of key events in the HSSP III M&E calendar.

Figure 7. Timeline of key events in the HSSP III calendar



8.2. HSSP III Implementation

Implementation of HSSP III will be a coordinated effort by the MOH together with the various stakeholders, other socioeconomic (EDPRS) sectors, the private sector, development partners, NGOs, FBOs, civil society, and others. Overall coordination will rest with senior management of the MOH to ensure that all players support the same priorities and the same interventions. These will be defined by the MOH together with MINECOFIN, MINALOC, and other relevant ministries on the basis of Vision 2020, EDPRS II, and HSSP III priorities (see Chapter 1).

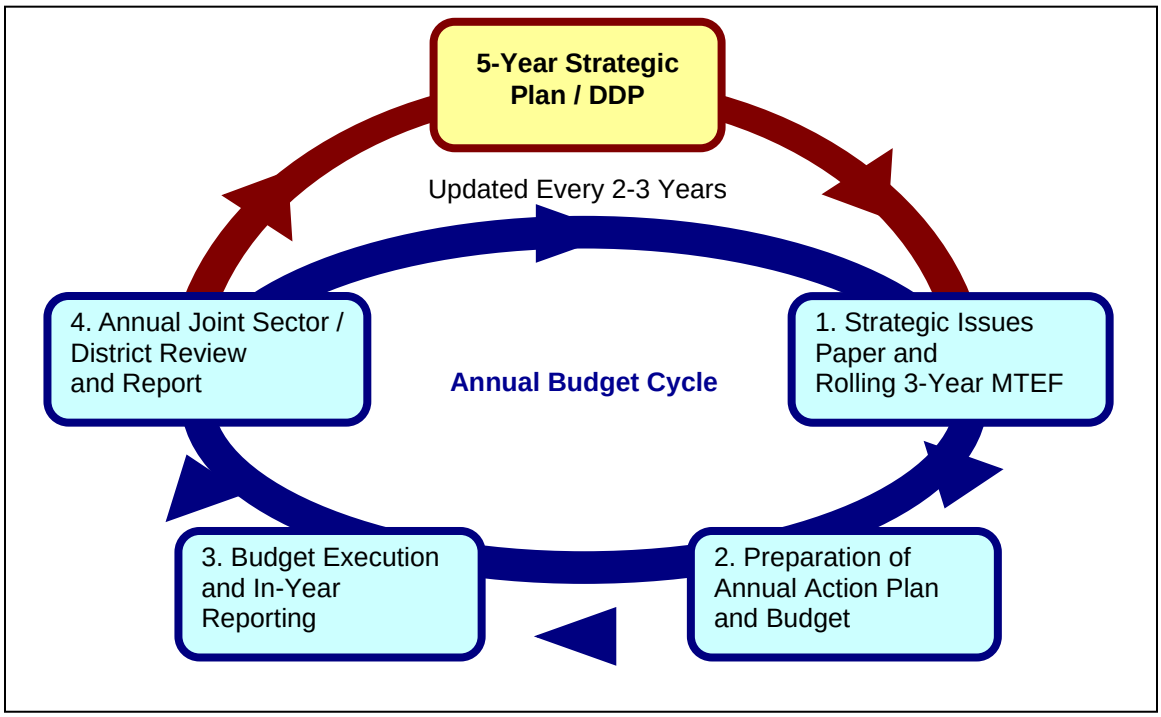
GOR has put in place a "top-down and bottom-up" (planning, budgeting, and monitoring) process in which the financial ceilings as given in the MTEF are passed down through the MOH to the District Councils to inform them on the limits of their budget for the health services. The process is further supported and refined by the Resource Tracking Tool. At the same time the planning process is implemented by the Planning Department in coordination with HFU, SPIU, M&E, and QA.

Planning will start at district level and below (on the basis of guidelines), asking the HCs and the DHs as well as the District Health Unit to develop annual plans on the basis of their five-year strategic plans, which in turn are part of the overall five-year District Development Plans (DDPs). In this complex process, the M&E activities in the health sector play a crucial role to inform planning and budgeting entities at all levels on where they are and where they should go, thus providing inputs in the priorities for the next year! The different steps in this annual process are summarized in Figure 8.

As part of this top-down and bottom-up process several milestones and implementation arrangements can be identified:

- The signing of the *Imihigo* contracts with the president or his representatives at the various levels.
- The mutual accountability sessions between MINECOFIN and the various DPs working in the sector on the basis of the CPAF indicators.
- The annual planning / budgeting process within the MOH and between the MOH and the District Health Unit / district hospital.
- The various (external) reviews at the national and district levels, most of which are taking place annually, but for some programs more frequently.
- The strategic plans of all programs (such as MCH, HIV, Malaria, TB, Mental Health, Environmental Health, Community Health Desk, etc.) will align their priorities and interventions to HSSP III and develop their annual plans on the basis of the log frame and HSSP III.
- Institutions in charge of managing and allocating resources (such as HRH, infrastructure and equipment, medical products, financial resources, HFU, PBF) and ensuring quality of service provision (QA, Clinical Services) will coordinate regularly (quarterly?) with the programs that are implementing the services.
- The expected interim DHS and the Mid-term Review (planned for early 2015) will provide the required information to revise priorities, redefine indicators and—if necessary—reset targets,
- Finally, regular meetings between the MOH and DPs through the HSWG and the various TWGs (listed in Annex 7) provide all stakeholders with the opportunity to (1) raise policy-related issues and (2) give technical inputs on the achievements and challenges met during implementation.

Figure 8. Planning and budgeting cycle in the health sector



It is the effective interaction between all these players and the capacity of each to initiate together new and challenging interventions that will determine the final results of the implementation of the four components of HSSP III.

CHAPTER 9.
COSTING AND FINANCIAL GAP ANALYSIS

9.1 Marginal Budgeting for Bottlenecks

9.1.1 Methodology

Marginal Budgeting for Bottlenecks (MBB) is an analytical costing, financing, and budgeting tool that aims at helping policymakers to plan and manage health programs. This approach focuses on the selection of evidence-based interventions currently implemented in the country and organizes them into three service delivery modes:

- Family-oriented community-based services;
- Population-oriented schedulable services;
- Individual oriented clinical services (at primary, first, and second referral levels).

The tool uses baseline coverage of critical interventions and coverage determinants to analyze performance of health services and identifies bottlenecks in both supply and demand. On the basis of identified current bottlenecks in health service delivery and utilization, the MBB simulates improvements in coverage derived from bottleneck reduction and national targets, including the expected changes in utilization resulting from changes in the volume of services supplied. The tool will then calculate the cost of achieving health intervention targets and estimate the impact of the health interventions on health outcomes.

Work sessions were held with MOH staff to discuss the achievements and constraints in the health sector as well as to collect health intervention coverage baseline and cost data needed for the MBB analysis. The log frame developed during the MOH stakeholders' retreat was also used as a reference for setting new targets. Unit costs were obtained, when possible, through the Ministry of Health or the relevant GOR departments. The MBB analysis also relied on survey data (DHS 2010, Integrated Household Living Conditions Survey [EICV], 2010) and government documents (program reports, action plans).

Box 9. The five steps followed when applying the MBB tool

Step 1: Analysis of the health system

- Establish the epidemiological profile of the country
- Understand the organization and the functioning of the health system (norms, policies, strategies)
- Identify the health care interventions already in place in the country

Step 2: Identification of high impact interventions

- Selection of effective interventions to improve maternal and child health is based on the Lancet series on child[17] and neonatal[18] survival, the Cochrane review of maternal health interventions, and the British Medical Journal

Step 3: Identification and analysis of bottlenecks

- Organize the interventions selected according to their delivery mode
- Obtain data from reliable sources on the availability, accessibility, utilization, continuity and quality of the services related to each intervention
- Identify and analyze the weak links in the chain of determinants for an

[17] *The Lancet*, 2003, Child Survival: 361, 362.

[18] *The Lancet*, 2005, Neonatal Survival. Published online, March 3, 2005.

effective coverage

Step 4: Formulation of a strategy

- Define a health package intervention
- Set up realistic coverage objectives for each intervention in the package

Step 5: Cost and impact analysis

- Determine the impact and the cost of reducing the bottlenecks identified

9.1.2 Limitations

The maximum number of years to plan for using the MBB approach is five. We used projection trends over the years and proportions represented by each budget line item in order to produce the sixth year budget estimates.

9.1.3. Overview of costing results

Additional costs and mortality reductions

Compared to the HSSP II MBB costing, the results from the HSSP III costing are slightly higher for the low and medium-case scenario, 3.2 percent and 7 percent, respectively, and present a 34 percent increase for the high-case scenario. The latter includes the entire additional infrastructure, equipment, and human resources for health targets.

Table 47 presents the additional costs for three scenarios. They represent different levels of ambition in the reduction of health system bottlenecks in the next six years, with Scenario 1 being the lowest and Scenario 3 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 and corresponds to the HSSP III targets.

Table 47. Additional costs and mortality reduction estimates by service delivery by Year 6

	• **Low-case, Scenario 1**			• **Medium-case, Scenario 2**			• **High-case, Scenario 3**		
	Mortality Reduction								
Service Delivery Modes	Neonatal	Under five	Maternal	Neonatal	Under five	Maternal	Neonatal	Under five	Maternal
1. Family oriented community-based services	2.5%	11.2%	0.0%	4.6%	15.6%	0.1%	6.0%	19.1%	0.1%
2. Population-oriented schedulable services	0.5%	1.1%	0.1%	2.7%	11.9%	0.3%	3.6%	12.5%	0.5%
3. Individual-oriented clinical services	14.9%	4.3%	5.2%	18.2%	5.8%	7.7%	23.2%	7.9%	11.2%
Total	17.9%	16.7%	5.4%	25.6%	33.3%	8.1%	32.8%	39.5%	11.9%
Additional total cost in USD	$ 482,350,483			$ 795,408,313			$ 1,165,092,327		
Additional cost per capita in USD	$ 6.58			$ 10.52			$ 16.40		

Additional cost by service delivery modes

Table 48 presents the additional estimates by service delivery modes. It shows that out of the total additional resource requirements, 22 percent on average is required at the first level of contact (family-oriented community-based services), 10 percent is required at the population-oriented schedulable services level, 31 percent at the clinical services level, and 37 percent at the district, provincial, and national governance and management. At this latter level, most of the additional resources requirements are needed for human resources for health.

Table 48. Estimated additional costs by service delivery modes (in millions USD)

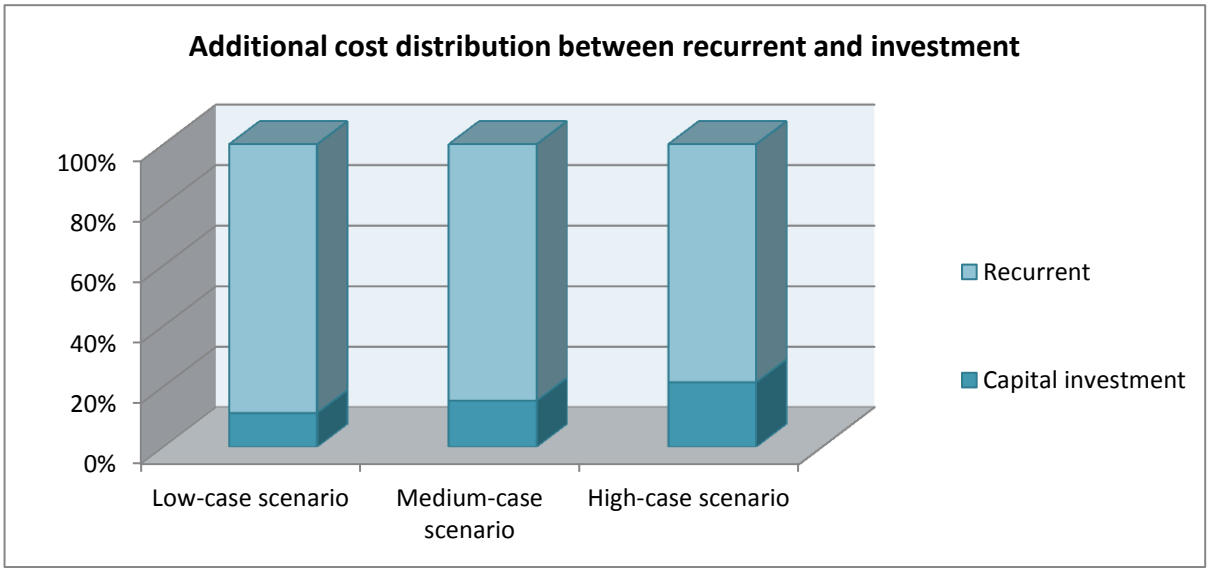
	Scenario 1: Low-case Scenario						
Service Delivery Modes	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Total**
1. Family-oriented community-based services	8.15	15.14	22.10	29.12	36.15	36.09	146.75
2. Population-oriented schedulable services	2.45	4.54	6.64	8.74	10.84	10.83	44.04
3. Individual-oriented clinical services	11.74	18.10	24.51	30.97	37.49	40.06	162.88
District, provincial, and national governance and management	9.31	15.22	19.70	24.30	28.50	31.65	128.68
Total	31.65	53.01	72.95	93.13	112.98	118.63	482.35
	Scenario 2: Medium-case Scenario						
Service Delivery Modes	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Total**
1. Family-oriented community-based services	9.03	16.82	24.58	32.40	40.22	38.78	161.83
2. Population-oriented schedulable services	7.85	10.34	12.84	15.33	17.82	20.23	84.41
3. Individual-oriented clinical services	17.14	25.32	33.55	41.84	50.17	52.95	220.98
District, provincial, and national governance and management	23.95	39.15	50.66	62.49	73.30	78.64	328.19
Total	57.97	91.64	121.63	152.05	181.52	190.60	795.41
	Scenario 3: High-case Scenario						
Service Delivery Modes	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Total**
1. Family-oriented community-based services	10.19	19.02	27.81	36.66	45.52	42.50	181.70
2. Population-oriented schedulable services	9.31	12.02	14.73	17.43	20.14	22.48	96.11
3. Individual-oriented clinical services	35.91	46.12	56.39	66.71	77.09	86.16	368.39
District, provincial, and national governance and management	38.15	62.37	80.70	99.54	116.78	121.37	518.90
Total	93.56	139.53	179.62	220.35	259.53	272.50	1,165.0

Additional costs by recurrent and capital investment

Figure 9 provides a summary of total budget requirements for the three scenarios. Being the less ambitious scenario due to resource constraints, the split between capital investment and recurrent costs

in Scenario 1, the low-case scenario, are 11.3 percent and 88.7 percent, respectively. Here the minimum additional investments are planned in terms of infrastructures, equipment, and human resources. For the more ambitious scenarios, we observe an increase in capital investment to 15.3 percent and 21.5 percent for the medium and high-case scenarios, respectively.

Figure 9. Additional cost distribution between recurrent and capital costs



Additional costs by programs and support systems

Table 49 shows the total budget in millions of USD by programs and support systems over the next six years. It was calculated using MTEF 2011–2014 as baseline and additional needed cost as calculated by the tool. The budgets lines from the MTEF were slightly modified to adjust them to the new HSSP III framework. The same assumptions were applied to the additional cost by program.

Table 49. Budget estimates by Programs and Support Systems (in millions USD)

Programs and Support Systems	Low-Case Scenario	%	Medium-Case Scenario	%	High-Case Scenario	%
Maternal & Child Health	$ 402.8	11.4 %	$ 417.7	10.9%	$ 432.7	10.3%
Disease Prevention and Control	$ 609.5	17.2 %	$ 639.5	16.6%	$ 668.8	15.9%
Health Promotion and Environmental Health	$ 71.9	2.0%	$ 74.2	1.9%	$ 76.4	1.8%
Institutional Strengthening (governance, planning, budgeting, M&E)	$ 298.9	8.5%	$ 307.8	8.0%	$ 316.5	7.5%
Human Resources for Health	$ 533.2	15.1 %	$ 664.8	17.3%	$ 808.6	19.2%
Health Financing	$ 113.6	3.2%	$ 122.3	3.2%	$ 130.6	3.1%
Health Infrastructure	$ 365.3	10.3 %	$ 430.1	11.2%	$ 543.4	12.9%
Medical Products	$ 530.5	15.0	$	14.1%	$	13.1%

Programs and Support Systems	Low-Case Scenario	%	Medium-Case Scenario	%	High-Case Scenario	%
		%	542.0		551.6	
Quality Assurance	$ 253.0	7.2%	$ 270.9	7.0%	$ 289.2	6.9%
Health Technologies	$ 19.3	0.5%	$ 20.5	0.5%	$ 21.6	0.5%
Information and Knowledge Management	$ 337.4	9.5%	$ 358.6	9.3%	$ 378.8	9.0%
TOTAL	$ 3,535.3	100.0%	$ 3,848.4	100.0%	$ 4,218.1	100.0%

Table 49 shows the total budget in millions of USD by programs and support systems over the next six years. It was calculated using allocations for 2011–2012 from the Resource Tracking Tool as baseline and additional needed cost as calculated by the MBB tool. The budgets lines from the RTT were slightly modified to adjust them to the new HSSP III framework. The same assumptions have been applied to the additional cost by program.

Results show that MCH, Disease prevention and control are the most costly in programs, while Human resources, Health infrastructures, Medical products are support systems with high cost. This is mainly due to (1) Remuneration was considered not only under human resources, but also the budget allocated by the sector to health related education was counted; (2) Drugs for HIV and Malaria including long lasting impregnated nets were counted under Medical products.

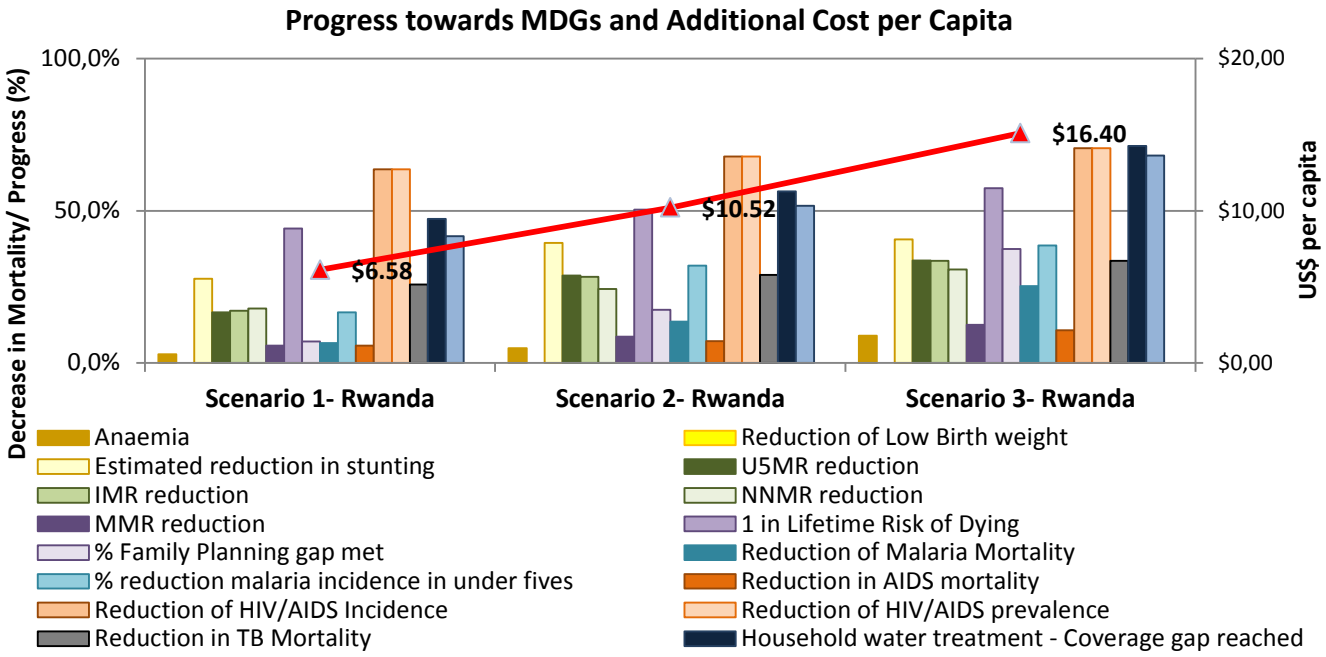
9.1.4 Estimated impact versus costs of the three scenarios

Table 50. Overview of % improved MCH indicators, with their respective costs per capita

Scenario 1		Scenario 2		Scenario 3	
Under five	16.6%	Under five	28.7%	Under five	33.6%
Maternal	5.4%	Maternal	8.1%	Maternal	11.8%
Cost per capita per year in USD (millions)	$ 6.58	Cost per capita per year in USD (millions)	$ 10.52	Cost per capita per year in USD (millions)	$ 16.40

Figure 10 shows estimated impact in six years on several MDG-related indicators linked to the additional needs in investment, expressed in terms of per capita additional cost in USD.

Figure 10. Progress toward attainment of MDG goals and additional cost per capita (USD).



9.2 Input-Based Costing

9.2.1 Methodology

The Input-Based Costing (IBC) determines the cost of all inputs required to achieve HSSP III targets for the Rwandan fiscal years of 2013–2018.

Costing criteria and process

The Health Sector Strategic Plan is fully costed using a bottom-up input-based approach.

The method of costing varies slightly by the three fundamental levels of the health sector:

1. The **district level services and activities** costing utilizes the bottom-up and needs-based District Health Systems Strengthening Tool framework. The DHSST supports the implementation of Rwanda's District Health Systems Strengthening framework by providing an annual needs assessment of all components of the district health sector. The DHSST framework provides the basis for all costs at the district level.
2. The **national level programs** costs are estimated using HSSP III targets deconstructed to the unit level. To complement the targets, information from program strategic plans is incorporated where possible. Principal cost drivers of each program are identified and given particular consideration.
3. The **national level services** costs are based on the available strategic and operational plans and the targets set forth in the HSSP III. In instances where such plans and targets are unavailable, (a) current operational budgets are scaled according to the budget trends of similar operations (e.g., referral hospitals to referral hospitals) and (b) facilities are surveyed to account for upcoming investments.

Three sources provided the unit costs. In instances when the MOH technicians cannot confirm a unit cost, figures are derived from the 2011 DHSST needs assessment or from the 2009 costing.

Allocating costs

Once the costing of all variables is complete, the costs are allocated according to the HSSP III strategic framework: Programs, Support Systems and Service Delivery Levels. Programs and Service Delivery Systems categories are condensed. In addition, the allocations in each of these three tables are divided into recurrent and investment costs.

It is important to note that every cost element has multiple dimensions. The tables are simply different perspectives on these dimensions. For example, the cost to train a midwife is (1) a HRH cost; (2) an investment and (3) a MCH program cost. The cost can be view from a combination of these dimensions; it cannot be divided between these dimensions.

Allocating costs to service delivery levels. The HSSP III Service Delivery Systems classified as District costs are Community-Based Health Services; District Health Services (HP, HC, DH); Referral Services; and Pre-hospital Services. National costs capture National Referral Hospital Services as well as provincially and nationally managed programs such as MOH and RBC activities. The HSSP III does not consider the Provincial Hospital Delivery System costs separate from district health services and they are costed likewise.

Allocating costs to programs. For costing purposes, the nine HSSP III programs are consolidated into three groups, as shown in Table 51.

Table 51. Costing by program categories

Costing Program Categories	Strategic Framework Program Categories
MCH, IMCI, EPI, FP, and Nutrition	Maternal & Child Health
	Integrated Management of Childhood Illness
	Expanded Program of Immunization
	Family Planning
	Nutrition
Infectious Disease Control and Prevention	Malaria
	Tuberculosis
	HIV/AIDS
	Neglected Tropical Diseases
	IDSR & DPR
Noncommunicable Disease Control and Prevention	NCDs
	Mental Health
	Health Promotion
	Environmental Health

National program costs are allocated accordingly. The costs of district services and activities are allocated across programs per the results of a 2008–2011 caseload analysis that determined the proportion of consultations per category. In a similar fashion, National Level Services are distributed between the two control and prevention categories.

Allocating costs to support systems. The costing categorization of support systems is in line with HSSP III support system categories. Allocations follow the nature of the cost. For example, staff salaries and trainings fall under human resources for health while the purchasing and maintenance of equipment fall

under health technologies. All operational costs and financial support related to the Mutuelle and performance-based financing programs are classified under health financing.

9.2.2 Overview of costing results

Summary costs of HSSP III (six years)

According to the HSSP II Input-Based Costing, the average 2009–2012 annual per capita health sector expenditure was $47.40. Of the many HSSP II targets achieved, the health sector successfully expanded access to health care through additional infrastructure and human resources for health. The HSSP III equivalent figure increases by 11.4 percent to $52.8 million. Funding the operations of the new facilities and the continued expansion of the two support systems are the primary drivers.

On average, $316.2 million and $296.2 million are required annually at the national and district levels, respectively, which total $612.4 million. Initially, the national costs will account for 54 percent of the total costs. The cost distribution between the national and district levels will gradually reverse as national level infrastructure development is largely completed by 2016. Ultimately, 51 percent of total costs will occur at the district level, in 2018.

Investment vs. operational costs by level of care projection breakdown

Table 52. Resources required for recurrent and investment (USD millions)

	2013	2014	2015	2016	2017	2018	Total	% of Total
Recurrent	$454.9	$454.0	$475.4	$505.9	$510.7	$526.0	$2,926.9	79.7%
National	$222.2	$212.0	$224.0	$244.8	$238.9	$245.6	$1,387.5	37.8%
District	$232.8	$242.0	$251.4	$261.0	$271.8	$280.3	$1,539.3	41.9%
Investment	$127.7	$136.5	$131.9	$137.5	$106.9	$107.2	$747.7	20.3%
National	$93.4	$102.5	$89.0	$94.8	$64.4	$65.6	$509.6	13.9%
District	$34.3	$34.0	$42.9	$42.7	$42.5	$41.6	$238.1	6.5%
TOTAL	$582.6	$590.5	$607.3	$643.3	$617.6	$633.2	$3,674.6	100.0%
Total USD per capita	$52.8	$52.0	$51.9	$53.5	$49.9	$49.7	$309.7	

Significant investment in health infrastructure, human resources for health, and health technologies will occur between 2012 and 2018. The construction of and equipping of national level infrastructure drive the first four years of investment costs. The conclusion of these investments accounts for $25 million of the $30.4 million decrease in 2017 national level infrastructure costs. Despite experiencing a 26 percent sustained increase in 2015, district investment costs will not offset the decrease in national level expenditure in 2017.

As a proportion of total costs, investment costs will decrease from 22 percent to 17 percent between 2013 and 2018. While total cost per capita decreases by 6 percent, this indicator does not reveal the larger, more pressing trend of health sector costs: the ambitious investment plan must be complemented by equally scaled, sustained financial support of the new operations. These recurrent costs will grow by 16 percent between 2013 and 2018.

Unlike investment costs, which will likely decline as the Rwandan health system nears universal accessibility, recurrent costs will continue to grow both in absolute terms and in proportion to total cost. The HSSP III recurrent cost rate of growth is nearly that of Rwanda's population growth rate, inferring that per capita health sector costs will not decline significantly in the long run.

Finally, note the 2016 spike in total cost, which is the result of the confluence of infrastructure investment, LLIN distribution, and other national program recurrent costs.

Support Systems cost projection breakdown

Table 53. Resources required by support systems (USD Millions)

	2013	2014	2015	2016	2017	2018	Total	% of Total
Planning and Budgeting	8.1	7.3	7.4	8.2	7.9	8.1	47.0	1.3%
Recurrent	7.6	7.0	7.1	7.9	7.6	7.8	45.1	1.2%
Investment	0.5	0.3	0.3	0.3	0.3	0.3	2.0	0.1%
Human Resources for Health	182.8	189.9	199.8	201.1	196.2	200.1	1,170.0	31.8%
Recurrent	157.0	159.5	166.0	171.2	172.0	175.8	1,001.7	27.3%
Investment	25.8	30.3	33.7	29.9	24.2	24.3	168.3	4.6%
Medical Products Management	157.7	153.2	162.9	178.8	178.5	185.9	1,017.0	27.7%
Recurrent	157.7	153.2	162.9	178.8	178.5	185.9	1,017.0	27.7%
Investment	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Diagnostic Services	38.2	36.0	38.8	44.4	43.2	44.7	245.4	6.7%
Recurrent	12.2	13.8	16.1	19.1	21.3	22.7	105.2	2.9%
Investment	26.1	22.3	22.6	25.2	21.9	22.0	140.2	3.8%
Health Infrastructure Development	91.4	102.7	96.7	104.6	84.8	85.1	565.3	15.4%
Recurrent	29.9	29.5	30.5	32.2	33.4	33.5	188.9	5.1%
Investment	61.5	73.3	66.2	72.4	51.5	51.6	376.4	10.2%
Health Financing	68.8	70.2	69.9	71.4	72.8	74.2	427.3	11.6%
Recurrent	67.2	68.5	69.9	71.4	72.8	74.2	423.9	11.5%
Investment	1.7	1.7	0.0	0.0	0.0	0.0	3.3	0.1%
Quality Assurance and Standards	16.5	15.5	15.7	17.3	17.0	17.6	99.5	2.7%
Recurrent	15.9	15.1	15.3	16.9	16.6	17.2	97.1	2.6%
Investment	0.6	0.4	0.4	0.4	0.4	0.4	2.5	0.1%
Information & Knowledge Management	19.0	15.7	16.0	17.5	17.1	17.5	102.9	2.8%
Recurrent	7.5	7.4	7.4	8.3	8.4	8.9	48.0	1.3%
Investment	11.6	8.3	8.6	9.2	8.7	8.6	54.9	1.5%
TOTAL	582.6	590.5	607.2	643.3	617.6	633.2	3,674.4	100.0%

Health Infrastructure, Medical Products, and Human Resources for Health together comprise 75 percent of total costs; the recurrent costs of the latter two account for 55 percent of the total. As the medical equipment maintenance program is scaled up, the diagnostic services recurrent costs will experience the greatest relative growth of any support system, increasing by 86 percent between 2013 and 2018.

9.2.3 Program cost projection breakdown

Table 54. Resources required by programs (USD millions)

Programs	2013	2014	2015	2016	2017	2018	Total	% of Total
MCH, IMCI, EPI, FP, and Nutrition	182.1	192.9	203.3	206.4	209.4	215.4	1,209.4	33%
Recurrent	147.5	155.4	161.9	166.5	172.2	178.3	981.7	27%
Investment	34.6	37.5	41.4	39.9	37.1	37.2	227.8	6%
Infectious Disease Control and Prevention	305.4	297.7	304.6	331.0	311.3	317.2	1,867.1	51%
Recurrent	241.0	230.3	241.2	263.2	258.3	264.1	1,498.2	41%
Investment	64.4	67.3	63.4	67.8	53.0	53.1	369.0	10%
Noncommunicable Disease Control and Prevention	95.2	100.0	99.5	105.9	96.9	100.5	598.0	16%
Recurrent	66.5	68.3	72.3	76.2	80.2	83.6	447.0	12%
Investment	28.8	31.7	27.2	29.7	16.8	16.9	151.0	4%
TOTAL	582.6	590.5	607.3	643.3	617.6	633.2	3,674.6	100%

About 72 percent of Infectious Disease Control and Prevention Program costs and 54 percent of Noncommunicable Disease Control and Prevention Program costs occur at the national level. The declining investment costs of these two programs largely offset the growing recurrent costs. Conversely, the majority of the MCH, IMCI, EPI, FP, and Nutrition Programs' costs, around 80 percent, occur at the district level. In line with these programs' ambitious HSSP III targets, their collective costs will grow by 18.3 percent between 2013 and 2018. The primary driver for the growth is the national scale-up of integrated treatment services with the intent to reduce child mortality rates. Infrastructure costs for this program group grow slightly.

9.3 Comparing the findings of MBB and IBC

Although MBB and IBC use different costing methodologies, they come to very similar figures with regard to the resources needed to implement HSSP III. IBC determines the cost of all inputs required to achieve HSSP III targets for the Rwandan fiscal years of 2013–2018, while MBB estimates the additional resources needed to reduce the identified MDG bottlenecks and ultimately increases effective coverage of interventions included in the service packages.

The resulting figures are as follows:

1. For the Input-Based Costing methodology, the total needed budget to achieve HSSP III targets is estimated at **$3,674.6 million**.
2. For the MBB costing methodology, there are three scenarios with different figures: (1) low-cost scenario: **$3,535.3 million,** (2) medium-cost scenario**: $3,848.4 million** and (3) high-cost scenario: **$4,218 million.**

The main reason of having almost similar cost estimates is that both have used, in most of the cases, the same targets from health sector prioritization workshop. These targets have been informed by the same national and international commitments, including MDGs, and by the gap in available coverage of support systems with regards to norms and standards. The proportions of recurrent versus investments and service delivery levels are also not largely different.

Two important conclusions can be drawn from these findings:

- Scenario 3 is the ideal scenario that should be aimed for; however, it requires a considerable amount of money. In case of shortage of resources, MBB proposes two other scenarios with less investment cost and reduced outcomes in terms of bottleneck reduction (see Table 49 and Figure 10).
- Rwanda's internal and external resource mobilization efforts need to be strengthened in order to meet Scenario 3. Indeed, a strong commitment is needed by all actors to sustain achievements and timely reach VISION 2020 and HSSP III targets.

9.4 Financial Gap Analysis

This section presents an analysis, based on current and committed funding and current and future resource needs, of the potential funding shortfall for the health sector over the next six years, from 2012–2018. This involves two steps. First, a resource mapping of sources of funding, both internal and external to Rwanda (as well as public and private), will estimate the total resource envelope available to the health sector through 2018. This mapping focused on the largest donors (representing over 97% of current external funding) to ensure that major trends in funding were captured. Second, the available resources will be compared with the estimated cost of achieving the goals outlined in the previous section.

Possible scenarios of the funding gap (or surplus) for the health sector were calculated based on different assumptions in five areas: costs, domestic public (government) resources, domestic private contributions to health, on-budget development partner resources, and off-budget development partner resources.

The analysis defines only the total envelope of costs and resources available; it does not deal with particular programs or line items within the health sector. The starting point for estimating resources available is based on budgets and budget projections because these reflect the total amount of resources available. The analysis was done for six years, following the Rwandan fiscal year (running from July 1 to June 30), starting in 2012/13 and going to 2017/18.

9.4.1 Resource mapping

Resources from domestic sources: Data sources and assumptions

1. The Medium-Term Expenditure Framework (MTEF), which is used as a budget planning tool and projects budgets two years into the future, is used in the analysis, adjusting the projections to take into account average underestimation of final budget. These adjusted projections are used to estimate resources available for the health sector budget.
2. MINECOFIN projections are also used in the analysis. Based on macroeconomic projections of GDP, the amount of resources available to the GOR is projected, a portion of which is then allocated to the health sector.
3. The HSSP III financing goal of having central MOH plus district MOH be 15 percent of the General Government Budget (GGB) is used in this analysis. This indicates that a greater proportion of the GGB will be devoted to health than is predicted in the MINECOFIN projections.
4. District government budgets for MOH are included, based on the following:
    a. We project district budgets into the future according to their historical rate of increase compared to central government budgets' rate of increase.
    b. When establishing past trends, a correction to the budget was made, since in FY11/12 districts had an execution rate of over 100 percent by 984 million Rwfs, and using budgets would underrepresent the amount of district MOH resources available in that year.
5. Household spending on health is projected both as a function of GDP and total health expenditure, based on the 2009/10 National Health Accounts (NHA) preliminary results, which included data from a nationally representative household survey (DHS 2011).
6. Parastatal and private employers' health spending are included in the analysis, and they are projected as a function of GDP based on the 2009/10 NHA preliminary results.

Resources from external sources: Data sources and assumptions

For on-budget projections, both MTEF/MINECOFIN projections and reports from donors are considered. Because not all development partners were interviewed, resources from development partners not interviewed are projected as 2 percent of total bilateral partner resources from those interviewed. Contributions from multilateral partners not interviewed (mainly United Nations agencies) are projected at $9 million per year, based on data from the last year available in the Rwandan Health Resources Tracking tool.

9.4.2 Cost

The costing section presents four estimates of the resources needed to implement the Strategic Plan based on three "Marginal Budgeting for Bottlenecks" (MBB) scenarios and one Input-Based Costing exercise. While the costing estimates included in the HSSP III identified funding gaps, these conclusions relied on the assumption that funding levels would remain at current levels over the next six years. Since only the Input-based and MBB "medium" scenarios are explicitly based on the HSSP III goals, they are given priority in this analysis.

9.5 Findings

9.5.1 Resource mapping

Scenarios were developed for the three main sources of funding: domestic resources, on and off-budget from developing partners. The table below presents the different scenarios by type of funding sources.

Domestic resources

Three scenarios were developed and used for domestic resource availability: (1) MTEF adjusted projections for the next two years followed by MINECOFIN projections ("Adjusted MTEF + MINECOFIN"); (2) MINECOFIN projections for all years ("MINECOFIN"); (3) Reaching the HSSP III financing goal of having central MINISANTE plus district MINISANTE be 15 percent of GGB ("HSSP III goals").

On-budget development partner resources.

Development partners that contribute on-budget support to the health sector in Rwanda include Belgian Technical Cooperation (BTC), USG (through support for human resources for health), DFID, GAVI, the Global Fund, and several other bilateral and multilateral (primarily UN) agencies. Of these, the Global Fund is by far the largest contributor, comprising over 70 percent of on-budget support from external partners. DFID will be ending sector support to the health sector in 2015, while the order of magnitude of BTC support will likely continue at least through 2020.

Four scenarios were developed and used for on-budget support. The "Minimum" scenario represents money that development partners have strong confidence will be available, the "Medium" represents a situation some additional money is available, the "Maximum" represents the maximum amount of money thought by development partners to be available (under current circumstances), and "MINECOFIN" represents the on-budget projections made by MINECOFIN.

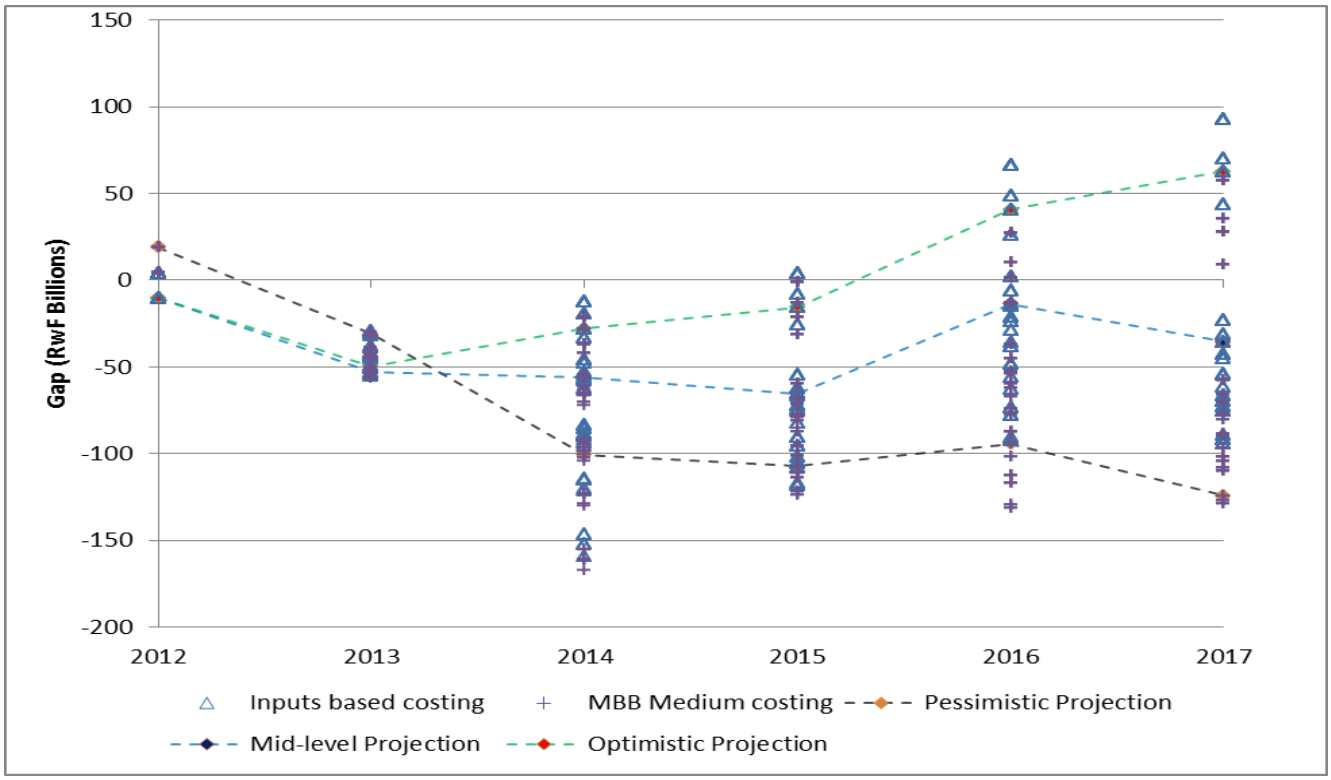
Off-budget development partner resources

The same scenario classification (Minimum, Medium, Maximum) is used for off-budget development partners that is used for on-budget development partners, except for the MINECOFIN projections, which are not used here (since MINECOFIN does not project off-budget support). The large majority of off-budget resources from development partners, like on-budget support, come from a single donor; in this case the United States (either USAID or CDC). Although US funding represents over 90 percent of off-budget funding, over the last few years, US contributions have declined slightly; this trend is expected to continue. However, interviews with USAID staff indicate that US funding may be contingent on funding from other sources, notably the Global Fund. Thus, if Global Fund resources start to shrink, this may slow or halt the decline in US funding.

9.5.2 Scenarios

On the basis of the different scenarios described above for the different inputs (two costing scenarios, three scenarios for domestic public [government] resources, two scenarios for households' contributions to health, four scenarios for on-budget development partner resources, and three scenarios for off-budget development partner resources), 144 scenarios are possible for the analysis.

Figure 11. Results from 144 scenarios considered in this analysis, by year and costing scenario



For simplicity sake, three projections have been selected for more detailed presentation; they are represented by the dotted lines in Figure 11.

1. The lowest line represents a pessimistic projection, in which both domestic and external resources are near the minimum of the possible scenarios (the "Pessimistic Projection"). This projection reflects MINECOFIN projections for domestic resources, and donor funding only in line with what donors are very confident will be available. Thus, this is a scenario where very little resource mobilization takes place in the future.
2. The dotted line in the middle ("Mid-level Projection") alters the pessimistic projection by assuming optimistic (for off-budget) and very optimistic (for on-budget) scenarios for development partner funding. Thus, the difference between the lower two lines can be interpreted as the difference between low and high donor support (within the envelope of possible donor support estimated from the resource mapping). Thus, these two projections show the difference in the funding gap if development partners are fully mobilized.

   The highest line ("Optimistic Projection") represents achieving the financing goals laid out in the HSSP III. Thus, the difference between the mid-level projection and the optimistic projection is the difference between low and high resource mobilization from domestic sources.

Table 55. Scenarios used for the projection

Scenario Area	Pessimistic	Mid-level	Optimistic
GOR Resources	Adjusted MTEF + MINECOFIN	MINECOFIN projections	HSSP III goals
On-Budget DP	Minimum	Maximum	Maximum
Costing	MBB Medium	Input-based	Input-based
Off-Budget DP	Minimum	Medium	Medium
Households	% THE	% GDP	% GDP

As Table 56 shows, the total resources projected to be available reach a total of 1,900 billon Rwfs, 2,031 billion and 2,265 billion respectively for the pessimistic, mid-level and optimistic scenarios. The mid-level scenario represents a "hold-steady" projection where resources for health increase slightly in the future. However, the increase in available resources is not enough to cover the estimated amount needed to reach the goals outlined in the HSSPIII, and funding gaps are projected for all years. The optimistic scenario represents nearly a quadrupling of internal sources of financing for the health sector, in contrast to the MINECOFIN scenario, where resources for health slightly less than double. Thus, this projection represents more than double the domestic government health spending estimates than the current MINECOFIN projections for that budget. As in the mid-level projection, development partner funding is expected to decline overall, except for fluctuations in Global Fund contributions.

Table 56. Costs and resources available in the three projection scenarios (in billions Rwf)

Parameter	Pessimistic	Mid-level	Optimistic
Projected Costs	2,339.3	2,265.5	2,265.5
MINISANTE Budget	907.3	1,032.0	1,266.6
of which external	490.6	594.3	594.3
of which internal	416.7	437.7	672.2
District MINISANTE	265.0	265.0	265.0
of which external	7.1	8.6	8.6
of which internal	257.9	256.4	256.4
Parastatal	88.7	88.7	88.7
Development Partners Off Budget	420.0	470.3	470.3
Households	360.5	316.1	316.1
Private Employers	69.7	69.7	69.7
Total Projected Resources Available	1,900.3	2,030.9	2,265.5
Funding < gap > / Surplus	<439.0>	<234.6>	<0.1>
Funding <gap>/Surplus as Percentage of Resources Available	<24.4%>	<11.9%>	<1.2%>

The overall funding gap of the resource projected to be available is—that is, on average across the years, about 24 percent, 12 percent for the pessimistic and mid-level scenario. The optimistic scenario is shows a slight gap of 1.2 percent; this is due to the existing funding gap through the first four years.

Therefore, more funds would be needed than are projected to be available in order for there to be no funding gap.

9.6 Discussion

9.6.1 Resources available

For development partners, the resource mapping shows that bilateral funds are unlikely to increase; it is most likely they will decrease, especially through FY 2014/15, and then hold steady, although they possibly could continue to decline after that as well. Multilateral funding is harder to predict, and largely depends on resources from the Global Fund. If the Global Fund opens a round this year, Rwanda will likely put in applications for TB and malaria funding; next year it plans to apply for HIV/AIDS funding. All scenarios assessed here do not include these proposed applications, although likely they would be modest in size. Rwanda's past good track record should help it to maintain Global Fund funding at about current levels, but that is not guaranteed.

The projected continued robust economic growth in Rwanda presents an opportunity to mobilize domestic resources. It should be noted that if health spending continues at its current proportion of GDP (about 8.2%), then there would be enough resources available to reach the HSSP III goals; even in the most optimistic projection discussed above, health spending as a percentage of GDP was estimated to be less than 8.2 percent in future years. However, the high level of spending in 2012/13 is supported by an influx of Global Fund money, which is unlikely to continue for all years in the future. Over 50 percent of current spending is supported by external resources and is not related directly to Rwanda's GDP. Thus, while health spending typically tends to occupy a greater share of GDP as economies grow, this is by no means a certain outcome over the next six years in Rwanda.

Finally, the resource mapping has shown that there have been recent shifts (in the last year) to funding HRH by both USAID and the Global Fund. This is apparently a new development since the HSSP III was first drafted; it reflects a reallocation of resources (rather than availability of new resources).

9.6.2 Gap analyses

The MINECOFIN projections for domestic resources reflect a best guess as to what might constitute "business as usual." The gap analyses conducted above show that this "business as usual" scenario will not produce enough resources to meet the HSSP III goals. Further, even maximum amounts of aid from existing bilateral donors (based on current thought) are unlikely to be sufficient to close the gap in the absence of increased domestic spending. However, increased domestic funding in-line with the financing goals stated in HSSP III would be close to sufficient to meet the other goals of the HSSP III, especially if development partners are able to mobilize their maximum estimated resources.

9.6.3 Recommendations

The above findings show that funds are likely to be insufficient to achieve HSSP III targets if the health sector does business as usual. The health sector will need to mobilize funds from both internal and external sources.

Mobilize resources

Internal resources. Actions to be taken to mobilize internal resources include, but are not limited to, the following:

- Engage the private sector in key subsectors, such as construction of new health facilities to improve geographical access to health services, and in the pharmaceutical industry;
- The existing public-private partnership (PPP) model for creation of health post will be strengthened and other areas of the health sector where PPP can be applied will be explored;
    - Improve hospital financial performance—the health sector, in close collaboration with the Ministry of Finance and Economic Planning, have already started investing in critical actions to improve hospital management;
- Mobilize more district contributions, both in cash and in kind. This is likely to result in an increase of share spent in health (mainly from block grants they get from the central level government (through Rwanda Local Development Support Fund);

- Increase capacity of community health workers' cooperatives in financial management and mobilize them to investment in health;
- Improve efficiency in management of existing programs. Taking advantage of a well-established Rwandan health system, new services will be integrated in the system.

External resources. The following actions will be taken to mobilize external resources:

- Explore all opportunities for grants and submit proposals in a diversified range of subsectors: infectious disease, noncommunicable diseases, health systems, etc.;
- Build the capacity of SPIU, MOH departments, RBC, and teaching hospitals in proposal writing and grant application;
- Sustain and improve performance in grant management.

The health sector will also need to select priority of priorities in case of funding scenarios other than the pessimistic. In that case, following areas will be given priority:

- Sustaining the high-impact interventions that enabled the country to reduce maternal and child mortality, HIV, and malaria prevalence;
- Maintaining operational costs of existing health facilities (salaries, maintenance of equipment, etc.) and delaying investments in construction of new hospitals;
- Improving less-costly prevention interventions in the community (nutrition program, hygiene promotion, child growth monitoring, etc.) and in health facilities (check-up for early detection of diseases, etc.) with more ownership of local government and other sectors, and the participation of community leaders.

Finally, in the case of insufficient funding of HSSP III, the health sector may not be able to meet the ambitious targets set in the strategy. MBB proposes different levels of indicators related to three funding scenarios. These levels don't match exactly with this gap analysis but they give an indication of what is possible, given that the gap is calculated based on the mid-level MBB scenario.

9.7 MINECOFIN Model for Costing and Gap Analysis Table

Table 57 summarizes the HSSP III costing and gap analysis using the MINECOFIN model. The estimates of total costs and available financial resources provided by this model are significantly different from those presented using MBB and IBC costing tools because this model differentiates the costing at central and district levels, whereas, the two other models takes both together. This is due to the methodology and the sources of information.

Data used for the costing estimates in Table 57 come mostly from MINECOFIN and from MTEF 2012–2013 projections for MoH. The expenditure data come from the costing of strategies included in the HSSP III.

The total cost estimate in this table is 1,067 billion Rwfs (for 5 years), which corresponds to approximately $1,694 million (at exchange rate of 630 Rwfs / 1USD).

For estimation of available resources, the model gives a total of 758 billion Rwfs for 5 years (funds available for EDPRS 2).

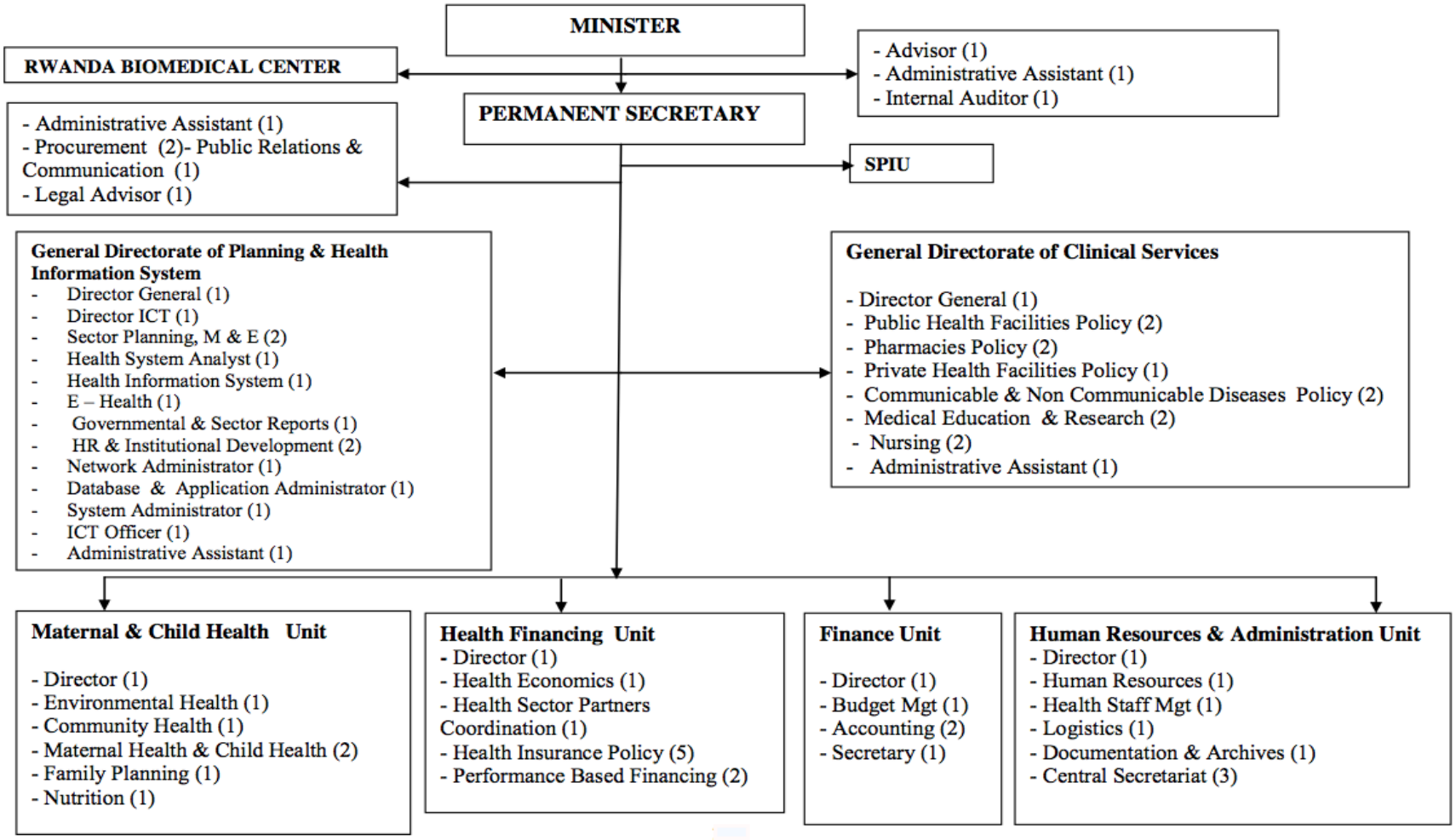
The recommendations made above about internal as well as external resource mobilization and about the need to prioritize are all the more pertinent in view of the estimations obtained using the MINECOFIN model presented in Table 57.

Table 57. Format for sector cost and financing, in Rwfs

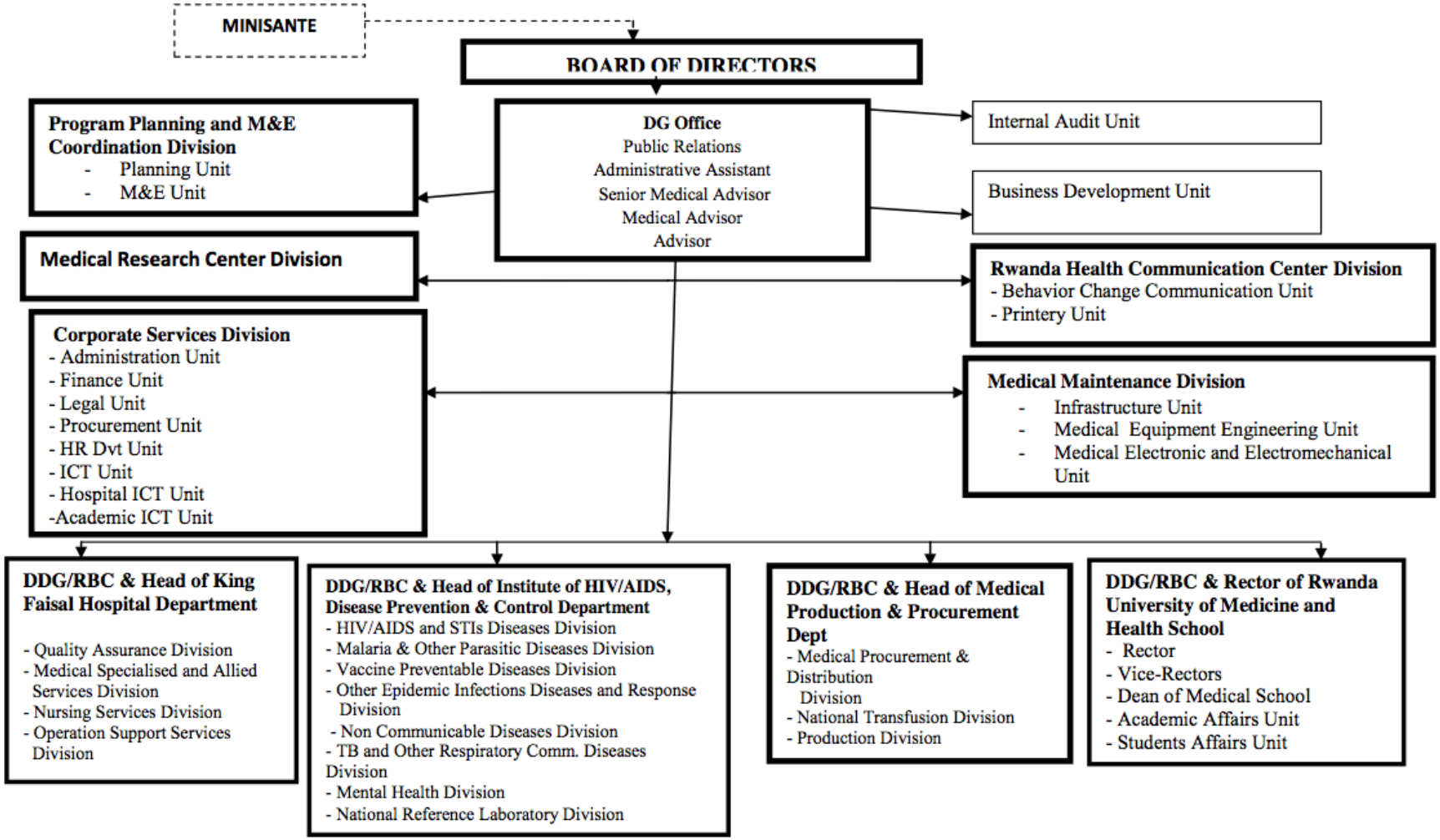
Amount in Rwf	2013/14	2014/15	2015/16	2016/17	2017/18	Total for EDPRS 2
Funds Available						
Government	151,163,064,259	101,532,533,849	109,655,136,557	118,427,547,481	127,901,751,280	**608,680,033,426**
Donor projects	62,107,489,876	62,107,489,876	62,107,489,876	62,107,489,876	62,107,489,876	**310,537,449,380**
Private sources	18,712,676,857	14,063,000,000	14,063,000,000	14,063,000,000	14,063,000,000	**74,964,676,857**
Other sources						**0**
Total	231,983,230,992	177,703,023,725	185,825,626,433	194,598,037,357	204,072,241,156	**994,182,159,663**
Existing Baseline Expenditure	41,804,787,377	44,313,074,620	46,971,859,097	49,790,170,643	52,777,580,881	**235,657,472,617**
Funds Available for EDPRS 2	190,178,443,615	133,389,949,105	138,853,767,336	144,807,866,714	151,294,660,275	758,524,687,046
Total Projected Cost						
National project costs	184,118,164,590	176,634,218,983	172,005,567,529	179,648,837,589	162,328,885,045	**874,735,673,736**
Districts' project costs	21,766,400,830	27,963,972,512	36,059,041,055	46,634,613,087	60,452,948,035	**192,876,975,518**
Total	205,884,565,420	204,598,191,495	208,064,608,583	226,283,450,676	222,781,833,079	**1,067,612,649,254**
Overall Deficit/ Surplus	**-15,706,121,805**	**-71,208,242,390**	**-69,210,841,247**	**-81,475,583,962**	**-71,487,172,804**	**-309,087,962,208**
% Surplus/ Deficit	**-7%**	**-40%**	**-37%**	**-42%**	**-35%**	**-31%**

ANNEXES

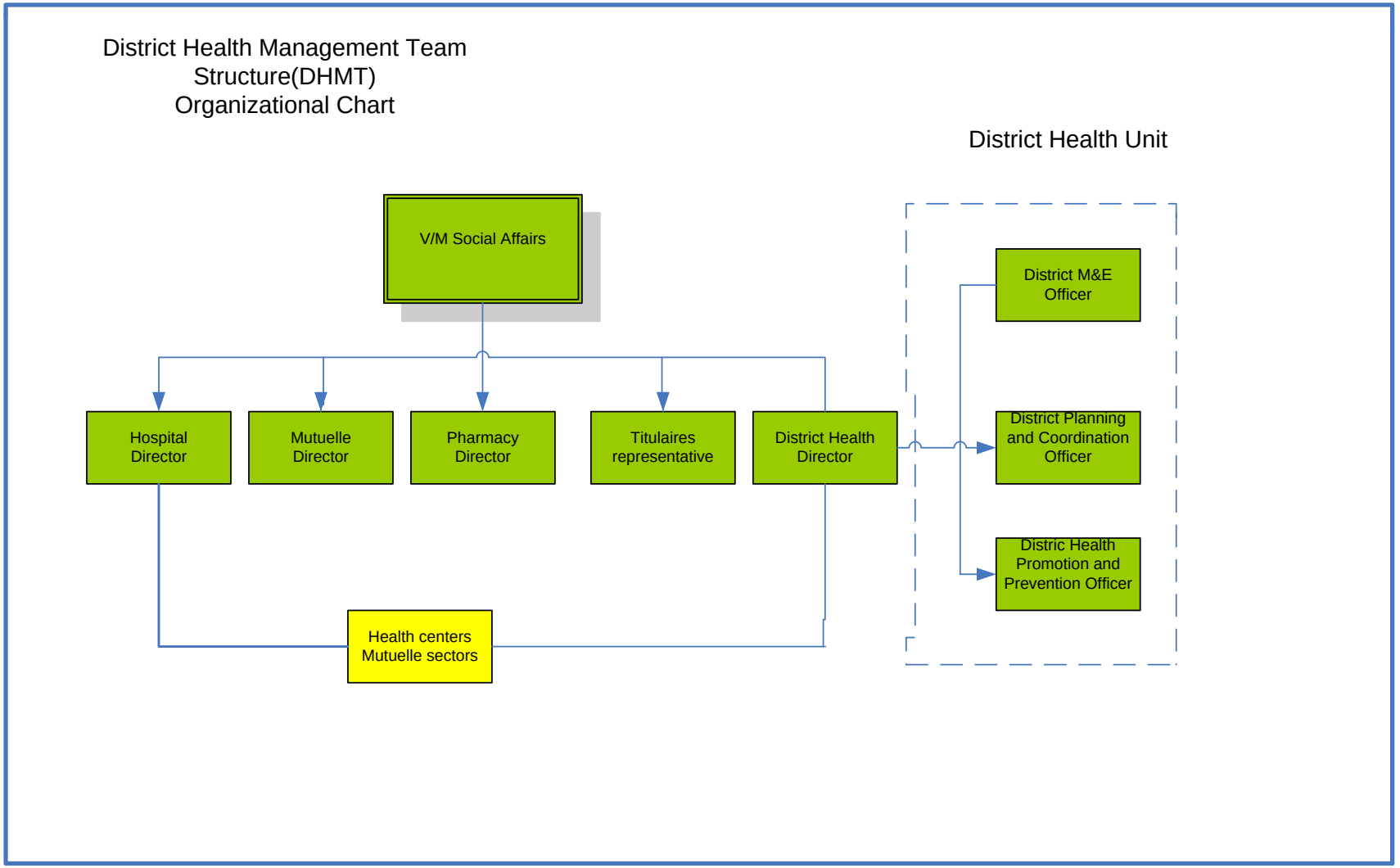
ANNEX 1. ORGANIZATION CHART OF THE MINISTRY OF HEALTH



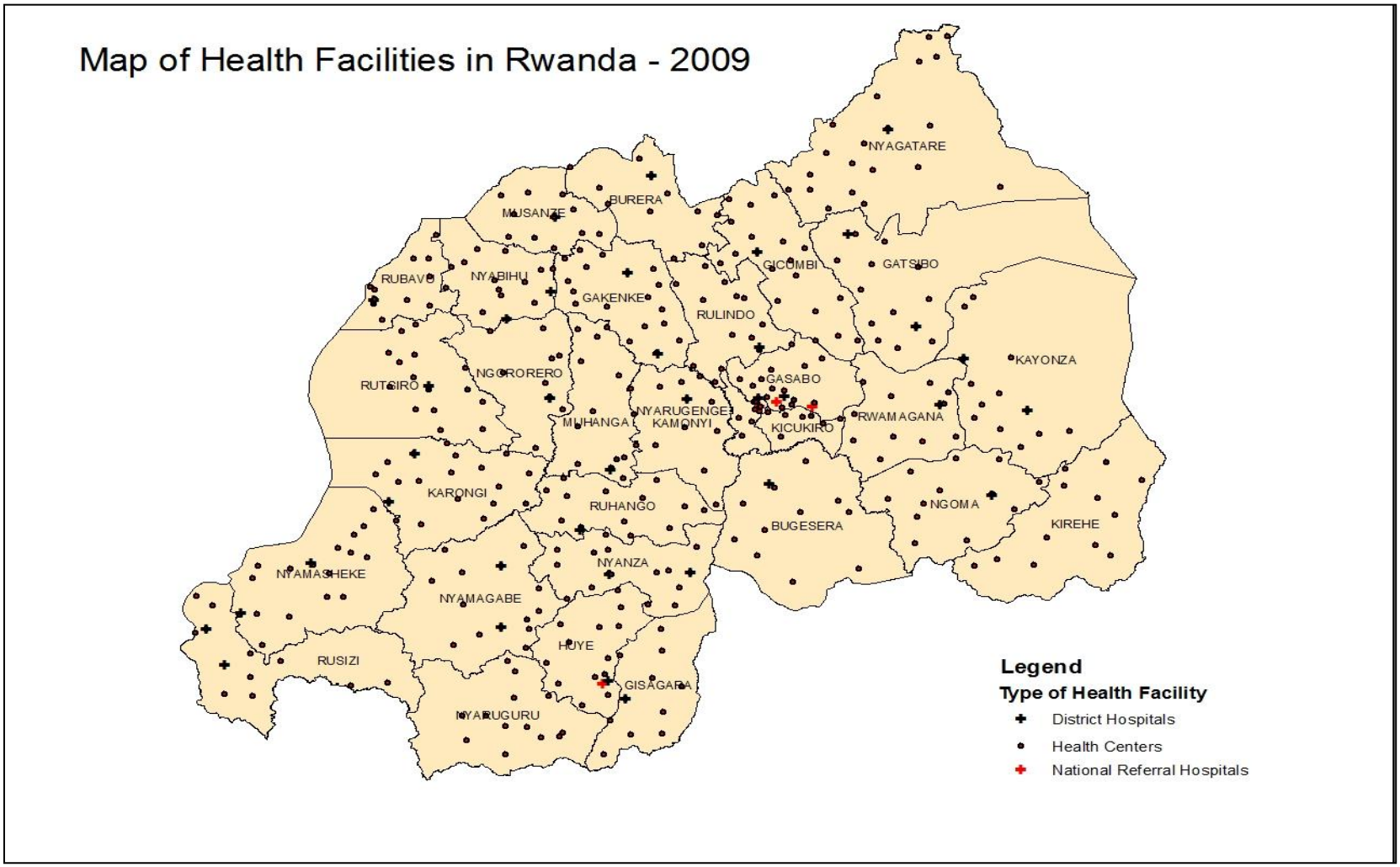
ANNEX 2. ORGANIZATION CHART OF THE RWANDA BIOMEDICAL CENTER



ANNEX 3. ORGANIZATION CHART OF DHMT AND THE DHU



ANNEX 4. MAP OF HEALTH FACILITIES IN RWANDA – 2009



ANNEX 5. LIST OF ONGOING PROJECTS

Year	Name of Development partner	Loan/ Grant	Purpose	Project/ Sector Budget Support	Amount Received (Cumulative Expenses)
2010–2013	Global Fund	$ 254,020,743	Fight against HIV	Project	$ 212,505,594
2010–2013	Global Fund	$ 34,250,245	Fight against Tuberculosis	Project	
2011–2014	Global Fund	$ 19,206,882	Fight against Malaria	Project	$ 15,980,783
2010–2016	World Bank	$ 8,519,663	EAPHLNP (East African Public Health Laboratory Network Project)	Project	$ 1,720,918
2011–2012	CDC	$ 410,000	Enhancing capacity to effectively coordinate HIV prevention efforts	Project	$ 267,443
2011–2012	CDC	$ 2,602,000	Rapid strengthening of blood transfusion services	Project	$ 2,186,788
2011–2012	CDC	$ 450,000	Sustaining influenza surveillance networks and response to seasonal and pandemic	Project	$ 263,745
2011–2012	CDC	$ 390,000	Supporting the KHI strengthen laboratory training	Project	$ 140,949
2011–2012	USA/CDC	$ 6,383,901	Strengthening the capacity of MOH to respond to the HIV/AIDS epidemic in Rwanda under PEPFAR	Project	$ 6,111,517

Year	Name of Develop-ment partner	Loan/ Grant	Purpose	Project/ Sector Budget Support	Amount Received (Cumulative Expenses)
2011–2012	USA/CDC	$ 1,443,500	Strengthening the capacity of the GOR in HIV/AIDS diagnosis	Project	$ 985,893
2011–2012	USA/CDC	$ 4,247,501	Strengthening the capacity of (ex) TRAC Plus to support program implementation in the Republic of Rwanda under PEPFAR	Project	$ 1,931,524
2009–2013	Rockefeller Foundation	$ 1,368,151	E–Health project	Project	
2010–2014	BTC/MS4 (Belgium)	€ 2,292,391	Sub-program CTB/MINISANTE phase 4	Project	€ 1,013,569
2011–2012	USA/CDC	$ 1,783,696	Capacity development pooled fund	Project	$ 1,637,560
2012–2014	GAVI Alliance	$ 2,553,129	Global alliance for vaccine and immunization	Project	$ 719,729
SECTOR BUDGET SUPPORT					
2011–2012	Belgium	$ 6,620,000			
2011–2012	United Kingdom (DFID)	$ 2,450,000			
2011–2012	Germany	$ 4,620,000			
2011–2012	World Bank	$ 4,000,000			

ANNEX 6. LIST OF ADOPTED POLICIES AND STRATEGIES SUPPORTING HSSP III

POLICIES	PERIOD	STRATEGIC PLAN	PERIOD
HRH Policy	Draft / Dec 2011	HRH Strategic Plan	2012–2015
Health Sector Policy	February 2005	Health Sector Strategic Plan II	2009–2012
National Reproductive Health Policy	July 2003		
National Behavior Change Communication Policy	December 2006		
Health Promotion Policy	2010		
National HIV/AIDS Policy	December 2005	National Strategic Plan on HIV/AIDS	2009–2012
TB/HIV Policy	August 2005	National Tuberculosis Strategic Plan	2009–2012
Community Health Policy	2008	Community Health Strategic Plan	Draft 2009–2012
Family Planning Policy	March 2006	Family Planning Strategy	
Child Health Policy	April 2009	Plan strategic d'acceleration de la survie de l'enfant	2008–2012
		Multisectoral Strategy to Eliminate Malnutrition	2011–2013
Palliative Care Policy	July 2010	Palliative Care Strategic Plan	
National Medical Laboratory Policy	July 2005	National Reference Laboratory Strategic Plan	2010–2014
Traditional Medicine Policy	Draft 2010	Strategic Plan on Traditional Medicine	2009–2013
Environmental Health Policy	July 2008		
National Blood Transfusion Policy	May 2006		
Health Financing Policy	December 2009		
Quality Policy	August 2010	National Strategy for Quality Management	2008
		District Health Systems Strengthening Framework	September 2008
National Community Health Policy	2007		
		Rwanda Decentralization Framework	
		E-Health Strategic Plan	2009–2013
National Health Insurance Policy	April 2010		
Mutual Health Insurance Policy	April 2010		
National Pharmaceutical Policy		National Pharmaceutical Strategic Plan	2009–2011
Mental Health Policy		Mental Health Strategic Plan	2008–2012
Health Sector Research Policy	February 2012		
Adolescent Sexual Reproductive Health and Rights Policy	October 2011 (final)	National Adolescent Sexual Reproductive Health and Rights Strategic Plan	Oct. 2011 (draft)

ANNEX 7. LIST OF TECHNICAL WORKING GROUPS AND SUBGROUPS

Technical working groups (TWGs) are operational entities where technical and policy issues are discussed by staff of the MOH with relevant and interested representatives of development partners, NGOs, and FBOs. In most instances, people participate in their technical capacity and do not normally represent their agencies.

The objective of the TWG is to support and advise the MOH in the implementation of sector strategies and policies. All TWGs operate under the authority of the Health Sector Working Group (HSWG), which is constituted of representatives of the MOH, DPs, and civil society.

All TWGs (with their "desks" and sub-desks) are coordinated and guided by a chair (MOH representative) and a cochair (DP representative). The performance of the TWG varies over time with the capacity of the chair and cochair to effectively coordinate TWG members.

The MOH distinguishes the following technical working groups

Maternal and Child Health

The MCH Unit of the MOH is composed of several desks and sub-desks, most of which work with partners in technical working groups in which all the required technical expertise is brought together.

- Maternal (including Fistula) and Child Health Units (with sub-desks in ASRH&R and Gender / Gender-Based Violence)
- Family Planning Desk
- Nutrition Desk
- Community Health Desk
- Environmental Desk
- The EPI Desk (This desk has recently been moved to RBC)
-

Other (operational) TWGs, and related desks and sub-desks, are working in the areas of:

Prevention of Diseases

- HIV and Other Communicable Diseases
- Noncommunicable Disease (NCDs)
- Health Promotion and BCC
- Environmental Health

Treatment and Control of Diseases

- Care and Treatment
- Mental Health
- Laboratory
- Epidemic Control and Surveillance

Health Systems Strengthening (HSS)

- Planning, Budgeting and M&E
- Human Resources for Health
- Health Commodities
- Health Technology
- Health Financing
- Quality of Service Delivery
- Governance and Decentralization
- Specialized Services

Social Mitigation

- OVC and Other Vulnerable People
- Approbation of Micro-projects

Health Sector Research

- Communicable Diseases
- Noncommunicable Diseases
- Operational Research
- Clinical Research
- Research in Social Sciences

HIS and e-Health / e-Learning

ANNEX 8. INVENTORY OF POLICY ACTIONS THAT ADDRESS CROSSCUTTING ISSUES (GENDER, CAPACITY-BUILDING, AND REGIONAL INTEGRATION)

GENDER

Maternal and Child Health

- Integrate gender considerations in all strategies and activities in Maternal and Child Health
- Implementation of lifesaving techniques to decrease maternal and neonatal mortality (Kangaroo Mother Care, Help Baby Breathe, management of Post-partum hemorrhage, post-abortion care, antenatal and post-natal care, emergency obstetrical and neonatal care)
- Increase male involvement in Reproductive Health related decisions
- Introduce and expand family and community-centered Early Child Development services
- Adolescent Health: Prevention of teenage pregnancies, adolescent sexual and reproductive health education for girls age 12+, mass media campaigns and establishment of youth corners in health centers for youth-friendly services, school programs for ASRH, SGBV interventions for adolescent girls
- Gender-based violence: establishment of One-Stop Centers in DH and sensitization by CHWs
- Family Planning: Introduction in school curriculum, male sensitization
- Nutrition

Malaria

- Prevention in pregnant women (maternal intermittent prophylaxis, distribution of impregnated bed nets)

HIV

- Mainstreaming gender in all HIV programs
- Interventions targeting key populations, many with a gender connotation: young women 15–24, sex workers and their clients (mobile workers, men in uniforms), men having sex with men (MSM), sero-discordant couples
- Male circumcision
- Male and female condom promotion
- Prevention of mother-to-child transmission: family approach, male partner involvement

Health Communication

- Gender mainstreamed in all health promotion/ BCC interventions
- Community dialogue: events with women cooperatives and other women groups
- Engage men and boys in the fight against GBV

Health Financing

- Integrating gender perspective in health financing data collection, analysis and policies

CAPACITY BUILDING

Maternal and Child Health

- Infrastructures for EMONC and neonatology services
- Infrastructures and equipment to improve Immunization Program
- Equipment and commodities for Family Planning
- Training of health care providers and of community health workers for improved MCH services
- One-Stop Centers for GBV victims established in all DHs
- Strengthening of community-based nutrition program

Malaria

- Lab capacity strengthening (equipment and human resources)
- Ensure effective procurement and stock management of medications through MPDD

Neglected Tropical Diseases

- Strengthen diagnostic and treatment capacities in health facilities (training, lab, medicines)

Tuberculosis

- Lab capacities: introduction of new equipment: GenXpert machines, X-ray machines
- Systematic TB screening of HIV patients
- Training, supervision, and mentoring of health care providers, community health workers, traditional healers
- New equipment for health facilities: Spirometers, oxygen concentrators
- Involvement of private clinics for TB diagnosis and treatment

HIV

- Upgrade VCT/PMTCT sites to have ART sites in all health facilities (hospitals and health centers)
- Scale-up male circumcision (training, MC kits)
- Task shifting, with nurses competent to perform tasks previously limited to doctors
- Diagnosis and treatment of co-morbidities (STIs, Hep B, TB/OIs)
- Strengthen the M&E system, particularly the community-based M&E system

Mental Health

- Avail MH services in all DHs and HCs (training, supervision, psychotropic drugs)
- Training of new psychiatrists
- Training of CHWs for community-based interventions
- National program against alcohol and drug abuse

Noncommunicable Diseases

- Strengthening capacities for diagnosis and treatment of NCDs (equipment of referral and district hospitals, training of health care providers and community health workers, M&E system)

Infectious Diseases Surveillance and Response

- Training of public and private health care providers and of community health workers
- Strengthen surveillance of emerging diseases
- Establish Epidemic Preparedness Plans in all districts

Health Communication

- Training of health promotion and BCC providers, CHWs, and local leaders
- Strengthen Rwanda Health Communication Center printing and production infrastructure and equipment
- Strengthen existing call center (hotline)

Environmental Health

- Establish and strengthen community hygiene clubs
- Scale up food establishment inspection

Planning

- Strengthen decentralized annual planning
- Roll out Open EMR to health facilities
- Train and provide mobile phones to community health workers for Rapid SMS

Human Resources for Health

- Increase quantity and quality of HRH (doctors, nurses, midwives, lab techs)
- Strengthen professional bodies for improvement of quality of training, accreditation and best practices
- Expand and Strengthen capacity of Teaching Institution (TI)(Infrastructure, equipment and staff);

Medical Products

- To ensure an efficient distribution system of high-quality essential medicines and other health commodities to the public in adequate quantities
- Developing capacity for in-country manufacture of medicines
- Strengthening regulatory and control systems for essential and complementary medicines
- Institutionalization of traditional medicine and integrate it in health system
- Ensuring transportation and storage of medical products in good conditions

Health Technologies

- Ensure laboratory infrastructure meet the required national norms and standards
- Ensure the release of accurate quality results
- Ensure the number of Lab technicians within the LN according to national norms and standards
- Ensure accurate and timely quantification of lab reagents and consumables

Health Infrastructure and Medical Equipment Development

- Ensure geographical accessibility to HFs to the population
- Health infrastructure and equipment comply with international standards
- Develop maintenance system
- Ensure that all HFs are connected to the national grid energy and potable water (EWSA)

Health Care Financing

- Strengthen CBHI operations and management at all levels (using IT tools)
- Implementation of Facility Integrated Financial Management Information System (FIFMIS) and resource allocation mechanism
- Strengthen District PBF Steering Committees to own the PBF monitoring and evaluation activities as a key component of quality management and accreditation
- Institutionalize HR Tracking Tool (HRT); Use of HRT output
- Enhancing capacity for using HRT data together with data from other existing data systems (HMIS, DHSST, etc.) to develop more comprehensive reports on health financing-related issues

Quality of services

- Regularly evaluate quality of services at all levels (link PBF)
- Results from accreditation evaluation guide the PBF incentives allocation
- Establish Continuous Quality Improvement System (CQI) in all health facilities

Information Management

- Harmonize M&E systems and procedures across institutions and levels

- Health institutions to implement harmonized M&E frameworks linked to their strategic plans
- Institutionalize data quality assessment
- Strengthen capacity in planning M&E of health workers and program managers
- Strengthen data dissemination and publication; widen dissemination
- Increase administrative district/sector participation in health program M&E and planning

Governance

- Strengthen the capacity of DHU, DHMT, and District Health Commission for district health planning and coordination
- Strengthen and integrate the financial management at district level for effective fiscal decentralization
- Intersectoral activities (nutrition, ECD, SGBV, ASRH, marginalized groups, PWD)
- Implementation of the SWAp principles at central and district levels
- Aid effectiveness: effective coordination for aligned procedures and budgets
- Close alignment of non-budget support partner and funding to the planning and budgeting process of the Ministry of Health

REGIONAL INTEGRATION

Immunization

Collaboration with neighboring countries to organize immunization campaigns across borders (synchronized immunization campaigns)

IDSR

Cross-border collaboration with EAC partner states (annual coordination meetings)

HIV

Harmonization of treatment guidelines for truck drivers and other mobile workers

Environmental health

Implementation of Libreville Declaration on Health and Environment

Health Financing

Harmonization of SHP (sustainable health programming) policies in EAC and moving towards universal health coverage

ANNEX 9. DOCUMENTS CONSULTED

Author, Year	Title
Background documents	
GOR/MOH, Oct. 2004	Health Sector Strategic Plan (HSSP I, 2005–2009)
GOR, Feb. 2005	Health Sector Policy
GOR, July 2006	Rwanda Aid Policy (French)
GOR/MOFEP, Sept. 2007	Economic Development and Poverty Reduction Strategy (EDPRS 2008–2012, English).
GOR–DP, Oct. 2007	MOU between MOH and Health Sector Development Partners (DPs)
External Evaluation team, July 2008	Mid-term Review of the HSSP I (2005–2009), final evaluation report
MOH, Dec. 2008	Health Sector Performance Report 2008
MOH, Dec. 2008	Health Sector Performance Report 2009
MOH, April 2009	Annual Report 2008 final
GOR/MOH, July 2009	Health Sector Strategic Plan (HSSP II, July 2005–June 2009)
WB, Sept. 2009	Rwanda, a Country Status Report (CSR) on health and poverty
MINALOC, Dec. 2009	The Rwanda Citizen Report and community score cards 2009 (final)
GOR/MOH, July 2009	Health Sector Strategic Plan (HSSP II, July 2009–June 2012)
MOH, Oct. 2009	Joint Health Sector Performance Report (mini budget Jan–June) 2009
MOH, Feb. 2010	Health Sector Action Plan (excel file)
MOH, Oct. 2010	Annual Report July 2009–June 2010 final
Terwindt, Frank, July 2010	Roadmap for further development of the Rwanda Health SWAp
MOH, Oct. 2010	SWAp Procedures Manual (28 pages)
MOH, Sept. 2010	SWAP Procedures Manual (PowerPoint presentation)
GOR, Oct. 2010 with MOH, 2010	Economic Development and Poverty Reduction Strategy (EDPRS 1) Implementation report (June 2009–July 2010), WITH: Health Sector Performance Report July 2009 – June 2010
MOH, NISR, ICF-Macro, April 2007	Interim Demographic and Health Survey, (I-DHS 2007–2008)
MOH, NISR, ICF-Macro, 2010	Demographic and Health Survey, (DHS 2010–2011), Preliminary results (PowerPoint presentation)
WB, Claude Sekabaraga, 2010	Rwanda on the way toward health MDGs, DHS 2010, preliminary results, WB, Nairobi, HSS Hub
DHS, 2010	Preliminary report (34 pages). Received July 2011
DHS, Dec. 2011, final	Rwanda Demographic and Health Survey, 2010, Final Report. Received February 2012 (578 pages)
MOH website, undated	Rwanda Indicators
MOH, undated	Annual Statistical booklet 2008
MOH, Oct. 2010	Annual Statistical Booklet 2009
Service Delivery and Programs	
MOH, July 2003	National Reproductive Health Policy
MOH, July 2005	National Medical Laboratory Policy (draft)
CNLS, Dec. 2005	Politique Nationale de Lutte contre le HIV/SIDA (finale) (French)
GOR/MOH, Dec. 2006	National Behavior Change Communication Policy for health sector

MOH/NCBT, May 2006	National Policy for Blood Transfusion
MOH, 2008	National Community Health Policy
GOR/MOH, July 2008	Environmental Health Policy (French)
MOH, April 2009	Politique Nationale de Santé de l'Enfant (French)
MOH, Dec. 2009	Health Financing Policy
MOH, June 2009	HRH Strategic Plan 2009–2012
MOH, 2010	National Policy on Traditional Medicine (NPTM)
MOH, July 2010	National Palliative Care Policy
MOH, April 2010	Community-Based Health Insurance Policy
GOR/MOH, 2010	National Health Promotion Policy
GOR/MO Trade and Industry, June 2010	Rwanda draft Quality Policy
MOH, Jan 2011	Community Health Strategic Plan 2009–2012 (draft)
MOH, June 2011	Rwanda National Mental Health Policy (in French, 40 pages)
MOH, July 2011	Adolescent Sexual Reproductive Health Policy and Rights Policy (ASRH&R Policy, 42 pages)
District Development Plans DDP 2008–2012	Huye District (June 2007), Muhanga District (July 2007) Nyagatara District (June 2007) Bugesera, District HSS Framework, Implementation Plan, June 2008
Kibuye Hospital, 2011–12	Kibuye Hospital Action Plan (example)
MOH, March 2011	Draft Malaria Program Performance Review (101 pages)
CNTS, 2011	Blood Transfusion Center: Achievements 2000–2010
NTLCP, 2009	National TB Control Strategic Plan 2009–2011 (PNILT, 85 pages)
Health Systems Strengthening	
MOH, Dec. 2004	Mutual Health Insurance Policy
MOH, 2005	Politique Pharmaceutique Nationale (draft)
MOH/WHO, 2008	Health Financing Systems Review, options for universal coverage
MOH, July 2008	National Health Accounts Rwanda 2006 (with AIDS, Malaria and RH accounts)
MOH, December 2009	Rwanda Health Finance Policy
MOH, April 2010	Rwanda Community-Based Insurance Policy
MOH, Oct. 2009	Health Sector Monitoring and Evaluation Policy (24 pages)
MOH, Oct. 2009	Health Sector M&E Strategy, 2009/10–2012/13 (30 pages)
MOH, 2009	National Pharmacy Policy (23 pages)
GOR/MOH, 2009 Pharm	Various formal docs on food regulation (zip file)
GOR/MOH, 2009 Pharm (Zip files 2x)	Guidelines: Formal documents for pharmaceutical sector (Zip file with EDL, STG, National Formulary, Pharmaco vigilance guidelines, etc.)
MOH, April 2010	National Health Insurance Policy
MOH, August 2010	HSS Framework and Consolidated Strategic Plan 2009 – 2012 (vs 1.c)
Calvin Wilson, June 2010	Defining Family and Community Medicine in Rwanda (FAMCO)
Mieke Visser, undated	Concept Note HRH FAMCO training
MOH, February 2011	SIP – MTEF July 2011/June 2012, statement of priorities
MOH, March 2011	HRH Strategic Plan, 2011–2016

MOH July 2011	Health Financing TWG Overview Presentation
MINECOFIN, various yrs	Budget and expenditure Report
MOH, June 2011 (2x)	SOP for the management of routine health information (District Hospital and Health Centers-Posts)
Governance and Financial Management	
MINECOFIN, July 20007	Managing the risks associated with AID increased in Rwanda (by Mick Foster and Peter Heller)
GOR, Nov. 2007	Strengthening Partnerships for Economic Development and Poverty Reduction, Annual Report (32 pages)
GOR, June 2008	Public Expenditure and Financial Accountability Assessment (PEFA), PFM Performance Report (final) (by Martin Johnson et al)
MINECOFIN, June 2008	National Planning, Budgeting and MTEF Guidelines
GOR Nov. 2010	Public Financial Management Performance Report
JAWP, March 2009	JAWP (excel file) 2009/10
JAWP, 2010	JAWP, Karongi district 2010/11
TWG various presentations, August 2010	New TWG structure with responsible chairs and cochairs. PowerPoint presentations by TWG of: Care and Prevention, SWAp Manual, Health Resource Management, e-Health, HSS and Single project implementation unit (SPIU)
HSCG – HSWG Minutes	Health Sector Consultative – Working Group Minutes 2009 – 2011.
MOH-DPs, Sept. 2010	TOR Health Sector Working Group (HSWG)
MOH-DPs, Sept. 2010	TOR Technical Working Groups (TWG)
MOH-DPs, Sept. 2010	List of TWG with chairs and cochairs (2 docs)
MOH, Oct. 2010	Joint Sector Review Report
MOH, Feb. 2011.	Health Sector Action Plan 2011–2012 (Excel sheet)
GIZ, July 2011	Rwanda SWAp: milestones and architecture (PowerPoint)
MINALOC, Jan. 2011	Decentralization Implementation Plan (DIP, 2011–2015)
MOH, May 2011	District Health System Reorganization Guidelines (from a managerial perspective)
DP Group, March 2011	Development Partners Recommendations on SWAp (PowerPoint)
MTEF 2010–2011	MTEF Consolidated Action Plan 2010–2011.
MTEF 2011–2012	MTEF Action Plan for all components of the HSSP II (2 versions)
MINECOFIN, April 2011	Budget Framework Paper, 2011–2012 to 2012–2013 with 9 annexes
MINECOFIN, undated	Budget execution by Ministry & Program 2009–2010 (budget vs. actual)
MINECOFIN, undated	Actual by sector and category, 2009–2010.
BTC / CHAI, March 2011	Health financial mechanisms at districts in Rwanda (28 pages)
MINECOFIN, May 2011	Revised Fiscal and Financial Decentralization Policy, Adopted by the Cabinet, 11 May 2011 (22 pages)
MINECOFIN, March 2011	2011 Survey on Monitoring of the Paris Declaration Rwanda and DCF Survey on Mutual Accountability: Preliminary Results
MINECOFIN, June 2011	Roadmap to EDPRS II.
MOH, July 2011 (2x)	Options for the development of HSSP III (with answers from all DPs)

ANNEX 10: HSSP III LOG FRAME: INDICATOR TARGETS

GOAL/ IMPACT	Indicators (Outcome, Output)	Baseline	Targets						Means of verification	Assumptions
			2012–13	2013–14	2014–15	2015–16	2016–17	2017–18		
COMPONENT 1. PROGRAMS										
1.1. MATERNAL HEALTH SERVICES										
OUTCOME/ IMPACT 1	Maternal mortality ratio/ 100,000	476			268			220	DHS	2015, 2018
2	Neonatal mortality rate/ 1,000	27			12			10	DHS	2013, 2015, 2018
3	% Births attended in health facilities (HC+DH)	69			78			90	DHS	2013, 2015, 2018
4	% PW receiving 4 ANC standard visits	35			50			65	DHS	2013, 2015, 2018
5	% Newborns with at least 1 postnatal visit within the first 2 days of birth	18			40			70	DHS	2014, 2017
Outputs 1	% Births attended in health facilities (HC+DH)	63 (2011)	66	69	71	74	78	82	HMIS	Annually
2	% Deliveries with at least 1 postnatal checkup for mothers within 1 week	37 (2011)	40	45	50	55	66	65	HMIS	Annually
3	% CHW - ASM providing maternal and newborn health package	20	100	100	100	100	100	100	SIS COM	Annually
4	% DH with functional C-EMONC	80	90	100	100	100	100	100	HF Survey/ DHSST	Annual
5	% HC with functional B-EMONC	80	85	90	95	98	100	100	HF Survey/ DHSST	Annual

GOAL/ IMPACT	Indicators (Outcome, Output)	Baseline	Targets						Means of verification	Assumptions
			2012–13	2013–14	2014–15	2015–16	2016–17	2017–18		
1.2. FAMILY PLANNING SERVICES										
OUTCOME 1	Total fertility rate	4.6			4			3.4	DHS	2013, 2015, 2018
2	Contraceptive prevalence rate among married women 15–49 years (%)	45			62			72	DHS	2013, 2015, 2018
3	Contraceptive utilization rate for modern methods of women 15–49 yrs (%)	29			36			40	DHS	2013, 2015, 2018
4	% Unmet need for family planning	18.90	16		12			6	DHS	2013, 2015, 2018
5	% Use of any modern contraceptive among married women by lowest wealth quintiles	39			53			65	DHS	2013, 2015, 2018
6	% Use of any modern contraceptive among married women by highest wealth quintiles	50			68			73	DHS	2013, 2015, 2018
Outputs 1	Contraceptive prevalence among married women 15–49 years (%)	45 (2011)	52	57	62	66	70	72	HMIS	Annually
2	Contraceptive utilization rate for modern methods of women 15–49 yrs (%)	31 (2011)	33	35	36	38	39	40	HMIS	Annually
1.3.CHILD CARE SERVICES										
OUTCOME 1	< 5 mortality rate / 1,000 live births	76			50			42	DHS	2013, 2015, 2018
2	Infant mortality rate/1000 live births	50			28			22	DHS	2013, 2015, 2018

GOAL/ IMPACT	Indicators (Outcome, Output)	Baseline	Targets						Means of verification	Assumptions
			2012–13	2013–14	2014–15	2015–16	2016–17	2017–18		
Outputs 1	Per capita < 5 visits seeking treatment for ARI+Malaria+Diarrhea at HC	0.6 (2011)	0.65	0.7	0.72	0.75	0.78	0.8	HMIS	Annual
2	Per capita < 5 visits seeking treatment for ARI+Malaria+Diarrhea C-IMCI	0.2 (2011)	0.25	0.3	0.35	0.4	0.45	0.5	HMIS/ SISCom	Annual
3	Average number of < 5 children seen by CHW / month	1.1 (2011)	2	3	3.5	4	4.5	5	SISCom	Annual
1.4. IMMUNIZATIONS										
OUTCOME 1	% Children fully immunized by age 1				92			95	DHS	2013, 2015, 2018
Output 1	% Children immunized for measles <1 year	95	97	97	97	97	97	97	HMIS	Annual
1.5. GENDER-BASED VIOLENCE PREVENTION AND ADOLSCENT HEALTH SERVICES										
OUTCOME 1	% Teenage pregnancies (< 20 yrs)	4.7			4.1			3.3	DHS	Annual
Output 1	# DH with One-Stop Center (GBV)	4	8	12	19	26	38	42	DHSST	Annual
1.6. NUTRITION SERVICES										
OUTCOME 1	Prevalence of stunting among 6–59 month children	44			24.5			18	DHS	2013, 2015, 2018
2	Prevalence of underweight children < 5 (6–59 months)	11			8			4	DHS	2013, 2015, 2018

GOAL/ IMPACT	Indicators (Outcome, Output)	Baseline	Targets						Means of verification	Assumptions
			2012–13	2013–14	2014–15	2015–16	2016–17	2017–18		
3	Prevalence of wasting (Ht/Wt)	3			2			2	DHS	2013, 2015, 2018
Outputs 1	% Children < 5 yrs screened in CBNP	70 (June 2012)	75	80	82	84	86	88	SISCOM	Annual
2	% Children in nutrition rehabilitation sub-program/ total children malnourished	70 (June 2012)	75	80	82	84	86	88	HMIS	Annual
1.7. HIV CARE AND TREATMENT										
OUTCOME 1	HIV prevalence 15–49 years	3			3			3	DHS, RAIHIS	2014, 2017
Outputs 1	Seropositivity rate of HIV among PW attending ANC	1.5	1.3	1.2	1	1	0.8	0.6	TRACnet	Quarterly
2	% HF with VCT/ PMTCT services	94	95	96	96	96	96	96	TRACnet	Annual
3	% HF offering ART and HIV-HBV co-infection treatment according to national guidelines	83	85	87	90	92	94	95	TRACnet	Annual
4	% Patients who need ART and receive it.	90	93	94	94	95	95	96	TRACnet	Annual
1.8. MALARIA CONTROL AND TREATMENT										
OUTCOME 1	Malaria prevalence among women (%)	0.7		<1			<1	<1	DHS	2014, 2017
2	Malaria prevalence among children (%)	1.4		1.2			1	1	DHS	2014, 2017

GOAL/ IMPACT	Indicators (Outcome, Output)	Baseline	Targets						Means of verification	Assumptions
			2012–13	2013–14	2014–15	2015–16	2016–17	2017–18		
3	% Children < 5 sleeping under ITN	70		80			82	82	DHS/MIS	2014, 2017
4	% HH with at least 1 LLIN	82		85			>85	>85	DHS/MIS	2014, 2017
Outputs 1	Malaria slide positivity rate	15	13	10	8	<5	<5	<5	HMIS	Annual
2	Malaria proportional morbidity	4	4	3	3	3	3	3	HMIS	Annual
1.9. NEGLECTED TROPICAL DISEASES										
Output 1	% Children 1–15 year dewormed	83	84	85	86	87	88	90	HMIS	Annual
1.10. TB CONTROL AND TREATMENT										
Outputs 1	% Treatment success rate among new smear-positive TB cases	87.6	87,7	88	89	90	90	90	TB annual report	Annual
2	% TB/HIV patients receiving ART by the end of TB treatment out of all TB/HIV patients	67	80	85	90	90	90	90	TB annual report	Annual
1.11. MENTAL HEALTH SERVICES										
Output 1	% Health centers providing integrated mental health care.	16	66	100	100	100	100	100	HMIS	Annual
1.12. NONCOMMUNICABLE DISEASES										
Output 1	# Health facilities who have capacity to provide NCD services according to national norms.	0	0	10	45	150	250	500	HMIS	Annual

GOAL/ IMPACT	Indicators (Outcome, Output)	Baseline	Targets						Means of verification	Assumptions
			2012–13	2013–14	2014–15	2015–16	2016–17	2017–18		
1.13. EPIDEMIC DISEASE SURVEILLANCE										
OUTCOME 1	% HF and community implementing IDS	12			50			100	IDSR	Quarterly
1.14. HEALTH PROMOTION AND ENVIRONMENTAL HEALTH										
OUTCOME1	Diarrhea prevalence among the under five (% of < 5 with diarrhea in last 2 weeks before survey)	13			11			9	DHS	2013, 2015, 2018
Outputs 1	% Community Health Clubs with enhanced health promotion / BCC capacity	14			50			70	RHCC annual report	Annual
2	% Food establishments with satisfactory hygiene standards	0	>10	>20	>40	>70	>80	>90	Routine Inspection EHD	Quarterly
3	% Villages with functional Community Hygiene Clubs (CHC)	8	20	40	50	60	70	80	EHD report	Annual
5	% HF with effective medical waste management systems	55	70	80	83	86	88	> 90	DHSST	Annual
1.15. IMPROVED EQUITY IN ESSENTIAL SERVICE UTILIZATION										
Outcome1	% Births attended in HF by lowest wealth quintiles	61			65			72	DHS	2014, 2017
2	% Births attended in HF by highest wealth quintiles	85.7			90			92	DHS	2014, 2017

GOAL/ IMPACT	Indicators (Outcome, Output)	Baseline	Targets						Means of verification	Assumptions
			2012–13	2013–14	2014–15	2015–16	2016–17	2017–18		
COMPONENT 2. SUPPORT SYSTEMS										
2.1. IMPROVED HUMAN RESOURCES — DEVELOPMENT AND MANAGEMENT										
Outputs 1	Doctors per 100,000 inhabitants	6.2	6.4	6.8	7.2	7.6	8	8.3	HRIS	Annual
2	Nurses per 100,000 inhabitants	77.4	77.4	77.4	77.4	77.4	90.9	100	HRIS	Annual
3	Doctor / Population ratio	1 / 16,001	1 / 15,540	1 / 14,559	1 / 13,748	1 / 13,068	1 / 12,490	1 / 11,993	HRIS	Annual
4	Nurse / Population ratio	1 / 1,291	1 / 1,291	1 / 1,291	1 / 1,291	1 / 1,291	1 / 1,100	1 / 1,000	HRIS	Annual
5	Midwife / Population ratio	1 / 66,749	1 / 66,000	1 / 50,000	1 / 45,000	1 / 35,000	1 / 30,000	1 / 25,000	HRIS	Annual
6	Lab tech / Population ratio	1 / 10,626	NA	1 / 10,500	N/A	NA	1 / 10,000	1 / 10,000	HRIS	Annual
7	% DH / DHU preparing their annual staff census using computerized iHRIS	0	60	80	100	100	100	100	HRIS	Annual
8	# A2 nurses who have completed eLearning course to upgrade their skills	0	0	313	588	888	1188	1488	e-Learning system logs	Annual
2.2: SUSTAINABLE AND RESPONSIVE SYSTEM OF MEDICAL PRODUCTS IN PLACE										
Outputs 1	% HF with NO stock outs of tracer drugs.	55	80	85	90	95	98	98	HMIS & eLMIS	Annual
2	% Generic drugs locally produced	<2	2.5	>6	>6	>8	>10	>11	Pharmacy desk reports	Annual
3	% Prescription with antibiotics in DH / HC	≥65	≤62	≤60	≤56	≤50	≤45	≤40	HF study	Annual
4	% HF with online tracking system for all procuring entities (eLMIS)	0	0	20	50	80	80	100	eLMIS reports	Annual

GOAL/ IMPACT	Indicators (Outcome, Output)	Baseline	Targets						Means of verification	Assumptions
			2012–13	2013–14	2014–15	2015–16	2016–17	2017–18		
5	# Pharmacy regulatory legal instruments and establishments of regulatory institutions	18	23	25	30	45	45	45	OG and MOH website	Annual
6	# District pharmacies with needed volume of national warehouses for storing pharmaceuticals in good storage conditions	0	9	0	0	0	17	30	MOH reports	Annual
2.3. DIAGNOSTIC SERVICES (INCL IMAGING AND LABORATORIES) FUNCTIONAL										
Output 1	# Labs enrolled in accreditation	10	25	30	35	40	45	50	Training report/record	Annual
2.4: IMPROVED INFRASTRUCTURE AND MAINTENANCE										
Outputs 1	% Sectors without a functional HC	5 (20 HC)		3.75 (5 HC)	2.50 (5 HC)	1.25 (5 HC)	0 (5 HC)	0	MMC reports	Annual
2	# DH with effective maintenance workshops	3		14	19	23	27	31	MMC reports	Annual
2.5: HEALTH FINANCING STRENGTHENED										
Outputs 1	% GOR budget allocated to MOH budget	11	12	13	13.5	14	14.5	15	MINECOFIN reports	Annual
2	Per Capita annual expenditure on health (USD)	$ 39	$ 41	$ 42	$ 43	$ 44	$ 45	$ 45	NHA + inflation	Annual
3	% Population covered by “mutuelles”	91	91	91	91	91	91	91	CBHI Database	Annual
2.6: STRENGTHENED QUALITY ASSURANCE AND SUPERVISION SYSTEMS / REGULATORY FRAMEWORKS										
Outputs 1	% HC with functional QA team	0	0	0	0.5	10	50	100	HF Survey,	Annual

GOAL/ IMPACT	Indicators (Outcome, Output)	Baseline	Targets						Means of verification	Assumptions
			2012–13	2013–14	2014–15	2015–16	2016–17	2017–18		
2	# of HF (DH, RH) under accreditation and on track as planned	3	3	13	25	45	45	45	Progrss assessment Assessment	
3	Link accreditation with PBF established	0				All HC	All HC	All HC	Accreditation base	Annual
2.7. INFORMATION MANAGEMENT SYSTEM										
Outputs 1	% HF with functional IT infrastructure (Internet & computer, including modem)	84	89	93	95	100	100	100	DHSST	Annual
2	% HC and DH using OpenEMR or other individual medical records system	8	20	35	50	65	75	80	DHSST	Annual
3	% Registered private clinics and dispensaries reporting routinely to HMIS	5	23	50	70	80	85	90	HMIS	Annual
4	# Registered CHW tracking PW using RapidSMS	8,183	14,837	14,837	14,837	14,837	14,837	14,837	RapidSMS	Annual
COMPONENT 3. SERVICE DELIVERY										
3.1. COMMUNITY BASED HEALTH CARE										
Output 1	% Villages reporting on local MDGs	0	40	60	70	80	90	100	SISCom	Annual
3.2. DISTRICT HEALTH SERVICES										
Output 1	% DH eligible for accreditation (> 70%)	0	0	0	30	40	50	60	QA database	Annual

GOAL/ IMPACT	Indicators (Outcome, Output)	Baseline	Targets						Means of verification	Assumptions
			2012–13	2013–14	2014–15	2015–16	2016–17	2017–18		
3.3. PROVINCIAL AND REFERRAL HOSPITALS' SERVICES										
Output 1	# Prov Hospital eligible for accreditation (>70%)	0			5	5	5	5	QA database	Annual
3.4. REFERRAL SYSTEMS AND PREHOSPITALIZATION SERVICES										
Outputs 1	# Ground ambulances / DH	5/DH			5/DH			6/DH	SAMU,RBC/ MMC	Annual
2	# Amphibious boats deployed in Lake Kivu	1						2	SAMU,RBC/ MMC	Annual
3	% HFs with effective ambulance maintenance plans	40		70	80	90	100	100	SAMU database	Annual
COMPONENT 4: GOVERNANCE										
4.1. SWAP AND AID EFFECTIVENESS										
Output 1	% DP provide resource information	95			100			100	RTT	Annual
2	% districts that hold at least two effective DHMT meetings with stakeholders	0	10	70	84	90	93	96	District reports	Annual
COMPONENT 5: M&E of HSSP III										
Component 5. Effective and timely Monitoring and Evaluation of the HSSP III										
Output 1	% of targets met from HSSP III	0			60			70	HMIS	2010, 2017

ANNEX 11. HSSP III POLICY ACTIONS LOG FRAME (IN EDPRS FORMAT)

SSP Priority Indicator	Policy Action Description	Policy Action 2012–2013	Policy Action 2013–2014	Policy Action 2014–2015	Policy Action 2015–2016	Policy Action 2016–2017	Policy Action 2017–2018
% Births attended in health facilities increased from 62% to 90% by 2017–2018.	Scale up life saving interventions: • Kangaroo Mother Care (KMC) • Antenatal Care (ANC) • Helping Baby to Breath (HBB) • Prevention of Post Partum Hemorrhage in community (PPH) • Post Abortion Care (PAC) • Post Natal Care (PNC) • Emergency Obstetric and Neonatal Care (EMONC)	1.Elaboration and dissemination of PAC documents: manual reference, protocol, trainee guide, and participant guide. 2. Update the roadmap to accelerate the reduction of maternal and newborn mortality and morbidity	1.Training of ASM in Community Maternal Neonatal Health Package in 30 districts 2. First annual confidential survey of maternal, neonatal, and child death	1.Implementation of PPH prevention in community in 30 additional districts 2.Implementation of verbal autopsy in 30 districts 3.Semesterial mentoring of ASMs in implementation of community neonatal health package	1.Implementation of comprehensive PAC program in 30 districts 2.Pre-service training for the first cohort on KMC, ANC, HBB, PPH, PAC, PNC, and EMONC in all medical and nursing schools	In-service training of 2 additional health providers per health center and one additional C-EMONC team in all district hospitals	Impact evaluation of the PPH prevention program in community and comprehensive PAC program
% Newborns with at least 1 postnatal visit within the first 2 days of birth increased from 37% to 65% by 2017/2018	Improve neonatology services in all health facilities	Conduct quarterly supportive supervision in neonatology at all levels in all health facilities	Equip all health facilities in basic neonatology equipment in 30 districts	In-service training of 2 health providers per health center, 4 per hospital, and 1 supervisor in neonatology, HBB, and KMC in 30 districts	Conduct an operational research to generate evidence for improving newborn care	Review of norms, standards, and protocols for neonatology services at all levels	Establish 5 centers of excellence in neonatology in the whole country (1 per province)

SSP Priority Indicator	Policy Action Description	Policy Action 2012–2013	Policy Action 2013–2014	Policy Action 2014–2015	Policy Action 2015–2016	Policy Action 2016–2017	Policy Action 2017–2018
Contraceptive Utilization Rate for modern methods of women 15–49 yrs increased from 31% to 40% by 2017–2018	Improve quality and access to family planning service delivery	Update, develop, and disseminate FP BCC strategy and IEC materials addressing socio-cultural barriers and youth knowledge on full range of FP methods and sexual education for inside and outside school.	Equip all public health facilities with at least two IUCDs kits by June 2013	Equip all public health facilities with at least two implants kits and each public hospital with equipment for permanent methods (vasectomy and tubal ligation).	Scale up integration of FP in all services (ANC, postnatal care, IMCI, nutrition, general consultations, pre-nuptial care, etc.) in all health facilities.	Conduct FP program assessment .	Free distribution of FP commodities is expanded in all health facilities, including in the private sector
< 5 mortality rate per 1,000 live births decreased from 76 to 42 by 2017–2018	Reduce neonatal and child morbidity and mortality	Mentoring health providers in 15 districts on clinical IMNCI	Implement ETAT(emergency triage assessment and treatment) in 50% of health facilities (public and private)	Develop child survival strategic plan	Scale up operational research on IMNCI in 15 districts	IEC materials on child survival interventions	Review child deaths audit tools
# DH with One-Stop Center (GBV) increased from 4 to 42	Provide comprehensive services to victims of gender-based violence	Develop guidelines for training of CHWs on referral and follow-up mechanism for GBV victims	Develop multidisciplinary intervention and investigation protocol for service delivery	Expand comprehensive GBV services in 15 DHs	Build capacity for psychosocial staff of all DHs	Evaluate the GBV program in DHs	Develop a new GBV strategic plan
Percentage of teenage pregnancies (<20 yrs) decreased	Increase awareness regarding prevention of teen pregnancies	School sensitization on prevention of teen pregnancies in 10 districts	Rehabilitation of 10 health centers to initiate the youth corners	Training of 2 health care providers in 5 rehabilitated HC and 17 youth-friendly centers	Scale up education of young adolescent girls aged 12 years in the 12+ program in 30 districts	Mass media use on prevention of teen pregnancies and fight against SGBV (1 radio show per month and 1 written article per month)	Impact research on Reproductive Health Strategic plan.

SSP Priority Indicator	Policy Action Description	Policy Action 2012–2013	Policy Action 2013–2014	Policy Action 2014–2015	Policy Action 2015–2016	Policy Action 2016–2017	Policy Action 2017–2018
1. Prevalence of stunting among children (6–59 months) reduced from 44% to 18% *2. Prevalence of underweight children (6–59 months) reduced from 11% to 4%* *3. Prevalence of wasting (Ht/Wt) reduced from 3% to 2%*	Strengthen early identification and management of under-nutrition	1.Continued identification of undernutrition in at least 90% of villages 2.Sufficient provision of rehabilitation commodities (F75, F100, RUTF, CSB, etc.), with no stock-outs in > 80% of health facilities (every year)	1.Promotion of Growth Monitoring at village level 2. Expand CBNP coverage by sectors at 80% 2. Develop national strategic plan to eliminate malnutrition	Conduct assessment on the implementation of DPEM in all districts	Revise the DPEM	Scale up home-based food fortification in 30 districts.	Conduct impact evaluation for the nutrition programs
1. HIV prevalence (15–49 years) at 3% *2. HIV prevalence among PW attending ANC decreased from 1.5% to 0.6%*	1.Sensitization of general population and key population (sex workers, mobile population) on HIV prevention and increase the coverage of HIV counseling testing services 2.Increase the attendance of HIV-positive PW to ANC services	Increase of the # of sites offering full package of services to 95%	Integrate minimum package of HIV prevention for key population in all health facilities	Implement finger prick method in 90% CT health facilities	Promote male involvement in PMTCT program	Increase accessibility of male circumcision as an additional strategy for HIV prevention	Conduct a study on HIV Indicators to measure the progress
Malaria slide positivity rate reduced from 15% to <5%	Avail all malaria diagnosis equipment and reagents	95% of malaria cases at HFs are laboratory confirmed (HMIS)	95% of < 5 treated for malaria by CHWs are RDT confirmed	95% of < 5 children with malaria are treated by CHWs within 24 hours at community level (SIS COM)	Conduct health facility survey to assess that simple malaria cases are treated at the HFs according national policy	Implement malaria active case detection in 2 pilot districts toward malaria elimination	Conduct malaria program performance review

SSP Priority Indicator	Policy Action Description	Policy Action 2012–2013	Policy Action 2013–2014	Policy Action 2014–2015	Policy Action 2015–2016	Policy Action 2016–2017	Policy Action 2017–2018
# of health facilities that have capacity to provide NCD services according to national norms increased to 500	Strengthening capacity for NCDs prevention and control	Develop NCDs strategic plan.	1. Develop health care providers training manual on NCDs. 2. Develop guidelines, protocols, and algorithms for NCD prevention, control, care, and treatment.	Train health care providers on NCDs management.	Train stakeholders, CHWs, and civil society on NCDs prevention and control	Conduct impact evaluation on NCDs management	Organize international conference on NCDs management
Diarrhea prevalence among the < 5 is decreased from 13% to 9% by 2017–2018	Promote use treatment of drinking water at Household level.	Distribute *sur eau* to all HH presented in MCH campaign.	Train all Community Hygiene Clubs (on CBEHPP) on all topics in their training manual.	Conduct baseline survey on community household hygiene and sanitation status	Develop policy and strategic plan on health facility sanitary infrastructure, and for food establishments	Conduct assessment on the construction of multipurpose waste pits in health facilities	Grade more than 90% of food establishments according to hygiene standards
Doctor / population ratio decreased from 1 / 16,001 to 1 / 11,993 by 2017–2018.	Increase postgraduate enrollment in residence program from 15 to 80	Update and revise the curricula for medical education	Review medical internship program	Revise CPD (continuing professional development) policy and guidelines	Recruit and deploy medical doctors for specialization	Hire 70 qualified foreign and national faculty members	Increase postgraduate enrollment in residence program from 15 to 80
# of A2 nurses who have completed eLearning course to upgrade their skills increased up to 1,488 by 2017–2018	Develop and update nurses' curricula for specialized service	Train specialized nurses.	To develop CPD programs for nurses and midwives	Establish allied health professionals council	Create one new lab tech school	Provide the report for supervision of nursing and midwifery schools (public and private)	Develop and update nurses' curricula for specialized service

SSP Priority Indicator	Policy Action Description	Policy Action 2012–2013	Policy Action 2013–2014	Policy Action 2014–2015	Policy Action 2015–2016	Policy Action 2016–2017	Policy Action 2017–2018
% of HF with no stock-outs for tracer drugs increased from 55% to 98% by 2017–2018	Ensure the availability and accessibility of essential medicines and other medical supplies	Acquisition of the eLMIS software	1.Train users of eLMIS software from PHs, DHs, referal hospitals, public health programs (PHP), and HCs 2.Develop policy for pharmaceutical industry development 3.Establish a functional legal and regulatory framework for pharmaceutical products, medical devices, foods, and cosmetics in Rwanda	1.Put in place a monitoring and evaluation framework for the rational use of medicines 2.Develop and harmonize the Good Manufacturing Practices and quality standards for medicines to be manufactured in Rwanda and EAC	Put in place quality management system for medicines regulation	Revise guidelines for pharmaco-vigilance and DTCs to ensure medicines used safety and appropriately	Review and update SOPs for good storage practices for health commodities at each supply chain level
Number of labs enrolled in accreditation process increased from 10 to 50 in 2017–2018	Ensure the improvement of laboratory network quality services towards accreditation	Train at least 20 lab technicians on accreditation process (5 central labs, 5 satellite labs, 5 regional hospital labs, 5 DHs labs)	Conduct assessment for the accreditation process in 20 labs (5 central labs, 5 satellite labs, 5 regional hospital labs, 5 DHs labs)	Develop guidelines, modules, and tools for mentorship	One satellite lab renovated and 3 satellite labs constructed	Conduct operational research and disseminate key findings	New NRL building constructed, and 1 satellite lab constructed
% of the population enrolled in CBHI schemes remains at 91%	Strengthen awareness in CBHI and sustain membership	Development of CBHI Financial Tool for districts	Review the current provider payment mechanism.	Review of CBHI copayment at tertiary level	Review premium contribution rates	Conduct nationwide client satisfaction study	Conduct HFs satisfaction Survey on CBHI
% of national RH, PH, DH, and HCs eligible for accreditation increased to > 70%	HF s reach at least 70% of quality	Develop standards and norms for health services at national RHs, PHs, DHs	Revise policies and guidelines for national RHs, PHs, DHs	Integrate PBF evaluation tool accreditation evaluation tool	Develop standards and norms for health services at HCs	Introduce Continuous Quality Insurance in all health facilities	The health package of activities is revised and updated

SSP Priority Indicator	Policy Action Description	Policy Action 2012–2013	Policy Action 2013–2014	Policy Action 2014–2015	Policy Action 2015–2016	Policy Action 2016–2017	Policy Action 2017–2018
% of HC and District Hospitals using Open EMR (full package) or other individual electronic medical records system increased from 8 to 80 by 2017/2018.	Initiate sustainable programs	Roll out Open EMR to 3% of health facilities	Roll out Open EMR to 10% of health facilities	Roll out Open EMR to 20% of health facilities	Roll out Open EMR to 30% of health facilities	Roll out Open EMR to 40% of health facilities	Roll out Open EMR to 50% of health facilities
% of villages reporting on locally MDGS increased up to 100%	Strengthen specific tasks of CHW through curriculum development, TOT, and capacity-building of health workers in various topics	Training of CHWs on CBP in 30 districts	Evaluation of CHWs knowledge on the cIMNCI and MNH package adopted	Train on Rapid SMS and mUbuzima	Develop integrated supervison tools for CHWs	Train CHWs in palliative care	Conduct CHWs cooperative audit

ANNEX 12. LIST OF OTHER PLAYERS INVOLVED IN THE HEALTH SECTOR

HEALTH SECTOR KEY PLAYERS	PROJECT
AABB	QUALITY MANAGEMENT SYSTEM-BLOOD SAFETY : TECHNICAL ASSISTANCE TO MOH/CNTS
ABT ASSOCIATES	HEALTH SYSTEMS 2020
ABT ASSOCIATES INC., AFRICA INDOOR RESIDUAL SPRAYING PROJECT (AIRS)	INTEGRATED VECTOR MANAGEMENT
ACCESS PROJECT	GLOBAL FUND SSF/HIV PROJECT
AIDS HEALTHCARE FOUNDATION	SUPPORT FOR WORLD AIDS DAY ACTIVITIES SSF/HIV/GLOBAL FUND
AMERICAN REFUGEE COMMITTEE	PROVISION OF PRIMARY HEALTH CARE TO REFUGEES IN 2 REFUGEE CAMPS
AMERICAN SOCIETY FOR MICROBIOLOGY (ASM)	ASM GLOBAL LABORATORY CAPACITY STRENGTHENING (Lab Cap) PROGRAM
AVSI	DISTANCE SUPPORT PROGRAM
BTC/CTB	INSTITUTIONNEL SUPPORT TO MOH, PHASE IV
CARE	SOCIAL CHANGE FOR FAMILY PLANNING RESULTS INITIATIVES
CATHOLIC RELIEF SERVICES (CRS)	TECHNICAL SUPPORT TO DISTRICTS AND CENTRAL MOH
CHEMONICS-RWANDA/FAMILY HEALTH PROJECT	RWANDA FAMILY HEALTH PROJECT
CHF	USAID/HIGA UBEHO PROGRAM
CLINTON HEALTH ACESS INITIATIVE (CHAI)	BUDGET SUPPORT TO PUBLIC HEALTH INSTITUTION,TECHNICAL ASSISTANCE
CLSI	CAPACITY BUILDING FOR LABORATORY GUIDELINES AND STANDARDS
COMPASSION INTERNATIONAL	CHILD DEVELOPMENT THROUGH SPONSORSHIP PROGRAM (CDSP)
CONCERN WORLDWIDE RWANDA	AGRI-NUTRITION
DREW CARES INTERNATIONAL	HIV/AIDS CARE AND TREATMENT IN RWANDA DEFENSE FORCE
EDUCATION DEVELOPMENT CENTER	AKAZI KANOZE:YOUTH LIVELIHOODS PROJECT
EGPAF	HIV CLINICAL SERVICES
FAMILY HEALTH INTERNATIONAL 360(FHI 360)	REGIONAL OUTREACH AND DEVELOPMENT STRATEGIES II (ROADS III)
FUTURES GROUPES/MEASURE EVALUATION	CAPACITY BUILDING IN HIS
HANDICAP INTERNATIONAL	MENTAL HEALTH PROJECT; HIV/PEPFAR PROJECT

HEALTH POVERTY ACTION	SALTWASH PROJECT/WATER SUPPLY
HEART & HANDS INTERNATION	MALE CIRCUMSCISION PROGRAM
IMBUTO FOUNDATION/PACFA	SSF/MALARIA; ASHR&R
INTERNATIONAL RESCUE COMMITTEE (IRC)	EXPANDED IMPACT CHILD SURVIVAL
JHPIEGO	DEPARTMENT OF DEFENSE HIV/AIDS PREVENTION PROGRAM
JSI RESEARCH & TRAINING INSTITUTE	SUPPLY CHAIN MANAGEMENT SYSTEM
LUX DEVELOPMENT	PROJECT RWA/023
MANAGEMENT SCIENCES FOR HEALTH (MSH)	TECHINICAL SUPPORT & CAPACITY-BUILDING
MEDICIUS MUNDI	WATER AND PUBLIC HEALTH IN KAMONYI DISTRICT
NUR/SCHOOL OF PUBLIC HEALTH	RESEARCH AND CONSULTANCY
NYS AIDS INSTITUTE/HRI	HIV QUALITY IMPROVEMENT CENTER
PARTNERS IN HEALTH	PROGRAM ON SOCIAL AND ECONOMIC RIGHTS
POPULATION SERVICES INTERNATIONAL (PSI)	KFW FAMILY PLANNING
PRO-FEMMES TWESEHAMWE	GLOBAL FUND TUBERCULOSIS SINGLE STREAM OF FUNDING
RED CROSS RWANDA	HIV/AIDS/NORWEGIAN RC
RWANDA PURPOSE DRIVEN MINISTRIES/PEACE PLAN	CARING FOR THE SICK
SAVE THE CHILDREN UK	TRAINING AND CAPACITY BYILDING IN GICUMBI DISTRICT
SOCIAL & SCIENTIFIC SYSTEMS Inc./MEMS Project	M&E MANAGEMENT SERVICES
SUISS DEVELOPMENT COOPERATION	WATER AND SANITATION, PUBLIC HEALTH
TULANE UNIVERSITY	IMPROVING PH CAPACITY IN RWANDA
UK DEPARTMENTAL FOR INTERNATIONAL DEVELOPMENT (DFID)	12+PROGRAMME
UNAIDS	COORDINATION, PLANNING, M&E AND PARTNERSHIP OF NATIONAL HIV
UNFPA	RWA6 R 42A/QUALITY HIV PREVENTION SERVICES
UNICEF	HEALTH,POPULATION & NUTRITION
UNIVERSITY OF MARYLAND	PACME/CAPACITY BUILDING
US GOVERNEMENT	USG MANAGEMENT AND OPERATIONS
VOXIVA	TRACNET
WE-ACTx FOR HOPE	HIV/NUTRITION SUPPORT
WHO	PREVENTION OF HIV/AIDS, TUBERCULOSIS AND MALARIA
WORLD RELIEF	MOBILIZING FOR LIFE TANGIRANEZA INNOVATION-CHILD SURVIVAL PROJECT
WORLD VISION	MALARIA INTEGRATED WATER SECURITY PROGRAM

ANNEX 13. LINKAGE BETWEEN BUDGET SUB-PROGRAMS (MTEF) AND SECTOR TARGETS

Budget Program/Outcome	Output Statement	Key Performance Indicator	Baseline 2012–13	Target 2013–14	Target 2014–15	Target 2015–16	Target 2016–17	Target 2017–18	Implementing Agencies
Program 2 ***HEALTH SECTOR PLANNING AND INFORMATION SYSTEMS***									
Sub-program 2.1: Health Planning, Monitoring & Evaluation	Effective and timely M&E of the HSSP III	% of targets met from HSSP III	0			60			70
Sub-program 2.2: Information and Technologies for Health	Strengthen information management systems	% HF with functional IT infrastructure (Internet & computer, including modem)	0.84	89	93	95	100	100	100
		% of HC and district hospitals using OpenEMR or other individual medical records system	8	20	35	50	65	75	80
		% of registered private clinics and dispensaries reporting routinely to HMIS	5	23	50	70	80	85	90
		# of registered CHWs tracking PW using RapidSMS	8,183	14,837	14,837	14,837	14,837	14,837	14,837
Program 3: ***HUMAN RESOURCES FOR HEALTH***									
Sub-program 3.1: Health Professional Development	Strengthen human resources development	Doctors per 100,000 inhabitants	6.2	6.4	6.8	7.2	7.6	8.0	8.3
		Nurses per 100,000 inhabitants	77.4	77.4	77.4	77.4	77.4	90.9	100
		Doctor / Population Ratio	1 / 16,001	1 / 15,540	1 / 14,559	1 / 13,748	1 / 13,068	1 / 12,490	1 / 11,993
		Nurse / Population Ratio	1 / 1,291	1 / 1,291	1 / 1,291	1 / 1,291	1 / 1,291	1 / 1,100	1 / 1,000
		Midwife / Population Ratio	1 / 66,749	1 / 66,000	1 / 50,000	1 / 45,000	1 / 35,000	1 / 30,000	1 / 25,000
		Lab tech / Population Ratio	1 / 10,626	NA	1 / 10,500	N/A	NA	1 / 10.000	1 / 10.000
		% of DH / DHU preparing their annual staff census using computerized iHRIS	0	60	80	100	100	100	100
Sub-program 3.2 : Nursing Schools		# of A2 nurses who have completed eLearning course to upgrade their skills	0	0	313	588	888	1,188	1,488

Budget Program/Outcome	Output Statement	Key Performance Indicator	Baseline 2012–13	Target 2013–14	Target 2014–15	Target 2015–16	Target 2016–17	Target 2017–18	Implementing Agencies
Program 4: ***FINANCIAL AND GEOGRAPHICAL ACCESSIBILITY FOR HEALTH***									
Sub-program 4.1: Organization and Regulation of CBHI		% Population covered by CBHI	91	91	91	91	91	91	91
Sub-program 4.2 : Substations of Health Services		% of GOR budget allocated to MOH budget	11	12	13	13.5	14	14.5	15
		Per capita annual expenditure on health (USD)	$ 39	$ 41	$ 42	$ 43	$ 44	$ 45	$ 45
Program 6: ***PROMOTION OF MATERNAL AND CHILD HEALTH***									
Sub-program 6.1: Family Planning and Reproductive Health	Strengthen FP services	Total fertility rate	4.6			4			3.4
		Contraceptive prevalence rate among married women 15–49 years	45%			62%			72%
		Contraceptive utilization rate for modern methods of women 15–49 yrs	29%			36%			40%
		Unmet need for family planning	18.90%	16%		12%			6%
		Use of any modern contraceptive among married women by lowest wealth quintiles	39%			53%			65%
		Use of any modern contraceptive among married women by highest wealth quintiles	50%			68%			73%
		Contraceptive prevalence among married women 15–49 years	49% (2011)	52%	57%	62%	66%	70%	72%
		Contraceptive Utilization Rate for modern methods of women 15–49 yrs	31% (2011)	33%	35%	36%	38%	39%	40%
Sub-program 6.2: Strengthen Maternal and Child Health		Maternal mortality ratio/100,000	476			268			220
		Neonatal mortality rate/1000	27			12			10

Budget Program/Outcome	Output Statement	Key Performance Indicator	Baseline 2012–13	Target 2013–14	Target 2014–15	Target 2015–16	Target 2016–17	Target 2017–18	Implementing Agencies
		% Births attended in health facilities (HC+DH)	69			78			90
		% PW receiving 4 ANC standard visits	35			50			65
		% of newborns with at least 1 postnatal visit within the first 2 days of birth	18			40			70
		% Births attended in health facilities (HC+DH)	63 (2011)	66	69	71	74	78	82
		% of deliveries with at least 1 postnatal checkup for mothers within one week	37 (2011)	40	45	50	55	66	65
		% CHW - ASM providing maternal and newborn health package	20	100	100	100	100	100	100
		% DH with functional C-EMONC	80	90	100	100	100	100	100
		% HC with functional B-EMONC	80	85	90	95	98	100	100
		< 5 mortality rate/1000 live births	76			50			42
		Infant mortality rate/1000 live births	50			28			22
		Per capita U5 visits seeking treatment for ARI+Malaria+Diarrhoea at HC	0.6 (2011)	0.65	0.7	0.72	0.75	0.78	0.8
		Per capita U5 visits seeking treatment for ARI+Malaria+ Diarrhoea C-IMCI	0.2 (2011)	0.25	0.3	0.35	0.4	0.45	0.5
		Average number of U5 children seen by CHW/Mnth	1.1 (2011)	2	3	3.5	4	4.5	5
Sub-program 6.3: Promotion of hygiene and environmental health	Strengthen hygiene and environmental health	Diarrhea prevalence among the under five (% of < 5 with diarhea in last 2 weeks before survey)	13			11			9
		% of food establishments with satisfactory hygiene standards	0	>10%	>20%	>40%	>70%	>80%	>90%

Budget Program/Outcome	Output Statement	Key Performance Indicator	Baseline 2012–13	Target 2013–14	Target 2014–15	Target 2015–16	Target 2016–17	Target 2017–18	Implementing Agencies
		% of villages with functional Community Hygiene Clubs (CHC)	8%	20%	40%	50%	60%	70%	80%
		% HF with effective medical waste management systems	55%	70%	80%	83%	86%	88%	> 90%
Sub-program 6.4: Fight against Malnutrition	Strengthen nutritional services	Prevalence of stunting among 6–59 month children	44			24.5			18
		Pevalence of Underweight children under 5 (6–59 months)	11			8			4
		Prevalence of wasting (Ht/Wt)	3			2			2
		% children < 5 yrs screened in CBNP	70% (June 2012)	75%	80%	82%	84%	86%	88%
		% children in nutrition rehabilitation sub-program / total children malnourished)	70 % (June 2012)	75%	80%	82%	84%	86%	88%
Sub-program 6.5: Community Health		% of villages reporting on localy MDGS	0	40	60	70	80	90	100
Program 7: ***DEVELOPMENT OF SPECIALIZED HEALTH SERVICES***									
Sub-program 7.1: Specialized Health Services Delivery		# Prov Hospital eligible for accreditation (>70%)	0			5	5	5	5
Sub-program 7.4: Mentorship and Supervision of District Hospitals		% DH eligible for accreditation (> 70%)	0	0	0	30	40	50	60
Program 8: ***HEALTH QUALITY STRENGTHENMENT AND SERVICES PRODUCTION***									
Sub-program 8.1: Health Communication		% Community Health Clubs with enhanced health promotion and BCC capacity	14%			50%			70%
Sub-program 8.3: Medical Infrastructure and Equipment Maintenance	Strengthen infrastructure and maintenance	% Sectors without a functional HC	5% (20HC)		3.75% (5HC)	2.50% (5HC)	1.25% (5 HC)	0 (5HC)	0
		# DH with effective maintenance workshops	3		14	19	23	27	31

Budget Program/Outcome	Output Statement	Key Performance Indicator	Baseline 2012–13	Target 2013–14	Target 2014–15	Target 2015–16	Target 2016–17	Target 2017–18	Implementing Agencies
Sub-program 8.4: Medical Procurement and Distribution	Sustainable and responsive system of medical products in place	% HF with NO stock-outs of tracer drugs.	55	80	85	90	95	98	98
		% Generic drugs locally produced	< 2%	2.5	> 6%	> 6%	> 8%	> 10%	> 11%
		% prescriptions with antibiotics in DH / HC	≥65%	≤62%	≤60%	≤56%	≤50%	≤45%	≤40%
		% HF with online tracking system for all procuring entities (eLMIS)	0	0	20	50	80	80	100
		# Pharmacy regulatory legal instruments and establishments of regulatory institutions	18	23	25	30	45	45	45
		Number of district pharmacies with needed volume of national warehouses for storing pharmaceuticals in good storage conditions	0	9	0	0	0	17	30
Sub-program 8.7: Quality Lab Diagnostics	Strengthen diagnosis services	# of labs enrolled in accreditation	10	25	30	35	40	45	50
Program 9: ***DESEASE PREVENTION AND CONTROL***									
Sub-program 9.1: HIV/AIDS, STIs, and other Blood-Borne Diseases	Strengthen HIV care and treatment	HIV prevalence 15–49 years	3			3			3
		Sero positivity rate of HIV among PW attending ANC	1.5	1.3	1.2	1	1	0.8	0.6
		% HF with VCT/ PMTCT services	94	95	96	96	96	96	96
		% HF offering ART and HIV-HBV co-infection treatment according to national guidelines	83	85	87	90	92	94	95
		% of patients who need ART and receive it	90	93	94	94	95	95	96
Sub-program 9.2: Malaria and Other Parasitic	Malaria control and treatment	Malaria prevalence among women (%)	0.7		<1			<1	<1

Budget Program/Outcome	Output Statement	Key Performance Indicator	Baseline 2012–13	Target 2013–14	Target 2014–15	Target 2015–16	Target 2016–17	Target 2017–18	Implementing Agencies
Diseases		Malaria prevalence among children (%)	1.4		1.2			1	1
		% children < 5 yr sleeping under ITN	70		80			82	82
		% of HH with at least 1 LLIN	82		85			>85	>85
		Malaria slide positivity rate	15	13	10	8	<5	<5	<5
		Malaria proportional morbidity	4	4	3	3	3	3	3
	Strengthen neglected tropical diseases services	% of children of 1–15 years dewormed	83	84	85	86	87	88	90
Sub-program 9.3: Vaccine Preventable Diseases	Strengthen innunization services	% children fully immunized by age 1	90			92			95
		% children immunized for measles <1 year	95	97	97	97	97	97	97
Sub-program 9.4: Noncommunicable Diseases	Strengthen NCDs services	# of health facilities that have capacity to provide NCD services according to national norms	0	0	10	45	150	250	500
Sub-program 9.6: TB and Other Respiratory Communicable Diseases	Strengthen TB control and treatment services	Treatment success rate among new smear positive TB cases (%)	87.6	87,7	88	89	90	90	90
		Percentage of TB/HIV patients receiving ART by the end of TB treatment out of all TB/HIV patients (%)	67	80	85	90	90	90	90
Sub-program 9.7: Mental Health	Strengthen Mental Health Services	Proportion of health centers providing integrated mental health care.	16%	66%	100%	100%	100%	100%	100%

ANNEX 14. LINKAGE BETWEEN BUDGET SUB-PROGRAMS (MTEF) AND SECTOR ACTIVITIES AND COST

Sub-program	Output Statement	Key Activities	Estimated budget allocation from 2013–14 to 2017–2018 (USD, in millions)			Implementing agency
			Recurrent	Capital	Total	
MCH, IMCI, EPI, FP, Nutrition, ASRH&R	• Access / quality MCH, FP services improved • Infant and <5 mortality reduced • Fully vaccinated maintained • All forms of malnutrition reduced • GBV cases are reported and managed • Quality / access to ASRH improved • SRH status of adolescent improved	•Births attended in HF •PW with 4 ANC visits •Vaccinated measles <1yr •Contraceptive utilization •Underweight / Stunting •DH One-Stop Center •HCs with ASRH services •Teenage pregnancy	*$ 981*	*$ 228*	*$ 1,209*	*MOH/MCH*
Infectious Disease Control and Prevention	• Access / quality of HIV / AIDS, Malaria, TB, NCD, and health promotion services improved • Integrate NTD in general services • Effective and efficient IDSR / DP&R • Legal framework for THs in place	•HIV prevention in PW/ANC •HF with VCT / PMTCT •Malaria Prev Women / <5 yr •% HH with 1 LLIN or more •TB Treat Success rate SS+ •TB/HIV patients receive ART •HF implement IDSR •THs have legal status	*$ 1,498*	*$ 369*	*$ 1,867*	*MOH/RBC*
Noncommunicable Disease Control and Prevention	• Publications and reports on NCDs produced and disseminated • Policy and strategic plan elaborated • Health facilities that have capacity to provide NCD services according to national norms • Coordination meetings	•Baseline studies NCD •Laws/regulations passed\ •Functional CHC •Environmental health officers •HH drinking treated water •HC with MH services	*$ 447*	*$ 151*	*$ 598*	*MOH/RBC*

Note: Recurrent costs include wages and salaries; capital costs include development spending

ANNEX 15. LINKAGE BETWEEN BUDGET SUB-PROGRAMS TO EDPRS II THEMATIC PRIORITIES

Sub-program	Implementing Agency	Total cost from 2013–14 to 2017–18, (USD, in millions)	Thematic priorities contributed to:
MCH, IMCI, EPI, FP, Nutrition, ASRH&R	*MOH/MCH*	*$ 1,209*	Economic transformation for rapid growth, rural development, productivity and youth employment, accountable governance
Infectious Disease Control and Prevention	*MoH/RBC*	*$ 1,867*	Economic transformation for rapid growth, rural development, productivity and youth employment, accountable governance
Noncommunicable Disease Control and Prevention	*MoH/RBC*	*$ 598*	Economic transformation for rapid growth, rural development, productivity and youth employment, accountable governance