REPUBLIC OF RWANDA

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President Paul Kagame closing the Health Itorero training

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Acronyms

ACT	: Artemisinin Combined Treatment
AI	: Avian Influenza
AIDS	: Acquired Immunodeficiency Syndrome
ANC	: Antenatal Care
ARBEF	: Association Rwandaise pour le Bien-Etre Familial
ART	: Antiretroviral Treatment
ARVs	: Antiretroviral drugs
BCC	: Behavior Change Communication
BCG	: Bacille de Calmette et Guérin, Vaccin contre la Tuberculose
BK	: Bacille de Koch
BSS	: Behavior_surveillance_survey
CAMERWA	: Centrale d'Achat des Médicaments Essentiels du Rwanda
CBEHPP	: Community Based Environmental Health Promotion
CBHC	: Community Based Health Care
CBHI	: Community Based Health Insurance
CDC	: Centers for Disease Control and Prevention
CDLS	: Comité de Lutte contre le SIDA
CDT	: Centre de Dépistage et de Traitement
CHUB	: Centre Hospitalo-Universitaire de Butare
CHUK	: Centre Hospitalo-Universitaire de Kigali
CHWs	: Community Health Workers
C-IMCI	: Community Based IMCI
CIPD	: Conférence Internationale pour la Population et le Développement
CNJ	: Centre National de la Jeunesse
CNTS	: Centre National de Transfusion Sanguine
CPDS	: Coordinated Procurement and Distribution System
CPDS	: Coordinated Procurement and Distribution System
CPN	: Consultation Pré Natale
CRTS	: Centre Régional de Transfusion Sanguine
CS	: Centres de Santé
CT	: Centre for Treatment (TB)
CTAMS	: Cellule d'Appui aux Mutuelles de Santé
CTS	: Centre de Transfusion Sanguine
DBS	: Dry Blood Spot
DDP	: District Development Plan
DFID	: British Department for International Development
DH	: District Hospital
DHS (EDSR)	: Demographic and Health Survey
DOT	: Direct Oral Treatment
DP	: Development Partners
DRC	: Democratic Republic of Congo
DTC	: Drug Therapeutics Committee
DTC3	: Diphtheria Tetanus and Pertussis Vaccine
EAC	: East African Community
EDPRS	: Economic Development and Poverty Reduction Strategy
EEG	: Electroencephalography
EIA	: Enzyme linked Immuno-Assay
EID	: Epidemic Infectious Diseases

EMONC	: Emergency Obstetrical and Neonatal Care
EPI	: Expanded Programme for Immunization
FOSAs	: Formations Sanitaires (Health Facility)
FP	: Family Planning
FRW	: Franc Rwandais (Rwandan Franc)
GBS	: General Budget Support
GCP	: General Census of the Population
GF	: Global Fund
GoR	: Government of Rwanda
HAS	: HIV/AIDS and STI unit
HBM	: Home Based Management of Malaria
HBs	: Antigène de surface du virus de l'Hépatite B
HC	: Health Centre
HCV	: Hepatitis C Virus
HDN	: Hemolytic Disease of the New born
HF	: Health Facility
HH	: Households
HIV	: Human Immunodeficiency Virus
HIVDR	: HIV Drug Resistance
HMIS	: Health Management Information System
HMN	: Health Metrics Network
HNP	: Hôpital Neuropsychiatrique (Neuropychiatric Hospital)
Hop	: Hôpital
HR	: Human Resources
HRH	: Human Resources for Health
HSPI	: Hygiene and Sanitation Presidential Initiative
HSSP	: Health Sector Strategic Plan
ICT	: Information, Communication Technology
IDHS	: Intermediate Demographic and Health Survey
IEC	: Information, Education, Communication
IMCI (PCIME)	: Integrated Management of Childhood Illnesses
IRS	: Indoor Residual Spraying
IST (STD)	: Infections Sexuellement Transmissibles (Sexual transmitted diseases)
ITM	: Intermittent Treatment for Malaria
ITNs	: Insecticide Treated nets
IUD	: Intra Uterine Device
JAWP	: Joint Annual Work Plan
JHSR	: Joint Health Sector Review
KFH	: King Faycal Hospital
KIE	: Kigali Institute of Education
KMC	: Kangaroo Mother Care
LABOPHAR	: Laboratoire Pharmaceutique du Rwanda
LCR	: Liquide Céphalo-Rachidien (Cerebro Spinal Fluid)
LLINs	: Long Lasting Insecticide impregnated Nets
LMIS	: Logistics Management Information System
LNR(NRL)	: Laboratoire National de Référence
M&E	: Monitoring & Evaluation
MARP	: Most At Risk Populations
MBB	: Marginal Bottlenecks Budgeting
MBZ	: Mébendazole
MC	: Male Circumcision

MCAP	: Multi Country AIDS Program
MCH	: Maternal and Child Health
MDGs	: Millenium Development Goals
MH	: Mental Health
MIGEPROF	: Ministère de Genre et de la Promotion de la Famille
MII	: Moustiquaires Impregnées d'Insecticide
MINALOC	: Ministry of Local Administration
MINEDUC	: Ministry of Education
MINICOM	: Ministry of Commerce and Industry
MININFRA	: Ministry of Infrastructure
MININTER	: Ministry of Internal Affairs (internal security)
MINISANTE (MoH)	: Ministry of Health)
MMI	: Military Medical Insurance
MMINECOFIN	: Ministry of Finance and Economic Planning
MMR	: Maternité à Moindres Risques
MoH	: Ministry of Health
MoU	: Memorandum of Understanding
MR-TB	: Multiresistant-TB
MTEF	: Mid-Term Expenditures Framework
MTP	: Monitoring, Training and Planning
MVK	: Mairie de la Ville de Kigali
NC	: New cases
NCBT	: National Centre for Blood Transfusion
NEDL	: National Essential Drug List
NEHTWG	: National Environmental Health Technical Working Group
NEML	: National Essential Medicines List
NF	: National Formulary
NFEM	: National Formular for Essential Medicines
NGOs	: Non Governmental Organizations
NHA	: National Health Accounts
NRL	: National Reference Laboratory
NTDs	: Neglected Tropical Diseases
NTG	: National Treatment Guidelines
NVP	: Névirapine
OIs	: Opportunistic Infections
OMS	: Organisation Mondiale de la Santé
OVC:	: Orphans and Vulnerable Children
OVI	: Objectively verifiable indicators
PBF	: Performance Based Financing
PCR	: Polymerase Chain Reaction
PEC	: Prise En Charge
PEPFAR	: Present Bush's Emergency Plan For AIDS Relief
PHC	: Primary Health Care
PIT	: Provider Initiated Test
PLWHA	: People living with HIV/AIDS
PMTCT	: Prevention of Mother to Child Transmission
PNBC	: Programme de Nutrition a Base Communautaire
PNILP	: Programme National Intégré de Lutte contre le Paludisme
PNILT	: Programme National Intégré de Lutte contre la Tuberculose et la Lèpre
PNSM	: National Multisectoral HIV/AIDS Strategic Plan
PRSP	: Poverty Reduction Strategy Paper

PTF	: Pharmacy Task Force
PW	: Pregnant Woman
MINEDUC	: Ministère de l'Education
QAO	: Quality Assurance Officer
QMS	: Quality Management System
RAMA	: Rwandaise d'Assurance Maladie
RCHC/CRCS	: Rwanda Centre for Health Communication
RDT	: Rapid Diagnostic Test
RDU	: Rational Drug Use
RED	: Reach Every District
RURA	: Rwanda Utilities Regulation Authority
RWF	: Rwandan Franc
SAMU	: Service d'Aide Médicale d'Urgence (Emergency medical assistance service)
SCPS	: Service de Consultations PsychoSociales
SFAR	: Scholarship Financing Agency of Rwanda
SIDA	: Syndrome de l'Immunodéficience Humaine Acquise
SIMR	: Surveillance Intégrée de la Maladie et de la Riposte
SONU-B/EmONC	: Basic Emergency Obstetrical and Neonatal Care
SONU-C/EmONC	: Comprehensive Emergency and Neonatal Care
SOPs	: Standard Operating Procedures
SR	: Santé de la Reproduction
SRO	: Sels de Réhydratation Orale (Oral Rehydration Salts)
STG	: Standard Treatment Guidelines
STI	: Sexual Transmitted Infections
SWAp	: Sector Wide Approach
TB	: Tuberculosis
TB-MDR	: Multi Drug Resistant TB
TF	: Task Force
TOT	: Training of Trainers
TPM+	: TB Pulmonaire à Microscopie+ (Pulmonar Positive Microscopy TB)
TRAC+	: Treatment and Research for AIDS Center
TTIs	: Transfusion Transmissible Infections
TVA	: Taxes sur la Valeur Ajoutée
UNFPA	: Fond des Nations Unis pour la Population
UNICEF	: Fond des Nations Unis pour l'Enfance
USD	: United States Dollar
UTHB	: University Teaching Hospital of Butare
UTHK	: University Teaching Hospital of Kigali
VAR	: Vaccin Anti Rougeoleux
VAT2+	: Vaccin Anti Tétanique 2eme dose jusqu'à la 5eme dose
VCT (CDV)	: Voluntary Counseling and Testing
VIH	: Virus de l'Immunodéficience Humaine
VPO3	: Vaccin Polio Oral 3eme Dose
ZOD	: Zero Open Defecation

FOREWORD

This report presents the achievements of the Ministry of Health for the fiscal year starting from July 2009 to June 2010, within the framework of achieving the Government's objectives for the reduction of poverty, as defined in the EDPRS (2008-2012), the 2020 Vision and the MDGs.

The mission of the Health Sector is to improve the well-being of the Rwandan population in general, by implementing high impact interventions for the prevention and the management of diseases, as well as the rehabilitation and the re-adaptation of people disabled by those diseases.

In order to achieve of this mission, and the objectives defined in the health sector policy, the first health sector strategic plan (HSSP-I: 2005-2009) was implemented to maximize preventive measures, to build capacity and to allow the provision of high quality of health services, accessible both geographically and financially to the whole population.

The HSSP-I mid term review carried out in 2009 showed substantial improvements: financial and geographical access to health services increased substantially, decreases in child, infant and malaria mortality were observed and HIV prevention and treatment efforts continue to be expanded.

However, considerable challenges still remain: continued reduction in child and maternal mortality, production and retention of a skilled labour force; in the right numbers and mix, a high burden of malnutrition especially among children and strengthening the health system to provide client centered quality services.

The HSSP-II (July 2009-June 2012) was developed to meet those challenges. After one year of implementation, several actions have started to address the problem of maternal and child mortality. A multisectoral plan to eliminate malnutrition will start soon, and problems related to health financing will be considered under the approved health financing policy and the reviewed community based health insurance policy. Still, the quality of service and the improvement of the human resource for health remain top priorities. Meanwhile, Development Partners continue to support the Health Sector through a more coordinated partnership, and a plan for health system strengthening is being developed and will be implemented in the coming period.

Dr Richard SEZIBERA

Minister of Health

EXECUTIVE SUMMARY

This report presents the achievements of the Ministry of Health for the fiscal year July 2009 to June 2010. These achievements continue to help realise the objectives of the Government for economic development and poverty reduction, as defined in the EDPRS, the 2020 Vision and the MDGs.

For the Health Sector, the mission given to the Ministry of Health is to improve the conditions of life of the Rwandan population in general by putting in place high impact interventions for prevention and treatment as well as rehabilitation and re-adaptation.

For this purpose, a second Health Sector Strategic Plan (HSSP-II: 2009-2012) was developed and its implementation has started, mainly to address challenges identified in the mid term review of the HSSP-I.

Policy and Values

The core values guiding the Health Sector in its activities remain the same defined in the Health Sector Policy in February 2005.

Values and guiding principles. The Ministry of Health adheres to a number of values in its effort to fulfil its mission: solidarity, equity, ethics, cultural identity, and gender-specific respect. The Ministry of Health is also guided by a number of principles: acceptability and quality of health care, effectiveness and efficiency, inter-sectoral coordination, community participation, decentralisation, and integration.

Characteristics of health care and services. In recognition of the values and principles stated above, the Ministry of Health has identified desirable characteristics of health care and service provision that are necessary to fulfill its mission. Characteristics of health care include continuity, integration, social awareness, and relevance of health care. Characteristics of services include decentralization, continuous provision, flexibility, and efficiency of health services.

Priority interventions of the HSSP-II (2009-2010)

In the HSSP-II, program areas have been categorised along two axis to reflect the revised focus of the health sector: 3 strategic objectives which are supported by 7 strategic programs all related to health system strengthening.

The **3 strategic objectives** contain all objectives and outputs directly related to improving the health of the people. This axis include three main components or programs:

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

The **7 strategic programs** are cross-cutting issues that provide an enabling environment for service delivery to be optimally effective and efficient. These components all relate to health system strengthening and improvements in these areas are essential to ensure that the 3 strategic objectives of the HSSP-II are met. The 3 objectives include 7 strategic program areas, almost the same 7 components of the HSSP-I.

All interventions that will be implemented in the health sector are divided into three service delivery modes: **family-oriented community based services** (including household behaviour change activities, community workers service and social marketing), **population-oriented schedulable services** (i.e. outreach services and campaigns for standardized universal services), and **individual-oriented clinical services** (requiring decisions on diagnostic and treatment)

The Health Sector Performance, July 2009 - June 2010

1. Human Resources for Health

The main activities achieved are : the recruitment of new staff according to the new organizational chart of the Ministry of Health, the deployment of new staff (A1, A0, post-graduates) in the health services, the recruitment of 3 new staff to strengthen the Human resource management desk and a new Human Resource Development Officer. The training on the utilization of software for calculation of salaries (IPPIS), the management of the postgraduate program, and of the Nursing schools, and harmonization of salaries at the central level.

2. Improvement of availability of medicines, vaccines and consumables

In the fiscal year 2009-2010, District pharmacies were opened in all 30 districts, and 25 are currently being managed by pharmacists. The draft Pharmacy Practice law is underway for approval and is now being considered by the Parliament. All medicines have been coded and the LMIS (Logistics Management Information System) is being developed to manage and monitor the movement of commodities. Camerwa has started the active distribution of drugs, and its profits margins have been reduced from 18% to 15%.

3. Improvement of geographical access

The construction of hospitals has started for Kinihira, Ntongwe, Masaka and Bushenge (this hospital had been destroyed by an earthquake), and the works are in their final phase for Burera and Kirehe. Kacyiru Police hospital has been inaugurated. Several health centers have been constructed whilst others are in the process of being constructed and equipped. Today, 77% of the population must walk less than 1 hour or less than 5 Km to access a health facility. During 2009-2010, some 67 new and well equipped ambulances have been purchased and each district has at least 3 well functioning ambulances. SAMU (*Emergency Medical Assistance Service)* has been strengthened with the acquisition of new ambulances (now a total of 15 ambulances) and new staff. They have deployed 4 ERMS (Emergency and Resuscitation Mobile Service) units in Kigali City, and 8 ambulances have been deployed across the country for SAMU.

4. Improvement of financial accessibility

During the fiscal year 2009-2010, the percentage of Government budget allocated to Health was 10.2%. In 2009-2010 fiscal year, a total of **55,211,215,504 RWF** has been allocated to health from the Government budget, and utilized completely.

The Health financing policy has been approved and published, as well as the new Community Based Health Insurance Policy, which allows a payment of premiums based on stratification. During the fiscal year, participation in Mutuelles de Santé attained 91%, and in 2009, 646,182 of the poorest individuals have been assisted in paying the premium while 1,126,088 poor were subsidized with a payment of 1,000 RWF. The national pooling risk was strengthened to 2,832,384,129 RWF.

The PBF program continued as usual. The payment of PBF indicators increased from 4.898.174.574 RWF in 2008 to 7, 224, 488,995 RWF in 2009.

5. Improvement of the quality and the demand for services in the control of diseases

Health Promotion:
The most common disease morbidities in Rwanda are infectious diseases, which are preventable through the improvement of hygiene and sanitation and health related behavior, while the impact of chronic and or non-communicable diseases can be significantly reduced through the adoption of healthy lifestyles.

IEC/BCC activities are used to promote behavioral change and common practices known to improve the health of the population. Environmental health focuses on ensuring safety of food and water, improving hygienic latrines/toilets, safe waste disposal and injection safety and family hygiene.

Communicable diseases

Malaria

In the fiscal year 2009-2010, a total of 2,727,710 LLINs have been distributed countrywide. This includes the 1,566,559 LLINs distributed to under 5 children countrywide through the MCH week campaign in April 2010 and the rest for household campaigns mainly in high malaria endemic districts.

IRS was performed in 7 districts, 3 in Kigali city: Nyarugenge, Kicukiro, Gasabo and 4 rural districts: Kirehe, Nyagatare, Bugesera and Nyanza. The total number of households sprayed was 294,290 with coverage of 98%. 347,752 uncomplicated and 6,237 severe malaria cases were treated in under 5 children.

The total number of uncomplicated malaria cases (that is under 5, 5 and above) was 1,107,910 and the total severe malaria cases was 13,319 in the same period, but only 58% and 91% of all treated cases were laboratory confirmed with a positive malaria blood smear.

During this reporting period, the malaria mortality rate is 17% and 69% respectively. Finally, 28 districts have community case management including HBM, and the combination of CCM with RDTs use has been implemented in 19 epidemic and endemic districts.

HIV/AIDS

At the end of June 2010, **419** health facilities offered voluntary counselling and testing services (VCT), including 13 prisons. From 2003, **5,229,817** were tested for HIV in Rwanda. Among the 1,671,041 persons tested in 2009-2010, 45.5% were men and 54.5% were women. 38,632 persons were tested HIV positive (2.3%). For the **103,298** couples tested, **4,170** were discordant **(4.04%).**

For PMTCT: 382 HF offered PMTCT services, meaning that 41 new HF have initiated PMTCT activities. From July 2009 to June 2010, the number of pregnant women attending ANC was about **290,910**, among them **286,073 (98.3%)** were counselled and tested for HIV and received their results, among them **7677 (2.7%)** were tested HIV positive. During the same period, **8 445** pregnant women tested HIV positive and HIV tested negative in discordant couples in PMTCT services have received ARV prophylaxis/treatment according to the current protocol used in Rwanda.

Moreover, early Infant Diagnosis showed a rate of **2.6%** of HIV transmission from mother to child among the children tested at 6 weeks. For the same period, among **4910** HIV exposed children expected to be tested at the age of 18 months, **4 204** were tested for HIV and **99 (2.3%)** were HIV positive.

During the reporting period, **295** health facilities were offering care and treatment services (ART). A total of **83,041** patients were under ARVs (62% females, 38% males) and **16,918** new cases were enrolled. Among them, **7,111** patients were children up to 15 years (50% males, 50% females). 1,823 patients were on the 2nd line regimen.

During the period, some **1,342** patients died, while **2,642** others were lost to follow up.

In order to solve the shortage of the staff trained for the management of HIV/AIDS patients, task shifting continued to be implemented and a total of **856** nurses from **40** district hospitals and their **389** health facilities were trained on task shifting.

Tuberculosis:
From July 2009 to June 2010, 3,900 new smear-positive TB cases and **7,279** TB cases (all forms) were registered. The respective notification rates were 40 and 78 per 100,000 of the population. New smear-positive TB cases were 59% of all the new cases and 77% of all pulmonary forms. The TB treatment success rate was 85% for the cohort of new smear-positive cases registered in 2008. Although it has decreased, this outcome indicator still reaches the STOP-TB. The overall death rate was 9.5%.

For the MDR-TB, 94 MDR-TB cases were confirmed through DST; 6 (6.3%) died before treatment. The death rate before treatment decreased, which suggests that the diagnosis of MDR-TB is done earlier, in particular through the molecular rapid tests. The treatment success rate was 87% for the cohort of MDR-TB patients enrolled in 2007. Apart from at Kabutare already functional, 2 new centres, Kibagabaga and Kibungo, have been constructed, and are being equipped for the management of MDR-TB. Kibagabaga is expected to start its activities in November 2010.

Management of epidemic diseases
During the reporting period, outbreaks of cholera were observed in Rubavu, Nyagatare, Musanze, Nyamasheke, Kamonyi and Rusizi Districts. Also, Typhoid fever cases were reported again in Musanze District. The number of patients had reached 288 with 2 deaths (CFR 0.7%). In Nyagatare prison, a Botulism outbreak was suspected affecting 160 (85%) males and 28 (15%) females. A total of 67 cases were detected out of which two died: case fatality rate was 3%.

Neglected Tropical Diseases
Before implementation of the NTD program, a baseline survey was carried out. Soil-transmitted transmitted helminthes has overall prevalence of 65.8% for any STH among school-age population and Schistosomiasis mansoni is prevalent in Rwanda with overall prevalence of 2.7% among school-aged population. GATSIBO and NYARUGURU had high proportion of active trachoma (15.3 and 12.6% respectively), but Trachoma does not constitute a public health problem, as well as Onchocerchiasis and Lymphatic Filariasis (LF).

Maternal and Child Health

Apart from routine activities (EMONC distribution of LLINS, delivery in health facilities, etc.), several others have been initiated to improve Maternal Health: the construction of 45 maternities and a plan for the construction of 33 others, basic equipment of maternities with the purchase of 93 new ambulances (66 distributed and 26 expected), maternal death audits, and Mother and Child Health weeks.

In order to improve the Child health, new activities have also been launched: introduction of the pneumococcal vaccine in routine immunization, an emergency plan to eliminate malnutrition, child growth monitoring, national screening for acute malnutrition, the national nutrition summit and the community based nutrition program.

Of the **743,068** children who were screened for acute malnutrition, **65,210 (8.8%)** children were detected for acute malnutrition (**51,097** moderately malnourished **(7.2%)** and **14,113** severely malnourished **(1.6 %)**). However, there is a large variation between malnutrition rates per district (between 2.9 % for Rwamagana to 33. 5 % for Ruhango district)

The community health package continued to be expanded in all districts, and the introduction of the Phone for Health was distributed in the fiscal year 2009-2010. So far, 45,000 phones provided by the Government have been distributed to CHWs all over the country for the community based RapidSMS "alert system" for critical events in the Maternal and/or newborn/child cycle up to 9 months.

For Family Planning, the following new actions have started: community based distribution of contraceptives in 3 pilot districts: Rusizi, Kicukiro and Gatsibo, progressive incorporation of new private sector providers into district health networks, integration of Family Planning into HIV/AIDS services and other health services, construction of health posts near health facilities that don't provide FP services.

A total of about **45,210** participants (participation rate of 74.5%) participated in the training of ITORERO (Imbangukiragutabara), where 83% of the participants were community health workers.

Finally, Reproductive Health for Adolescents and Sexual and Gender based violences are being included in the routine interventions of the Maternal and Child Health.

6. Strengthening of Referral Institutions

The institutionalization of RBC (Rwanda Biomedical Centre) combining existing autonomous agencies is still ongoing. Its operationalization will be effective after the law creating RBC is enacted.

7. Strengthening Institutional Capacity

The most innovative actions concern the e-Health. The e-Health strategic plan has been approved. The National e-Health Entreprise Framework will govern health information systems in terms of harmonization, interoperability and integration. Some achievements of e-Health program are: distribution of phones to CHWs for community health information system, hospital management system, telemedicine, Pan-African e-Network project, computed radiography, blood bank management system.

INTRODUCTION

This report presents the realizations of the first year of HSSP-II implementation. As Rwanda has now joined the EAC, it was necessary in July 2009 to harmonise planning and budget cycle with that of EAC. It was in this spirit that the Health Sector Strategic Plan (HSSP-II) has been developed for the period of June 2009 to July 2012, and the current reporting action plan commenced on 1st July 2009 and ended on 30th June 2010.
The objective of the HSSP II is to operationalise the EDPRS in the Health Sector to help attain national priorities and international targets, including the Millennium Development Goals (MDGs), which Rwanda is committed to achieving

Purposes:

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

The programme areas of the HSSP-II are categorised along 2 axes to reflect the revised focus of the health sector:

a) **Client-oriented service delivery**: contains all objectives and outputs directly related to improving the health of the people. These objectives are:

1. To improve accessibility to, quality of and demand for Maternal Health, Family Planning, Reproductive Health and Nutrition Services;
2. To consolidate, expand and improve services for the treatment and control of diseases;
3. To consolidate, expand and improve services for the prevention of disease and promotion of health.

b) **Systems-focused components**, containing objectives and outputs that provide an enabling environment for service delivery to be optimally effective and efficient (health system strengthening). These objectives are:

1. To ensure the availability of human resources,
2. To ensure the availability of quality drugs, vaccines and consumables,
3. To expand geographical accessibility to health services,
4. To improve the financial accessibility to health services,

5. To improve quality of and demand for services in the control of disease,
6. To improve national referral hospitals and research and treatment institutions,
7. To reinforce institutional capacity.

Levels of interventions:

All interventions that will be implemented in the health sector are divided into three service delivery modes: family-oriented community based services (including household behavior change activities, community workers service and social marketing), population-oriented schedulable services (i.e. outreach services and campaigns for standardized universal services), and individual-oriented clinical services (requiring decisions on diagnostic and treatment).

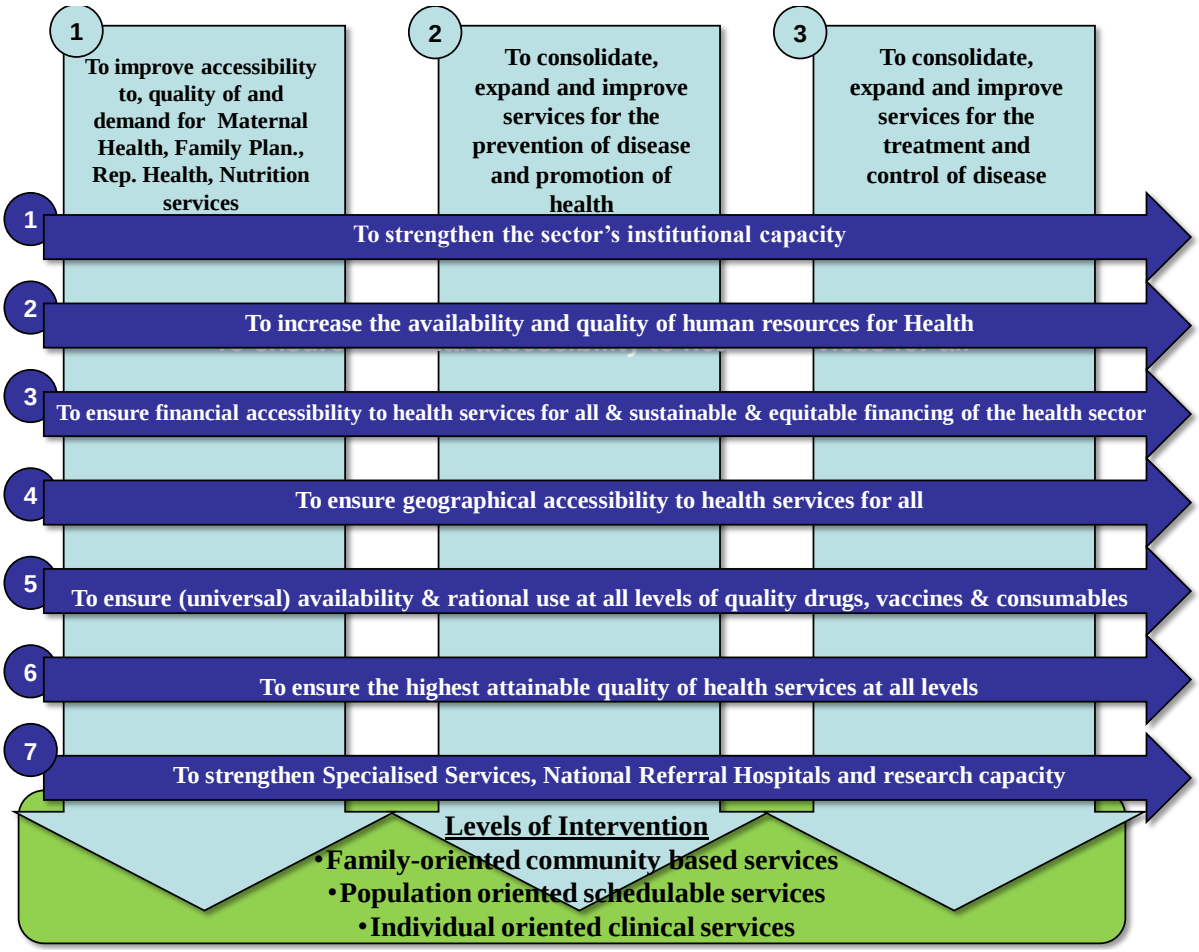
Family-oriented community based services: consist of what families and communities can practice by themselves when provided with information and education by health workers. These interventions include mostly preventive and promotive measures as well as some management of neonatal and childhood illnesses. The responsibility of the system is to empower the community through information, education and other strategies as well as making commodities and supplies accessible. Most of activities are carried out by the Community Health Program, through Community Health Workers.

Population-oriented schedulable services: include disease-prevention services delivered to all individuals. Delivery strategy includes both periodic outreaches to communities and/or scheduled services at health facilities (Minimum and complementary package of health care).

Family and Population oriented services basically constitute the Primary Health Care package, and PHC usually takes 75% of the total budget allocated to health.

Individual-oriented clinical services: include all types of individual curative care and delivery services that need to be offered by trained healthcare professionals in a healthcare facility. These interventions are offered in a continuous manner so that they can respond to unpredictable health emergencies.

Strategic Objectives and Strategic Programmes of the HSSP II



Source: HSSP II July 2009 – June 2012

All interventions in the Health Sector will therefore contribute to achieving both a strategic objective and a program objective. A very important aspect of the HSSP-II is the strengthening of the Health System, and a specific strategic plan that covers all major interventions across the different building blocks is being developed, in order to have a fully functional health system that enables Rwanda to fulfill the Millennium Development Goals (MDGs) set out in the Health Sector Strategic Plan (HSSP) II. The different building blocks are:

- Human resources,
- Medicines, Vaccines and Technologies
- Health Finance
- Stewardship, Governance
- Health Information
- Health Service Delivery

The new direction of the HSSP-II

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

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

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

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

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

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

Finally, a **Health System Strengthening Program** is being developed using the Health system building blocks.

Monitoring and Evaluation

To accelerate progress in the health sector and create effective and efficient service delivery, developments in crucial areas that enable and support the functioning of the health system are necessary. Critical factors for success in Rwanda have been identified as: strong political leadership and commitment from the central government and the Ministry of Health; better planning, management, monitoring and evaluation at all levels of the Health Sector; introduction of sustainable and equitable financing mechanisms; improved geographical access for the entire population; the availability of sufficient numbers of quality staff; the availability and rational use of appropriate medication; community participation in health activities; continued and enhanced partnerships between government and Development Partners; timely provision of adequate funds; strengthening of National Referral Hospitals and specialized services; development of strong research capabilities; and ensuring good quality of service and delivery at all levels.

To ensure that improvements in these key areas are made and that all priority national and international health targets are met, the health sector has adopted **3 strategic objectives** and **7 strategic programs related to health system strengthening** that will form the basis of all health interventions by all stakeholders in the next three years.

An integral component of the HSSP-II is the development of a strong monitoring, review and evaluation framework. In order to measure and analyze the success of HSSP-II interventions in reaching outcomes and targets, a set of annual and periodic indicators have been developed through consultations with all stakeholders. The indicators are the most important for measuring the sector's performance and have been informed by the country's long term vision and strategic direction (2020 Vision, MDGs and EDPRS). These indicators will form the basis of monitoring and control of the HSSP-II.

Sector Performance Reviews are undertaken annually as part of Joint Health Sector Reviews (JHSR). The annual and periodic performance indicators as well as process indicators and MTEF monitoring are the basis for assessment. A Joint Annual Review report is produced based on the review and is disseminated to all stakeholders with any required actions monitored by the M & E/ the MoH.

The Joint Health Sector Review (JHSR) is a forum agreed upon between the Government of Rwanda and Development Partners, in which a deep analysis of performance (challenges as well as progress) is carried out for the implementation of EDPRS actions and policy matrix and an assessment of the CPAF targets and policy actions in order to come up with policy recommendations for the coming year.

Actions and outputs as well as indicators are set on the basis of a common agreement, and the review is made according to those indicators. During the forum, budget execution is also discussed. The JHSR is usually organized twice a year.

ACHIEVEMENTS IN 2009-2010

I. HUMAN RESOURCES DEVELOPMENT

The Human Resources for Health have been described as « the heart of the health system » in any country, the most important aspect of Health Care System and a critical component in health policies (The Lancet, Vol 364, October 16th, 2004).

Since long time, Human Resources for Health face the same problems: worker shortages, skill mix imbalances, misdistribution and retention, negative work environment, weak knowledge base, out-migration, health workforce under assault of HIV/AIDS, inadequate investment.

The overall objective of HRH Department in the Ministry of Health is to improve the availability, quality and rational use of HR for health. The focuses are:
Increase the availability of health personnel related to the reduction of maternal mortality, more specifically midwives.
Improve the geographical distribution of health personnel across the country, between rural and urban areas.

The other objectives are:
Strengthen the HMIS section related to human resources for health (HRH),
Improve the HR management capacity at decentralized levels,
Strengthen and build the capacity of the Community Health Workers (CHWs),
Invest in health training institutions to enable them increase their productive capacity both in quality and quantity.

The main achievements are:

Capacity creation:

Recruitment of 3 new staff to strengthen the Human resource management desk.
Recruitment of the new Human Resource development officer.
Training of HRH staff on the utilization of software for calculation of salaries (IPPIS).
Organization of the recruitment of the new staff to complete the new MoH cadre organique.
Completion of the files for post graduate candidate doctors.
Harmonization of salaries for the Staff at the Central level.

Tableau 1: Staff Deployed from MoH in 2009-2010

Qualification	Appointment	Change of Qualification	Mutation	Left
Specialist Doctors	**15**	**2**	**11**	**6**
Doctors (Generalists)	**27**	**1**	**1**	**8**
Pharmacists	17			**2**
Registered Nurses A1	**45**	**6**	**1**	**1**
Midwives A1	5	1	**1**	
Assistant Nurses A2			**4**	
Anesthesists A1	**14**		**3**	
Lab technicians A1	**6**			
Radiologist Technicians A1	**8**		**1**	**1**
Dentist Technicians A1	**11**		**1**	
Mental Health Technicians A1	**16**		**1**	
EH Technicians A1	**37**		**5**	
Master in Physiotherapy	**3**			
Physiotherapist A1	**6**		**2**	
Dermatologist A1	**1**			
Ophthalmologist A1	**5**			
Sociologist A0	**5**	**2**		
Clinical Psychologogist **A0**	**4**	**1**	**1**	
Nutritionnist A0		**1**		
Nutritionnist A1	**1**			
Management A0	**11**	2	**4**	
Management A1	**1**			

II. IMPROVEMENT OF THE AVAILABILITY OF MEDICINES, VACCINES AND CONSUMABLES

Global Objective: Improve the availability of medicines, vaccines and consumables

. To achieve this, the programme will:

- Put in place an efficient procurement and distribution system to ensure the availability of vaccine antigens (BCG, measles, DTP, and others), essential drugs, and condoms for high risk groups at all level of the health system.
- Develop and publish a drug pricing policy, including subsidies for some essential drugs and consumables to improve access for the poor and ensure price transparency.
- Strengthen the quality assurance and registration system of drugs in both the public and private sectors.
- Improve the rational use of drugs.

II.1 REGULATORY BODY FOR THE PHARMACEUTICAL SECTOR

The national regulatory activities of the pharmaceutical sector are being carried out by the Pharmacy Task Force under the Ministry of Health, since 2006.

The mission is to protect and promote public health by ensuring availability of quality, cost effective, safe and effective use of medicines, food, cosmetics and medical devices to the population, but the vision is to put in place a National Medicines Regulatory Authority and become one of the referrals among the National Regulatory Bodies, in the developing world, starting with quality service delivery.

The major responsibilities of the Pharmacy Task Force are:

- Coordinate activities related to the implementation of the pharmaceutical policy
- Initiate laws and orders related to the functioning of the pharmacy practice
- Elaborate the instructions governing pharmaceutical sector/institutions
- Supervise and monitor the of pharmaceutical establishments
- Plan and execute periodic inspections as well as the supervision in both public and private pharmaceutical establishments

- Ensure the standardization and quality of pharmaceutical product that come in Rwandan territory (pre-registration, importation visa and licence, custom check up)
- Supervise the implementation of international conventions regarding drugs and other pharmaceutical substances
- Provide pharmaceutical information to Health Professionals as well as to the public (e.g. NEML (National Essential Medicine's List), N.F (National Formulary) , NTG (National Treatment Guideline), radio transmissions and local news papers;
- Initiate cooperation with other national, regional and international institutions involved in regulating, supplying and controlling pharmaceutical products use.

The current status of Pharmacists distribution country wide

Tableau 2: Distribution of Pharmacists in Rwanda

N^{O}	INSTITUTION	Number of Pharmacists
1	Pharmacy Task Force at the Ministry of Health (Central Government level)	7
2	MoH/TRAC+	1
3	MoH/MENTAL HEALTH	1
4	MoH/CAMERWA	8
5	MoH/CHUK	3
6	MoH/CHUB	2
7	MoH/KFH	4
8	MoH/LABOPHAR	2
9	NDERA REFERAL HOSPITAL	1
10	DISTRICT HOSPITALS	32
11	DISTRICT PHARMACIES	25
12	RAMA	17
13	BUFMAR	2
14	MMI	1
15	IRST	1
16	UNR	10
17	NGO'	23
18	PRIVATE RETAIL PHARMACIES	82
18	PRIVATE WHOLESALE	39
19	PHARMACISTS IN POLITICAL POSITIONS	4
	TOTAL	**303**

Currently, the number of Pharmacists in Rwanda is about 305, distributed in both public, private and NGOs in the country. When comparing this number of pharmacists to Rwandan population of 10,117,029 million people this leads to one pharmacist serving **33,170** people. When compared to the World Health

Organization's recommendation of at least one pharmacist per about **10,000** populations, hence indicating the need of about three folds in the market.

Also, it is important to note that the Department of Pharmacy at the National University of Rwanda, started in 1981, and so far it has produced about 280 pharmacists with a bachelor's degree up to date.

Tableau 3: Pharmacies and Drug shops, 2009.

	wholesale pharmacies	**retail pharmacies**	**drug shops**
total	39	82	205

Achievements of the Pharmacy Task Force

1	Total number of import permit granted: 1 630
2	Total number of dossiers for pre registration assessed and approved: 136 and 14 still under review, with about 120 waiting
3	Pharmacy practice law/Act in place and also amendment in parliament
4	Pharmacy practice law/Act in place and also amendment in parliament
5	Transitional National Drug Regulatory Authority (PTF) in place
6	Draft law on the establishment a national medicines regulatory authority
7	Centralized Health commodities Procurement System (CAMERWA) in place
8	Decentralized pharmaceutical Management system; a number of district pharmacies in place (30 DP) of which 25 are run by qualified pharmacists
9	Basic tools for Rational Drug Use in place (NEDL, NF, NTG etc)
10	Development Pharmaceutical commodities management tools at all levels of health facilities
11	(ongoing) Development of Logistics Management Information System (LMIS): this system will assist in the management and monitoring movement of health Commodities: completion in March 2011
12	Creation of DTCs in about 12 Hospitals (Drug Therapeutics Committee), Pharmacovigilance being established and with a number of trainings.
13	A Coordinated Procurement and Distribution System (CPDS) of TB, HIV/AIDS and related health commodities has been put in place and brought a big improvement in the procurements of the highlighted products, now is integrating all the programs including malaria, nutrition, mother and child health program including family planning
14	Logistics Management Information System (LMIS) a system that will assist in the management and monitoring movement of health Commodities is being developed and has partially already started running and completion is expected to be in March 2011

II.2 MEDICINES, VACCINES AND CONSUMABLES

The supply and the distribution of medicines, vaccines and consumables constitutes one of pillars that allow the health system to be operational and to reach the objectives of the national health policy. Drugs and vaccines are very important for the provision of the Primary Health Care and, the availability of medicines is one of the key measurements in the supply of health services to the population.

For this purpose, the priority has been given to essential and generic medicines. The supply of such products is organized through CAMERWA which is responsible for importation and distribution to district and hospital pharmacies. The Government supports other initiatives that would sustain the development of pharmaceutical sector.

II.2.1 ACTIVITIES OF CAMERWA

The mission of CAMERWA is to ensure the availability of the quality essential drugs, consumables and medical equipment, at affordable price.

To accomplish its mission during the year 2009-2010, the CAMERWA has achieved the following main activities:

- To procure pharmaceutical products according CAMERWA procedures and raise the health facilities satisfaction rate from 75% to 85%.
- To improve the drugs quality assurance system by:
  - Conducting an assessment of CAMERWA Quality assurance system and develop a new one,
  - Implementing the newly developed quality assurance system,
  - Developing CAMERWA suppliers prequalification policy,
  - Acquisition of a supplier prequalification software,
  - Acquisition of a Mini lab for in house quality control for pharmaceutical products.
  - Incineration of all existing expired pharmaceutical products,
  - Conducting quality control tests in WHO approved Laboratories.

- To implement the Active distribution of pharmaceutical products on 22 District Pharmacies: 11 districts so far reached, but the activity is ongoing.
- To review CAMERWA profit margin from 18% to 15% and publish a New Sales Price Catalogue based on the new approved profit margin.
- To complete CAMERWA warehouse extension and rehabilitation works and develop studies to equip the warehouse with automated fire detection system, cooling system of the warehouse and a modern Cold room: ativities are ongoing.

- Review CAMERWA warehouse management system and integrate it with the financial management system: the new management software is set for October 2010.

A consultancy study is in preparation to kick off this bulk of Quality assurance activities.

Main implementation challenges

The completion of CAMERWA warehouse extension and rehabilitation works has been delayed by constant failures of surveillance companies and this exposes the institution to risk of losing financial support from donor partners having budget disbursement fixed deadlines.

The above mentioned Quality assurance activities have been delayed by a lack of technical expertise on local market.

The incineration of expired drugs has been delayed by lack of sufficient and performing incinerators in the country.

II.2.2 SUPPLY OF VACCINES (Expanded Programme of Immunization)

The supply and the distribution of vaccines and related materials continued as usual. EPI is comprised of three principal components: routine vaccination, supplemental immunization activities, and surveillance of target diseases. Routine immunization is intended to reach infants 0-11 months of age and pregnant women, during antenatal care visits.

Immunization activities are part of the minimum package of interventions which are integrated within a health facility. In order to reach a high proportion of target population, EPI uses the following strategies: integration of immunization services at fixed health centres, re-establishment of outreach strategy within a health catchment's areas and catch-up campaigns. The outreach strategy has been revitalized in most of health facilities, using financial support made possible through Government and GAVI Alliance. Since 2005, Reach Every District approach (RED) was introduced in all districts. In 2007, distribution of impregnated treated nets (ITN) was integrated with immunization services at health centres.

Main achievements of the logistical service

- Management of the vaccines and of vaccination materials,
- Procurement of the vaccines and of vaccination materials,
- Quality control of the cold chain,
- Distribution of vaccines, vaccination materials and supervision of its use,

- Training of the vaccination technicians on the management of vaccines, safety of injections and the related waste management,
- Follow-up of the maintenance of the cold chain at the at the central level,
- Procurement and revision of the cold chain tools.

II.2.3 BLOOD SUPPLY AND BLOOD SAFETY

The National Centre for Blood Transfusion is a semi-autonomous public institution under the Ministry of Health. The system is composed by 3 regional centers but 2 others (RCBT Rwamagana in the East and RCBT Karongi in the West) will be operational very soon.

NCBT Kigali is the most important, which collects, transforms and distributes 60% of all blood collected in the country. The activities of screening for Infectious diseases are also carried out at the NCBT Kigali. Another Regional Center (RCBT Rubavu) is underway for rehabilitation to ensure an equitable coverage of the services on the national territory.

The 3 Blood Transfusion Centers are equipped to carry out the essential analyses: blood collection, groupings, and other related analyses.

Mission of the NCBT

To provide blood and blood products of quality for transfusion to all patients in need.

Objectives

To achieve its mission, the NCBT has elaborated the following objectives:
• Promotion of the voluntary non-remunerated blood donation,
• Organization of blood collection in sufficient quantity,
• To ensure the screening of 100% of the units of collected blood for transfusion transmissible infections (TTIs),
• To ensure the distribution of blood to 100% of the patients in need.

Strategies

To achieve its objectives, the NCBT has as activities:
• A program of donor mobilization,
• Recruitment of blood donors in a group with low risk of infectious diseases,
• Opening of new sites for blood collection and the strengthening of those which exist and the creation of a pool of regular donors.
• Screening for HIV, HBV, HCV, and Syphilis for all blood donations,
• Implementation of a quality system.

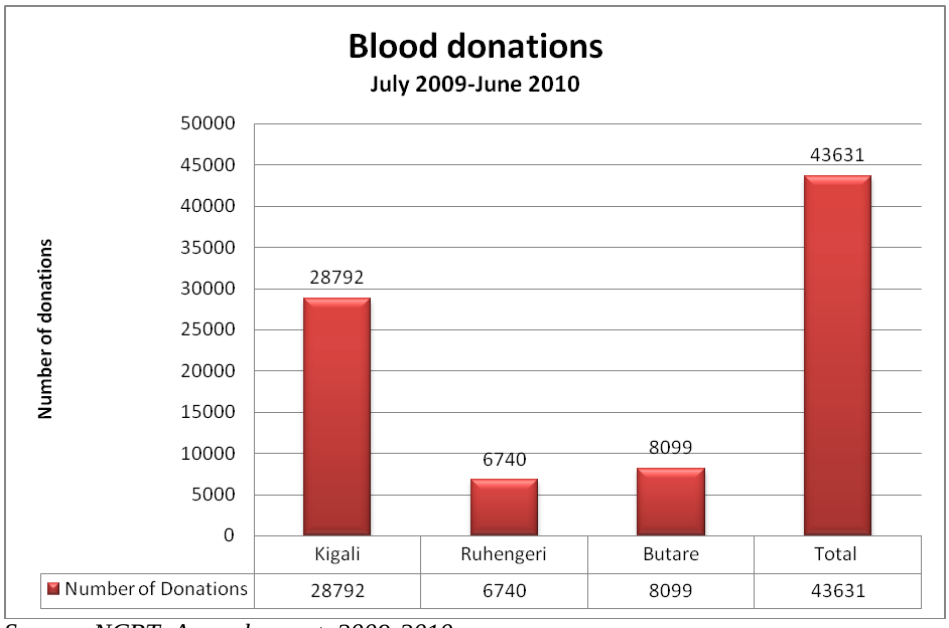
Achievements in July 2009-June 2010

a) Blood Collection:

In Rwanda, the blood donation is exclusively based on the voluntary non-remunerated donation, other types of blood donations: family replacement and paid blood donations do not exist. In 2009-2010, 43, 631 blood units were collected by NCBT.

Blood donations are fractionated into Plasma and Red cell Concentrates.
In 2009, platelets have been produced to be issued to Kigali referral hospitals.

Figure 1: Number of blood donations, july 2009 - June 2010



Source: NCBT, Annual report, 2009-2010

b) Qualification

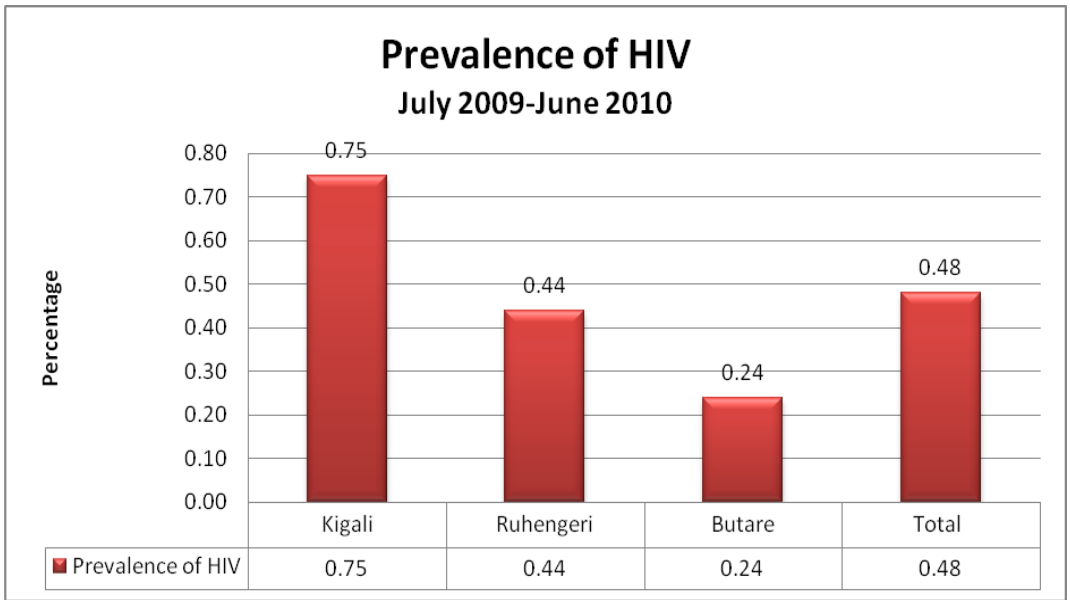
Immunohematology

- Blood grouping ABO-Rh (D)
- Cross-match Testing
- Detection of irregular antibodies
- Diagnosis of the HDN

Serology:

- HIV screening using HIV Ag/Ab combination CMIA
- Hepatitis B Virus screening (CMIA)
- Hepatitis C Virus screening (CMIA)
- Syphilis screening (Using RPR)

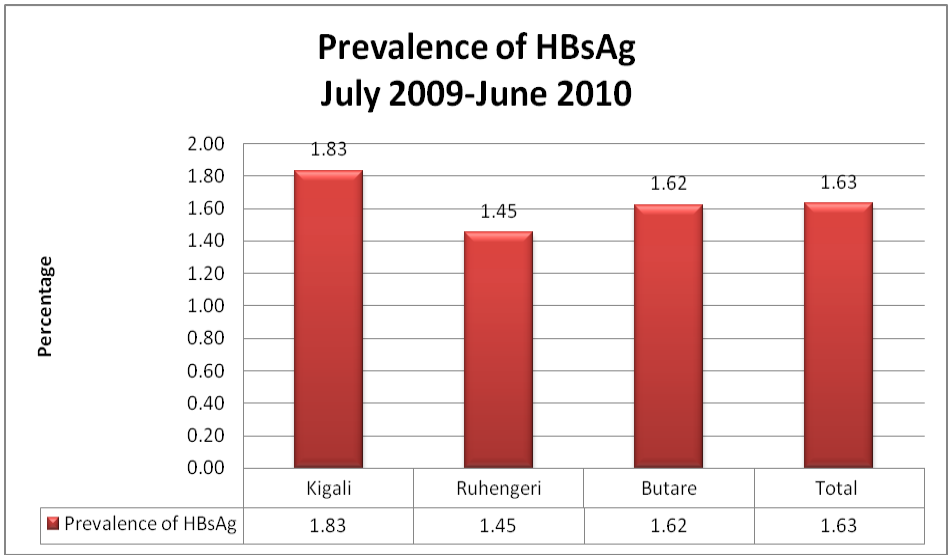
Figure 2: Prevalence of HIV in blood donations (initial test not confirmed)



Source: CNTS/NCBT, annual report 2009-2010

Compared to the general population, HIV prevalence among blood donors has been reduced, but efforts are still necessary to reduce the risks even more effectively. According to the results of the social and health survey carried out in 2005, the prevalence of the HIV is on average of 3% in the general population.

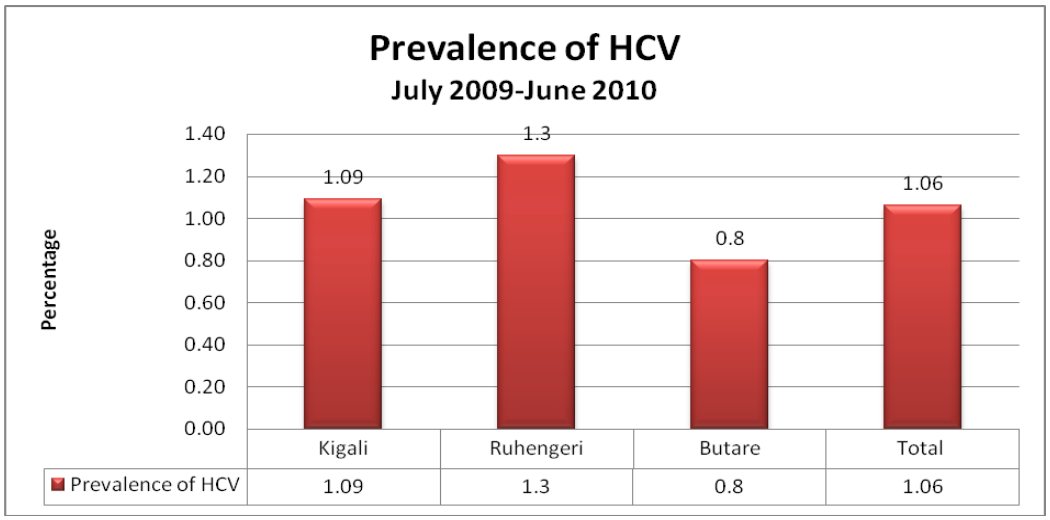
Figure 3: Prevlence of HBV in blood donations (July 2009 - June 2010)



Source: CNTS/NCBT, annual report 2009-2010

The prevalence of hepatitis B does not change very much in the blood donors, because there do not exist behavior risks of transmission in general population. However, compared to the prevalence in the general population estimated to be between 5 and 10%, the figures are low in the blood donors. It should be noted that the majority of the positive tests come from the new blood donors.

Figure 4: Prevalence of HCV in blood donations (July 2009 - June 2010)



Reference: CNTS/NCBT, annual report, 2008

Blood Utilization

In July 2009-June 2010, 15627 whole blood units, 23841 red cell concentrates, 1514 Fresh frozen plasma and 1128 platelets concentrates were issued to all hospitals in Rwanda.

Quality assurance

The quality assurance program of the NCBT is charged to set up and to monitor the implementation of Quality Management Systems (QMS). It sets up NCBT Policies, standards, processes and procedures. It controls also the implementation of the use of SOPs in order to provide good quality services.
During 2009-2010, many activities have been accomplished:

- Gap analysis was done so that corrective actions can be taken in place
- SOPs have been continued to be developed,
- Internal audits carried out
- External Quality Assurance for HIV and Hepatitis B and C
- External Quality Assurance for IH testing
- In the program of Twinning, the NCBT QAO has attended 2 weeks training in Blood source, Sacramento, USA.

II.2.4 LABOPHAR

Attributions, mission

The Pharmaceutical Laboratory of Rwanda (LABOPHAR) is a factory for the manufacture of generic and essential drugs in Rwanda. Its mission is to provide enough quantity of generic essential drugs with great therapeutic effectiveness at affordable prices to all layers of the population of Rwanda.
Thus far, the following objectives are assigned to LABOPHAR:

(i) Producing and packaging at the local level generic essential drugs in sufficient quantity referring to the list of recommended essential drugs by WHO and to the restrictive list of the Ministry of Health, taking account of quality standards, affordable prices to all layers of the population, and permanent availability.

(ii) Preserving the public health in carrying out the quality control of pharmaceutical raw materials, in process products, finished products, and packaging materials used by LABOPHAR or by any other private or public company / institution.

(iii) Contributing to the training of students from various scientific fields.

Tableau 4: Production of Drugs, LABOPHAR, July 2009 - June 2010

DESCRIPTION	QUANTITY	VALUE/Rwf
Sterile Drugs		
1. Lactated Ringer (500 ml)	132 128	50 208 640
2. Normal Saline 0.9	89 005	28 481 600
3. Glycoside 5%500 ml	40 612	14 620 320
4. Glycoside 5%250 ml	53 770	16 131 000
Non Sterile Drugs		
Ointments		
1. Camphor ointment 10%; 50g	8 904 bottles of 50g	3 561 600
2. Whitfield ointment	483 bottles of 50 g	3 561 600
Suspensions		
1. Cotrimoxazole 240 mg/5 ml	5006 bottles of 60 ml	1 251 500
	1 068 bottles of 100 ml	373 800
2. Metronidazole 125 mg/5 ml	4 966 bottles of 100 ml	1 738 100
Capsules		
1. Amoxycilline 250 mg	2 468 000 capsules	29 616 000
2. Tetracyclin 250 mg	408 000 capsules	1 958 400
3. Chloramphenicol 250 mg	396 000 capsules	3 366 000
Tablets		
1. Thiamine 100 mg	975 000 tablets	29 616 000
2. Mebendazole 100 mg	1 161 000 tablets	2 089 800
3. Cotrimoxazole 480 mg	746 000 tablets	4 103 000
4. Metronidazole 250 ml	443 000 tablets	1 417 600
5. Cimetidine 400 mg	245 000 tablets	2 082 500
6. Furosemide 40 mg	386 000 tablets	965 000

Tableau 5: LABOPHAR: Revenues generated, July 2009 - June 2010

	Sales of Drugs	**Analysis of samples from outside**	**Total Revenues**
Quarter I	102, 883,201	-	102, 883,201
Quarter II	62, 539,730	-	62, 539,730
Quarter III	47, 332,050	138,750	47, 470,800
Quarter IV	25, 181,000	230,000	25, 411,000
		TOTAL	**238, 304,731**

III. IMPROVE GEOGRAPHICAL ACCESS TO HEALTH CARE

Global objective: Expand geographical access of the population to operational health services.

The specific objectives are:

- To construct and rehabilitate health centres and district hospitals in health districts with the worse geographical access in accordance with the health infrastructure development plan.
- To establish an efficient equipment procurement system.
- To provide health districts with adequate transportation for emergency referral to district hospitals.
- To ensure there is a functioning laboratory network in place.
- To ensure the functioning and regular inspection of health facilities.
- To promote the use of private sector health facilities to complement public health facilities

Strategic interventions of the HSSP-II:

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

By end of June 2010, the following activities were achieved:

III.1 Construction of health facilities

Tableau 6: MoH: Progress in construction projects, 2009-2010

Construction of Hospitals and Health Centres			
Hospitals and Health centres achieved	**Hospitals** : Gitwe, Kibilizi, Munini, Rwinkwavu, Kibagabaga, Extension Muhima, Maternité de CHUK **Health Centres** : 33	Equipments ongoing	-
Construction of	85% finished	Completion and	-

Kirehe ditrict hospital		equipment	
Construction Butaro Hospital	95% finished	Completion an equipment	-
Construction of Kinihira hospital	25% finished	Continuation	-
Construction of Bushenge hospital	40% achieved	Completion and equipment	Weather conditions Financial problems of the entreprise
Construction of Masaka Hospital	60% achieved	Completion and equipment	-
Construction of Kinazi Hospital	10% achieved	Completions and equipment	Problem of a rock on the field that impairs advancement of works
Construction Rwinkwavu district hospital	Rehabilitation extension and construction health center completed	Technical studies for construction of Neonatology service ongoing	-
Construction Surgical Ward in Rubavu district hospital	Works ongoing	Completion	-
Kacyiru Police Hospital	1st phase finished	2nd phase to be constructed.	Technical studies not started. Funds to be mobilized
RBC	Technical studies ongoing (OZ Architect)	To complete technical studies, approval, procurement procedures and construction	Funds to be mobilized
Extension KFH	Technical studies ongoing (OZ Architect)	To complete technical studies, approval, procurement procedures and construction	Funds to be mobilized
New Military Hospital	Selection of expert for Technical studies		Funds to be mobilized
Construction Nyabikenke Hospital	Technical studies ongoing		Long delay to finish technical studies Availability of funds
Construction 7 Health centres in Kigali City	-	Technical studies	
Rehabilitation and construction of different Health centres	-	Technical studies	
Construction of a	MoU signed	Technical studies to be	Responsible: Medison (South Korea) and

Digital Hospital		done	Gov
Construction of a Medical School	MoU signed	Technical studies to be done	Responsible : Pedison (South Korea) and Gov
Construction and rehabilitation Kibuye Hospital	Technical studies finished	Construction Phase 1	Funds to be mobilized
Rehabilitation of the HMIS/M&E offices	Works almost completed	Rehabilitation of CBHI offices	

III.2 Achievements of the ACM (Atelier Central de Maintenance)

ACM is an institution of the Ministry of Health in charge of healthcare technology management and the maintenance of infrastructures and health facilities.

The main responsibilities are:

1. Curative and preventive maintenance.
2. Technical support for purchase and acquisition of medical equipment.
3. Comparative assessment of equipments.
4. Technical support and training of users.
5. Receipt, control and stake in service of facilities and equipments.
6. Control and follow-up of the technical facilities and solar energy.
7. Appraisal of facilities grants
8. Post-sale service of foreign supplies
9. Survey and analysis of infrastructure files
10. Follow up and supervision of construction yards**.**

Achievements:

Policies and strategies

1. National policy on engineering and maintenance.
2. National Engineering and maintenance strategic plan.
3. Documents of norms and standards for health facilities, equipment and infrastructure.

At the operational plan

1. Inventory.
2. Software of management of equipments and infrastructures
3. Curative maintenance.
4. Preventive maintenance contracts.
5. Definition and execution of a vast plan of preventive and curative maintenance for all the hospitals.

Field Activities:

1. Assets registration of all health facilities (hospitals and health centres): premises and equipments, All informations are compiled on a database MS ACCESS 2007,
2. Preventive and curative maintenance, mainly in the district hospitals, under the assistance of the Global Fund. A maintenance plan has been developed for core equipments.
3. Equipment of 72 Health centres with solar energy,
4. Construction of 45 Maternities and equipment of all maternities with obstetric materials, while 43 other maternities will be constructed in 2010-2011,
5. Completion of contructions for the following health facilities: District Hospitals of Munini, Kirehe, Rwamagana et Muhima. 4 Health Centres: Bisesero (Karongi District), Rangiro (Nyamasheke District),Cyanika (Burera District) et Manzane (Bugesera District).
6. Launching construction of: Butaro, Masaka, Kinihira, Ntongwe, Bushenge district hospitals, Surgery theatre in Gisenyi District Hospital (Rubavu District) and Kabarore Health Centre in Gatsibo District, Bugeshi and Mudende in Rubavu District.
7. Technical and architectural studies completed for: a Digital Hospital, a University of Medicine and the rehabilitation of Kibuye District Hospital in Karongi District.
8. Techincal studies have started for :
    - Extension and rehabilitation of KFH,
    - Construction a modern Military Hospital
    - Construction of Nyabikenke District Hospital
    - Construction 7 Health Centres in Kigali City
9. Newly achieved health facilities are being equipped, while KFH is equipped with an IRM and CHUK and CHUK will be equipped with scanners.
10. The Rwamagana and Gisenyi District Hospitals, CHUK, KMH have been equipped with materials given by Partners.
11. Strengthening of the DH workshops : 20 district hospitals were equipped with technical material for maintenance, 40 technicians from districts have been trained,

Training:

1. Several short course trainings have been organized for the technical staff
2. Long term trainings have been organized for 7 technicians

III.3 Emergency Medical Assistance Service (SAMU)

Introduction

During 2009/2010 SAMU made significant progress by installation of a call centre and ambulance tracking system which improved very much the follow up of ambulances all over the country. That period was marked too by a deployment of 64

new ambulances in different DHs and HCs and SAMU advertisement on radio and TV.

The planned trainings have been done for SAMU personnel and DH emergency nurses and drivers providing them with appropriate survival techniques.

It still has problems in terms of insufficiency of anesthesia technicians and its policy, law, structure in Ministry of Health still in draft model.

Achievements

Personnel recruitment

A job announcement for an accountant, nurses and drivers brought along 300 candidates and more. The test was held in August at Kacyiru Police Hospital. Recruitment of Aesthesia technicians was held in June at the MoH conference room with 23 candidates. 1 accountant A0,13Nurses A1, 13 drivers were retained putting the SAMU personnel at 55 in total: the coordinator, 1 accountant, 6 anesthesia technicians , 26 nurses A1, 4 telephone operators and 17 drivers.

Regulation

The regulation team at 912 call centre changed for an anesthesia technician along side with a telephone operator every day and every night with a shift of 12 hours.

912 call center

912 call center has been improved by installation of a call center with a capacity of 30 posts. SAMU is currently using 4 posts, which can be reached from all over the country. The radio base and ambulance radios are already in stock and wait installation.

ERMS in Kigali City and DHs

Since the arrival of new ambulances, SAMU has deployed 4 ERMS (Emergency and Resuscitation Mobile Service) in Kigali City: 1 at Kacyiru Police Hospital, 1 at KMH, 1 at Gahanga HC and 1 in CHUK. Eight equipped ambulances have been deployed in Nyagatare, Rwamagana, Byumba, Kabgayi, CHUB, Ruhengeri, Kibuye and Gihundwe.

Training

All new paramedical staff has undergone Basic Life Support and Primary Trauma Care courses and 65 drivers, 10 from SAMU and 55 form DHs performed BLS course in Rwanda Red Cross.

Pre-hospital care activities
- Interventions for road accidents victims: 796
- Interventions for gyn/obstetrical cases: 478
- Inter-hospital transfers: 2099
- Medical cases (from home to hospitals): 371
- Calls received: 1833

Deployment of new Ambulances for patient emergency transportation:

During the fiscal year 2009-2010, and in line with the resolution of Kivu Leadersip Retreat Resolution to improve the Maternal and Child Health, 67 new ambulances have been purchased and distributed to SAMU, District Hospitals and some Health Centres particularly landlocked and located too far from their District Hospitals, where other ambulances are centrally managed.

In average, each district hospital has 3 well functioning ambulances for emergency patient transportation. All those ambulances are of high standrard: they are provided with resuscitation equipment and they are equipped with tracking IT materials.

26 other ambulances are expected and the Ministry of Health will continue to purchase new others to replace the old ones until each district has at least 5 well functioning ambulances.

IV.IMPROVE FINANCIAL ACCESSIBILITY TO HEALTH SERVICES

Global objective in the HSSP I: Improve the financial access of the population to health services

Within this overall objective, the programme is expected to:

- Increase total financial resources to the health sector in line with requirements to meet the HSSP targets.
- Improve efficiency, allocation, and utilisation of financial resources in the health sector in line with the objectives of the PRSP and HSSP.
- Reduce cost and affordability barriers in accessing essential health care through the expansion of "Mutuelles de santé" across the country based on a thorough analysis of best practice and financial sustainability.
- Contract "Mutuelles de santé" to cover membership of the poorest through block grant transfers to administrative districts.
- Develop a pricing policy on high impact health services receiving public subsidies.

IV.1 Increase of the proportion of the Government Budget allocated to health

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

Strategic interventions:

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

The % of Government budget for health has also increased from 8.2% in 2005 to 9.1% in 2008, and the annual GoR expenditure for health per person has increased from USD 6 (2005) to USD 11 (2008). In the fiscal year 2009-2010, the % of Government budget allocated to Health was: 10.2%.

There are 4 major funding sources for the Rwanda Health Sector:

1. Government Revenues which include revenues generated from taxation, loans, grants, donations, and DP contributions through General and Sector Budget Support, thus being "on-budget"

2. Health insurance pooled funds (Mutuelles de Santé or Community based health insurance) from household expenditures, which are currently subsidized by the Government
3. Private funds and internally generated funds from health facilities
4. Donor funds, partially on budget as seen in the development budget, and partially earmarked and project related, thus being "off-budget"

IV.2 Improvement of the financing of the health services

Tableau 7: MoH: Budget execution (Recurrent and Development)

	Allocation (RWF)	Execution (RWF)	% execution
Total Budget	**55,211,215,504**	**56,803,371,579**	**103**
Recurrent Budget	43,624,418,722	45,369,587,862	**104**
Development Budget	11,586,796,782	11,433,783,717	**99**

Reference: MoH/UFGRI, annual report, 2009-2010

Tableau 8: Budget execution by Institution

	Allocation (RWF)	Execution (RWF)	% exec.
Total Budget	**35,970,728,812**	**37,717,870,041**	**104.9**
Ministry of Health (MoH)	**25,616,059,359**	**27,402,446,259**	**107.0**
Recurrent Budget	14,197,262,577	16,136,662,542	113.7
Development Budget	11,418,796,782	11,265,783,717	98.7
Rwanda Biomedical Center (RBC)	**6,491,704,481**	**6,464,152,553**	**99.6**
Recurrent Budget	6,323,704,481	6,296,152,553	99.6
Development Budget	168,000,000	168,000,000	100.0
CHUK	**948,918,511**	**948,918,500**	**100.0**
Recurrent Budget	948,918,511	948,918,500	100.0
Development Budget			
CHUB	**779,458,666**	**779,458,666**	**100.0**
Recurrent Budget	779,458,666	779,458,666	100.0
Development Budget			
SCPS	**150,689,558**	**150,689,558**	**100.0**
Recurrent Budget	150,689,558	150,689,558	100.0
Development Budget			
NDERA N Hospital	**451,630,058**	**439,936,326**	**97.4**

Recurrent Budget	451,630,058	439,936,326	97.4
Development Budget			
KACYIRU POLICE HOSPITAL	**443,224,046**	**443,224,046**	**100.0**
Recurrent Budget	443,224,046	443,224,046	100.0
Development Budget			
KANOMBE MILITARY HOSPITAL	**1,089,044,133**	**1,089,044,133**	**100.0**
Recurrent Budget	1,089,044,133	1,089,044,133	100.0
Development Budget			

DISTRICTS

	Allocation (RWF)	**Execution (RWF)**	**% exec.**
ALL DISTRICTS	**19,240,486,692**	**19,085,501,538**	**99.2**
Total Budget	**19,240,486,692**	**19,085,501,538**	**99.2**
Recurrent Budget	19,240,486,692	19,085,501,538	**99.2**
Development Budget	-	-	
TOTAL GENERAL	**55,211,215,504**	**56,803,371,579**	**102.9**

Reference: MoH/UFGRI, annual report, 2008

In general, recurrent budget (central level and district) is running on an average of 102.9%,

Tableau 9: Budget execution by Programme (million RWF)

Code	Libellé	Mini budget 2009			2009/10 Budget			Comment
16	MINISANTE	Budget	Outturn	%	Budget	Outturn	%	
01	DEVELOPMENT OF SECTOR INSTITUTIONAL CAPACITY	444.6	423.0	95.1	1,769.3	1,541.4	87.1	13% was not consumed due to the architecture study of Nyabikenke which was not conducted, it is ongoing
	RECCURENT	444.62	422.95	95.1	1,769.3	1,541.4	87.1	Ok
	DEVELOPMENT				0	0		
	TOTAL	444.62	422.95	95.1	1,769.3	1,541.4	87.1	Ok
02	HUMAN RESOURCES FOR HEALTH	8,658.66	8,115.20	93.7	16,576.0	16,967.4	102.4	Recruitment of new health staff
	RECCURENT	8,513.66	8,046.65	94.5	16,576.0	16,967.4	102.4	Ok
	DEVELOPMENT	145.00	68.55	47.3				
	TOTAL	8,658.66	8,115.20	93.7	16,576.0	16,967.4	102.4	Ok
03	FINANCIAL ACCCESSIBILITY TO HEALTH SERVICES	1,140.28	1,139.08	99.9	6,182.6	6,143.3	99.4	Ok
	RECCURENT	1,140.28	1,139.08	99.9	6,182.6	6,143.3	99.4	Ok
	DEVELOPMENT							
	TOTAL	1,140.28	1,139.08	99.9	6,182.6	6,143.3	99.4	Ok
04	GEOGRAPHIC ACCESSIBILITY TO HEALTH SERVICES	1,431.24	1,399.31	97.8	11,823.2	11,659.5	98.6	some equipments were not paid due to procurement process
	RECCURENT	20.86	355.40	1,703.7	404.4	393.7	97.4	Ok
	DEVELOPMENT	1,410.38	1,043.91	74.0	11,418.8	11,265.8	98.7	Ok
	TOTAL	1,431.24	1,399.31	97.8	11,823.2	11,659.5	98.6	Ok

05	**AVAILABILITY OF DRUGS AND CONSUMABLES**	**478.31**	**477.82**	**99.9**	**996.9**	**968.3**	**97.1**	Ok
	RECCURENT	478.31	477.83	99.9	996.9	968.3	**97.1**	Ok
	DEVELOPMENT							
	TOTAL	**478.31**	**477.83**	99.9	**996.9**	**968.3**	97.1	Ok
06	**QUALITY AND DEMAND FOR SERVICES IN THE CONTROL OF DISEASES**	**4,118.49**	**5,084.35**	**123.5**	**6,941.8**	**8,632.3**	**124.4**	11 DHs, supported by BTC by providing PBF, were transferred unexpectedly to the MoH to provide the PBF to the staff, this was not planned by the Ministry
	RECCURENT	4,118.49	5,084.35	123.5	6,941.8	8,632.3	**124.4**	Ok
	DEVELOPMENT							
	TOTAL	**4,118.49**	**5,084.35**	123.5	**6,941.8**	**8,632.3**	124.4	Ok
07	**DEVELOPMENT OF NATIONAL SPECIALISED REFERENCE AND RESEARCH SERVICES**	**1,807.45**	**1,774.90**	**98.2**	**4,219.0**	**4,205.1**	**99.7**	Ok
	RECCURENT	1,807.45	1,774.90	98.2	4,219.0	4,205.1	**99.7**	Ok
	DEVELOPMENT							
	TOTAL	**1,807.45**	**1,774.90**	98.2	**4,219.0**	**4,205.1**	99.7	Ok
08	**REINFORCEMENT OF FAMILY PLANNING AND REPRODUCTIVE HEALTH**	**303.67**	**303.62**	**100.0**	**725.6**	**753.1**	**103.8**	Ok
	RECCURENT	283.67	283.62	100.0	725.6	753.1	**103.8**	Ok
	DEVELOPMENT	20.00	20.00	100.0				
	TOTAL	**303.67**	**303.62**	100.0	**725.6**	**753.1**	103.8	Ok
09	**DISEASES PREVENTION**	**907.62**	**780.68**	**86.0**	**1,253.6**	**1,220.1**	**97.3**	Ok
	RECCURENT	665.62	568.87	85.5	1,085.6	1,052.1	**96.9**	Ok
	DEVELOPMENT	242.00	211.81	87.5	168.0	168.0	**100.0**	Ok
	TOTAL	**907.62**	**780.68**	86.0	**1,253.6**	**1,220.1**	97.3	Ok
10	**DIGNOSTIC AND TREATMENT**	**1,004.08**	**911.69**	**90.8**	**2,340.9**	**2,330.6**	**99.6**	Ok

	OF DISEASES							
	RECCURENT	1,004.08	911.69	90.8	2,340.9	2,330.6	**99.6**	Ok
	DEVELOPMENT							
	TOTAL	1,004.08	911.69	90.8	**2,340.9**	**2,330.6**	99.6	Ok
11	**HIGH EDUCATION**				**2,382.3**	**2,382.3**	**100.0**	Ok
	RECCURENT	0	0		2,382.3	2,382.3	**100.0**	Ok
	DEVELOPMENT							
	TOTAL				**2,382.3**	**2,382.3**	**100.0**	Ok
TOTAL GENERAL		**20,294.42**	**20,409.60**	**100.6**	**55,211.2**	**56,803.4**	**102.9**	Ok

IV.3 The Health Financing and the National Health Insurance Policies

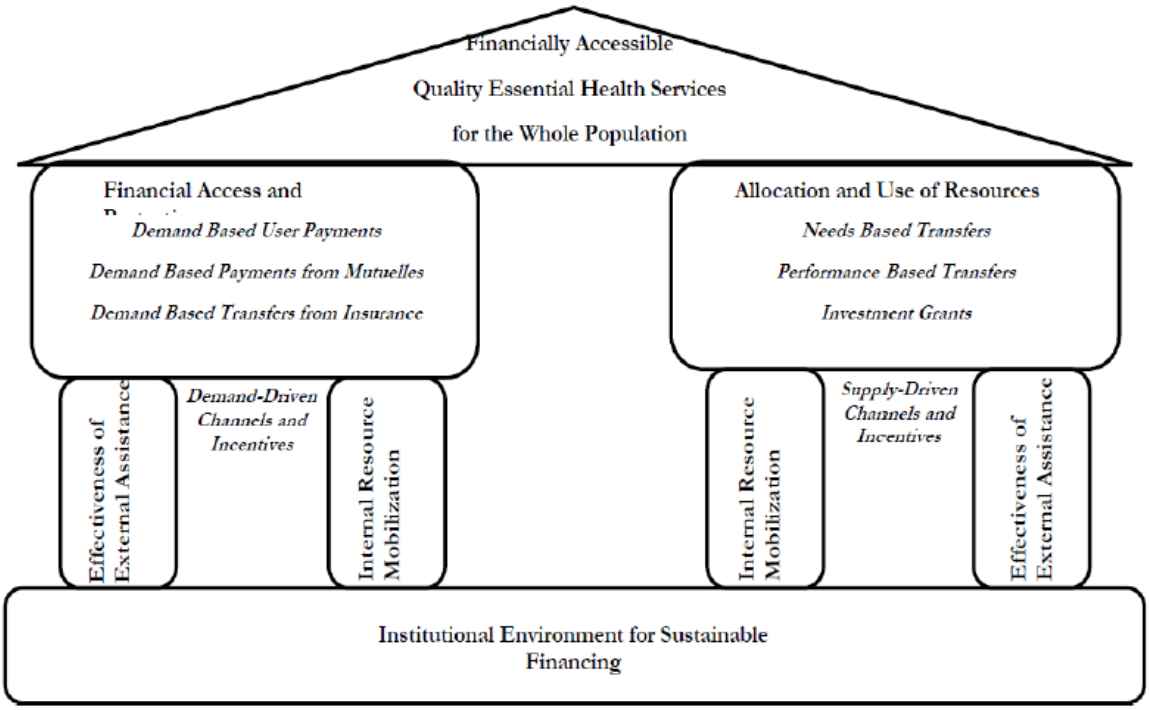
Health Financing Policy

In 2009, the Government of Rwanda developed a health financing policy. The goal of the health financing policy is 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. Interventions to reach these objectives are focused on strengthening the Rwanda health financing framework as outlined in the figure below.

The demand side channels of the health financing frameworks are aligned to interventions to strengthen risk pooling for improved financial access and household income protection. The supply side channels of the health financing frameworks are strengthened through interventions to improve efficiency in the allocation and use of resources and the coverage of high impact interventions.

Figure 5: National Health Financing Architecture

Figure 1. Rwanda Health Financing Architecture



Source: Health Insurance Policy, 2009

These two pillars of the health financing framework are strengthened by policy initiatives to increase internal resource mobilization, to improve the effectiveness of external assistance, and to strengthen the institutional environment for sustainable financing of the health sector.

National Health Financing Policy

The National Health Insurance Policy is based on the principles of Universal Health Insurance and on national Rwandan values which have underpinned the achievements of the current CBHIs. Basic principles of the National Health Insurance Policy are the following:

 Equity, risk-sharing, and solidarity are the guiding principles that support efforts in resource mobilization and risk pooling and promoting access to quality services in the health sector. Building on these principles, we ensure that the costs of illness of the sick are also shared by the healthy, and the costs of illness of the poorest are also shared by the wealthy among Rwandans.

 Ownership, empowerment and participation, and partnerships are the guiding principles upon which efforts to ensure the financial and institutional sustainability of the health financing framework will be built. Government of Rwanda will partner with grassroots institutions and community based and nongovernmental organizations.

 Universality and quality: the affiliation to health insurance is mandatory for each citizen and resident of the Republic of Rwanda. Each affiliated person benefits from health services of high quality regardless of his or her socio-professional activity, social status and level of contribution.

These guiding principles are broadly specified to provide a framework for subsequent and complementary elaboration of the health insurance policy into strategies, programs, rules and regulations, guidelines and procedures, and implementation arrangements

Vision
Rwanda's vision for health insurance at the 2020 horizon is for each Rwandan citizen to have access to essential health care and be protected from impoverishment due to health care expenditures.

Goal
The ultimate goal of this policy is to provide a national framework for strategies and actions aimed at assuring that all residents of Rwanda can be enrolled in a health insurance plan that provides access to quality health care.

Objective

To build a financially and institutionally sustainable health insurance system that can guarantee the coverage of all Rwanda's citizen with health insurance.

Financing mechanisms and contribution policies

Under the CBHI policy of 2004, a policy of a flat rate of household contributions into the CBHI system was adopted to simplify communication in an environment where new concepts of health insurance and prepayment were being introduced and promoted in the health sector.

Now that the population is familiarized with these concepts through many years of practice, the time has come to address the inequity and regressivity associated with the flat rate of household contributions into the CBHI system in order to improve equity in financing and the financial sustainability of the CBHI system.

Challenges associated with weak contribution from CBHI sections, districts and the national risk pool to the financing of the district risk pools need to be addressed.

The size of the national and district risk pools needs to be adapted to respond to the growing needs associated with increased and sustainable coverage of the CBHI system. Finally, information and analytical capacities need to be strengthened to support regular revisions of contribution policies.

To face these challenges, the Government will build on equity, risk-sharing, and solidarity principles of the current health insurance policy, to ensure that the costs of illness of the sick are shared by the healthy, and the costs of illness of the poorest are also shared by the wealthy among Rwandans. The Government will improve resource mobilization in the CBHI system based on ability to pay

Risk Pooling

The pooling function is organized at three levels. The Community Risk Pool is managed by the CBHI at sub-district level (*Umurenge*) and covers primary level of services. The District Risk pool is a fund at district level that brings together a proportional contribution from the community pool as well as subsidies from the Local Government.

The National Pool for CBHI is a second level re-insurance mechanism to pay for tertiary care. The RAMA pool serves public workers and private workers in the formal sector and MMI pool serves the military personnel.

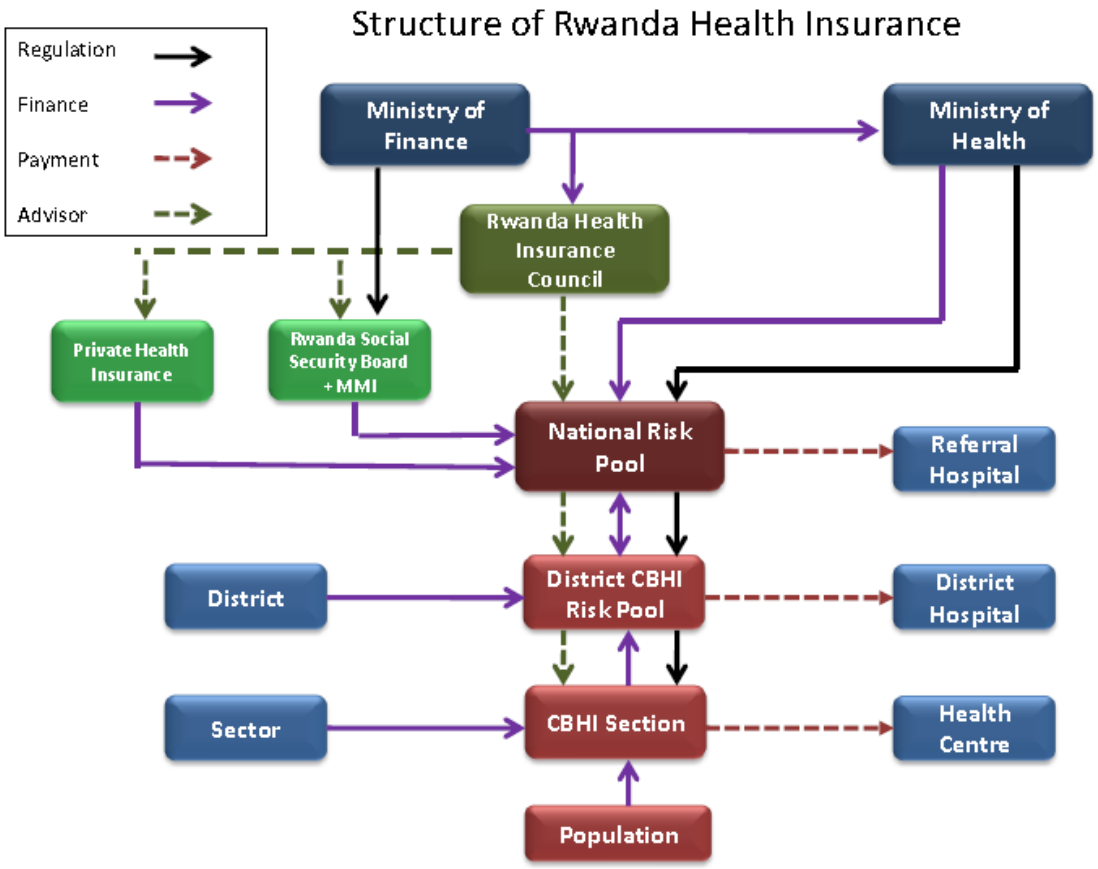
The CBHI Community Risk Pool brings together the premiums from beneficiaries as well as the public subsidy and external funds. The District Risk Pool is funded by a

contribution from Community Pools based on their respective population composition and district contributions.

Also, a mechanism will be elaborated to ensure risk-equalization among the different CBHI section within a district. The National Pool is funded by national revenues, contribution from the district pools based on their compositions as well as a cross-subsidy from RAMA; MMI and private insurances and external funds.

IV.4 The Community Based Health Insurance (CBHI): Mutuelles de Santé

Figure 6: Structure of Rwanda Health Insurance



Source: Ministry of Health, Community Based Health Insurance Policy, 2009

Achievements of the CTAMS (Cellule d'Appui aux Mutuelles de Santé)

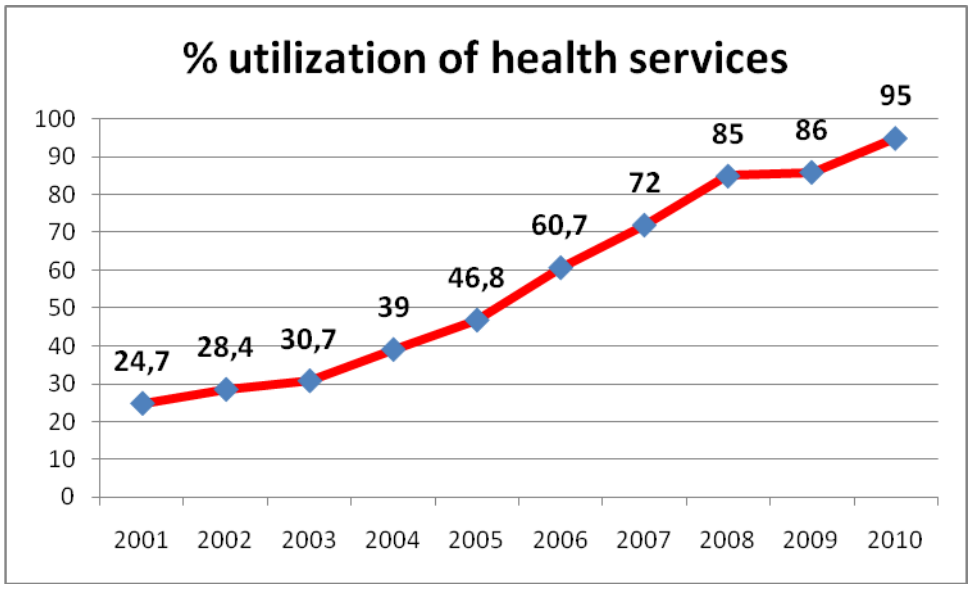
1	Organization of a weekly broadcasting to sensitize the population on the advantages of the Community based health Insurance (CBHI)
2	Review of the Indicators of the CBHI database
3	Verification of the lists of Indigents and poor to be assisted for enrollment to CBHI
4	Counter verification of Hospital bills
5	Development of the MTEF and CTAMS plan of action
6	Review of the Community Health Insurance policy, based on stratified payment of premiums
7	Preparation of the draft law on Health Insurance
8	Review of the law on Community Health Insurance
9	Elaboration of a communication plan for sensitization of the population on the reviewed CBHI policy
10	Support of vulnerable groups on adherence to CBHI: In 2009 - 646,182 poorer have been assisted to pay premiums - 1,126,088 poor were subsidized with a payment of 1,000 RWF In 2010: - 615,620 poorer have been assisted to pay premiums - 1,449,920 poor were subsidized with a payment of 1,000 RWF
11	Financing of the national pooling risk and strengthening of the CTMS by recruitment of a new staff - In 2009-2010: 2,832,384,129 RWF were allocated to the National Pooling Risk - In 2010-2011: 3,708,484,933 RWF have been allocated.

Tableau 10: Evolution of Adhesion rate to CBHI, 2003-2010

2003	7%
2004	27%
2005	44.1%
2006	73%
2007	75%
2008	85%
2009	86%
2010	91%

Source: CTAMS, annual report, 2009-2010

Figure 7: Trends of utilization of Primary Health Care services, 2001-2010



Source:

IV.4 The Performance Based Financing (PBF)

General Objective:
To contribute to the increase of the quantity and the quality of health services and to the improvement of the management of the services and the structures of health.

Specific Objectives

- Introduction of performance contract system and its implementation at all levels of the Health System.
- Definition of indicators and other performance assessment criteria for the health services;
- Development and dissemination of different tools related to the implementation of the Strategy of PBF;
- Results based financing of the health structures and remuneration according to the achieved performances;
- Promotion of the good management of the health structures;
- Coordination of all evaluations carried out in the Health structures concerned by the PBF
- Coordination of Partners involved in PBF Strategy

The PBF Strategy is an important component of the Health Policy and of the EDPRS. It is based on 3 fundamental principles:

1. Commitment through formal contracts between the heads of Health Facilities and the Minister of Health;
2. Regular assessments using quantitative and qualitative indicators defined in accordance of the existing norms and standards
3. Financing based on the results of assessments.

Achievements in 2009-2010

1. The PBF Steering Committees of all the 30 districts have been quarterly evaluated and and funded according to their results;
2. Quarterly assessments of the central level have started and incentives given on the basis of the reached results;
3. All Health Centres (CS) are monthly evaluated (quantitative assessments of PMA and HIV activities);
4. All Health Centres evaluated quarterly evaluated (qualitative assessment) and financed according to the produced results
5. Reference Hospitals receive their quarterly subsidies, and all District Hospitals are evaluated by their peers and remunerated accordingly;

Tableau 11: PBF: sources of funds, 2009-2010

Financing			Quarter 1	Quarter 2	Quarter 3	Quarter 4	S-total
1	GOR	PCA	555, 959,978	634, 184,685	584, 053,425	502, 013,171	2,276, 211,259
		PMA	549,701,429	459,426,517	463,308,424	463,143,476	1,935,579,846
		CP	25,487,400	25,487,400	25,487,400	25,487,400	101,949,600
2	CTB	PCA	76,165,080	0	0	0	76,165,080
3	ICAP	VIH	127,336,213	132,565,844	131,215,562	126,489,711	517,607,330
4	Global Fund	VIH	234,192,848	386,569,565	402,493,206	427,228,114	1,450,483,733
5	GTZ	PCA	37,657,506	37,682,887	38,368,586	26,088,167	139,797,146
6	IHI	VIH	43,844,962	49,145,220	46,330,236	44,946,082	184,266,500
7	FHI	VIH	51,367,909	58,669,166	65,385,612	65,855,689	241,278,376
8	CRS	VIH	28,484,771	35,937,454	32,869,991	37,472,571	134,764,787
9	EGPAF	VIH	41,008,808	39,507,699	44,122,404	41,746,427	166,385,338
	Total G		**1,771,206,904**	**1,859,176,437**	**1,833,634,846**	**1,760,470,808**	**7,224,488,995**

Source: MoH/CAAC: annual report 2009-2010

The Government of Rwanda, through the annual budget, contributes for 60% of the PBF budget, but this rate is 80% when funds availed by Global Fund are included.

Tableau 12: PBF: Budget allocated to Districts

	District	Quarter 1	Quarter 2	Quarter 3	Quarter 4	S-total
1	BUGESERA	71,924,059	59,729,240	50,843,381	46,934,246	229,430,926
2	BURERA	36,861,718	40,358,931	40,036,422	44,074,696	161,331,767
3	GAKENKE	89,685,263	63,930,850	63,653,433	68,864,573	286,134,120
4	GASABO	96,550,313	96,678,989	96,317,095	97,945,203	387,491,599
5	GATSIBO	60,511,159	63,818,773	65,338,443	58,962,958	248,631,334
6	GICUMBI	61,451,078	65,342,045	67,382,308	58,300,359	252,475,789
7	GISAGARA	43,183,626	49,543,932	47,770,094	45,108,657	185,606,309
8	HUYE	52,710,904	58,086,270	50,385,692	44,599,237	205,782,104
9	KAMONYI	34,498,532	41,567,552	40,558,268	37,039,830	153,664,182
10	KARONGI	69,193,333	74,013,984	75,547,291	75,079,917	293,834,525
11	KAYONZA	54,265,997	51,504,686	57,577,971	52,702,589	216,051,244
12	KICUKIRO	15,202,644	23,207,556	18,377,989	18,795,296	75,583,485
13	KIREHE	40,478,986	43,641,333	44,850,837	42,296,425	171,267,581
14	MUHANGA	74,847,541	78,456,985	82,876,610	77,083,952	313,265,089
15	MUSANZE	61,391,969	72,211,396	77,393,039	69,934,260	280,930,664
16	NGOMA	44,460,846	51,983,359	47,411,696	45,723,538	189,579,439
17	NGORORERO	72,686,498	81,292,907	78,706,393	76,159,050	308,844,848
18	NYABIHU	41,037,793	47,585,376	44,744,003	47,307,345	180,674,517
19	NYAGATARE	67,116,532	66,868,844	68,978,076	63,725,459	266,688,911
20	NYAMAGABE	44,205,005	54,210,245	52,772,026	45,203,790	196,391,066
21	NYAMASHEKE	104,604,879	114,445,473	110,335,258	113,987,364	443,372,974
22	NYANZA	41,035,854	46,888,475	38,646,037	30,686,832	157,257,198
23	NYARUGENGE	84,798,295	69,994,724	88,512,211	77,677,850	320,983,079
24	NYARUGURU	33,108,137	38,994,130	36,732,040	36,640,025	145,474,331
25	RUBAVU	78,050,247	86,996,965	76,652,969	81,559,344	323,259,525
26	RUHANGO	47,146,176	56,654,198	57,124,393	55,125,590	216,050,357
27	RULINDO	55,467,491	57,323,933	54,035,461	52,054,133	218,881,018
28	RUSIZI	74,061,212	85,089,700	72,313,475	76,235,061	307,699,447
29	RUTSIRO	64,128,052	77,818,176	81,321,013	77,143,946	300,411,188
30	RWAMAGANA	56,542,767	40,937,409	46,440,919	43,519,283	187,440,378
	Total General	**1,771,206,904**	**1,859,176,437**	**1,833,634,846**	**1,760,470,808**	**7,224,488,995**

Source: MoH/CAAC: annual report 2009-2010

All the amounts mentioned above don't include PBF distributed to the staff at Central Level. Ndera neuropsychiatric Hospital, the Centre de Consultations Psychosociales, Kacyiru Police Hospital are part of the PBF scheme.

The PBF budget for Referral Hospitals is considered as a Top up, but it is accounted in the global PBF budget.

Tableau 13: PBF: Comparision of Payment of PBF indicators, 2008-2009

Indicateurs	Année 2008	Année 2009
PMA (HC package)	1.779.962.937	1, 935, 579,846
PCA (DH package)	1.890.676.718	2, 699, 977,939
HIV (HC & DH)	1.137.019.734	2, 486, 981, 610
PBF Steering committee	90.515.185	101, 949,600
Total	**4.898.174.574**	**7, 224, 488,995**

Source: MoH/CAAC: annual report 2009-2010

Tableau 14: Payment of Indicators, MoH and Partners

	Source	2008	2009
1	MOH/B.O	2.935.259.421	4,313, 740,705
2	BTC/CTB	687.848.796	76,165 ,080
3	GF	210.145.735	1,450, 483,733
4	MSH	265.246.811	0
5	ICAP	339.856.953	517,607, 330
6	EGPAF	75.862.806	166,385, 338
7	FHI	142.997.269	241,278, 376
8	IHI/HCSP	62.572.189	184,266, 500
9	GTZ	102.553.412	139,797, 146
10	CRS	75.831.182	134,764, 787
		4.898.174.574	**7, 224, 488,995**

Source: MoH/CAAC: annual report 2009-2010

V. IMPROVEMENT OF QUALITY AND DEMAND FOR SERVICES IN THE CONTROL OF DISEASE

Global objective of the programme: The quality and the demand of services for the control of diseases is improved

V.1 Health Promotion

EDPRS 2009-2012 stresses that improving health is an important goal in itself and, as a component of human capital accumulation; it also contributes to higher incomes (EDPRS 2008-2012). Poverty and poor health are often linked in a vicious cycle. Poverty exposes households to greater health risks stemming from under-nourishment, limited or no access to safe drinking water and basic sanitation, overcrowding, illiteracy, and an inability to access or utilise health care resources. Poor health reduces household savings, constrains learning ability, lowers productivity and leads to a low quality of life.

Most common disease morbidities in Rwanda are infectious diseases, which are preventable through the improvement of hygiene and sanitation and health related behavior (Rwanda Service Provision Assessment Survey, 2007). Infectious diseases are the top ten leading causes of morbidity and mortality in Rwanda.

Most sicknesses in developing countries are preventable, while the impact of chronic and or non-communicable diseases can be significantly reduced through the adoption of healthy lifestyles. Health prevention focuses on promoting personal and community practices that enhance good health and prevent disease.

IEC/BCC activities are used to promote behavioral change and common practices known to improve the health of the population. Environmental health focuses on ensuring safety of food and water, improving hygienic latrines/toilets, safe waste disposal and injection safety and family hygiene.

It is necessary to emphasize health promotion and interventions that prevent disease (drink clean water, wash hands, use condoms, stop smoking, avoid indoor smoke, safe driving to prevent road accidents, healthy diet, exercise etc.).

The environmental health desk promotes the use of protective clothing in hazardous work environments and regular health checks for employees to promote a healthy and safe workforce. Information on disease prevention has improved, but more can be done to encourage people to adhere to healthy lifestyles. With more disease prevented, costs for treatment and workload in health facilities will go down.

In 2009, the National Community Based Environmental Health Promotion program (CBEHPP). The aim is to strengthen the capacity of all 45,000 Community Health Workers under close mentoring and supervision by Environmental Health Officers based at Health Centres. CBEHPP plans to adopt the internationally validated Community Health Club methodology in order to achieve rapid and sustainable behaviour change and poverty reduction outcomes.

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

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

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

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

Lifestyle
- To promote physical exercise
-

Environmental health
- Improvement of the environmental health and hygiene conditions of the population
- Improvement of Environmental health data

Indicators:
Tobacco Control
- Law passed

Alcohol and Drug Abuse
- Regulation signed

V.1.1 Achievements of the Environmental Health

Under MDG number 7, environmental health services contribute mainly to the reduction of child mortality, eradication of extreme poverty and hunger (malnutrition), malaria, and fatal consequences of AIDS through prevention of diarrheal diseases, intestinal parasites etc.

Priorities for Environmental Health Component are:

- Improved household and institutional hygiene and sanitation
- Safe excreta disposal and hygienic use of toilets
- Hand washing with soap and water
- Safe water handling in homes, schools, health facilities and other public institutions
- Safe disposal of solid and liquid wastes
- Injection safety and health facility hygiene
- Food safety and hygiene
- Vector and vermin control
- Indoor air pollution prevention

The key indicators of Environmental Health are (targets 2010-2011) :

- Increased use of hygienic latrines in schools, health facilities and homes from 28% to 40%
- Achieve zero open defecation (ZOD) from 2% to 0%
- Safe disposal of children's feces in every house hold to 80%
- Increased hand washing with soap at critical times from 34% to 50%
- Improved safe drinking water handling in schools, health facilities and homes to 50%
- Establishment of community hygiene clubs in all Imidugudu from 0% to 100%
- Households with bath shelters , rubbish pits, pot drying racks, and clean yards increased to 80%

Achievements in 2009-2010

- Water and sanitation policy
- Injection safety, prevention of nosocomial infections and healthcare waste management policy
- Launched programme of Community Based Environmental Health Promotion (CBEHPP)
- Launched one-year hygiene and sanitation campaign under Kivu retreat recommendations
- Hygiene and Sanitation Presidential Initiative (HSPI,2010)
- National Environmental Health Technical Working Group (NEHTWG)
- Recruitment of 38 environmental health officers in districts and 4 at central level

- 52 Environmental Health Officers joined a one year bridging programme of environmental health officers (from A1 to A0) at KHI

Other Achievements:

Activity	Achievements
Improve knowledge of community health workers to monitor hygiene at Umudugudu level by distribution of 44,511 hygiene booklets to Community Health Workers	Documents ready, to be distributed in Q1 2010-2011
To improve hygiene in households and public places by developing food safety policy	Done
Promote hand washing with soap after visiting the toilet households and schools through participatory dialogues and educative visits and inspections	Being implemented in the framework of the Presidential Hygiene and Sanitation Initiative
Update Environmental Health strategic plan	Still ongoing. Consultant hired
Promotion of Hygienic latrines	One year campaign was prepared to achieve target. All technical working documents are available.
Promotion of Hygienic water storage facilities	Idem
Establishment of community and school hygiene clubs in 10 Districts	The number of districts was reduced to four pilot for the first phase .There is also commitment for those Districts to implement of CBEHPP.
Install 10 districts hospital incinerators	Incinerator installed at Kanombe hospital and preparation of the foundation at Nyanza district hospital
Establishment of norms and guidelines to all health facilities on environmental Health	Draft available
To educate population on environmental health by adapting and improving PHAST training tools for community and schools , dissemination	Still ongoing with a consultant hired
Panel discussion on personal and environmental health (Radio, TV)	Done on December 2009
Hygiene improvement in restaurants, lodges and other public places	Multidisciplinary team of inspection doing hygiene

Challenges

- Lack of environmental health services strategic plan
- Out dated hygiene and sanitation regulations
- Low allocation of funds to environmental health services
- Low preference of hygiene and sanitation promotion at different levels
- Low allocation of facilities to environmental health services
- Inadequate coordination mechanism of hygiene and sanitation in all levels (lead role)

Priotity activities

- Implementation of Kivu retreat recommendation by supporting and encouraging districts to acquire Kandagirukarabe in schools, health facilities and vulnerable families
- Supporting districts financially to purchase organic solution secondary for latrines/septic tanks
- Preparation of hygiene and sanitation messages for sensitization of communities through media
- Preparation and dissemination of the implementation plan of hygiene and sanitation Presidential Initiative (HSPI), guidelines and tools.
- Implementation of the HSPI

V.1.2 Information, Communication, Education

Some 80% of diseases are preventable. Mass mobilization and behavioral change mechanisms are needed as one of key intervention to reduce the burden of preventable diseases. Secondly, there is insufficient information available to the public due to a lack of tools and effective interventions (posters, leaflets etc.). Finally, there are cultural, religious, social, gender, economic and geographic barriers to social change, which limit the impact of IEC messages.

IEC activities are used to promote behavioral change and common practices, known to improve the health status of the population.

The Rwanda Centre for Health Communication has been created to coordinate all the initiatives and activities related to health communication and behavioral changes about health (IEC/BCC)

Objective (s)

To promote behavioral change in the population that is favorable to the health of the population through intersectoral collaboration and community participation. Within the overall objective of IEC, the programme component intends to:

- Promote the notion of excellence and set standards in the design and delivery of IEC messages amongst those responsible for health programmes.
- Reinforce the communication skills of service provider health workers.
- Promote the use of family targeted IEC messaging.
- Involve the community in communication activities.
- Mass mobilisation of all the population to prevent diseases through behaviour change.

Summary of IEC Activities of the Rwanda Center for Health Communication for the period 2009-2010

ACTIVITIES	ACHIEVEMENTS
1. Awareness on disease prevention Creating awareness on disease prevention especially on HIV/AIDS, Malaria, TB, hygiene and sanitation, nutrition, mutuelle de santé and family planning	a) Airing and production of radio spots and TV ads and segements - 48 radio spots produced - 48 TV segements produced - 3 TV ads produced
	b) 24 radio programs on mutuelle de sante produced and aired
	c) Production of materials for outdoor communication and community outreach - 30,000 booklets - 2,000 stickers for buses and lollipops - 30 billboards - 5,000 booklets
	d) Production of the quarterly Ministry of health newspaper - Three issues produced
	e) Training of Journalists on key health issues - 250 journalists trained
Malaria	- 19 Community sketches were played in 19 districts. - Mobile cinema were showed in 20 Sectors / HC of 6 districts and the attendance was estimated to 6,253 persons. - Promotional materials were produced - Messages on malaria control like radio sketches / spots and songs, were produced and diffused - The world malaria day was celebrated on 25th April 2010 - Audio song and video clip by Rwandan stars on malaria, - Weekly malaria radio programs *Production of Malaria messages* – Production and distribution of 60,000 Community folders in collaboration with Imbuto Fundation containing messages relating to the prevention of malaria and the assumption of responsibility in the event of disease and on the health of the mother and child – Distribution of more than 10,000 leaflets with kick out malaria messages, and strategies to eliminate malaria through the cabins of MTN to any customer who buys MTN airtime. – Elaboration of 9,000 booklets, 40,000 pamphlets on malaria case management and their production.

V.2 Communicable Diseases

V.2.1 MALARIA

From July 2009 to June 2010, the Malaria Unit has been implementing activities according to its action plan which is a sub-plan of the Malaria Strategic plan 2008-2012. Most of the activities planned were implemented as planned

Key achievements of the annual report are:

Prevention of malaria

2,727,710 LLINs have been distributed countrywide, this including 1,566,559 LLINs distributed to the under 5 children countrywide through MCH week campaign in April 2010 and the rest for households campaigns mainly in high malaria endemic districts.

- 1,566,559 LLINs were distributed to the under 5 children during the MCH week campaign countrywide, organized from 27th to 30th April 2010.
- 352,650 LLINs were distributed to the HC for routine ANC.
- 808,501 LLINs were distributed to the households, orphans, trainings and inpatients.

Note that, by 2012, every household has to own at least 2 LLINs. Up to date, Malaria Unit have achieved 1.6 LLINs by household countrywide after LLINs distribution to the under 5 children through MCH week campaign of April 2010 and the households campaigns.

From 20th August to 7th October 2009, IRS was perfomed in 7 districts and among them, 3 of Kigali city: Nyarugenge, Kicukiro, Gasabo and 4 rural districts: Kirehe, Nyagatare, and Bugesera. The total number of household sprayed were 294,290 with coverage of 98%.

From 29th October to 30th November 2009, IRS was perfomed in 3 districts: Kayonza (Ndego sector only), Rusizi (Muganza, Bugarama and Gikundamvura sectors), and Gicumbi (Rubaya and Bukure sectors). The total number of household sprayed were 18,889 with coverage of 96.1%.

From 1st to 23rd March 2010, IRS was perfomed in 2 districts of Kigali city: Gasabo, 10 sectors and Kicukiro: 4 sectors). The total number of household sprayed were 63,395 with coverage of 87.4 %.

Monthly entomological monitoring in 7 sentinel sites were carried out to monitor the vector behavior.
Wall bio essay tests to evaluate the efficacy of the IRS were performed
ELISA tests were performed on 968 Anopheles gambiae s.l. with an infection rate of 0,52% recorded.

Case management

The case management was mainly guided by the review of the malaria treatment guidelines in December 2009 with an emphasis of laboratory diagnostic confirmation, 182 trainers were trained to train health providers to improve their skills in malaria case management and 4328 health providers were trained countrywide.

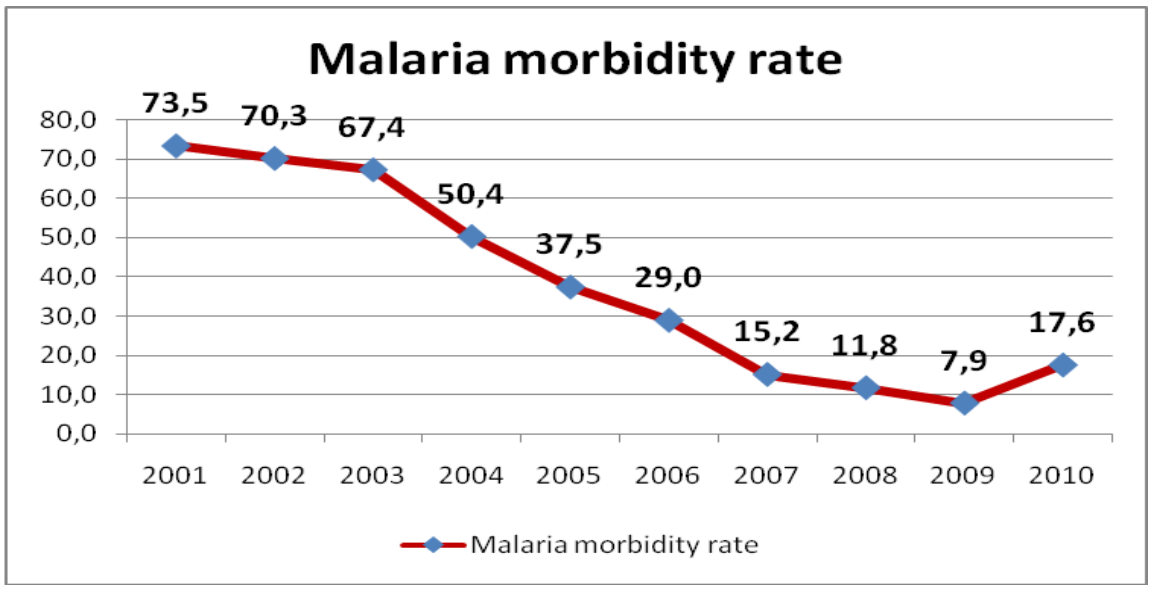
Equipments, drugs, commodities and lab reagents distributed to district pharmacies and 20 microscopies were distributed to the new health facilities.

From June 2009 to July 2010, 347,752 and 6,237 of uncomplicated and severe malaria cases respectively were treated in under 5 children; all uncomplicated malaria cases (that is under 5, 5 and above) were 1,107,910 and all severe malaria cases were 13,319 in the same period but only 58, 91% of all treated cases were laboratory confirmed with malaria blood smear positive.

From January to March 2010, 93.27% of malaria cases treated were malaria lab confirmed, and from April to June 95, 45% of malaria cases treated were malaria lab confirmed which means that now the treatment is based on laboratory confirmation.
The total number of blood smear done was 2,839,352 and among them, only 880,222 (31%) were malaria positive.

During this reporting period, the malaria mortality rate is 17, 69%.

Figure 8: Malaria morbidity over years



Source: TRAC+/Malaria, annual report 2009-2010

The malaria morbidity has reduced regularly from 2003, due to high impact interventions: broad distribution of ITNs, utilization of Coartem, HBM, Community based health insurance, community involvement, IEC etc.

Home Based Management of malaria

28 districts (25 districts with all Health centers) have community case management including HBM and the implementation of CCM with RDTs use is in 19 epidemics and endemic districts.

11,092 CHWs were trained countrywide in community case management including HBM in 11districts (Rusizi, Kayonza, Gatsibo, Bugesera, Rubavu, Nyabihu, Rutsiro, Ngororero, Musanze, Burera, and Karongi (DH of Kibuye catchment area) and 12,414 CHWs were trained on RDTs use.

13 districts are already using RDTs at community level and for other 5 districts; trainings on RDT use are ongoing (Rulindo, Muhanga, Kamonyi, Nyanza, Huye, Nyagatare).

17,000 HBM printing materials and tools such as boxes, jerrican, umbrella, and lamp torch…. were distributed to the CHWs.

From 1st July 2009 to 30th June 2010, 433,231children under five years were treated at the community level and among them, 376,727 before 24 hours which means 86.9%.

During this period, issues which impede the achievement of key activities were mainly delay in procurement of LLINs and MVU, stock out of Coartem Adult dose and Primo resulted in stock out of Primo packaging as well as lack of extension of entomology laboratory activities like colorimetric tests, PCR, ELISA, related to the limited space.

Epidemiological Surveillance, prevision, detection and control of malaria epidemics

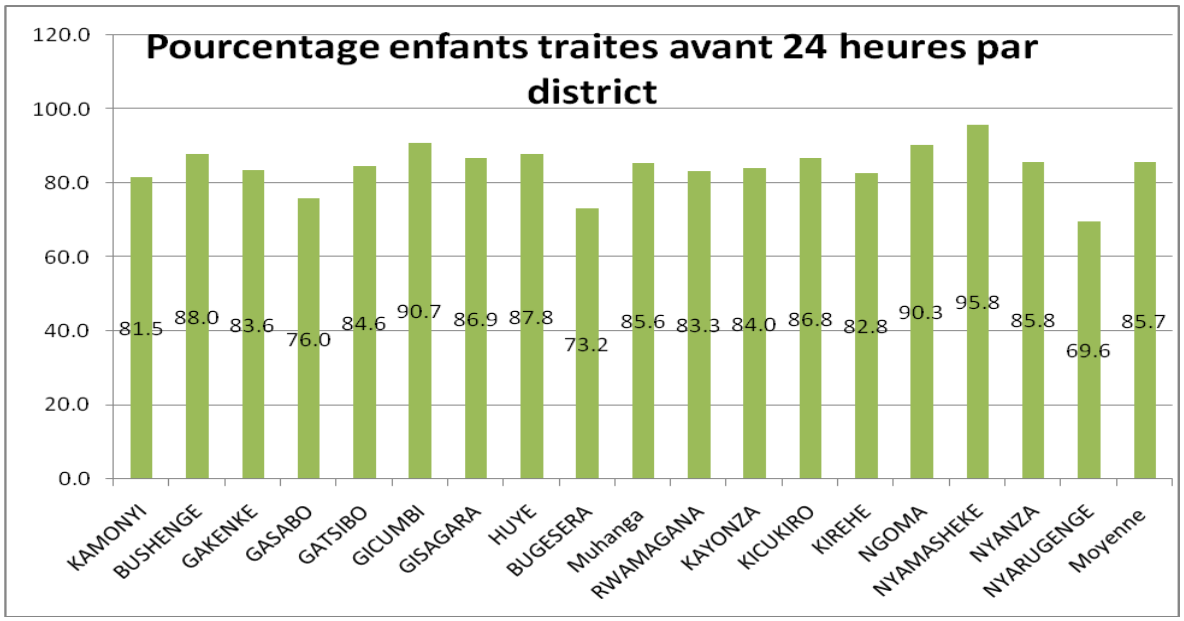
All uncomplicated malaria cases (that is under 5, 5 and above) were 1,107,910 and all severe malaria cases were 13,319 in the same period but only 58, 91% of all treated cases were laboratory confirmed with malaria blood smear positive.
A decrease of malaria was notified few months after the massive distribution of LLINs.

Immediate measures were taken for early detection and proper management of an epidemic of malaria through the purchase of insecticides and drugs for districts in epidemic risk, and LLINs were distributed to that effect. 3 suspected outbreak of malaria were investigated in Busoro health center of Nyanza district, Bukora health center of Kirehe district and Murara health center of Rubavu district.

Behavior Change Communication

- The draft of malaria BCC strategy was elaborated and the finalization is ongoing
- Elaboration and diffusion of messages on malaria control
- In collaboration with Urunana, a Round 8 sub-recipient, 19 Community sketches were played in 19 districts.
- Other activities : see IEC (Health Promotion)

Figure 9: % Children treated for fever within 24 hours in Districts



Source: TRAC Plus/Malaria, annual report 2009-2010

The percentage of children under 5 years treated at community level varies from 73.2% in Bugesera District to 95.8% in Nyamasheke District, with an average of 85.7%

V.2.2 HIV and AIDS/STI

Global objective: To reduce the transmission of HIV/AIDS and STIs and mitigate the personal effects of AIDS

Introduction

Through the national multisectoral HIV/AIDS strategic plan, all HIV/AIDS interventions are carried out by TRAC+ (HAS Unit) and CNLS. TRAC+ is more involved in epidemiological (prevention, surveillance) and clinical (ARTs, all nutritional support) activities within the Health System, while CNLS focuses more on advocacy, mobilization of the public on prevention measures, and mobilization for funding, and coordination of multisectoral interventions.

The national HIV/AIDS programme is often cited as an example of best practices for the strong leadership and the commitment of the Government, and the managerial effectiveness caused by the "Three Ones": One strategic plan, one coordination, and one M&E plan.

The HIV/AIDS and STIs Unit within TRAC Plus has a mission to implement national surveillance of HIV/AIDS and STIs and to provide technical assistance to public and private sectors in prevention through VCT, PMTCT, PIT, MC, PwP and care & treatment of People Living with HIV and AIDS (PLWHA) in Rwanda.

It is responsible for national planning, policy development, training of trainers and curriculum development for clinical programs. HAS Unit provides assistance and technical guidance in the organization and effective management of programs against HIV /AIDS and STIs.

It is also the public agency whose primary responsibility is formative supervisions, monitoring, evaluation and coordination of performance of the health sector as a whole to reduce transmission of HIV and AIDS. In carrying out these activities, HAS Unit uses information technology high quality and innovative approaches in planning, treatment, support Technical and research

Program interventions are:

- HIV prevention that gives an overview of programs in VCT, PMTCT, PIT, MC, PwP;
- Clinical management of people living with HIV and AIDS, that gives an overall view on the care and treatment of PLWHA.
- Epidemiology that gives the epidemic status;
- Other activities in support of these three programs are also addressed as they are key to achieve the objectives.

Estimates of HIV and AIDS in Rwanda:

Tableau 15: Prospects of HIV and AIDS (2003-2012)

HIV population	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Total	169 605	162 768	156 600	151 504	150 347	149 173	147 745	147 051	146 656	146 335
Males	70 255	67 646	65 240	63 480	63 291	63 159	62 950	63 021	63 142	63 189
Females	99 350	95 122	91 360	88 024	87 057	86 015	84 795	84 030	83 514	83 146
Prevalence (15-49)	3,65	3,37	3,12	2,9	2,79	2,67	2,56	2,46	2,38	2,31
Annual HIV+ births										
Total	3 489	3 168	2 276	1 597	962	599	448	331	247	189
Percent	1	0,86	0,59	0,4	0,23	0,14	0,1	0,07	0,05	0,04
Cumulative AIDS deaths										
Total	331 532	349 049	363 512	374 327	382 993	390 165	397 015	403 341	409 543	415 565
Males	151 698	159 094	165 240	169 866	173 572	176 636	179 554	182 247	184 890	187 461
Females	179 834	189 955	198 272	204 461	209 421	213 528	217 461	221 093	224 653	228 104

Source : CNLS, TRAC+, INS : Projections VIH (2003-2012)

It is responsible for national planning, policy development, training of trainers and curriculum development for clinical programs. HAS unit provides assistance and technical guidance in the organization and effective management of programs against HIV /AIDS and STIs.

It is also the public agency whose Primary responsibility is supervision, monitoring, evaluation and coordination of performance of the health sector as a whole to reduce transmission of HIV and AIDS.

In carrying out these activities, HAS unit uses information technology, high quality and innovative approaches in planning, treatment, support Technical and research. His Department of Finance and Administration supports other departments to fulfill their mission.

Epidemiological surveillance of HIV and STIs

In 2009-2010, the Epidemiology Department planned the following activities:

1. Behavioral Surveillance Survey (BSS) among Youth from 15 to 24 years old, Sex Workers and Truck Drivers in Rwanda;
2. HIV incidence Survey : Developing a local misclassification rate for estimating HIV-1 incidence in Rwanda

3. Conduct HIV Sero-Surveillance Among Pregnant Women during ANC in 30 sentinel sites (2009)
4. HIV Drugs Resistance Surveillance in Rwanda; Evaluation of transmitted HIV drug resistance among women attending prevention of mother to child transmission of HIV (VCT) services in Kigali
5. Sexual Transmitted Infections (STIs)
6. EPP and Spectrum projections.

Behaviour surveillance survey (BSS) 2009

This activity is planed once every two years and the he last BSS took place in 2006. The 2009 survey has been done among three groups: sex workers, truck drivers and young people. In November 2009, the Youth BSS data collection was completed. In February 2010; the BSS of two remaining groups (Sex Workers and Truck Drivers) data collection was completed. The data analysis is in process.

Other Most at Risk Populations (MARPs) was identified for surveillance: The Protocol of refugee's BSS (KIZIBA refugees and host communities) is being developed.

A rapid need assessment of domestics, housewives and small business women in Kigali will be done, in this 2010 second semester. The protocol is being developed.
A rapid need assessment of Injecting Drugs User and Fishermen in Kivu Lake will be done in 2011.

Another MARP, Men who have sex with men (MSM), was identified for surveillance in 2011.

HIV incidence Survey

Developing a local misclassification rate for estimating HIV-1 incidence in Rwanda. The methodology of HIV incidence changes over time. According to experts' advices, it is better to know the local misclassification rate before estimating HIV-1 incidence in Rwanda which will be carried out in the second semester of the 2010 year. The draft protocol is ready

Conduct HIV Sero-Surveillance among Pregnant Women during ANC in 30 sentinel sites (2009/2010)

This activity was planned for 2009 but was delayed by the protocol approval by CDC/Atlanta which has now approved. The preparation of data collection is in process.

HIV Drugs Resistance (HIVDR) Surveillance in Rwanda

- The HIV Drugs Resistance in Rwanda has three main components: HIVDR Early Warning Indicators, HIVDR Threshold Survey (HIVDRTS) and HIVDR monitoring.
- HIVDR Early Warning Indicators: The data abstraction in 27 sentinel sites was completed in November 2009; the report available and ready to be disseminated.
- HIVDRTS: This activity was delayed the protocol approval by CDC/Atlanta. The protocol is already approved and the implementation is in process.
- HIVDR Monitoring: The draft protocol is ready to be submitted to different committees

Spectrum projections

The HIV prevalence estimates were done using Estimation and Projection Package (EPP) and Spectrum software. According to the model, the total population in Rwanda is expected to increase from an estimated 9.8 million in 2010 to 11.1 million in 2015.

- Through 2015, the model predicts that HIV prevalence will remain stable at approximately 3%, from 2.93% [2.5%-3.3%] in 2010 to 3.02% [2.5%-3.6%] in 2015.
- The number of adults (15+ years) living with HIV will increase from 151,850 [131,030–171,840] in 2010 to 187,190 [155,360–220,640] in 2015.
- The number of new HIV infections among adults 15+ will increase from 9,040 [4,680 –15,220] in 2010 to 10,640 [5,790–18,230] in 2015.
- The number of children (0-14) living with HIV will increase from 22,240 [11,230– 33,860] in 2010 to 24,550 [12,870–37,540] in 2015.
- The model predicts that the number of new infections among children (0-14) will remain constant at 2,740 [1,390–4,130 in 2010; 2,740 [1340- 4,300 in 2015].

HIV Prevention Program

C.1 HIV Voluntary Counseling and Testing

Voluntary counselling and testing for HIV is initiated in health facilities as a preventive activity. In Rwanda, HIV counselling and testing started in 2001 and it is integrated in public and private health facilities. The HIV testing is offered to everyone who wishes to know his/her HIV status

For those who come to health facilities with signs, symptoms or health conditions that could indicate HIV infection are recommended by the care providers to do the HIV testing (Provider initiated testing/PIT)

For the community testing, community-based organizations, the private sector, NGOs and faith organizations with a staff trained in HIV counselling and testing, work in collaboration with the health sector to do the outreach work (mobile VCT).

Although HIV prevention services are available in the country, we still face new infections of HIV. Prevention services targeting most at risk people and vulnerable groups is one of strategies adopted to reduce the transmission of HIV in Rwanda. The focus was put on couples, Sex workers, MSM, Youth, militaries.

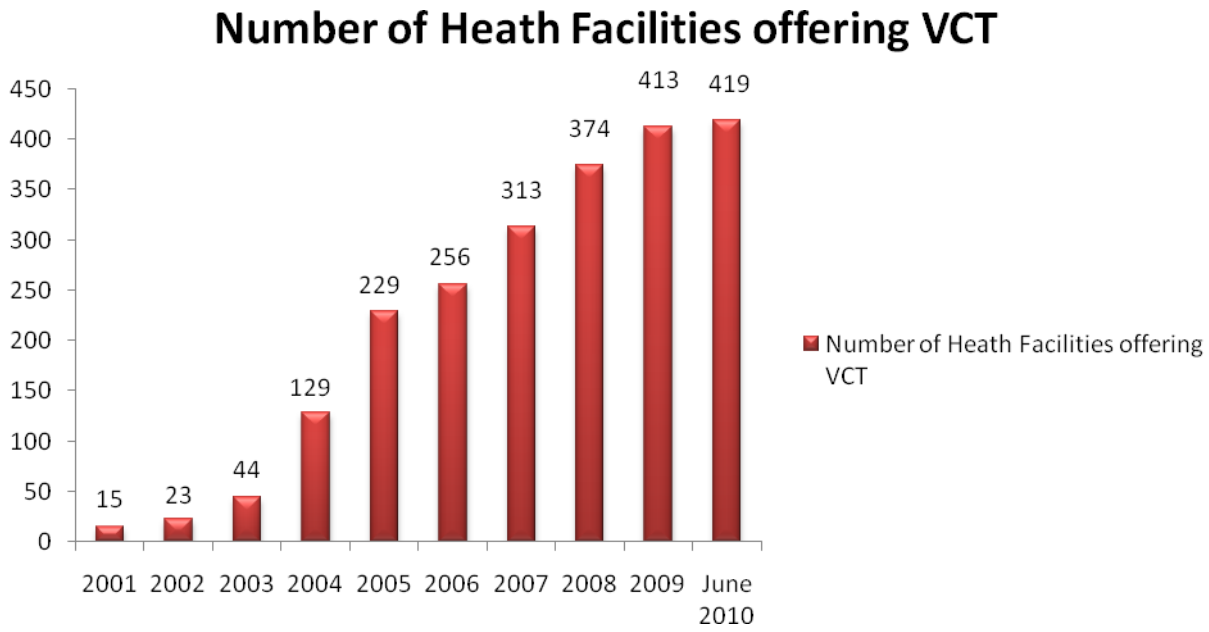
Personalized cognitive counselling is a new counselling approach identified to allow client to identify the risk he (she) took in the past, to assess his (her) self justifications and help him (her) to elaborate the future plan empty of risk. Here under are described activities carried out in voluntary counselling and testing program from July 2009 to June 2010.

Scale up of voluntary counselling and HIV testing at the heath facilities

At the end of June 2010, **419** health facilities offered voluntary counselling and testing services, and among them 13 prisons. The voluntary counselling and testing initiated by providers (PIT) started in 2008. Only 5 health facilities offered PIT services in 2008.

By the end of June 2010, all health facilities are able to initiated HIV testing to clients coming for other services to the health facilities and 203 trainers were trained on PIT in all the country with an average of 4 trainers at every District Hospital

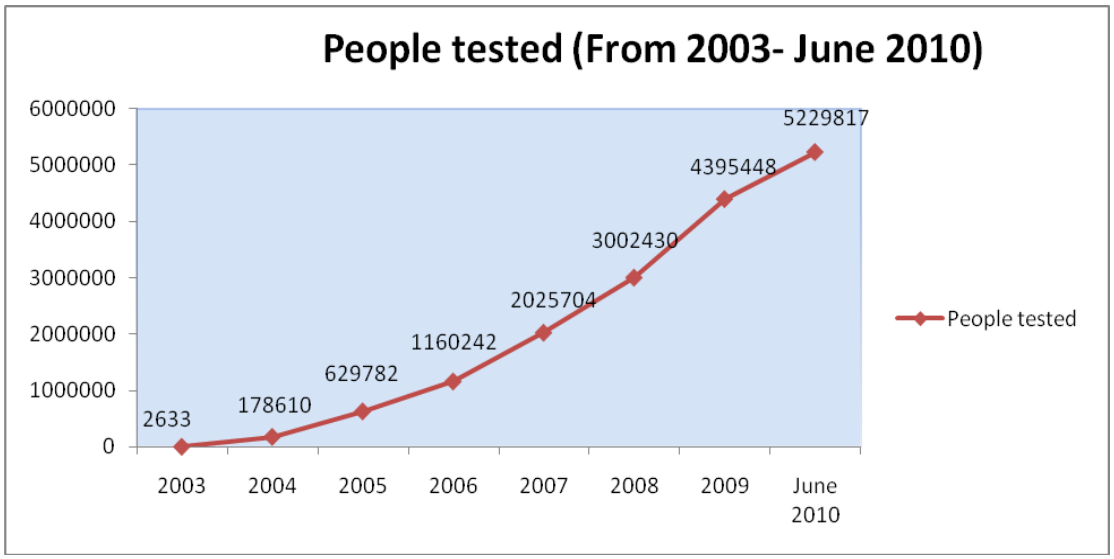
Figure 10: Trend in health Facilities offering VCT services



Source: TRAC Plus , annual report 2009-2010

Since 2001, there is a significant increase in number of health facilities offering VCT. From 2003 to June 2010, **5,229,817** were tested for HIV in Rwanda. This number includes both people tested in health facilities and in mobile VCT

Figure 11: Cumulative number of people tested for HIV, 2003-2010



Source: TRAC Plus , annual report 2009-2010

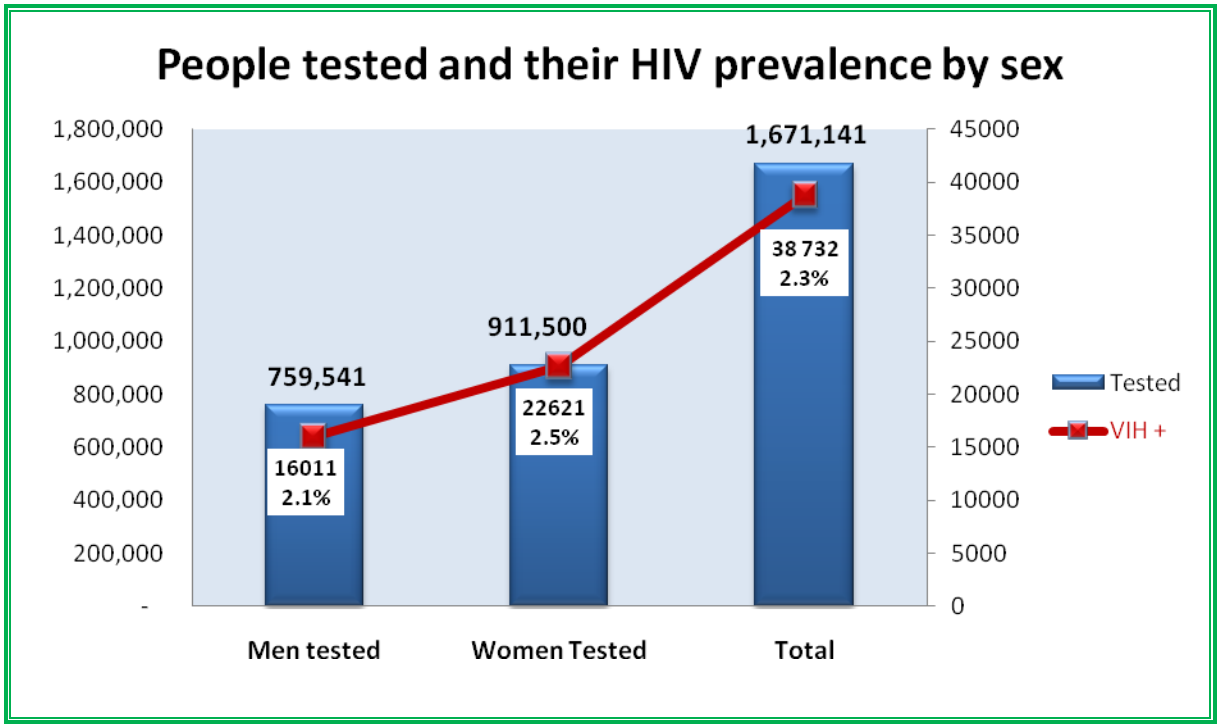
People counselled, tested and those who know their HIV status

From July 2009 to June 2010, **1,673,839** people have been counselled and among them **1,671,041** (99, 8%) were tested in health facilities and mobile VCT. Per month, the average number of people tested in all health facilities is 139,253.

The number of clients tested from July 2009 to June 2010 represents 33, 9% of the expected population in VCT services which is 50% of the general population.
Among **1,671,041** people who have been tested in health facilities and mobile VCT; **1,659,381** (99,3%) know their HIV results.

The number of women tested is higher than men. From July 2009 to June 2010, among **1,671,041** people tested, 911,500 are women and 759,541 are men, representing 54.5% and 45, 5% respectively.

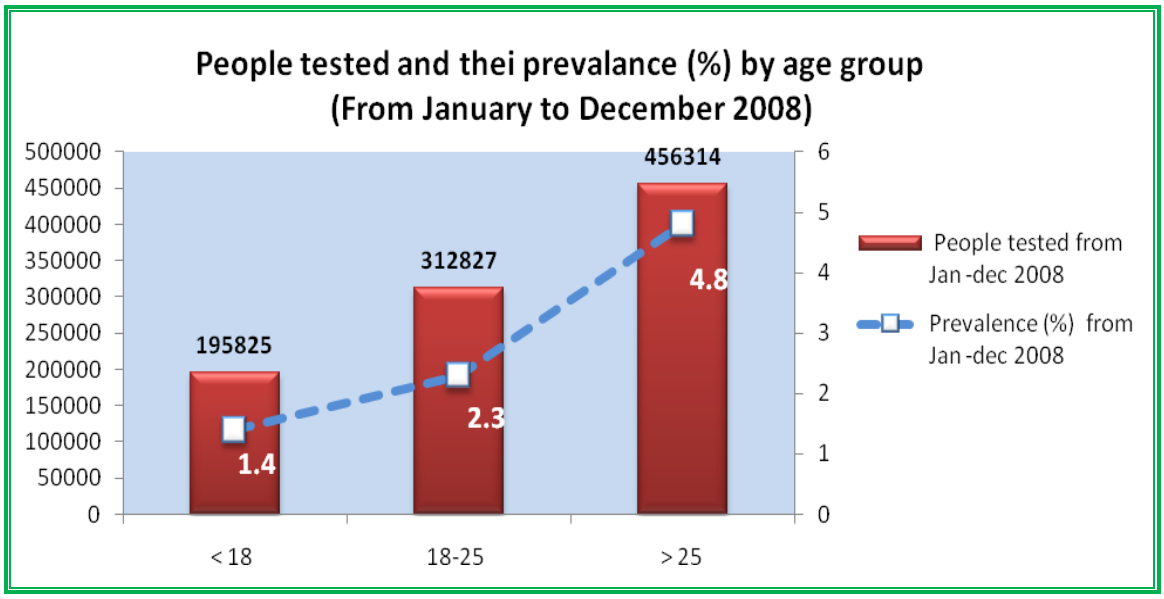
Figure 12: People tested and HIV prevalence by sex

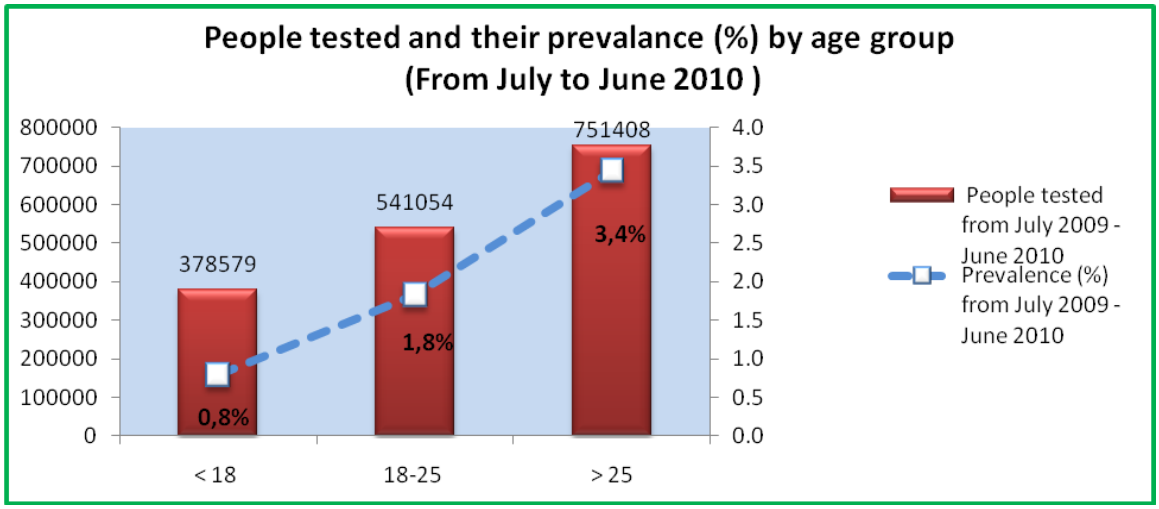


Source: TRAC Plus, annual report 2009-2010

A total of 1,671,041 persons have been tested in 2009-2010, among them 45.5% were men and 54.5% were women. 38,632 persons were tested HIV positive (2.3%)

Figure 13: Comparison of people tested and prevalence by age group



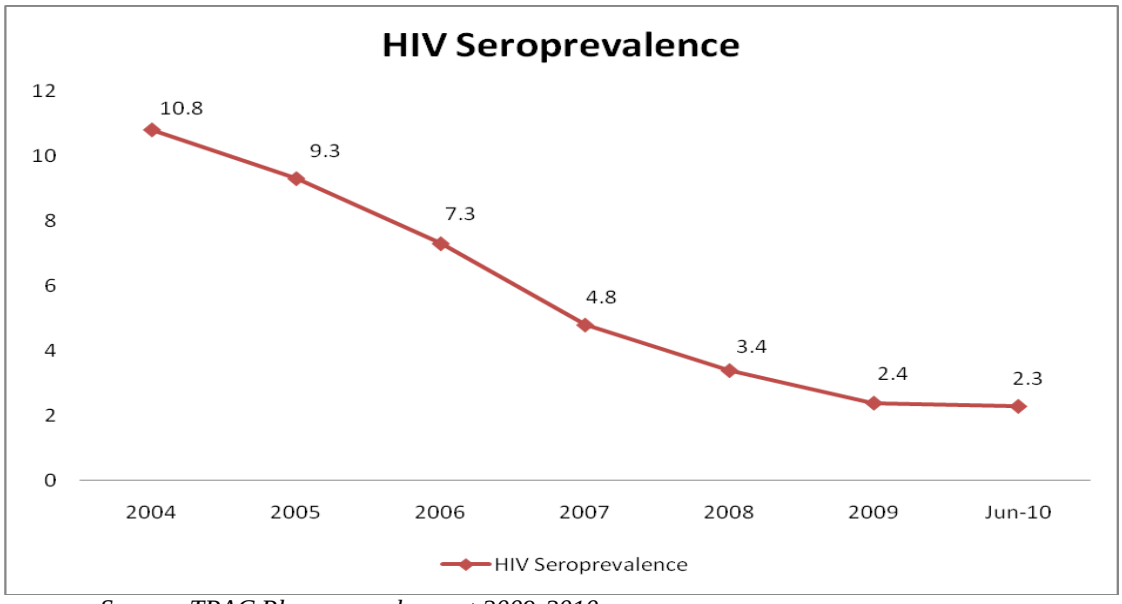


Source : TRAC Plus, annual report, 2009-2010

HIV prevalence among people tested

At the end of June 2010, the HIV prevalence among Rwandan population was **2.3%.** The prevalence has a downward trend from 2004 to 2010 (10.8% in 2004) and this is due to the consciousness of VCT program by the general population as well as the scale up of VCT services in rural health facilities where HIV prevalence is low while in previous years only people at risk were tested and VCT services were available in urban setting where the prevalence is high

Figure 14: Trend of HIV prevalence among people tested



Source: TRAC Plus , annual report 2009-2010

Testing of Couples

From July 2009 to June 2010, **103,298** couples have been tested and among them **4,170** were discordant **(4.04%).**

A program for couple counselling and discordant couples was implemented since January 2010. Through this program the expected number of couples who come for VCT services will increase and the follow up of new discordant couples as well as the tracking of discordant couples tested previously will be done.

TRACPlus in collaboration with PSF, the institution with expertise in couple HIV counseling and discordant couple put in place a special program for couple counseling and discordant couple follow up.

Tools to be used are elaborated and a pilot project started in all health facilities of Kigali since March 2010. A training plan was done and in collaboration with other clinical partners, trainings are ongoing in order to cover the whole country. Currently 276 counselors are trained in couple's counseling and discordant couple follow up.

This program will allow couples to get a real counseling and for those who become serodiscordant, they will be provided with a follow up and for couples who were tested previously a specific tracking system have been elaborated.

C.2 Prevention of Maternal to Child Transmission (PMTCT)

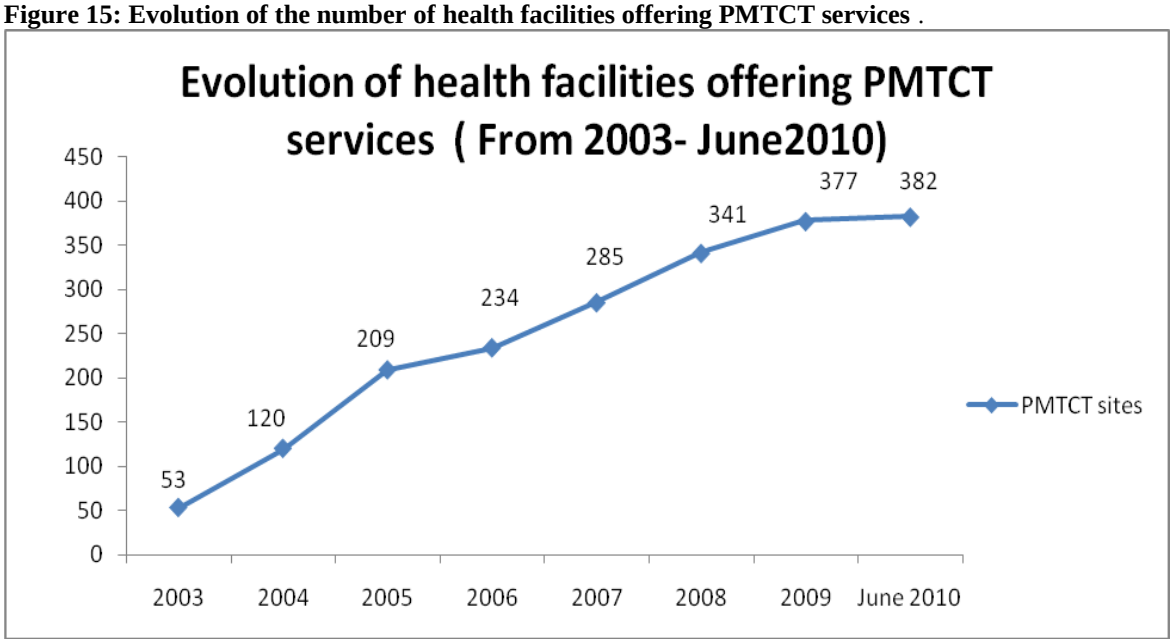
PMTCT activities are integrated into various MCH services, especially ANC, Maternity, Infants Consultation and the Family planning

Achievements:

Scale up of PMTCT activities in Health facilities

By June 2010, 382 HF offered PMTCT services, meaning that 41 new HF have initiated PMTCT activities since last 2008 PMTCT report.
The national coverage in PMTCT is 72 %. There are 396 health facilities (health center and hospitals) collecting samples (DBS) including some District Hospitals for early infant diagnosis for children born to HIV-positive mothers. These samples are sent to the National Reference Laboratory of Rwanda where they are analyzed with PCR.

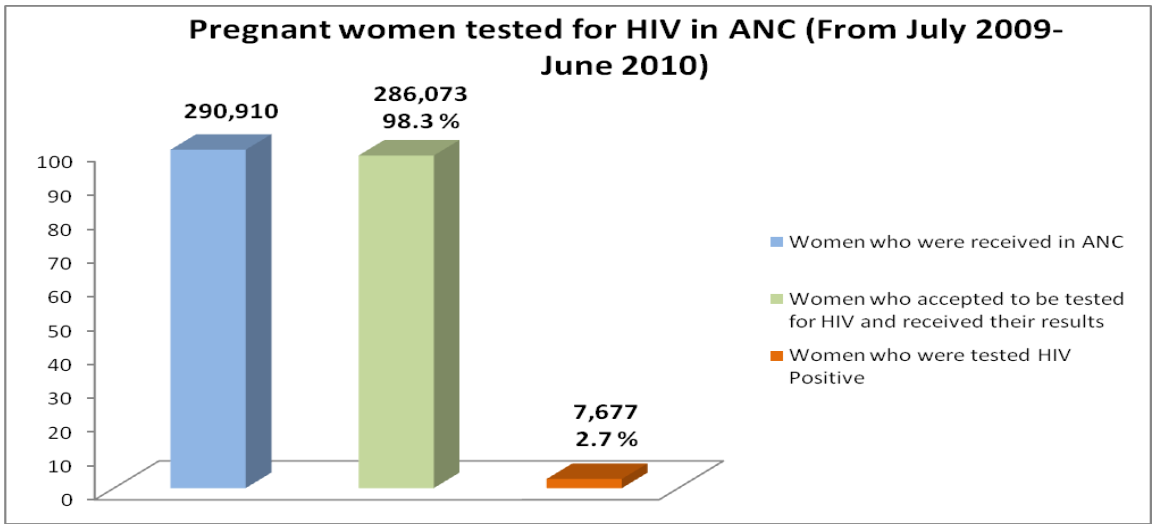
Figure 15: Evolution of the number of health facilities offering PMTCT services .



Source: TRAC Plus, annual report, 2009-2010

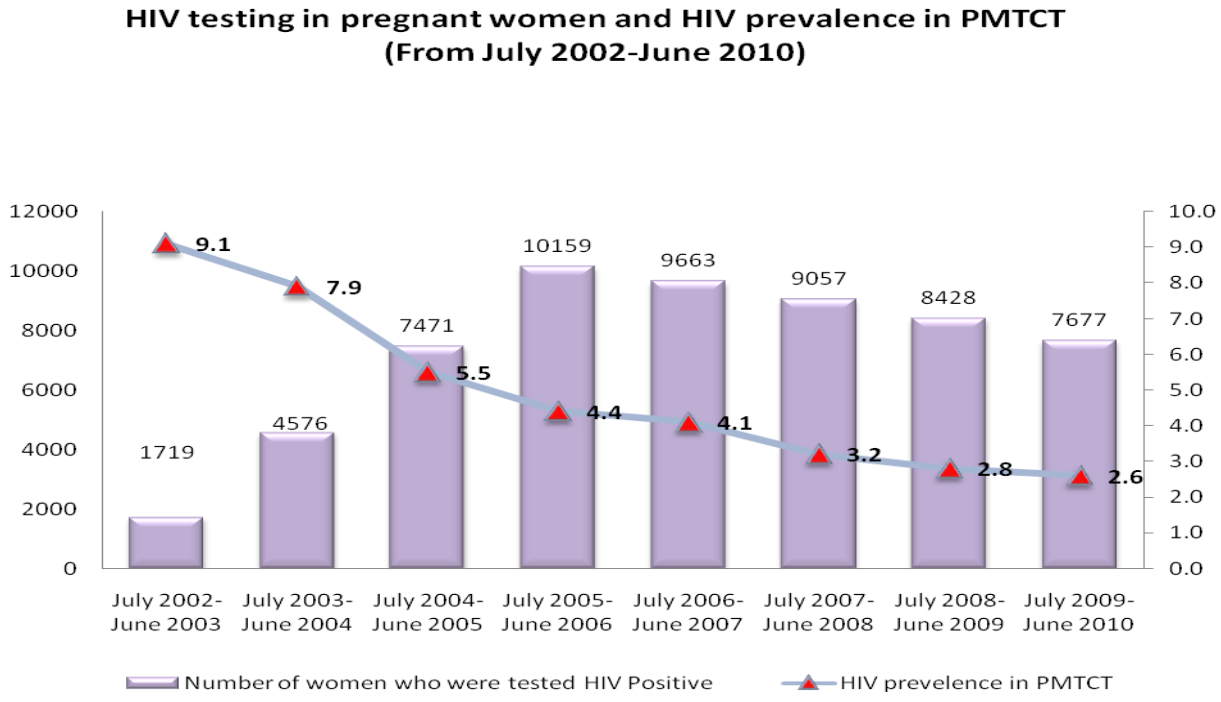
From July 2009 to June 2010, the number of pregnant women attending ANC was about **290,910**, among them **286,073 (98.3%)** were counselled and tested for HIV and received their results, among them **7677 (2.7%)** were tested HIV positive.

Figure 16: HIV testing in pregnant Women and HIV prevalence in PMTCT services



Source: TRAC Plus, annual report, 2009-2010

Figure 17: HIV prevalence in PMTCT over years.

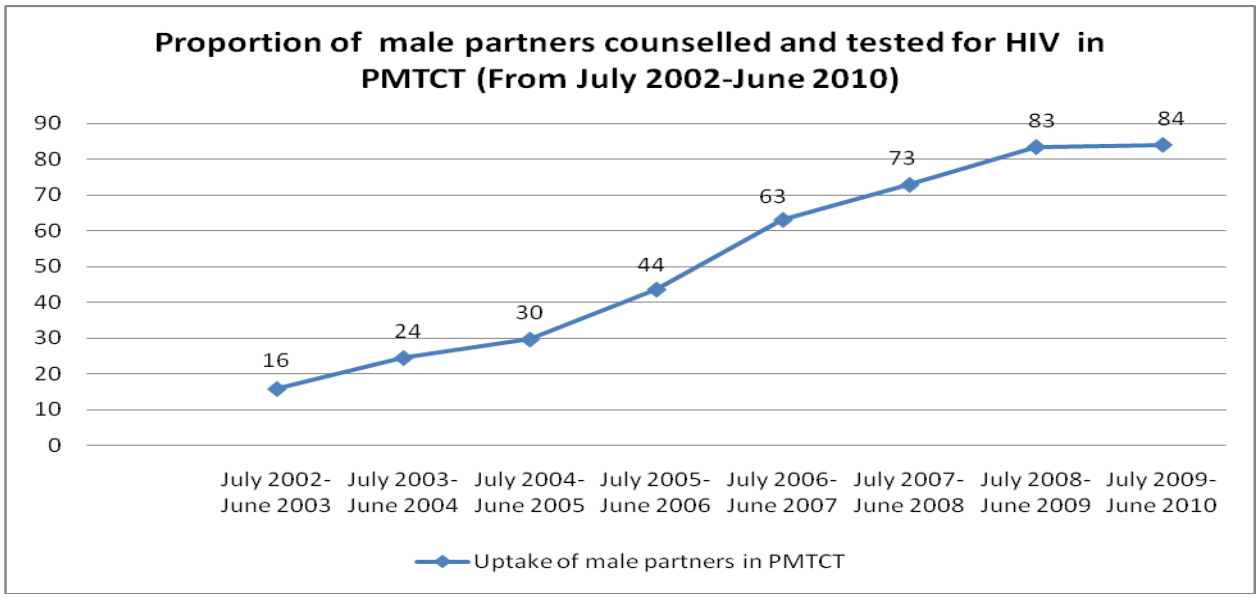


Source: TRAC Plus , annual report 2009-2010

From 2003 to 2010, the HIV prevalence reduced from 9.1% to 2.6% among Pregnant women using PMTCT services.

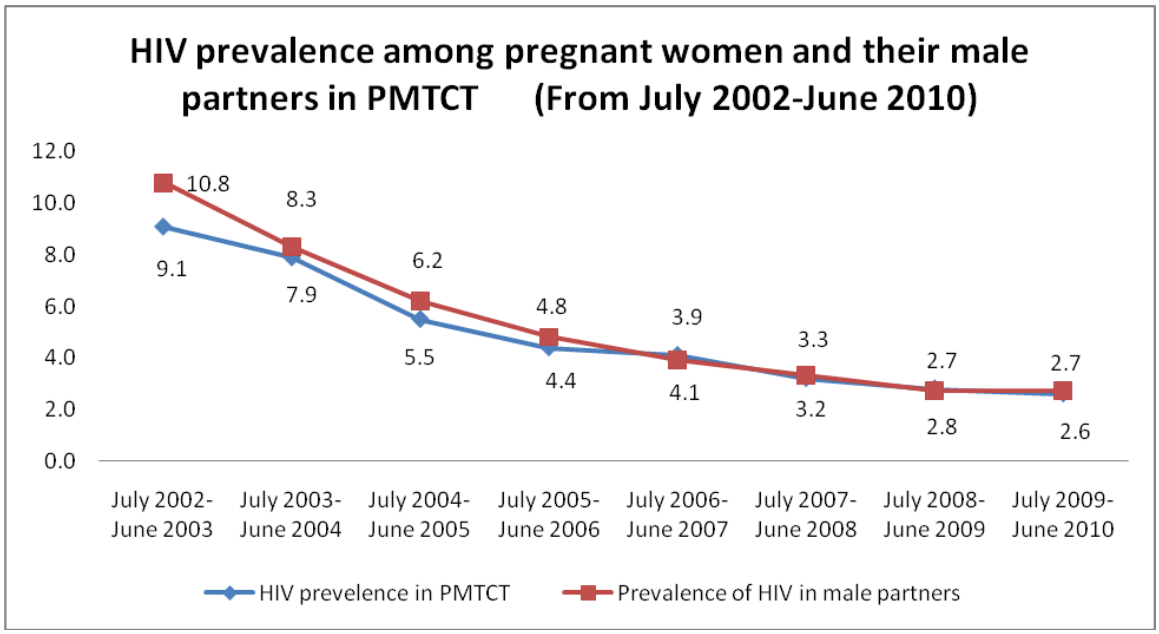
During the same period, the percentage of male partners tested for HIV in PMTCT, increased from 16% in 2003, to 84% in June 2010

Figure 18: Proportion of Male partners tested for HIV in PMTCT services



Source: TRAC Plus, annual report, 2009-2010

Figure 19: Comparison HIV prevalence among Pregnants women and their Partners



Source: TRAC Plus, annual report, 2009-2010

The figure above shows respective prevalence trend of PW and their male partners suing PMTCT. In 2003, the prevalence was higher for male partners, but in 2010, the prevalence is quite same.

ARV prophylaxis in pregnant women

Since June 2010, a new PMTCT protocol in accordance with "November 2009 WHO recommendations for PMTCT was approved by the Ministry of Health, Rwanda chose HAART (Tenofovir based/regimen) to all HIV positive pregnant women from 14 weeks of gestation up to the end of breastfeeding (weaning). Now, the preparatory phase of the implementation is ongoing and the new protocol is expected to start in September 2010.

From July 2009 to June 2010, **8 445** pregnant women tested HIV positive and HIV negative in discordant couples received ARV prophylaxis/treatment according to the current protocol used in Rwanda. Among them, **1 530** who represent **18.1%** received triple therapy for their own health, **1 596 (18.9%)** received triple therapy for prophylaxis, **3 483 (41.2%)** received Dual therapy for prophylaxis (AZT from 28 weeks of gestation + Sd NVP during labor then AZT+3TC for 7days after delivery) , **1 836 (21.8%)** received Sd NVP then AZT+3TC for 7days).

Maternity and infant follow up

From July 2009 - June 2010 a total of **428 431** deliveries were expected in the HF offering the PMTCT services. The number of women, who gave birth in PMTCT Health Facilities, is **190 680 (44.5 %)**.

Considering deliveries, out of **8 062** HIV + pregnant women expected to give birth in HF, **6 699 (83%)** gave birth effectively in the HF and **576** gave birth at home but notified at HF. This shows how much the PMTCT services increase the level of use of maternity services in a HF.

For the same period, **8 127** children born to HIV positive women were expected to receive ARV prophylaxis, **7 806 (96%)** have received this prophylaxis. These represent **64.3 %** of national coverage.

Cotrimoxazole was initiated to **7 381 (98.6%)** children born to HIV-positive mothers at 6 weeks of age.

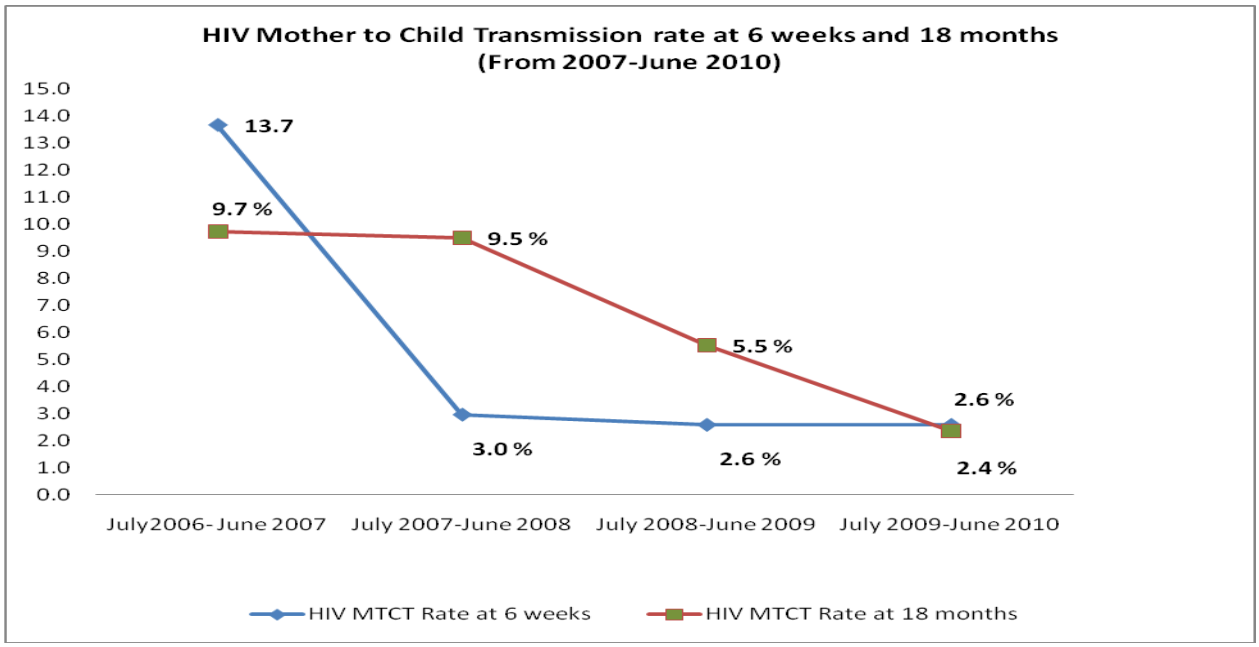
With regard to Early Infant Diagnosis of HIV exposed children from July 2009 - June 2010, 7 418 children were expected to be tested at 6 weeks of age in PMTCT program, among them **7 143 (96%)** were effectively tested using PCR test.

In PMTCT program, early Infant Diagnosis showed a rate of **2.6%** of HIV transmission from mother to child among the children tested at 6 weeks. For the

same period, among **4910** HIV exposed children expected to be tested at the age of 18 months, **4 204** were tested for HIV and **99 (2.3%)** were HIV positive

From July 2009 to June 2010, **10 480** HIV positive women were expected in family planning services. In total, **8 696 (83%)** HIV + women received contraception.

Figure 20: Trend in Mother to Child transmission rates



Source: TRAC Plus , annual report 2009-2010

This figure show that during the period 2007 – 2010, the mother to child transmission rate, continued to reduce from 13.7% (at 6 weeks) to 2.4%, whereas the reduction was from 9.7% to 2.6% at 18 months,

Biomedical prevention

In December 2008, a desk of biomedical and other prevention was created within the prevention department with a goal to assist in scaling up activities related to male circumcision and prevention with positives. Therefore, a comprehensive prevention strategy must include programs to assist people with HIV to take measures to avoid the possibility of exposing others to infection.

Furthermore, the Government of Rwanda recognizes and supports male circumcision as an additional and important intervention to reduce the risk of heterosexually acquired HIV infection in men and wants to promote and scale it up for immediate benefit to individuals.

Male Circumcision

The activities of biomedical prevention were introduced in 2008 with various interventions aiming at enhancing male circumcision as a national prevention strategy. A cascade of various activities has been ongoing since then:

- A Knowledge Attitude and Practice (KAP) study of the population on MC was carried out with the aim of providing baseline evidences on the (KAP) regarding MC in the Rwanda general population to guide medium and long term strategic program planning. The results will be disseminated by the end of July 2010.

- A selection of two pilot district hospitals of NYANZA and RUHENGERI was done for the commencement of MC and entailed the distribution of MC kits as well to the selected hospitals. The training of health providers on MC as an HIV prevention strategy in the above pilot hospitals will start on 26th/July 2010 for the duration of 10 days per each district. The training manuals on MC have been elaborated and will facilitate the Training of Trainers (TOTs) on MC as part of phase 1 of national scale up.

- Elaboration of the implementation plan of MC activities at the national level is ongoing and the final draft will be available by the end of August 2010.

- The National Guideline for Male Circumcision was developed and presented within 3 MC Technical Working Group meetings. The final version was submitted to the MoH for approval with other guidelines developed by TRAC Plus/HAS Unit. The decision by MoH was to incorporate it in the MC implementation plan.

- A Service assessment for MC activity was conducted and the database is available in Epi Info. The data analysis for this assessment is ongoing and results will be available by August 2010.

- A technical working group on male circumcision is in place since January 2008 and meets once a month. The technical group includes two sub groups: one sub group in charge of clinical aspects and one sub group in charge of IEC, which facilitates the development of communications tools and appropriate messages.

Prevention with positives

During the year 2009-2010, the activities of PWP domain focused essentially on the development of tools and training of trainers. The activity involved collaboration of TRAC *Plus* with partners in organizing a workshop to harmonize and adapt to the national context, tools and documents on training of the trainers and health care providers.

The documents were elaborated according to the following domains:

- Five stages of the prevention to the positive,
- Sexually transmitted infections
- Lay counsellors
- Family planning

Two sessions on Prevention with Positives Training of Trainers (PWP TOT) involving medical doctors and nurses was held from **14th-19th December 2009** at Hilltop Hotel in Kigali, Rwanda. The TOT topics included Merged Prevention Messages, Adult Learning TOT, and Management of STIs. In addition to this training, a training of social workers from district hospitals has been carried out. TRAC *Plus* personnel were involved in providing training in the two sessions.

All the PWP tools have been developed according to the different domains and through a mentorship and dissemination of Prevention with Positives tools activity have been distributed to the district hospitals across the country.

As Male circumcision and Prevention with Positive are young in Rwanda in terms of HIV prevention, there is a need to support this desk and to advocate for this program to insure that all given targets are reached. Following the current commitment of TRAC *Plus* and partners involved in provision of technical support, PwP will be integrated at the National, District and Health Facility level.

There are now a cadre of Trainers who are willing, and prepared, to sustain this cascade training scheme where National trainers provide TOTs for the Districts who will then provide TOPs (Training of Providers) at the health facility level.

The TWG for MC is a good framework for any advice in terms of implementation of male circumcision as a new and additional method to prevent HIV infection in men.

Development of PMTCT tools

TRAC Plus in collaboration with prevention technical working group revised different tools used in PMTCT

Guidelines

The PMTCT standards and procedures are incorporated in the Clinical HIV Prevention Guidelines; its review underwent several changes due to the 2009 WHO recommendations which were adopted in November 2009.The National PMTCT guidelines have been developed accordingly.

Registers and Job aids:

PMTCT registers and job-aids are being developed in accordance with the new PMTCT protocol.

Studies and Evaluation:

During this period one study and one evaluation has been finalized and validated

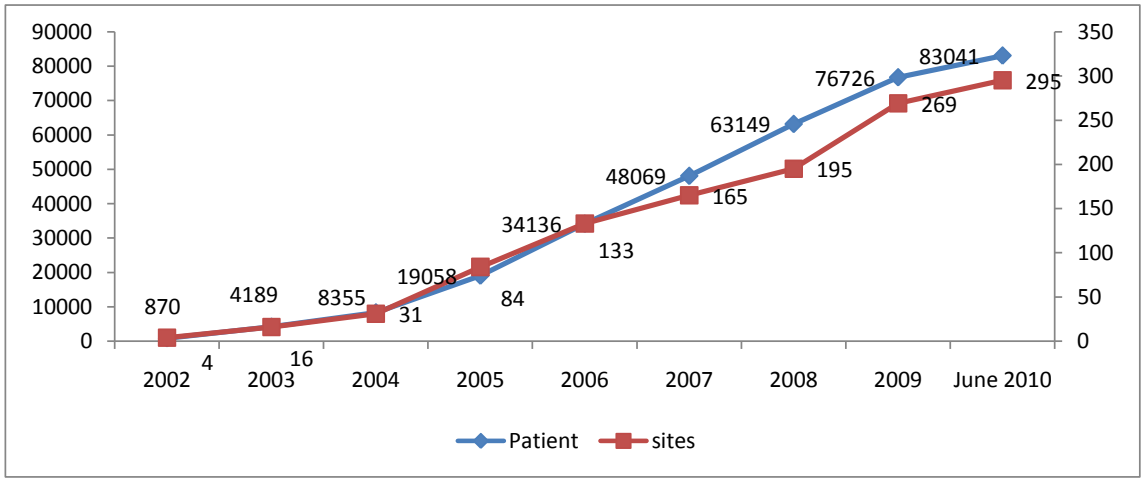
- "Effectiveness of the national PMTCT program in Rwanda", Household survey.
- Mid term review of the PMTCT scale up plan (2007-2012)
- In addition to the mentioned studies, three other studies on program evaluation started in this year and are ongoing.

Care and Treatment of people living with HIV/AIDS

Care and treatment of people living with HIV/AIDS constitutes an important field of intervention in fighting HIV/AIDS. Effective management of HIV/AIDS involves the management of a chronic disease. All dimensions of HIV-infected people's lives should be considered in order to restore their family life, social and professional mode of life

At the end of June 2009, **217** health facilities were offering care and treatment services to persons living with HIV/AIDS, and by the end of June 2010, 295 health facilities were offering care and treatment services. There was an increase of health facilities offering care and treatment services during these last 12 months and in the same way patients increased.

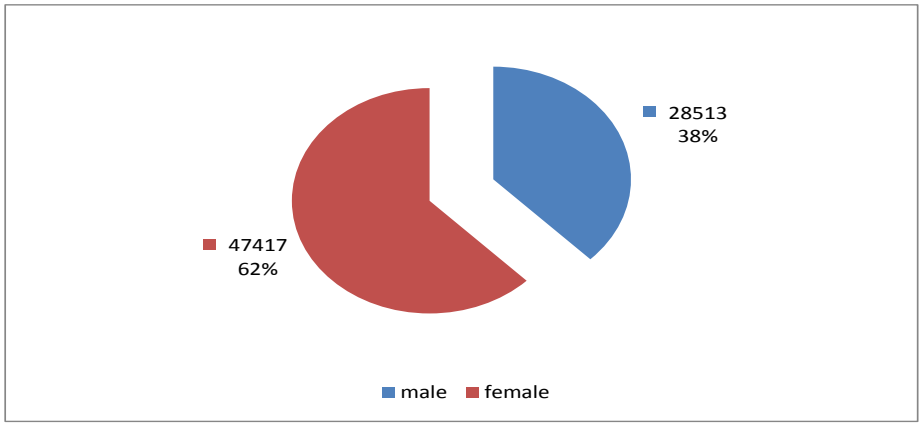
Figure 21: Number of patients on ARVs and Number of FOSA offering ARV services



Source: TRAC+/HAS, annual report 2009-2010

This chart shows that by the end of June 2010, there were 295 ARV FOSAs reporting into TRACnet at least once, and the number of patients on ARVs was 83,041 (Report to TRACnet, June 2010).

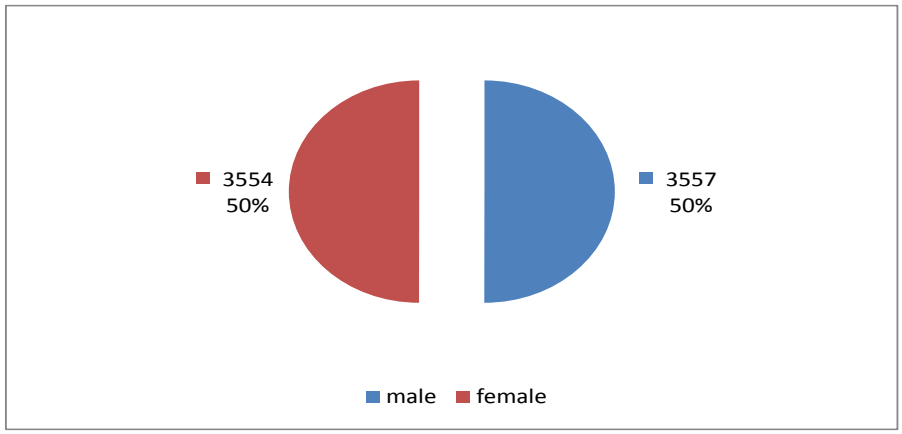
Figure 22: Distribution of Adult Patients on ARVs by sex



Source: TRAC+/HAS, annual report, June 2010

The figure shows that the proportion of HIV-infected women on ARVs is higher (62%) than men (38%). Females on ART are nearly two times males.

Figure 23: Distribution of Children on ARVs by sex

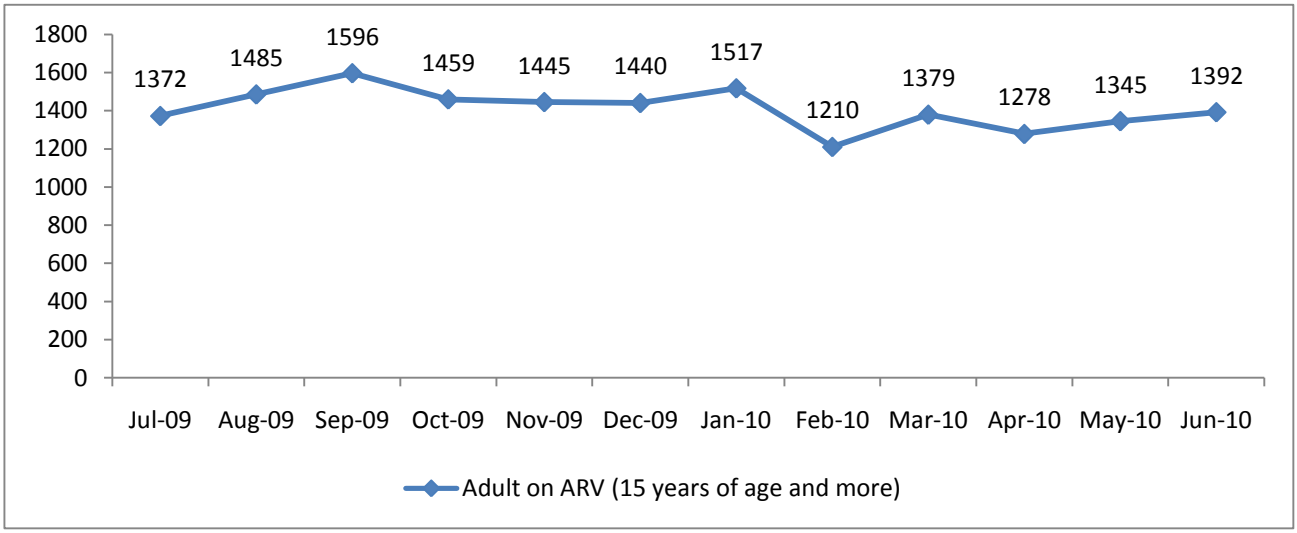


Source: TRAC+/HAS, annual report 2010

The figure shows that the proportion of children on ARVs was identical, with 50% being male and 50% being female. Compared to adults, there is little difference between children by sex on ARVs.

Initiation of patients on ARVs

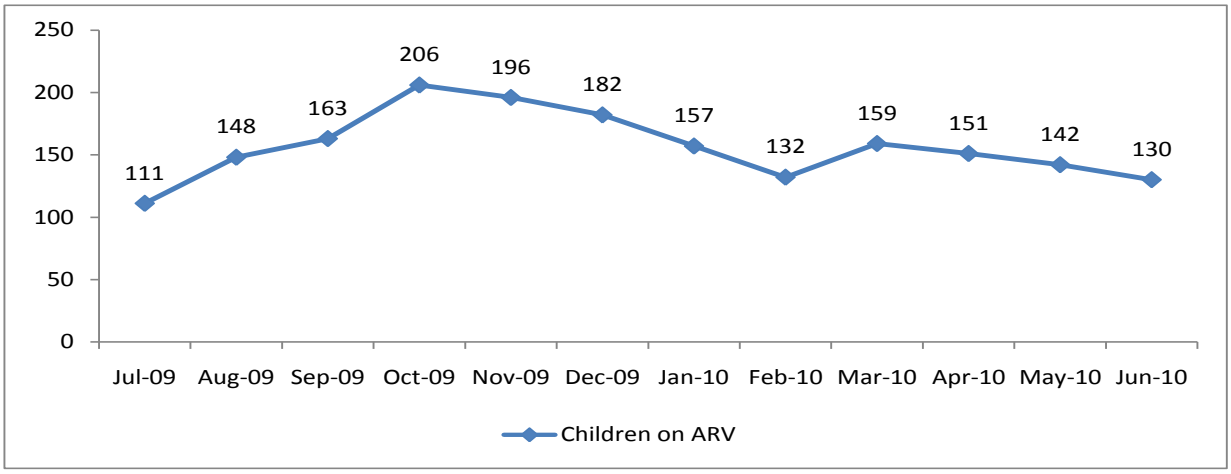
Figure 24: New Adult patients who started ARVs during the fiscal year



Source: TRAC+/HAS, annual report June 2010

The figure shows that 16,918 adult patients were initiated on ARVs in the reporting period, with an average of 1,410 patients per month. In 2008 the average number of patients starting ARVs was 1,397 per month. This increase from 2008 to 2010 is a result of the increase in the number of health centers providing care and treatment services, better management at the existing health centers, or both.

Figure 25: New Children on ARVs in 2009-2010

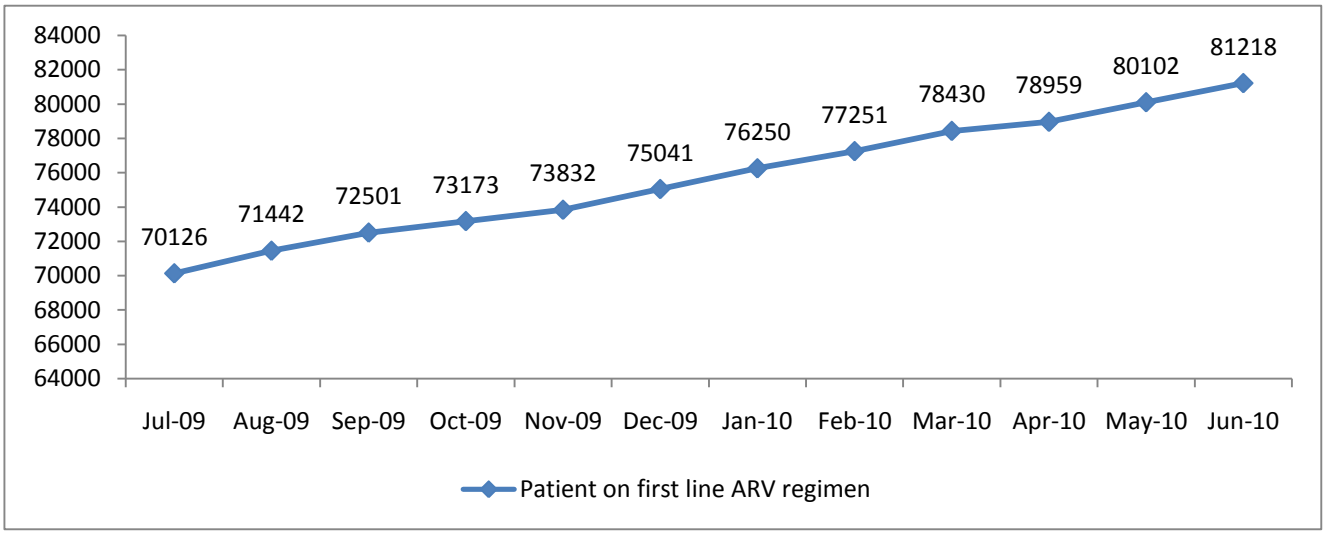


Source: TRAC+/HAS, annual report June 2010

The figure above shows the number of children who are initiated on ART each months in the country. The number is still low compared to the number of sites providing ART services in the country.

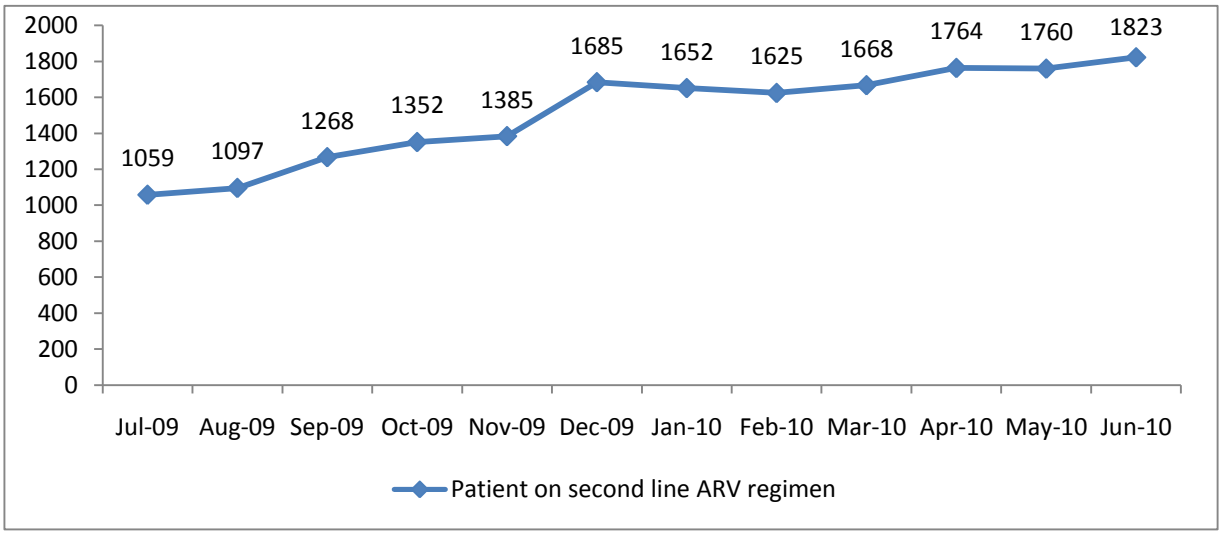
Distribution of patients on ARVs by regimen

Figure 26: Patients on ARVs, first line treatment



Source: TRAC+/HAS, annual report, June 2010

Figure 27: patients on the second line treatment



Source: TRAC+/HAS, annual report, June 2010

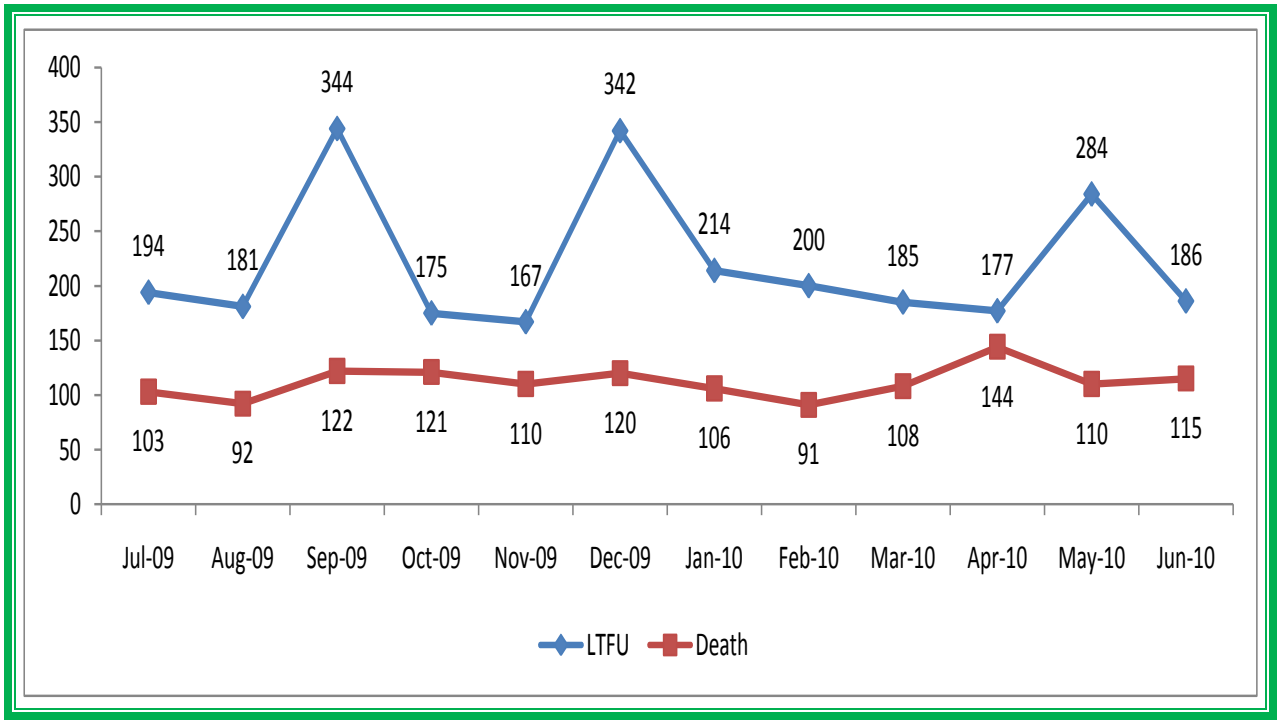
It is important to note also that among patients on ARVs second line, (83.5%) live in Kigali city, while the percentage of all patients on ART in this province is only 32.1%.

One hypothesis for this discrepancy is that ARVs started first in Kigali City. Then, it is more likely that patients are switched to second line regimens before patients outside of Kigali.

Another hypothesis is that Kigali City has 3 referral hospitals with specialist doctors who are more comfortable with switching patients to second line regimens. We are currently beginning to undertake an evaluation of patients on the second line regimen, which may help to confirm or disprove these hypotheses.

Mortality and lost follow up of patients on ARVs

Figure 28: HIV treatment: lost for follow up and HIV/AIDS Mortality



Source: TRAC+/HAS, annual report June 2010

Lost to follow-up is defined as patients who have not returned for more than 3 months from the date of their last appointment. In this chart, there are higher numbers of women lost to follow-up compared to men. This may be related to the greater proportion of women on ARVs compared to men.

Tableau 16: HIV/AIDS: Distribution of Patients on ART by District

Province	Districts	Number of sites	Children	Adults	Total
EASTERN PROVINCE	BUGESERA	7	138	1662	1800
	GATSIBO	11	169	1649	1818
	KAYONZA	7	216	2046	2262
	KIREHE	10	163	1718	1881
	NGOMA	11	142	2040	2182
	NYAGATARE	10	121	1842	1963
	RWAMAGANA	10	175	2253	2428
Subtotal		**66**	**1124**	**13210**	**14334**
WESTERN PROVINCE	KARONGI	11	385	2973	3358
	NGORORERO	7	221	2000	2221
	NYABIHU	12	199	1785	1984
	NYAMASHEKE	15	507	3295	3802
	RUBAVU	6	254	2510	2764
	RUSIZI	13	282	2237	2519
	RUTSIRO	8	187	1877	2064
Subtotal		**72**	**2035**	**16677**	**18712**
NORTHERN PROVINCE	BURERA	7	181	1577	1758
	GAKENKE	14	146	1660	1806
	GICUMBI	10	188	2086	2274
	MUSANZE	11	263	2510	2773
	RULINDO	10	194	1835	2029
Subtotal		**52**	**972**	**9668**	**10640**
SOUTHERN PROVINCE	GISAGARA	10	73	767	840
	HUYE	11	251	2266	2517
	KAMONYI	5	168	1341	1509
	MUHANGA	7	240	2610	2850
	NYAMAGABE	8	233	2218	2451
	NYANZA	10	109	1604	1713
	NYARUGURU	7	98	840	938
	RUHANGO	7	170	1854	2024
Subtotal		**65**	**1342**	**13500**	**14842**
KIGALI CITY	GASABO	16	454	6585	7039
	KICUKIRO	9	331	6464	6795
	NYARUGENGE	15	853	9826	10679
Subtotal		**40**	**1638**	**22875**	**24513**
Grand Total		**295**	**7111**	**75930**	**83041**

Trainings/Capacity building of health providers

Apart from routine training activities, more attention was paid to introduce task shifting training as a new strategy to improve the management of increasing number of patients on ART.

The first phase of task shifting training took place from 8th February to 2nd April 2010: At the end of that phase, a total of **608** nurses from 305 sites (**27** district hospitals) were trained and **499 (82.07%)** nurses from them were partially validated (Score >70%) and ready to continue with the second step of training (Mentorship).

The second phase of task shifting training was organized from 19th April to 11th June 2010: a total of **248** nurses from **124** sites (**13** district hospitals) were trained and **206 (83%)** nurses from them were partially validated (Score >70%) and ready to continue with the second step of training (Mentorship).

This means that from February to June 2010, a total of **856** nurses from **40** district hospitals and their **389** health facilities were trained on task shifting and **705** (**82.36**%) nurses scored more than 70% in the post test thus admitted into mentorship phase.

Tracking patients missing services

From 9th March to 18th September 2009, TRAC *Plus* /HAS Unit organized a tracking of people living with HIV and exposed children lost to follow up in all ART /PMTCT sites. A total of **314** health facilities were visited (**2 Referral Hospitals, 40 District Hospitals, 260 Health Centers, 8 Clinics, 1 Refugee Camp, and 3 Prisons).** By the end of April 2009 (end of the first visit), **72559** patients were enrolled in Pre-ART services in Rwanda and **66,814** were receiving ART.

Only **3,185** under 5 years children were enrolled in HIV services (Pre and on ART)
Cotrimoxazole Prophylaxis was given to **33763** patients in Pre-ART **(46.5%).**
From January 2007 up to December 2008, **14542** infants were born to HIV+ women (or from discordant couples) and **20359** HIV + pregnant women attended PMTCT services in all Health Facilities.

A total of **32,978** out of 107,460 **(30.6%)** patients were missing different services.
In pre-ART service, we had 26,500 of **72,559** enrolled people **(36.5%)** who were missing services or lost to follow up and 3,613 **(5%)** among them were eligible but not yet on ART.

Patients in Clinics and Referral Hospital seem to have inappropriate follow up since 65% and **46%** of patients are lost to follow up respectively in Clinics and Referral

Hospitals. On the other hand, patients in Health Centers and Prisons have a good follow up (only **28 %** and **13%** are lost to follow up).

With the end of the second visit, **837** additional patients were put on ART and many other patients lost to follow up were back into HIV services.
This second visit started in July 2009 (Three months after the second visit).

Tableau 17: Training on Task shifting

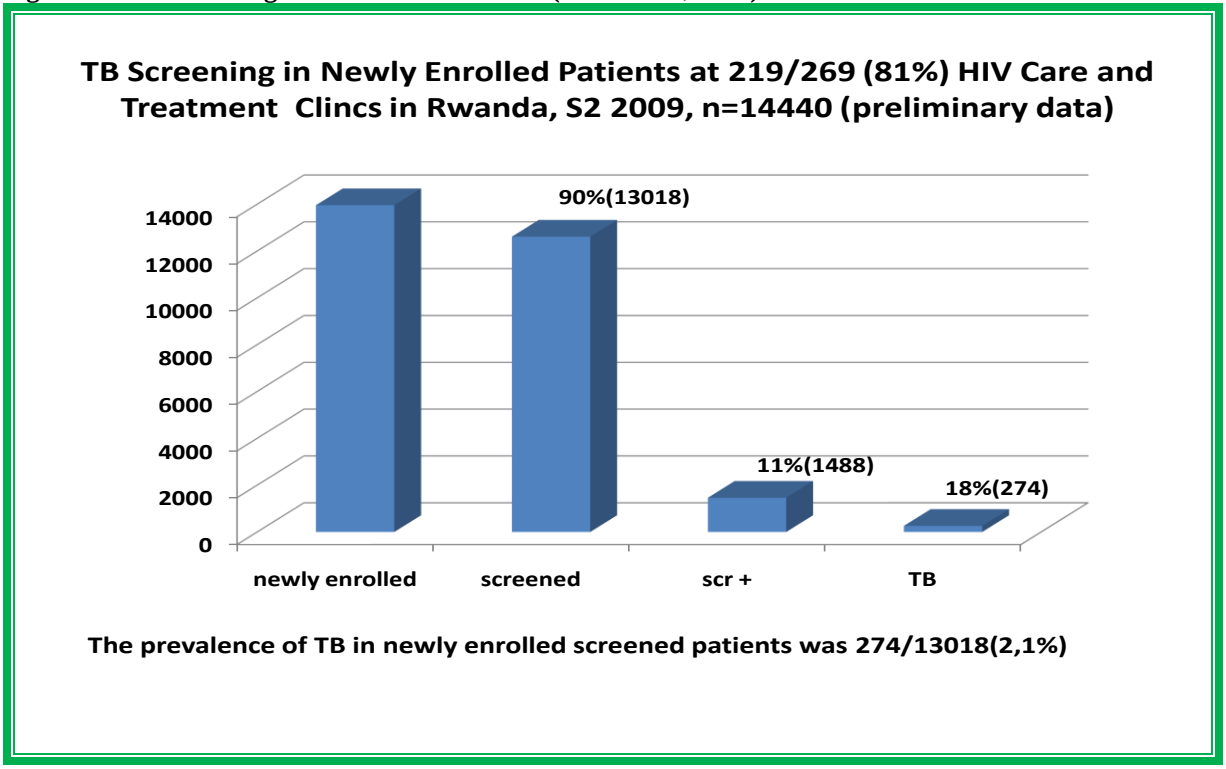
Categories of patients	Cases of Missed Services at visit 1	Received services	%
Pre ART			
Eligible Not Treated	2008	422	***21.0***
Missing CD4 Monitoring	15559	4275	***27.5***
Without WHO Staging	7602	1480	***19.5***
Eligible after CD4 count	467	252	***54.0***
Under 5 Years HIV-infected Children			
< 5yrs not on Cotrimoxazole	43	9	***20.9***
Exposed Infants In PMTCT			
Exposed Infants Missing Cotrimoxazole	305	103	***33.8***
Exposed Infants Missing HIV Test	1299	618	***47.6***

National data on screening TB in PLWHA (second semester 2009)

This evaluation was done from 10th August to 3rd September 2009, with the following objectives: To assess the level of implementation of TB screening activities in selected health facilities offering HIV care and treatment services in the country.

The TB screening in PLWHA is done at the enrollment in care and treatment program for new patients, and at each follow up visit for those on treatment for more than 6 months. Data on TB screening are collected every six-month and are available at central level by the end of the quarter that follows the semester reported for.

Figure 29: TB screening: new enrolled Patients (Semester 2, 2009)



Source: TRAC Plus, annual report 2009-2010

In the Second Semester 2009, 81% (219/269) of ART sites transmitted their six-monthly reports about TB screening to the Central level on newly enrolled patients. Of 14,440 newly enrolled HIV patients, 13,018 (90%) were screened for TB and 1488 (11%) were screened positive. Of those who were screened positive, 274 (23%) had active Tuberculosis.

In the Second Semester 2009, 75% (192/269) of ART sites had transmitted their six-monthly report on TB screening for patients enrolled into care and treatment program for more than 6 months.

Of 81,084 HIV patients enrolled into care and treatment program for more than 6 months, 61,117 (75%) had at least one TB screening in the Second Semester 2009. Of people screened for TB, 1815 (3%) have been screened positive for TB. Among people screened positive for TB, 332 (18%) had active Tuberculosis.

Nutrition and HIV/AIDS

The mission of the Nutrition Desk is to integrate and reinforce nutritional care and support within HIV and AIDS services particularly in PMTCT, Care and Treatment

services through elaboration of guidelines, protocols, norms curriculum and capacity building of health workers.

Nutrition and HIV/AIDS are strongly interdependent. Malnutrition is a common complication of HIV infection and likely to play significant and independent role in its progression, morbidity and mortality.

Food for ART program

The objectives of the food for ART clients are to contribute to:

- Improved weight gain, nutritional status and quality of life,
- Improved ART treatment adherence and acceptability, through nutritional management of side-effect(s) from medicines,
- Improved ART outcomes including survival,
- Enhanced nutritional awareness, livelihood skills and food-based strategies among ART clients.

This program provides individual food ration for ART clients during six month. In addition to that, clients receive nutrition counselling and education.
This program is being implemented in 137 health centers with ARV services with 13.235 beneficiaries by end of 2009.

Weaning/complementary food program for exposed infants

This program aims to improve nutritional status of exposed infants especially during the weaning period.

The specific objectives are the following:

- Reduce the risk of malnutrition after exclusive breastfeeding at 6 month
- Reduce the risk of HIV transmission during transition period from exclusive breastfeeding to complementary/supplementary feeding
- Help mothers to express and heat treat the breast milk
- Give support to lactating mothers in management of breast problems
- Improve adherence to cotrimoxazole

This program provides porridge for exposed infants, infant feeding counselling and makes a regular follow up of children to ensure that they are getting all services needed such as immunization, growth monitoring, HIV testing and treatment. The program is being implemented in **186** PMTCT health centers with **4,629** beneficiaries (April 2010).

HIV positive pregnant and lactating women food program

This program aims to reduce and prevent malnutrition among pregnant and lactating mothers.

The program is providing corn-soy blend to malnourished pregnant and lactating women as well as nutrition counselling messages. It has been implemented in **186** PMTCT health centers with **1,655** beneficiaries (April 2010).

V.2.3 ACHIEVEMENTS OF THE CNLS

Activities of CNLS for the2009 – 2010 fiscal year focused mainly the following areas:

- Integration of the priorities of the National Strategic Plan in the action plans of partners, both at the national and decentralized levels;
- Strengthening the TA of CDLS through an annual capacity building program;
- Development of new monitoring and evaluation indicators and tools to collect and report on the National Strategic Plan for HIV and AIDS 009 – 2010;
- Three-month sensitization campaigns around the World AIDS Day for the fight against AIDS and commemoration of this event through community work;
- Organization of sensitization campaign on cross-generational sex;
- Organization of sensitization campaigns on means of HIV prevention, including male circumcision;
- Organization of three major national conferences which are : the Fifth National Conference of Exchange and Research, the Fifth Annual National Pediatric Conference on Children infected and affected by HIV and AIDS and the Fourth Partnership Forum on HIV and AIDS;
- Elaboration of the 2010 UNGASS Report on activities carried out in the area of HIV and AIDS;
- Participation and support in activities of different partners in the fight against HIV and AIDS.

HIV Prevention

Social Mobilization and IEC/BCC

Organization of the World AIDS Day (WAD 2009), 1st December 2009

CNLS, together with its partners involved in the fight against HIV/AIDS developed a national theme for the year 2009 which was stipulated as follows: "Condom as a dual means of protection, let's talk about it, let's access it, let's use it: a fundamental life for all" and this theme stands for Kinyarwanda as follows "Agakingirizo ni uburyo bwo kwirinda. Tukavuge, Tukabone, Tugakoreshe, ni Uburenganzira bwa

buri wese". The national campaign and the World AIDS Day lasted for three months from December 1, 2009 to February 28, 2010.

The key activities carried out during this campaign were the following:

- Sensitization was successful in different districts. In general the turn up of the population to the activities was high and the population was actively involved in discussions and the use of condom. It was equally advised to strengthen sensitization methods and so as to reach as many people as possible at the national level. Besides commemoration of the WAD, media messages, and numerous sensitization sessions as well as several condom demonstrations, free distribution of condoms, at the national level was used as one of the key tools of sensitizing the population.

- Free distribution of condoms was carried out in all the districts of the country and even in the remote rural areas. The number of condoms distributed during the campaign was 2,274,910, of which 46,593 were female condoms excluding those distributed by the health centers.

- Besides the free distribution of condoms done by CNLS during the WAD campaign through TA/CDLS and its partners, health centers continued to distribute condoms. A total of 1,153,361 condoms were distributed. Concerning selling condoms, the 2009 WAD campaign had an important impact with 3,347,874 condoms sold.

In addition 2,105,600 people were sensitized during the WAD campaign. Several partners in the fight against AIDS also took part in this campaign namely: **faith based organizations network**, the civil society, many cooperatives and associations with GF support, The UN family, as well as other partners such as AHF, PSI-R, and World Vision. We therefore have to overcome some challenges such as the low condom use even when the knowledge of its importance is high and when this is due to stigma, and the fact that condom sale points are still too few especially in rural areas:

- Based on the results from the situational analysis for comprehensive condom programming conducted in 2008, CNLS developed a strategy for a coordinated response to comprehensive condom programming (CCP), reiterating the importance and effectiveness of condoms in the prevention of unwanted pregnancies and HIV/STI and in line with the National HIV and AIDS Strategic Plan (2009-2012), the National Condom Policy 2005 and the Reproductive Health Commodity Security Strategic Plan for Rwanda (RHCS Strategic Plan);

- Comprehensive Condom Programming: There was a substantial increase in the supply of condoms with a 21% increase between 2008 and 2009 alone. In

2006, the number of condoms distributed by the MOH was only 833,863 and 2,441 male and female condoms respectively;

- A condom demonstration kit was developed, over 500 kits distributed to support IEC agents and peer-educators and about 600 out-of-school peer educators trained on condom demonstration;

- To normalize the condom use and promote double protection, starting February 2009 60 condoms were offered to each VCT client regardless of HIV status in the youth centers. Over 1.1 Million condoms were distributed to high risk youth and mobile populations (PSI-R 2009 program data);

Other IEC/BCC activities carried out:

1. Organization of the campaign against cross-generational sex
2. Development and approval of BCC messages
3. Reaching 3000 youths per day through sensitization sessions and 200 people were tested per day in the 2009 Kigali international trade fair.
4. Mass sentitization and information through weekly broadcast
5. Strengthening of the documentation centre, and the use of the SOS Hotline to give information for behavior change, to provide psychosocial support by telephone, to orient people towards VCT, and PMTCT

HIV Impact Mitigation Area

Concerning the activities related to Impact mitigation of HIV and AIDS, CNLS has compiled all reports regarding the process of transforming Associations of People living with HIV and AIDS (PLWHA) in Cooperatives. In that way training for 1,600 associations of PLWHA was organized by CNLS. Through implementing partners and agencies, CNLS has supervised all trainings for the new cooperatives in business development

Coordination and Monitoring of activities related to OVC and Gender

CNLS has continued to monitor, evaluate and strengthen children programs in the framework of HIV/AIDS national response. Activities carried out in this area are the following:

- Development of a guide for coordination of OVC;
- In collaboration with MIGEPROF, CNLS participated in coordination of activities done for OVC through different meetings of the technical group of coordination of OVC programs;
- Coordination of programs relative to children and HIV through the children and HIV Steering Committee;

- Coordination and monitoring of activities related to children and HIV, carried out by different partners involved in four priority sectors known as "4P" (Prevention among youth and adolescent, PMTCT, Pediatric care and Treatment, Protection of OVC)
- CNLS in collaboration with MIGEPROF participated to the development of MVC criteria;
- Organization of the 5th Annual National Pediatric Conference on Children Infected and Affected by HIV and AIDS;
- Development, monitoring and evaluation of the action plan of the recommendations of the 5th Pediatric Conference
- Evaluation of the progress of the 6th Millennium Development Goal on children and HIV.

V.2.4 THE MANAGEMENT OF TUBERULOSIS

The overall objective of the TB program is to reduce the mortality, morbidity and transmission of tuberculosis. As many of the targets set for the end of 2009 were rapidly achieved, the national targets have been reviewed and set for the end of 2012 as follows:

- To maintain the treatment success rate of TB cases registered under DOTS beyond 85%.
- Increase the percentage of all estimated new smear-positive TB cases detected and registered under DOTS from 45% to 70%.
- To expand community DOTS to 100% of administrative districtsTo Address TB/HIV, MDR-TB and Other Challenges

Achievements:

Pursue high quality DOTS expansion and enhancement

Improving TB diagnosis and case management

a. Case detection

- From July 2009 to June 2010, 3,900 new smear-positive TB cases and 7,279 TB cases (all forms) were registered, which is declining compared to previous years. The respective notification rates were 40 and 78 per 100,000 population. New smear-positive TB cases were 59% of all the new cases and 77% of all pulmonary forms.

- 67,299 TB suspects had a microscopy examination and 6% were smear-positive. In total 204,832 sputum smear examinations were done in the laboratory network, among which 92% for diagnosis and 8% for treatment control.

- The number of health facilities doing microscopy diagnosis of TB (CDT) amounts to 194 among. 9 CDT are utilizing fluorescence microscopy (LED) and 7.2% of all TB suspects benefited from this technique that has a better sensitivity than the Ziehl-Neelsen staining.

- The quality control of microscopy was done at least once during the year for 184 CDT (96%) but only 150 CDT (79%) had 3 or 4 controls as required for the sample to be representative. In total 9,004 smears were re-examined and 9 CDT (4.7%) had one or more major errors.

b. Case management

- The TB treatment success rate was 85% for the cohort of new smear-positive cases registered in 2008. Although it has decreased, this outcome indicator still reaches the STOP-TB target but this shows the importance of strengthening crucial activities such as continuous training and supervision of the health facilities.

- The treatment success rate was respectively 74.8% for all retreatment cases and 72.7% for the smear-negative and extrapulmonary patients.
- The overall success rate (all forms) was 79.7%; the overall death rate was 9.5% and showed a slight decline in comparison with previous years.

Training

Continuous education was carried out:

- 40 medical doctors were trained on TB and TB-HIV management;
- 65 medical doctors participated in a special course on chest x–ray reading.
- 209 nurses were trained in TB care and treatment at district level.
- 92 health providers were trained in the management of multidrug resistant TB.

Monitoring & evaluation and supervision

- The TB UNIT was preparing the national TB prevalence survey which is an important study to assess the burden of TB in the country. The protocol was approved by the National Ethical Committee and the funding was secured through the GLOBAL FUND.

- Routine monitoring and evaluation activities included quarterly evaluation meetings in each district. During these meetings, the M&E officers from the district hospitals, the district TB coordinators and the TB nurses from the CDT and CT interchange data, compile the quarterly reports and analyse their results against the targets.

- The TB UNIT M&E officers were trained on data quality audit (DQA) by TRAC Plus M&E unit and they participated in the periodic field visits. Furthermore the TB UNIT carried out the field testing of the new WHO Routine Data Quality Assessment Tool (RDQA).

- Supervision of tuberculosis activities consisted in detailed supervisions by the district TB coordinators and integrated supervisions from the central level.

Address TB-HIV, MDR-TB, and other challenges.

Improving TB-HIV integration and management

This component is one of the most successful:

- The scaling up process of the "one Stop TB HIV service" has reached about 92% of all CDT;
- In 2009, 7 279 TB patients were tested for HIV (96%); 2279 were HIV infected (33% of those tested) and 96% of them received Cotrimoxazole preventive treatment.
- The proportion of patients receiving ART at the end of TB treatment was 65%.
- 84% of the TB suspects were tested for HIV and 10% were HIV infected, which demonstrates that both TB cases and TB suspects are a good entry point for detecting HIV.

MDR-TB detection and management

- 94 MDR-TB cases were confirmed through DST; 6 (6.3%) died before treatment. The death rate before treatment decreased, which suggests that the diagnosis of MDR-TB is done earlier, in particular through the molecular rapid tests.

- 88 patients were enrolled for second line treatment. All of them were hospitalized at Kabutare Hospital. After conversion of sputum smear and culture, they are transferred to the health facilities to continue as ambulatory patients. About 70 health facilities were involved in the follow up of MDR-TB patients, and approximately half of them are located in Kigali or nearby.

- The treatment success rate was 87% for the cohort of MDR-TB patients enrolled in 2007. This excellent result highlights the efficacy of the treatment regimen and the successful follow up of patients at decentralized level.

High risk groups

a. Prisoners

- Prisons constitute a challenge because the risk of transmission is potentially high and the proportion of HIV infected inmates is also higher than in the general population.

- The medical examination was implemented for all new prisoners upon entry. It includes the screening of TB based on symptoms and those who are TB suspects have a sputum examination. 8,963 new prisoners were examined upon entry; 6% were suspected of TB and 5% of them had smear-positive tuberculosis.

- The culture is required for all sputum smear-positive diagnosed in prison in order to quickly identify any possible MDR-TB case.

- In total, 211 cases were detected in prisons among which 116 (55%) new smear positive patients and 10% retreatment cases. With a total population of 64,781 people, the TB notification rate in prisons was 4 times higher than in the general population. However, this number is underestimated since other prisoners are diagnosed with TB while they are hospitalized and they are therefore registered by the hospitals.

b. Contacts of smear-positive TB patients.

- Contacts are at high risk for developing TB disease, in particular children and HIV infected contacts. From July 2009 to June 2010, 4,644 contacts were examined and 2% were confirmed with TB.
- Contacts are offered HIV testing. About 50% were tested and 1.3% were HIV infected.
- 1,301 contacts less than five years were enrolled for INH preventive treatment.

c. TB Infection control (IC)

- The TB infection control guidelines was published (English version)
- Infection control was introduced in 29 CDT where the TB UNIT focal point and the TB coordinators sensitized a total of 413 staff. They strongly promoted the basic package of IC activities which includes administrative controls and enhancing natural ventilation. The central IC focal point helped the local teams to do a risk assessment of their health facility and to further elaborate an IC plan.

Strengthen the health system.

The TB UNIT was working in the identification of the indicators to be included in the PBF of the health facilities. It is expected to start soon with this set of indicators whose funding is included in the new consolidated project supported by the GLOBAL FUND.

Engage all care providers from the public and private sectors.

- Four private clinics are in capacity to do TB diagnosis and are included in the 194 CDTs of the country. From July 2009 to June 2010, they detected 42 new smear-positive TB cases, which is about 1% of the cases detected countrywide.

Empowering people with TB and communities.

Advocacy, communication, and social mobilization (ACSM)

- As in previous years, IEC/BCC messages were aired on local radios and articles were published in different newspapers.
- IEC activities were strengthened in health facilities, communities and schools. TB coordinators strongly encourage the elaboration of an IEC calendar, reporting of the activities and analysis of the results against targets.

Community-based DOTS

- In July 2009, the Community-based DOTS covered 24 districts (80% of the population). In the first semester 2010, the strategy was extended to the 6 remaining districts so that the coverage reaches 100%. In Kigali, the priority was given to the rural areas where accessibility to the health facilities is lower.

- From July 2009 to June 2010, community health workers (CHW) identified 9% of all TB suspects and 9% of all smear-positive TB cases.

- 2,957 patients received DOT through the community health workers, which is 41% of all registered patients during the same period.

- The overall treatment success rate for the patients treated in the community was 96%.

- In March 2010, WHO carried out an evaluation of the community DOTS strategy in Rwanda and found that it was successfully implemented, with some variations among the sites. The main recommendations were to involve the traditional healers and the patients who are cured and to revise the detection target that will be included in the community PBF.

Enable and promote operational research.

- The TB UNIT elaborated the protocols of two operational studies that will be supported by CDC:
  - The prevalence of tuberculosis, HIV, and TB-HIV co-infection in rwandan prisons.
  - Assessment of health care workers' risk of TB in outpatient HIV care and treatment setting in Kigali, Rwanda
  - Field collection of data will start in 2010.

- The TB UNIT is also leading an operational study to define "the ideal time to screen MDR-TB".

- TB UNIT and ICAP were starting an operational study which intends to evaluate "the operating characteristics of the questionnaire used for screening of tuberculosis in adult outpatients with HIV infection".

LEPROSY CONTROL

- In Rwanda, leprosy is detected passively by the health facilities. In addition, active case finding is organized by the health facilities in collaboration with the TB UNIT. Sensitization and active case finding campaigns were carried out in the most endemic health centers from the following districts: Rusizi, Rubavu, Ngoma, Bugesera, Gisagara, and Nyaruguru.

- From July 2009 to June 2010, 55 patients started anti leprosy polychimiotherapy, among which 42 (76%) were new cases, 36 (65%) were women and 4 (7%) were children under 15 years of age. All cases were evaluated for their incapacities and 25% had grade II incapacities. The prevalence rate was 0.3 per 100,000 population which is under the elimination threshold. The treatment completion increased significantly and reached 83% while the defaulter rate was 15%.

- A major challenge for the program is the loss of knowledge of the disease among the health providers, which is due to the very low number of cases. To address this challenge, leprosy was systematically included in the training sessions supported by the TB UNIT.

- The 2010 World Leprosy Day was commemorated in Jarama Health Center, Ngoma district. In this endemic site about 40 persons affected by leprosy created an association and are committed to the early detection and successful treatment of the disease. Moreover the association is carrying an income generating project (pineapple plantation) and the benefits are redistributed among members. Celebrating the World Leprosy day at Jarama was the opportunity to foster understanding about leprosy among national and local authorities, health providers and people affected by Leprosy from any site of the country.

- The Damien Foundation, through the TB UNIT and the health facilities, supported financially the implementation of 8 income generating projects carried out by different patients' associations. Another project was initiated and aims at the home renovation in benefit of about 10 families affected by leprosy. The health facilities identify the most impoverished families; the TB UNIT provides the material and the sector authorities facilitate some workers to do the renovation.

V.2.5 THE MANAGEMENT OF EPIDEMIC INFECTIOUS DISEASES

ACHIEVEMENTS

Outbreak management and preparedness

A. Response to Cholera outbreak in Rubavu, Nyagatare, Musanze, Nyamasheke, Kamonyi and Rusizi Districts.

On 17th September 2009, Cholera outbreak was confirmed in Bugarama Health Centre (Mibilizi DH catchment area) in Rusizi District. Since then, most of cases were managed at Health centre level with few cases being referred to Mibilizi DH.

As of 12th October 2009, a total of 67 cases had been managed both HC and DH without reported deaths. As part of response, the community was sensitized on importance of drinking boiled water and provided strategic stock of IV fluids, Antibiotics and essential supplies to Rusizi District Pharmacy.

Efforts to stop the epidemics were undertaken in all districts and patients were treated with oral dehydration salts, intravenous fluids such as Ringers Lactate and antibiotics (Tetracycline or Ciprofloxacin) after culture and sensitivity tests. In collaboration with local authorities, communities were also sensitized to practice hygiene principles

Typhoid Fever

From 20th April 2009, Typhoid fever cases were reported again in Musanze District. As of 9th August 2009, the number of patients had reached 288 with 2 deaths (CFR 0.7%). As usual, medical team visited the side to carry out thorough investigation and provide technical support.

These are key recommendations given;

- Continue isolation and treatment of cases
- Sensitizing people to have hygiene measures
- To encourage population to seek medical care in time
- Educate the population on how to clean and store water for drinking

Botulism among Prisoners at Nyagatare Prisons,

On 11th August 2009, the Ministry of Health received reports from Nyagatare District Hospital of a suspected outbreak of a disease among prisoners in Nyagatare prison.

A number of prisoners were presenting with abdominal pains, diarrhea followed by constipation, difficulty in swallowing and blurred vision. Two patients died after developing severe respiratory distress. The outbreak was suspected to be due to botulism.

TRAC Plus, NRL, PTF with Environmental Health Desk/MOH conducted an investigation in order to confirm the outbreak, determine the magnitude of the outbreak and identify its source.

There were 160 (85%) males and 28 (15%) females. By the close of day (13/08/09), a total of 67 cases were detected out of which two died and 11 were hospitalized, 8 at Nyagatare District Hospital and 3 referred to Kigali Teaching Hospital (CHUK).
The case fatality rate was 3%.

This outbreak of botulism which occurred in Nyagatare Prison affected about 36% of inmates and food supplied to the prison was suspected to be the source of infection.

Neglected Tropical Diseases: Achievements

Background

Neglected Tropical Diseases (NTDs) are the most common infections of poor people worldwide. NTDs constitute the diseases of the poor and underserved populations in the developing countries, and it is estimated that over 2 billion people are affected.

The combined DALYs of schistosomiasis and STH infections are 43.5 million, second to tuberculosis (46.5 million) and well ahead of malaria (35.7 million) and measles (34.1 million). Until recently, the NTDs were driving less attention from health planners and decision makers.

In 2007, the Ministry of Health (MOH) in collaboration with the Access Project established the nationwide NTD Control Program. This program was targeting 5 diseases: Soil-transmitted helminthiasis, schistosomiasis, trachoma, lymphatic filariasis and onchocerciasis.

V.2.6 NTDs Program Achievements in Rwanda

a) Mapping and prevalence survey

Before starting implementing NTD control program, the Ministry of Health in collaboration with Access Project carried out baseline surveys to establish the magnitude of NTDs in Rwanda.
The following were found:

Soil-transmitted helminthiasis (STH)
Soil-transmitted transmitted helminths (*Ascaris lumbricoides*, *Trichuris trichiura*, Hookworm) are widespread, with an overall prevalence of 65.8% for any STH among school-aged population.

Intestinal schistosomiasis (Schistosoma mansoni)
Only Schistosomiasis mansoni is prevalent in Rwanda with overall prevalence of 2.7% among school-aged population. The prevalence per district varied from 0 to 69.5% and the population at risk is estimated to be 1,500,000.

Trachoma Survey
In January 2008, a national trachoma rapid assessment was conducted and the result had shown that GATSIBO and NYARUGURU had high proportion of active trachoma (15.3 and 12.6% respectively). From December 2008 to January 2009, a baseline prevalence survey was conducted in the two districts by Rwanda NTD Control Program.

It was found that Trachoma was not a disease of public health importance warranting urgent intervention in Rwanda. However, a few villages that were found to have prevalence rates of active trachoma (TF) of more than 5% (range in villages: 0-13.2%) need interventions.

Lymphatic Filariasis (LF)
The recent mapping survey that was carried out on Lymphatic filariasis in Rwanda (using ICT card test) showed that the disease is not of public health importance in the country. Only one case was found in Rwamagana District, in Eastern Province, giving a prevalence of 0.3% (1/296).

Onchocerchiasis
The Nation-wide Rapid Epidemiological Mapping of Onchocerciasis in Rwanda was done by the African Programme for onchocerciasis Control (APOC) in 1999 and showed the absence of the disease. Thus, there was no need to repeat this survey.

b) Mass Drug Administration

After undertaking mapping and prevalence surveys, efforts were made to reduce the burden of diseases, particularly STHs and Schistosomiasis. Mass drug administration was opted as one of the most effective ways of covering big population of school-age children within a short period of time and with minimal resources. To this effect, in collaboration with partners, Maternal and Child Health Week was organized twice a year, and more than four million people were treated for STHs and Schistosomiasis.

Airborne diseases and highly pathogenic diseases

In the airborne diseases and highly pathogenic diseases department, the emphasis has been put on avian and pandemic influenza preparedness

a) Avian influenza program

The WHO global influenza preparedness plan was developed to enable public health, medical, and emergency preparedness to respond to threats and occurrences of pandemic influenza. WHO recommendations for national action include the assessment of preparedness status.

As individual countries and international organizations work to strengthen pandemic influenza preparedness at the global, regional, national, and sub national levels, TRAC *Plus* in collaboration with National Reference Laboratory, along with the Ministry of Health started surveillance for viruses.

This activity is planned to be part of routine surveillance. In collaboration with CDC- Rwanda, EID unit managed to:

- Train selected personnel (15 persons per site) for six sentinel sites on Influenza surveillance (e.g. case definition, sampling protocol and sampling techniques, storing and shipping of samples, data entry and reporting).
- Train selected laboratory personnel on AI diagnosis
- Improve the diagnostic capacity of NRL thereby ensuring its ability to diagnose influenza
- Begin testing the samples coming from the sentinel sites
- Develop an appropriate database
- Develop SOPs

b) Influenza surveillance and response (Avian Influenza and Influenza A H1N1 2009)

Introduction

Following recent outbreak of Influenza A (H1N1) in human beings in North America and its spread to other parts of the world, the country has managed to do the following under different phases:

- **Preparatory activities**
  - Development of Influenza A H1N1 Emergency Operational Plan
  - Setting up of 6 influenza surveillance sentinel sites (at least one site per Province)
  - Intensification of influenza surveillance.
  - Availability of 14,256 Tamiflu adults doses
  - Estimations of needs and purchase of supplies (laboratory equipments, reagents, personal protective equipments and disinfectant, respirators, face masks,Tamiflu, etc)
  - Strengthened Diagnostic capacity of the National Reference Laboratory for seasonal, Avian and Influenza A (H1N1).
  - Training of health care workers (4 - 5 HCWs per Hospital)
  - Entry screening at International Airport
  - Rehabilitated CHUK isolation facility
  - Raised funds from partners such as WHO and CDC – country offices
  - Organized table top exercise
- **Response phase**
  - Case management
  - Contact tracing
  - Temporary closure of schools with confirmed cases
  - Strengthened communication strategy
  - Training and refresher training of HCWs at all levels

V.3 MATERNAL AND CHILD HEALTH

In this chapter, achievements that will be described deal with Integrated Management of Childhood Illnesses, Primary Health Care, Expanded Programme of Immunization, and Reproductive Health (Maternal Health), Nutrition, Community Health, and Family Planning

V.3.1 Introduction

The improvement of maternal and child health and nutritional status is among the high priorities of MOH, which are in line with the Millennium Development Goals to reduce maternal and child mortality, and malnutrition. The report describes the main achievements concerning Maternal Health, Integrated Management of Childhood Illnesses, Expanded Programme of Immunization, Family Planning, Nutrition, Community Health, Sexual Gender Based Violence and Reproductive Health for Adolescents.

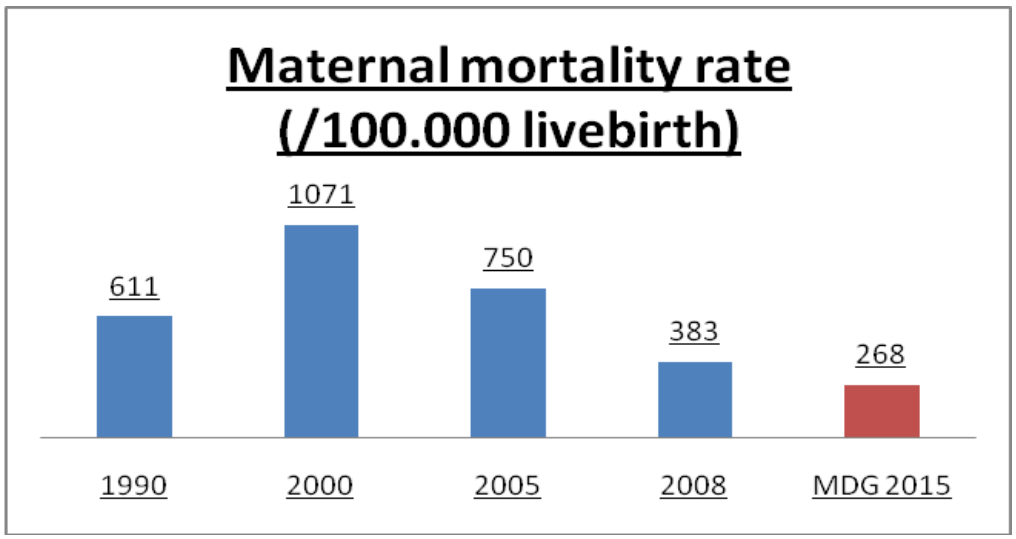
Reported indicators for the year 2009/2010 are derived from the HMIS, EPI database, DELIVER Database (Family Planning) and Community Health Database. Indicators are estimations, as target populations are projections and because of possible reporting errors

Maternal Health high impact interventions done in 2009-2010

1. PMTCT services
2. Distribution of ITNs to pregnant women
3. Early diagnostic and treatment of Malaria by addressing financial barriers (Mutuelles de Santé)
4. Intermittent preventive treatment of Malaria to pregnant women
5. Introduction of Coartem to treat Malaria
6. EMONC (Emergency obstetrical and neonatal care): at Health centre (basic), and at District level (comprehensive)
7. Sensitization of women to use Antenatal care (ANC)
8. Sensitization of women to deliver at health facilities and put this in performance contract of districts
9. Enrolment of the population in the Mutuelles de santé and assisting the very poor
10. Family planning
11. Improvement of the quality of care:
12. Construction of more health facilities
13. Equipment with basic equipment for delivery
14. Deployment of more skilled staff

15. Training and upgrading staff, mostly nurses
16. Emergency transportation (Ambulances)
17. Start Maternal and Child Deaths audits at community and health facility level
18. Organization of Maternal and Child week
19. Construction and Equipment of 77 new maternities

Figure 30: Trends and tergets in Maternal Mortality ratios



Source:DHS Rwanda

Child Health high impact interventions done in 2009/2010

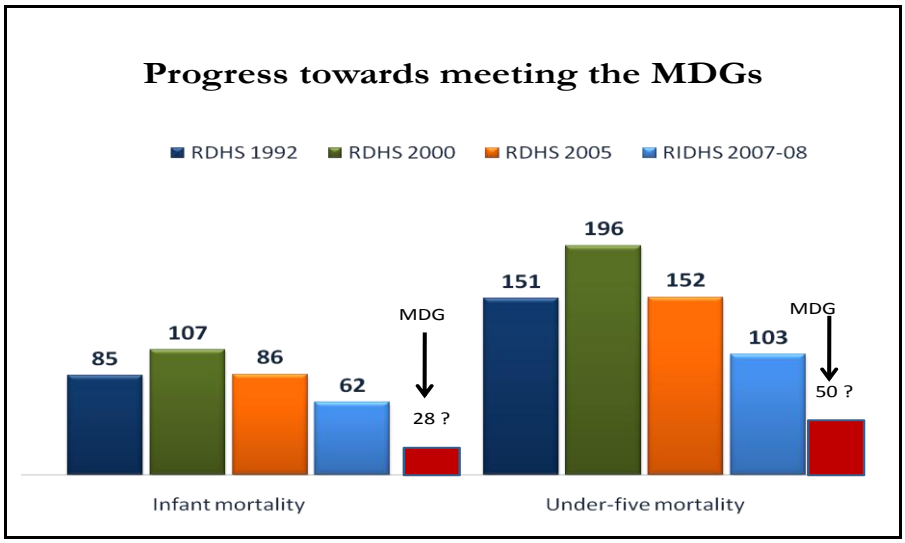
Over the past year, important progress was made to improve child health. A supportive environment and the implementation of effective strategies have allowed current success observed in Rwanda. The last year was characterized by the implementation of innovative health strategies in Rwanda.

Results noticed today are the fruit of several interventions listed below:

1. EMONC (Emergency obstetrical and neonatal care) and Kangaroo mother care to address peri-natal mortality
2. Expanded programme of immunization (routine activity) that was improved by introduction of Pneumococcal vaccine
3. Distribution of ITNs for pregnant women and U5 children
4. Campaign of distribution of Vitamin A and of Mebendazole (deworming campaign)
5. Integrated Management of Childhood illness (IMNCI), with the early diagnosis and treatment of the 3 most killers of children : pneumonia, diarrhea, and Malaria

6. Community based Nutrition program : extension of family gardens and promotion of small livestock to improve the nutrition status of the child and of the mother
7. Exclusive breastfeeding up to 6 months
8. Community Based Maternal and Newborn Health care (C-MNH)
9. The community health programme
10. The adoption of the national child survival policy
11. The program of the maternal and child death audits
12. The monitoring of the child growth at community level is a new program launched from the Kivu Sun retreat recommendations
13. IEC/BCC programs disseminated through media methods and CHWs program

Figure 31: reduction of Infant and Child Mortality



Source: DHS Rwanda

V.3.2 Innovations to improve Maternal and Child Health

Mother and child health week to achieve MDG targets

From 2006, the Ministry of Health organizes twice a year the Mother and Child Health Week with a broad objective of contributing to the reduction of maternal and infant morbidity and mortality by offering high efficiency integrated interventions package that is preventive and educative.

An intervention package offered comprised of vaccination (catch-up of dropout children of less than a year of age and pregnant women whose vaccination status lags behind), Mebendazole/ Albendazole de-worming for the children between 12 months to 16 years and breastfeeding mothers, Praziquantel de-worming for the children of 5 to 16 years in the bilharzias risk zones, Vitamin A supplementation to

the children between 6 to 59 moths and breastfeeding mothers, Iron and folic acid supplementation to pregnant women thus offering contraceptives to women who need it.

The official launching chaired by Highest Leadership of the Country this showed the commitment to the reduction of maternal and under five mortality.

Launching of routine Pneumococcal immunization by the First Lady

Introduction of Pneumococcal vaccine in routine immunization

Rwanda became the first low-income country to introduce vaccine for world's leading infectious child killer. Introduction of Pneumococcal Vaccine promised to help the country achieve a two-thirds reduction in child deaths by 2015 and marked a major milestone for disease prevention in the developing world.

Preventing pneumonia by providing pneumococcal vaccination through national immunization programs ranks among the highest recommended measures for achieving MDG4 worldwide.

Introduction of Phone for Health: a real time alert system for improving maternal and child health

Since the significant number of Maternal and Children deaths occurs at community level, the Ministry of Health started to compliment these critical interventions with a community based RapidSMS "alert system" for critical events in the Maternal and/or newborn/child cycle up to 9 months.

The alert system tracks the maternal and neonatal life cycle, ensuring that critical points in the cycle are documented and sent electronically to a central database with an auto-response alert of each critical event sent to the nearest health centre.

Part of these set of events also include an alert for the occurrence of maternal and neonatal deaths which form the basis to initiate a maternal and newborn death audit by the supervising health facility.

The system provides tools to manage the database of all community health workers, send them key educational and other messages and to enable them to submit their monthly health community reports using cell phones. The system has the necessary analytic tools for the central level to use the collected information for decision making and generates reports.

Along with the technology, 45.000 phones provided by the Government have been distributed to CHWs in all the country and training is organizing for all levels of the Rwandan health pyramid to make the best use of the system.

Provision of ambulances for delivery of quality health service through the Emergency Medical Services.

This initiative aimed to improve response times and patient care thus ensuring the delivery of quality health care to Rwandan citizens especially to reduce maternal, infant and child mortality due to delay.

One of critical strategies in quality health service delivery is services that the health system provides through the Emergency Medical Services. The aim is to continuously improve the fleet of ambulances so that they are able to meet the challenges of mortality due to delay in obtaining care. Following these challenges with the previous fleets, Ministry of Health purchased 112 new ambulances, which contributed to overcome these challenges.

Emergency and sustainability plan to fight malnutrition

The emergency plan to fight malnutrition in Rwanda started by screening in Mai 11th 2009 all children from 6 months to 59 months, in order to actively identify children suffering from acute malnutrition for treatment and for other socio economy support through the existing opportunities in the country.

About 80% of all the estimated 1.36 million children aged 6 to 59 months in the country using Community Health Workers was identified and screened. Food supplementation and therapeutic milk for the emergency plan were purchased as follows:

- 165 tons of Ready to Use Therapeutic Food for severe acute malnourished children
- 180 tons of Corn Soya Blend (CSB) for moderate cases
- 4 tons of therapeutic milk (F75) Distributed at district hospitals and referral hospitals

The National Multi-sectoral Strategy to Eliminate Malnutrition is anchored on the experiences and lessons learnt from the Emergency Plan to Eliminate Malnutrition started in 2009. It further builds from the National Nutrition Policy of 2007 and the "Consensus statement" of the first National Nutrition summit of 2009.

Maternal death audit

The level of maternal and neonatal mortality remains a concern for Rwanda. The maternal mortality rate was 750/100.000 live births in 2005 (DHS) and neonatal deaths were 39/1000 live births in 2005 and 28 / 1000 live births in 2008.

It is therefore important that efforts made in order to achieve the Millennium Development Goal 5 are reinforced (maternal death rate: 200/100.000 in 2015 and neonatal death rate: 16/1000) are analysis of circumstances of death either in health facilities (maternal death audit) or in communities (verbal autopsy) is a good approach to identify the strengths and weaknesses of the health facilities in care of mothers and newborns and the health seeking behavior of beneficiaries to propose approaches to solutions.

This practice has been introduced in all health facilities since July 2009 and gradually becomes a regular practice of providers and should be carried out for each maternal death in order to use the results to improve safe mother hood practices.

Objective: Knowledge of causes of maternal death in health facilities in order to decrease maternal and neonatal mortality.

Tableau 18: Maternal Deaths Audit: proportion by level of Health Facility

Type of HF	Number of maternal death	%
Health Centre	15	9.03
District Hospital	139	**83.73**
Reference Hospital	12	7.22
Total	**166**	**100**

Source: Ministry of Health: Maternal and Child Health, annual report, 2009-2010

Tableau 19: MDA: Deaths by Age group

Age	Number of maternal death	%
≤ 20 years	16	9.63
21 to 30 y	72	43.37
31 to 40 y	62	37.34
41 to 50 y	12	7.22
Not indicated	4	2.4
Total	***166***	***100***

Source: Ministry of Health: Maternal and Child Health, annual report, 2009-2010

Average age of maternal deaths is 30.

Tableau 20: MDA: deaths and Marital status

Marital state	Number of maternal death	%
Non Married	11	6.62
Married	96	57.8
Cohabitation	2	1.20
Divorced	1	0.6
widow	1	0.6
N I	55	33.13
Total	**166**	**100%**

Source: Ministry of Health: Maternal and Child Health, annual report, 2009-2010

Tableau 21: MDA: Deaths by Parity

Number of pregnancy	Number of maternal death	%
Primi-gravida	39	23.49
2 to 3 pregnancies	29	17.46
>3 pregnancies	93	56.02
Not Indicated	5	3.01
Total	**166**	**100**

Source: Ministry of Health: Maternal and Child Health, annual report, 2009-2010

Tableau 22: MDA and Antenatal Care

Prenatal care done	Number of maternal death	%
0	23	13.85
1	18	10.84
2	28	16.86
≥ 3	35	21.08
NI	62	37.34

Source: Ministry of Health: Maternal and Child Health, annual report, 2009-2010

Tableau 23: MDA: Deaths and timing (pregnancy, delivery, post-natal)

Time of complication	Number of maternal death	%
Complications in pregnancy	60	36.14
Complication during delivery	44	26.50
Complication in postpartum	56	33.73
NI	6	3.61
Total	**166**	**100**

Source: Ministry of Health: Maternal and Child Health, annual report, 2009-2010

Tableau 24: MDA: Identified causes of mortality

Causes of death	Nb maternal death	%
Eclampsia	16	9.63
Septicaemia	24	**14.45**
Other infections	10	6.02
Obstructive labour	16	9.63
Malaria	18	10.84
Severe bleeding	46	**27.7**
Opportunistic infections	10	6.03
Anaesthesia complications	6	3.61
Others	20	**12.04**
Total	**69**	**100**

Source: Ministry of Health: Maternal and Child Health, annual report, 2009-2010

Severe bleeding and septicaemia are the common causes of maternal deaths in the health facilities.

Tableau 25: MDA: Detailed causes of death

Cause	Specification	Nbr	%
Eclampsia:	During the pregnancy	14	87 %
	During Postpartum	2	13 %
Septicaemia	Post-abortion	3	13 %
	Post-Caesarean Section	6	25 %
	Postpartum	15	62 %
Other infections.	Meningitis	1	10 %
	Pneumonia	3	30 %
	Endometritis	1	10 %
	Unknown	5	50 %
Opportunistic infection associated with HIV	Suspicion of Tuberculosis	5	50 %
	Suspicion of Cryptococcus meningitis	1	10 %
	Acute gastro enteritis	1	10 %
	Anaemia	2	20 %
	Suspicion of PCP.	1	10 %
Obstructive labour	Uterine rupture	8	50 %
Severe malaria	Severe anaemia	7	39 %
	Cerebral malaria associated with severe anaemia	6	33 %
	Other forms of severe malaria	5	28 %
Severe haemorrhage	During pregnancy	8	18 %
	During childbirth	19	41 %
	During postpartum	19	41 %

Source: Ministry of Health: Maternal and Child Health, annual report, 2009-2010

RECOMMENDATIONS FOR PREVENTION OF MATERNAL DEATHS

- Emphasize on active management of the 3rd stage of the labor
- Training on EMONC at health centres and district hospitals
- Training on quality of Caesarean section for medical doctors
- Emphasize on prevention of infection in hospitals and education on simple manner to prevent infection
- Reinforce prevention of malaria in pregnancy
- Introduce national protocols on prevention and treatment of eclampsia
- Reinforce voluntary counseling and testing for HIV for all pregnant women, follow up if return from treatment and assure accessibility of treatment at early stage of pregnancy.

V.3.3 Progress on Maternal Health Indicators:

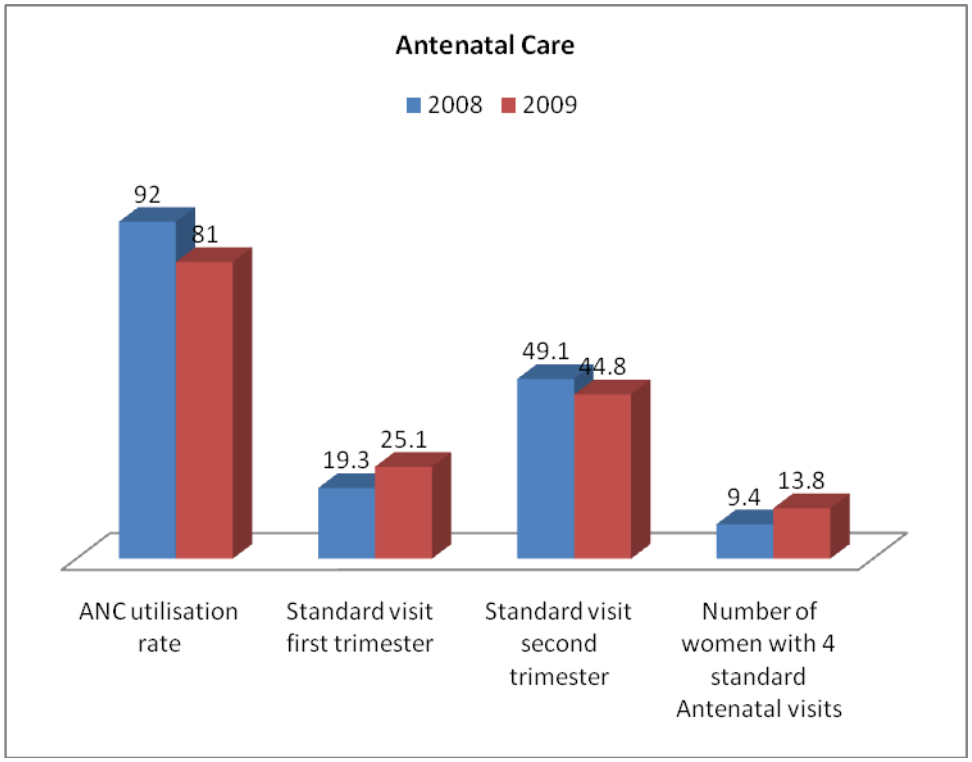
Antenatal Care

According the DHS, 2007, the percentage of women who gave birth 96 % received ANC. During the preceding period, this coverage was equally over 90 % (DHS 1990, 2000, 2005, 2008)

ANC utilization rate dropped from 92 % (2008) to 81 %. This could be due to errors in the overestimation of the target population. With increased family planning and the consequentially decrease of pregnant women could explain the decrease in estimated coverage of ANC utilization, due to over estimation of the target population. However, other reasons for this decrease needs to be identified/excluded and measures taken if needed.

Nevertheless, an increase of women attending ANC for the first trimester increased as well as women completing 4 visits, (4 visits is considered as complete coverage for ANC).

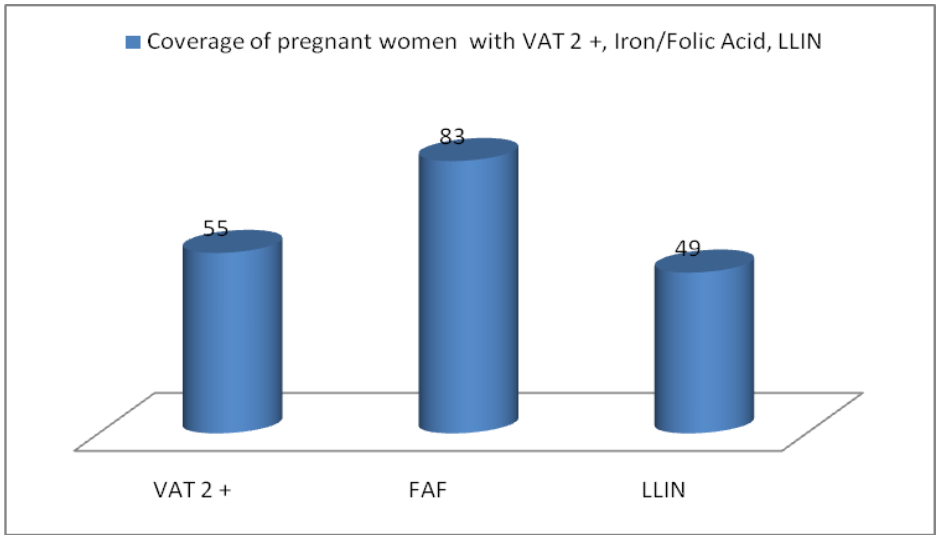
Figure 32: Pregant women registered for ANC, 2008-2009 (HMIS)



Source: Ministry of Health: Maternal and Child Health, annual report, 2009-2010

Among the 16.2 % of high risk pregnancies detected only 35 % were referred. The referral rate improved as compared to 2008 (26 %), but is still low and may be a contribution to the maternal deaths which occurred in the health facilities.

Figure 33: ANC: coverage with VAT, LLINs, and Iron Folic Acid, 2009 (source HMIS/EPI)



Source: Ministry of Health: Maternal and Child Health, annual report, 2009-2010

The effectiveness of antenatal care depends not only on the type of examinations performed during the ANC visit, but also on the counseling and preventive measures provided to avoid miscarriage and other pregnancy complications. According DHS (2007), 41 percent took iron supplements during pregnancy. According the HMIS, during 2009 83 % of pregnant women is currently taking iron supplementation

Neonatal tetanus is a major cause of death among newborns in most developing countries. To be fully protected, a pregnant woman should receive two doses of the vaccine during her pregnancy.

According DHS 2007, 31 percent of women with a live birth in the five years preceding the survey received at least two doses of tetanus toxoid vaccine for their most recent pregnancy. The estimated coverage in 2009 was 55 %, meaning a decrease as compared to FY 2008/2009 coverage (64 %). Similar as for the ANC coverage decrease, this decrease could be attributed to a decrease in pregnant women due to family planning (overestimation of the target population).

According to the EPI report, the low immunization coverage for anti tetanus vaccination of pregnant women is mainly due to the under reporting, and additional efforts need to be done to stress on correct data collection.

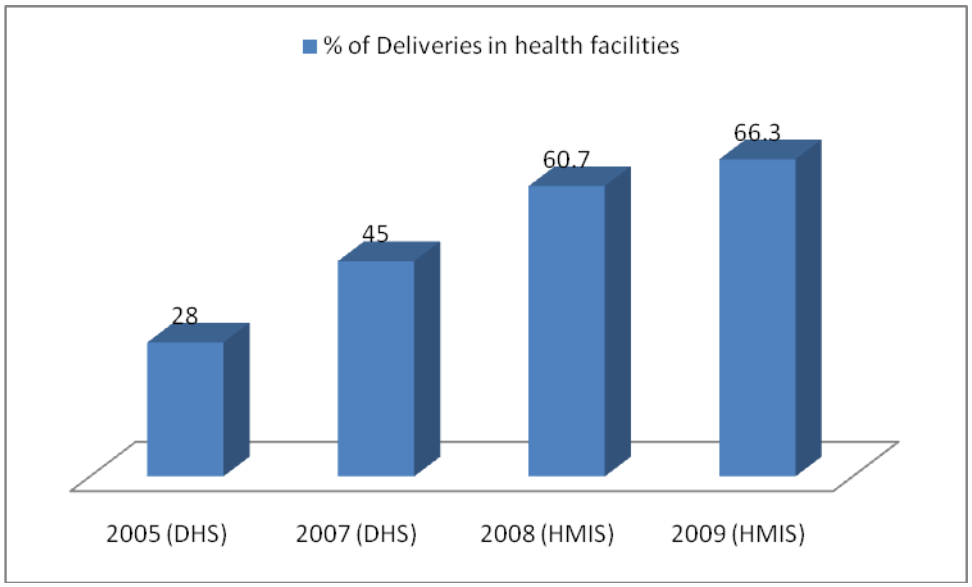
Assisted delivery coverage

Assisted deliveries by skilled birth attendants in health facility are promoted (target EDPRS 2012 : > 60 %) as an important measure to decrease maternal and neonatal

mortality. The assisted delivery coverage in 2009 is estimated at 66.3 %, this is an increase as compared to 2008 (60.7%) (compared to DHS 2007: 52 %).

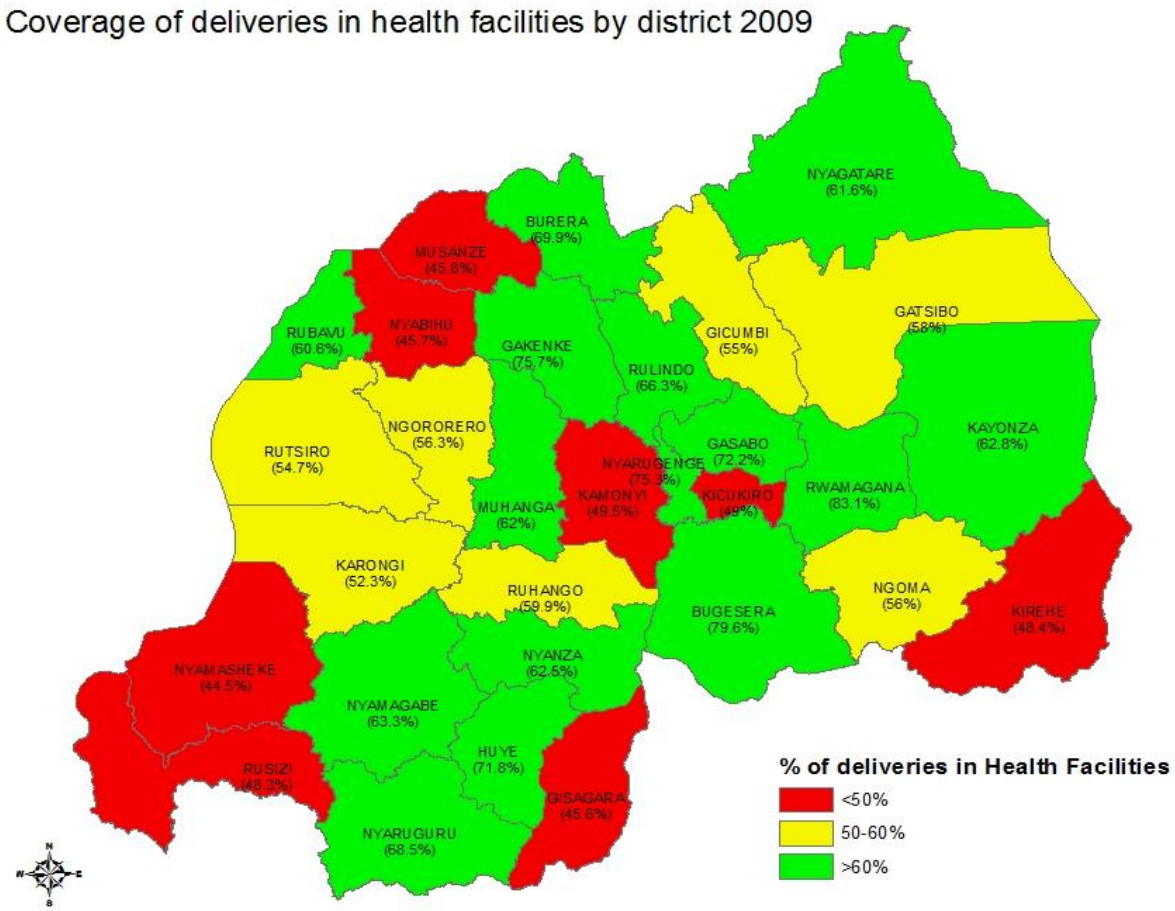
Among the assisted deliveries 63 % took place in health centres and 37 % in hospitals (HMIS, 2009). Caesarean section rate remains low: 6 %.

Figure 34: Assisted deliveries in Health Facilities, 2007-2009 (DHS & HMIS)



Source: Ministry of Health: Maternal and Child Health, annual report, 2009-2010

Figure 35: Assisted deliveries by Districts, 2009 (source: HMIS)

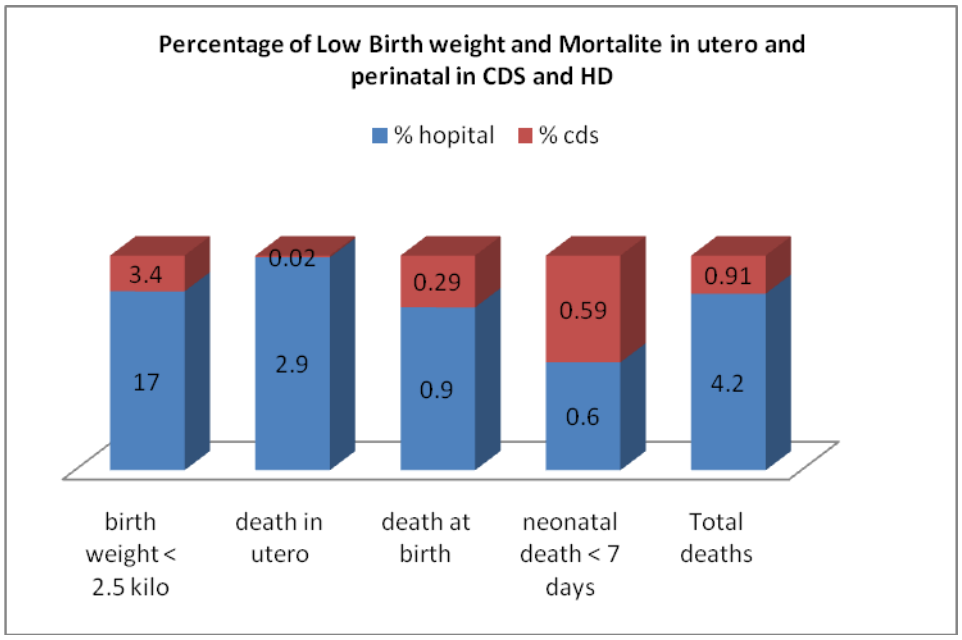


Source: Ministry of Health: Maternal and Child Health, annual report, 2009-2010

The coverage of assisted deliveries is unequal throughout the country (8 districts had a coverage < 50 %, 7 districts between 50-60 % and 15 districts > 60 %).

Weight at birth and death in utero, peri-natal/neonatal mortality

Figure 36: Low birth weight, prenatal and peri-natal mortality in Health Facilities, 2009 (HMIS)



Source: Ministry of Health: Maternal and Child Health, annual report, 2009-2010

The incidence of low birth weight in 2009 of all recorded births in health facilities was 10.2 %. Low birth weight can be due to several factors such as prematurity, malaria in pregnancy, malnutrition etc. and is a risk factor for neonatal deaths. Among all reported health facility deliveries, 2.9 % had a death in utero. However no distinction is being made between macerated or fresh death in utero, which both have different causes.

Deaths at births and early neonatal deaths represented 0.6 % of all births. In order to analyze causes of death and improve interventions to prevent death in utero and peri-natal early neonatal death it is recommended to specify in the HMIS:

- In utero: macerated or fresh
- Neonatal deaths < 48 hours or > 48 hours (instead of death at birth)

V.3.4 Child Health

The Integrated Management of Neonatal and Childhood Illnesses (IMNCI) is a major strategy in Child survival strategies and contribute to the improvement of the under 5 year old health status in order to achieve the fourth Millennium Development Goal (MDG4: Reduce child mortality by 3/4) and Rwanda vision 2020.

Global objectives (Accelerated child survival strategies 2010-2012)

- To reduce the under 5 year old mortality from 103%° in 2007 to 50%°en 2012
- To reduce neonatal death from 28%° in 2007 to 15%° in 2012
- To reduce infant mortality from 62%° in 2007 to 30%° in 2012

Specific objectives

- By 2012, at least 90% of the sick children treated in the health centres will receive complete quality care according to IMNCI guidelines.
- By 2012, 80% of mothers or children's caretakers will adopt behaviors favorable to the health of new born and the child (16 key family practices).

Child Health Indicators

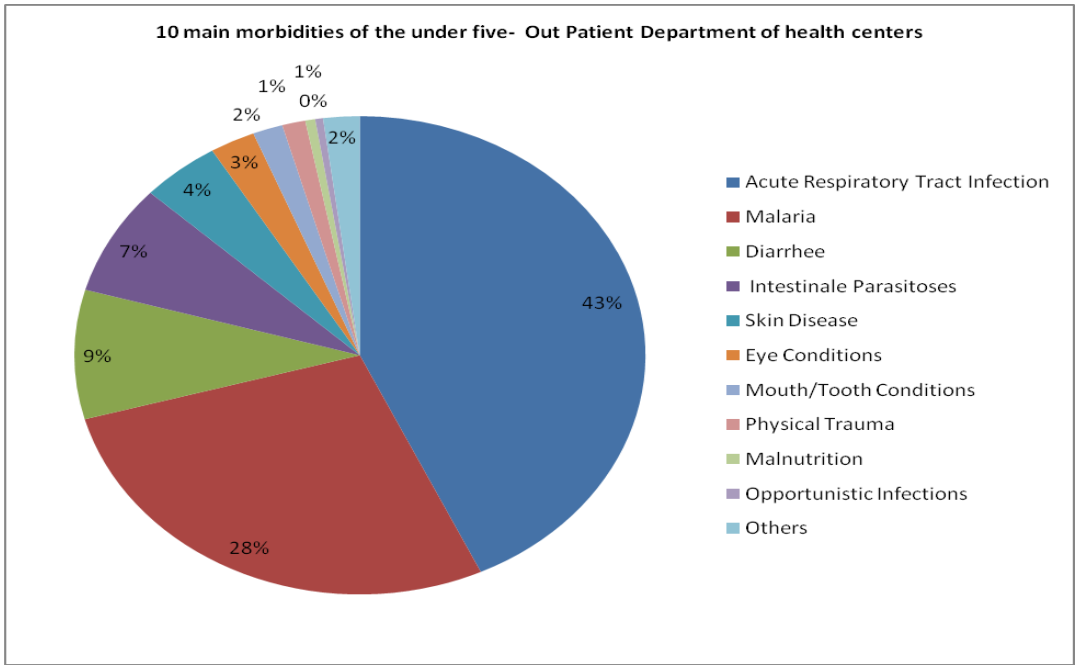
A. Morbidity

No of consultations/year/ per capita: < 5 outpatient consultation per capita**: 1.3** (compared to Com Sis which is estimated at 1/year)

Morbidity in Health Centres: main causes of outpatient consultations

The major causes of morbidity of the under five in the OPD in health centres are respiratory tract infection, and malaria. Followed, by diarrhea, intestinal parasitoses, skin diseases and eye conditions (conditions mostly linked to poor hygiene/lack of clean water).

Figure 37: 10 main causes of morbidities in U5, outpatients in Health centres, 2009 (source: HMIS)

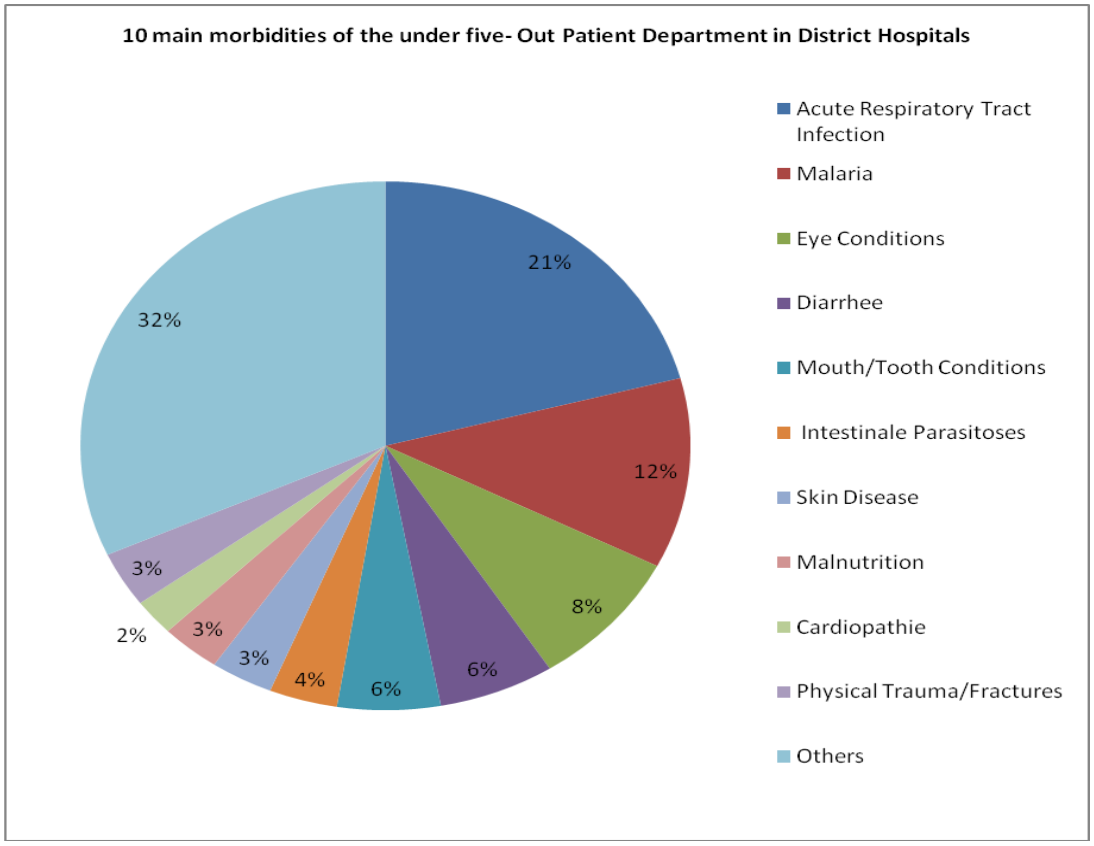


Source: Ministry of Health: Maternal and Child Health, annual report, 2009-2010

District Hospitals

The major causes of morbidity among the under five in the district hospitals are similar to those in health centres, with the exception of higher percentages of malnutrition, cardiopathy and physical trauma.

Figure 38: 10 main causes of mirbidities, U5, Outpatients in Hospitals 2009 (source: HMIS)



Source: Ministry of Health: Maternal and Child Health, annual report, 2009-2010

B. Mortality

Main Causes of mortality in District Hospitals

The main causes of deaths are malaria, acute respiratory tract infections, prematurity and diarrhea. 10 % of all children < 5 who died in hospital suffered of malnutrition. Case fatality rates are very high in prematurity, followed by AIDS/opportunistic infections and congenital infections.

Main Causes of mortality in Health Centres, 2009 (source (HMIS)

The main causes of deaths are acute respiratory tract infections, diarrhea and malaria. 5.9 % of all children < 5 who died in hospitalization of health centres suffered of malnutrition. Case fatality rates are high in AIDS and malnutrition.

V.3.5 Nutrition

Introduction

The nutrition situation is still appalling at the national level with the high prevalence of **protein-energy malnutrition** and micronutrient deficiencies contributing directly or indirectly to the high infant, child and maternal mortality and morbidity in the country. According to the 2005 Rwanda DHS, the prevalence of chronic malnutrition among the under five population is 45 % for stunting (weight/height) and 24,3 % for underweight (weight for age) and the prevalence of acute malnutrition was 4 %.

Available data on **micronutrient** deficiencies indicate that deficiencies in iron, vitamin A, and iodine are significant public health problems in Rwanda. However, there are no data for other important micronutrient deficiencies, such as zinc, selenium, vitamin B_1 and others, making it impossible to determine whether deficiencies in these micronutrients pose similar public health problems, especially in the context of the HIV/AIDS pandemic.

According to the interim DHS 2007, 56.3% of children under 5 years are **anemic** and 32.8% of women of reproductive age; this mainly due to a diet based on cereals and tubers (poor sources of iron or of low bioavailability). In 1996, goiter was detected among 49 % of school children between 10 to 20 years of age (national nutritional survey, 1996).

A child mortality rate higher than 70 per 1000 live births is considered an indicator of **Vitamin A** deficiency, in Rwanda, mortality rate for children under 5 years of age is 103 per 1000 (IDHS 2007). The 1996 National Nutrition Survey reported prevalence rates of 25% and 21% of sub-clinical vitamin A deficiency (serum retinol < 20 µg/dl) for infants under 6 months and between 6 and 12 months, respectively.

Vit A deficiency is an indication of inappropriate feeding practices in early childhood. According to the RDHS 2000, 7% of pregnant women were suffering from night blindness, indicating the presence of Vitamin A deficiency in the population.

In order to address this situation, an "Emergency Plan to Eradicate Malnutrition" was developed and started in May 2009.

Objective(s) and baseline/ targets

The GoR has committed to the achievement of the Millennium Development Goals (MDGs), which in the context of nutrition relates to Goal 1 "to eradicate extreme poverty and hunger (malnutrition)".

The objectives of the National Nutrition Policy:

General objective: To improve the nutritional status of the Rwandan people, prevent and appropriately manage cases of malnutrition.

Specific objectives

- Promote practices favorable to the improvement of the nutritional status
- Reduce the prevalence of diseases linked to nutritional deficiencies and excesses
- Assure adequate treatment and prevention of malnutrition due to nutritional deficiencies and excesses
- Prevent mother-to-child transmission of HIV through appropriate breastfeeding and infant and young child feeding practices,
- Provide appropriate nutritional support and care for people living with HIV/AIDS

Achievements of the Nutrition Program

1. EMERGENCY PLAN TO ELIMINATE MALNUTRITION (EPEM)

The Emergency Plan to Eliminate Malnutrition started in May 2009 as a response to the call in April 2009 of the President of the Republic, His Excellence Paul Kagame, to eliminate malnutrition. This is in recognition that a good nutritional status of the population contributes greatly to the development of a country.

National Screening for acute malnutrition and treatment program:

Screening of the under five years (or 6 -59 months) children for acute malnutrition using the Mid Upper Arm Circumference methodology **(MUAC)** was carried by CHW's, and identification details were noted (Province, District, Sector, Cell, Umudugudu, Fathers Name and Mothers Name). Data were compiled by Health Centres, subsequently by hospitals and lastly sent to MOH central level

Of the **743,068** children which were screened for acute malnutrition, **65,210 (8.8%)** children were detected for acute malnutrition (**51,097** moderately malnourished **(7.2%)** and **14,113** severely malnourished **(1.6 %)**). However, there is a large variation between malnutrition rates per district (between 2.9 % for Rwamagana to 33. 5 % for Ruhango district. 10/30 (1/3) of the districts have malnutrition rates between 10 %-20 %, and Ruhango district has an exceptionally high rate of 33.5 % (For details per district see the presentation of nutrition indicators below). However,

it should be noted that MUAC is a rough measure for malnutrition detection and may overestimates malnutrition rates.

Children identified as acutely malnourished were sent to health facilities for appropriate treatment as per the National Protocol of the Management of Malnutrition. More than 150 metric tons of Ready to Use Therapeutic Foods (RUTF) and 180 metric tons of fortified Corn Soy Blend (CSB) were distributed for the treatment of severe and moderate cases**.**

1ST NATIONAL NUTRITION SUMMIT

The November 2009 summit, was prepared by the Nutrition Technical working group (NTWG), and attended by about 250 participants from different nutrition related sectors: nutrition, health, agriculture, rural development, and education, both from national and international level.

Objectives of the Summit

- Review the progress in nutrition in relation to the national and international commitments (Millennium Development Goals, Vision 2020 and the EDPRS).
- Provide participants with key information that assures that nutrition is justified as a priority or even an "emergency" development issue
- To review progress of the National Emergency Plan to Eliminate Malnutrition (stage one activities) and initiate planning for the second stage which will add a major focus on prevention and identification/ treatment of malnourished children
- To identify potentially effective strategies of a multisectoral intervention package for both managing and preventing malnutrition. To be further elaborated with input from different sectors (health, nutrition, agriculture, social protection and governance)
- To outline potential contributions from multiple sectors that would be useful in developing district plans and monitoring mechanisms focused on preventing and eliminating all forms malnutrition
- Ensure that community leaders provide the population with nutrition information at all points of contact. e.g.: Umuganda
- To provide evidence based recommendations for a Presidential statement on nutrition as a major pillar for achieving technology based economy as enshrined in 2020 Vision.

Outcome of the Summit: The overall theme of the National Nutrition Summit was "Investing in Nutrition," and there was the universal recognition of the importance and value of allocating substantial resources to policies and actions alleviating existing cases of malnutrition and to address the immediate and underlying causes of malnutrition throughout the country.

V.3.6 Community Based Nutrition Program (CBNP)

Figure 39: Global Acute malnutrition among U5 children

District	Nutrition status (muac<12.5 cm)	District	Nutrition status (muac<12.5 cm)	District	Nutrition status (muac<12.5 cm)
Ruhango	33.5	Ngoma	9.8	Karongi	6.7
Kamonyi	17	Gasabo	9.5	Nyamasheke	6.5
Bugesera	15.8	Rutsiro	9.5	Rulindo	6.2
Rusizi	14.5	Gakenke	9.1	Nyarugenge	6.2
Nyabihu	13.5	Rubavu	9.1	Gicumbi	6.1
Burera	12.8	Gatsibo	8.9	Kicukiro	6.1
Ngororero	12.7	Nyanza	8.9	Nyagatare	5.5
Huye	12.1	Kirehe	7.8	Musanze	5.2
Nyaruguru	11.4	Kayonza	7	Gisagara	4.9
Nyamagabe	11	Muhanga	6.9	Rwamagana	2.9

Source: Ministry of Health: Maternal and Child Health, annual report, 2009-2010

The CBNP is a community based nutrition program, managed by the CHW's and supervised by the health centre in its catchment area. The program started in 1997 in 4 districts and has been expanded to 14 hospital catchment areas.

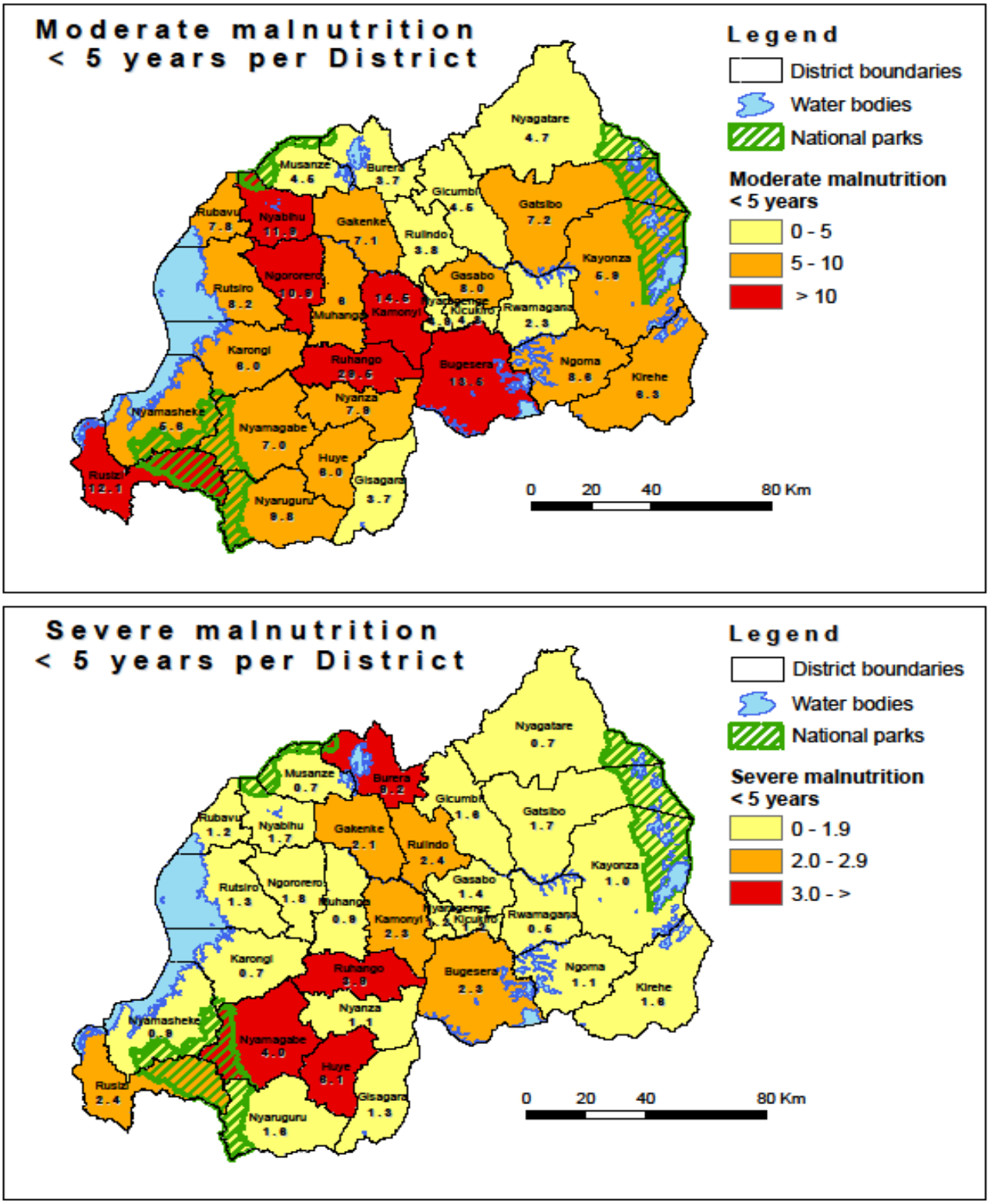
Activities involve growth monitoring of the < 5 (weight for age), detection of acute malnutrition (MUAC), referral and follow up of moderate and severe malnutrition to health centres, nutritional education (cooking demonstration) and income generating activities. The CBNP is part of the strategic plan 2010-2013, and it has been planned to expand CBNP to all districts.

Although MUAC is a rough measure for acute malnutrition and overestimates malnutrition rates, acute malnutrition rates are high in several districts. **On average 8.8%** children were detected for **global acute malnutrition** (7**.2 % moderate** and **1.6 % severely malnourished**). However there is a great variation between malnutrition rates per district (between 2.9 % to 33. 5 %). Ruhango has an extremely high malnutrition rate of 33.5 %, 9/30 districts have malnutrition rates between 10 % -20 %,, 18 districts between 5-10 % and 2 districts <5 %) .

The 6 districts which demonstrate the highest levels of acute malnutrition are: Ruhango, Kamonyi, Bugesera, Rusizi, Nyabihu, Ngororero as summarized in Table 1 below. The reason why acute malnutrition is higher in those districts is not known and a survey is planned as according the National Strategic Plan (2010-2013). All the districts situation is summarized in the table below. The 6 districts with the highest malnutrition are targetted with specific interventions as according the Kivu Plan.

The 6 first districts: Ruhango, Kamonyi, Bugesera, Rusizi, Nyabihu, Burera have the highest rate og malnutrition

Figure 40: U5 children: Distribution of Severe & moderate malnutrition in districts, (2009)



Source: *Ministry of Health: Maternal and Child Health, annual report, 2009-2010*

Surveillance of malnutrition among the < 5 children

Surveillance of malnutrition of the <5 is carried out at health centre level and by CHW's in the catchment areas of 112 heath centres. However, no surveillance of pregnant and lactating women is carried out, but has been planned in accordance with the national strategic plan.

Health centre level

Tableau 26: Number of U5 Children identified for Acute malnutrition, 2009

	Well nourished (green)	Moderate malnut (yellow)	Severe malnut (red)	Severe malnut (oedema)	Total severe malnutrition	% Moderate malnut	% Severe malnut	% Total malnutrition
0-11 months	65596	3499	802	20	822	5.0	1.2	6.2
12-23 months	44997	4750	1263	87	1350	9.3	2.6	11.9
24-35 months	39525	3523	920	116	1036	8.0	2.4	10.3
36-59 months	35003	3491	1091	203	1294	8.8	3.3	12.0
	185121	**15263**	**4076**	**426**	**4502**	**7.4**	**2.2**	**9.6**

Source: Ministry of Health: Maternal and Child Health, annual report, 2009-2010

A high percentage of children presenting at health centres for nutritional surveillance are detected with acute malnutrition. Especially the age group above 1 year is affected and severe malnutrition is relatively high. Children with severe malnutrition, have a high risk of mortality if not treated/follow-up properly.

An estimated 13 % of expected children presented for detection of malnutrition. Active efforts should be made, to include the remaining children in the surveillance. The scaling up of the Community Nutrition Program (detection and follow up of malnutrition by CHW's) is expected to boost the detection and treatment of the malnourished under five.

Community level

According to the reports of the CHWs (January 2009-April 2010), the majority (89.5 %) of children followed for nutritional status (MUAC) didn't suffer from acute malnutrition ("Verte or green status") and the number of cases detected are clearly increasing over time almost doubling from an average 600 early 2009 to 1100 in April 2010. The number of children with "yellow" (moderate malnutrition) and "red" (severe malnutrition) status is stable over time and constitutes respectively an average of 8% and 1% of the total number of children screened.

1. Management of malnutrition

3.1 Health Facility level

Tableau 27: Surveillance of Malnutrition at Health Centres, 2009 (HMIS 2009)

	Total admitted (NC&AC)	Exits	Cured	%	Hospitalised	%	Defaulted	%	Died	%
< 5 years	190,197	96,627	77,514	80.2	1581	1.6	16,926	**17.5**	606	0.6
>= 5 years	31,821	22,662	20,202	89.1	393	1.7	2,010	**8.9**	57	0.3
Total	**222,018**	**119,289**	**97716**	**81.9**	**1974**	**1.7**	**18,936**	**15.9**	**663**	**0.6**

Source: Ministry of Health: Maternal and Child Health, annual report, 2009-2010

Admissions during 2009 for ambulatory treatment of malnutrition are 3 times higher than in 2008. This could be explained by the national nutritional screening and additional attention given to nutrition.

The defaulter rate is high (16 %), and similar as the defaulter rate in 2008. Follow up by the health facility and CHW's need to be intensified. Reasons for the defaulter rates could be the stock outs of nutrition commodities.

V.3.7 Expanded Program of Immunisation

EPI is comprised of three principal components: routine vaccination, supplemental immunization activities, and surveillance of target diseases. Routine immunization is intended to reach infants 0-11 months of age and pregnant women, during antenatal care visits.

In order to reach a high proportion of target population, EPI uses the following strategies: integration of immunization services at fixed health centres, re-establishment of outreach strategy within a health catchment's areas and catch-up campaigns.

The outreach strategy has been revitalized in most of health facilities, using financial support made possible through Government and GAVI Alliance. Since 2005, Reach Every District approach (RED) was introduced in all districts. In 2007, distribution of impregnated treated nets (ITN) was integrated with immunization services at health centres.

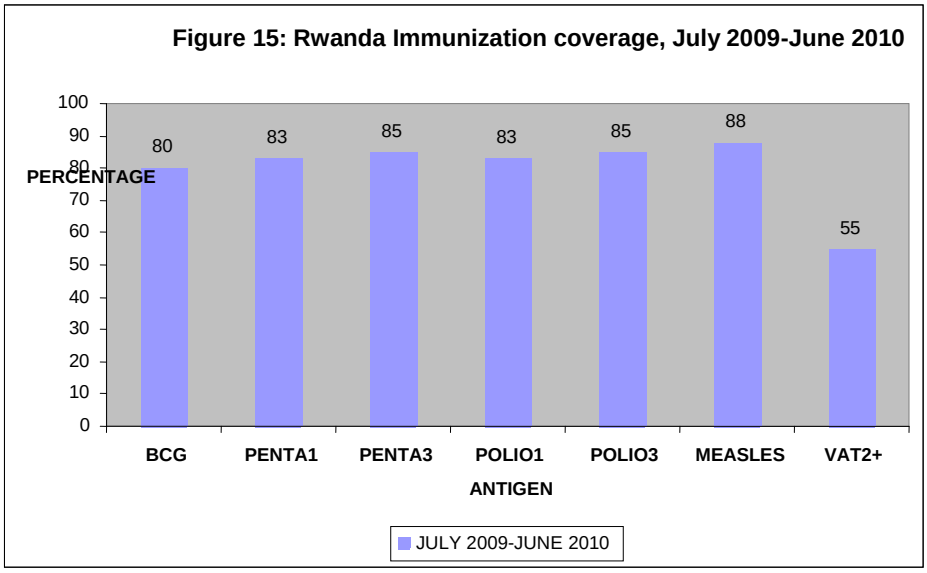
Vaccination services delivery

The graph below indicates the vaccination coverage for the period of July 2009 to June 2010. The proportion of vaccination coverage of immunized **children < 1 was 85 % for PENTA 3, 88 %** for **measles vaccine** and between **80 and 85** % for the **other antigens**.

The coverage of pregnant women for **VAT-2+ is 55** % (compare to **DHS 2007: 31 %).**The low immunization coverage for anti tetanus vaccination of pregnant women seems to be mainly due to the under reporting of data from antenatal clinics sessions and no proper recording for vaccinated mothers. An effort to improve data collection of antenatal clinics sessions, through supervision, needs to be made.

The low incidence of vaccine preventable diseases, pleads against the low vaccination coverage (no confirmed tetanus, measles and polio were reported. However, 3405 cases of Pertussis (1320 <5 and 2085 > 5 years) were reported, but the diagnosis is unconfirmed.

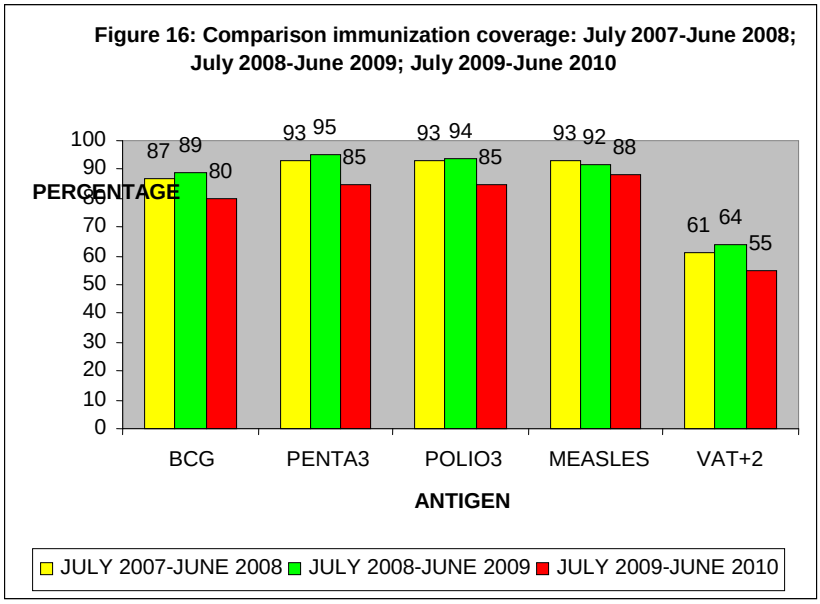
Figure 41: Immunization coverages, July 2009-June 2010



Source : Ministry of Health: Maternal and Child Health, annual report, 2009-2010

The following graph shows the trends of key immunization indicators in the country for three years: July 2007-June 2008; July 2008-June 2009 and July 2009-June 2010.Vaccination coverage reached or exceeded 80% for all antigens, except VAT2+. Unfortunately, the observed high vaccination coverage, started to decline in 2009, compared to previous years. All hospitals attribute this to the denominators they are using (overestimation of target population).

Figure 42: Comparison of immunization coverages over 3 years



Source: Ministry of Health: Maternal and Child Health, annual report, 2009-2010

EPI Target disease surveillance

Mainly three EPI targeted diseases are under surveillance. Those are:

- Poliomyelitis
- Measles
- Maternal and Neonatal Tetanus

- Other vaccine Preventable diseases are under surveillance but not directly linked to EPI (Paediatric Bacterial Meningitis)

During the year 2009-2010 EPI targeted disease surveillance Unit achieved all indicators related to surveillance.

3.2.1 Poliomyelitis surveillance

Among all notified acute flaccid paralysis no polio cases were reported, with a 99 % adequate stool sampling.

Tableau 28: Poliomyelitis (AFP) surveillance

Year	Population <15 Years	Expected Number of AFP cases	Notified AFP cases (<15 years)	Total Non Polio AFP Cases	Non Polio AFP rate	Adequate samples %	
						number	%
2009	4.668.825	47	187	187	3,9	186	99%

Source: Ministry of Health: Maternal and Child Health, annual report, 2009-2010

Tableau 29: Stool sampling in AFP cases

Province	Number of AFP cases	Stool adequacy	Stool % within 14days
EST	41	39	98
MVK	8	8	100
NORD	55	55	100
OUEST	45	43	98
SUD	38	38	100

Source: Ministry of Health: Maternal and Child Health, annual report, 2009-2010

3.2.2 Measles surveillance

Tableau 30: Measles surveillance

Nbr of cases	**Age groups**				**Vaccination status**		**outcome**	**Measles**		**Rubella**
	0-11m	**1-4 years**	**5-14 years**	**15 years and over**	**Confirmed**	**Vaccinated**	**Non vaccinated**	**Alive**	**Died**	**Confirmed**
106	8	59	39	0	27	100	6	106	0	1
159	9	75	75	0	6	151	8	159	0	2
265	**17**	**134**	**114**	**0**	**33**	**251**	**14**	**265**	**0**	**3**

Source: Ministry of Health: Maternal and Child Health, annual report, 2009-2010

As shown in the table above, samples of 265 suspected measles have been received from hospitals. According to laboratory results, 3 cases have been confirmed (measles IgM positive), 33 cases confirmed Rubella (Rubella IgM positive). The most affected age group is 1-4 years (51% of all samples collected).

Overview of reported vaccine preventable diseases

The low incidence of vaccine preventable diseases, pleads against the decreased vaccination coverage.

- No cases of neonatal tetanus were reported
- 3 confirmed cases of measles (0 % mortality rate)
- No polio cases were reported.

3,405 cases of Pertussis (1,320 <5 and 2,085 > 5 years) were reported, although the diagnosis is unconfirmed.

V.3.8 Mother and Child Health week (October 2009)/Supplemental Immunization Activities

A measles vaccination campaign was combined with the third round of the Mother and Child Health Week. During the campaign, children under five years were vaccinated against measles and polio, and depending on their age, (received Vitamin A to boast their immunity along with mebendazole- to fight worm infections. In some areas deworming was also given to primary/secondary school children

Objectives for specific target population

- Children 9-59 months: Vaccination against measles (VAR)
- Children 0-59 months : Vaccination against polio (OPV)
- Children 6 months to 5 years old: Vitamin A supplementation
- Children 12 – 59 months: Deworming with mebendazole
- Children 5-16 years old: Deworming with Mebendazole/Albendazole (primary and secondary school)
- Children 5-16 years old: Deworming with Praziquantel in areas at risk of bilharzias
- Pregnant women: Distribution of iron/folic acid and Sur eau (Waterguard).
- Breastfeeding mothers: Deworming, Vitamin A supplementation and Sur eau distribution.

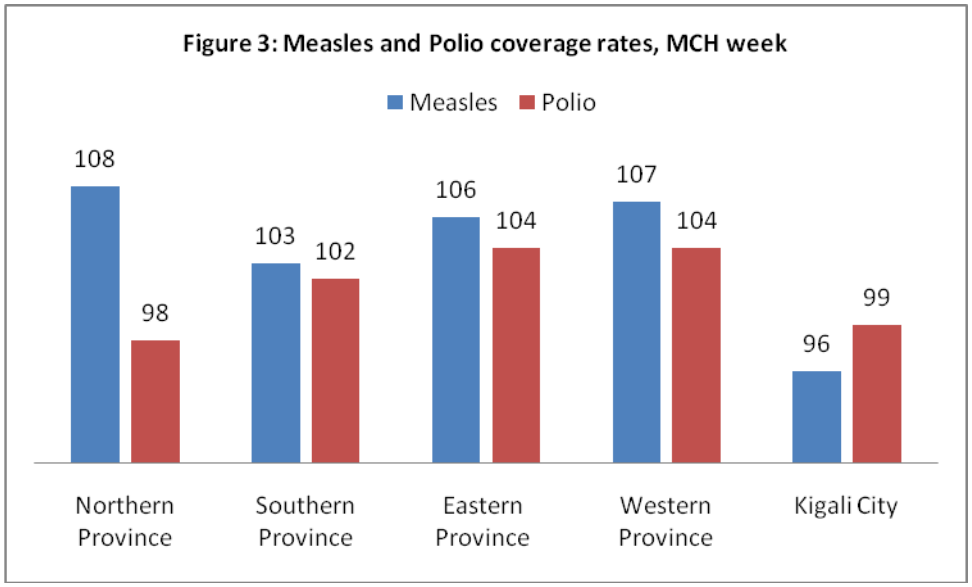
Official launching of MCH Week by Honorable Minister of Health, April 2010

Summary of Results:

The average national coverage rate for measles vaccine is 101% and 102% for VPO.

For the VAR coverage, Kigali city obtained a coverage rate of 96% while the other provinces obtained between 100% and 107%. Concerning the VPO coverage rate, the Northern Province and Kigali city realized less than 100%, respectively 98% and 99%. The remaining provinces obtained a coverage rate between 102% and 104%.

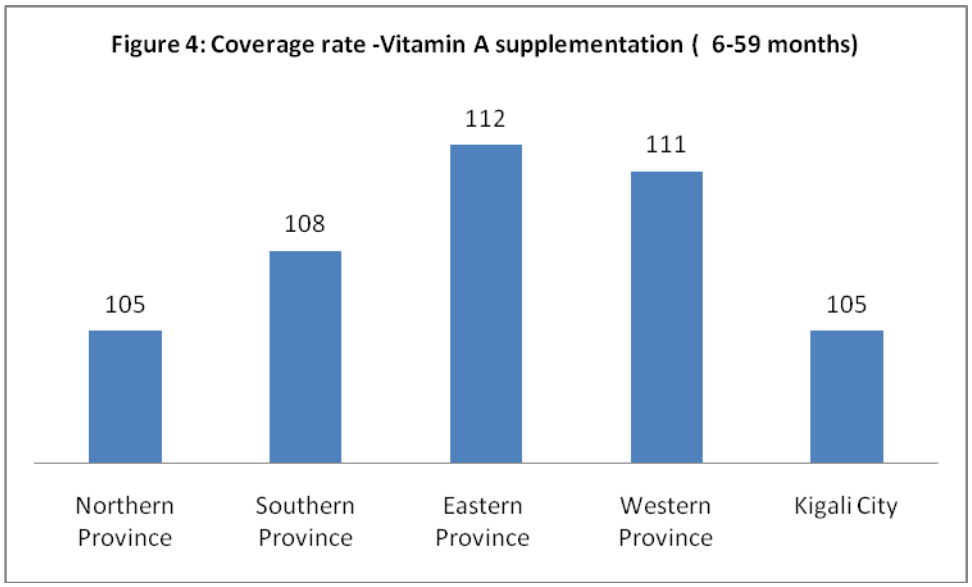
Figure 43: MCH week : Polio and Measles immunization coverages



Source : Ministry of Health: Maternal and Child Health, annual report, 2009-2010

The average national coverage rate is 106 % (1.432.688 children have received vitamin A supplementation) (1.352.567 as target population)

Figure 44: MCH week: Vit A supplementation, October 2009



Source : Ministry of Health: Maternal and Child Health, annual report, 2009-2010

Deworming (April 2010):

The average national coverage rate is 115 %(1.257.694 children aged 12-59 children have received deworming treatment) (1.352.567 target population)
All the provinces and Kigali City have realized coverage over 100 %. Southern and Western provinces have the highest coverage rate (117% and 116%).
It should be noted that for vaccination, Vitamin A supplementation and deworming the coverage rates mostly exceeded 100 %. This should be related to an under estimation of the target population.

Family planning during the MCH week

One of the efforts by the government to scale up the contraceptive uptake was to include contraceptive prescription during the MCH Week.

Tableau 31: Contraceptive uptake during MCH Week (April 2010)

Province	Collier	Ovrette	Lofemenal	Depo Provera	Jadelle	Male Condom	Female Condom	Microgynon
South	516	605	469	3,419	112	1,295	25	403
North	116	705	1,081	4,514	257	795	73	299
West	35	491	114	1,241	104	2,351	162	261
East	175	376	1,003	2,980	145	554	47	407
KGL	45	266	303	732	32	3,067	155	-
Total	**887**	**2,443**	**2,970**	**12,886**	**650**	**8,062**	**462**	**1,370**

Source: Ministry of Health: Maternal and Child Health, annual report, 2009-2010

V.3.9 FAMILY PLANNING

Introduction

Family planning (FP) constitutes a fundamental right to the population. A nation which promotes family planning aims to improve its economic situation more quickly than others. Integrating family planning into other services promotes (HIV/AIDS, nutrition, maternal health, youth etc) poverty reduction, reduction of maternal/ infant mortality as well as the prevention of HIV/AIDS transmission.

The National Health Policy emphasizes the priorities of the National Reproductive Health Policy (NRHP), including Family Planning, as contributing positively to the health status of the population.

In 2005, the public sector was the main provider of contraceptives in Rwanda (68%). Within the public sector, the 2001 Rwanda Service Provision Assessment (SPA) found that 40% of Rwanda's primary and secondary health facilities (dispensaries, health posts, health centres, hospitals) were operated by non Governmental Organizations (NGOs), most of which were faith-based organizations (FBOs).

Objective(s)

(*National family planning policy and its five-year strategies (2006-2010)*

1. Increase Family Planning Partnerships for increased coverage of Family Planning services
2. Increasing community mobilization

3. Quality Assurance & Formative Supervision
4. To improve accessibility and quality of Vasectomy services as definitive contraceptives.
5. To ensure that the products of the range of contraceptives are acquired according to the list of essential drugs and medicines policy

Achievements in 2009-2010

Summary of the realization of planned activities (as the annual action plan)

Objective	Baseline	Target	Realization	
To train Providers on FP and FP/HIV integration	8 districts	30 districts	28 districts	2 districts are planned for Q1 2010-2011
To train trainers in community based distribution	0 district	3 districts	3 districts	Fully realized
To provide family planning products to Health facilities(HF)	450 HFs	450HFs	450 HFs	Fully realized

Source: MCH annual report, 2009-2010

- Maintain routine contraceptive techniques, update training and refresher courses in counseling for all medical personnel in medical facilities and voluntary counseling and testing sites (VCT). Trainings were conducted in 28 districts from July 2009 to June 2010

- Collaborate with relevant partners to identify means to increase access to condoms in public areas and workplaces: Condom boxes were placed in administrative offices (workplace) and condoms distributed in schools and in community in all 30 districts

- Initiation of community based distribution of contraceptives in 3 pilot districts: Rusizi, Kicukiro and Gatsibo. Trainers from all health centres (HCs) were trained from April to June 2010 and trainings for CHWs organized at HC level

- Progressively incorporate new private sector providers into district health networks, and ensure application of national norms, standards, quality assurance/supervision by private providers. Private clinics together with public HFs were trained in FP in 5 districts: Nyarugenge, Nyaruguru, Gisagara, Huye, Nyanza.

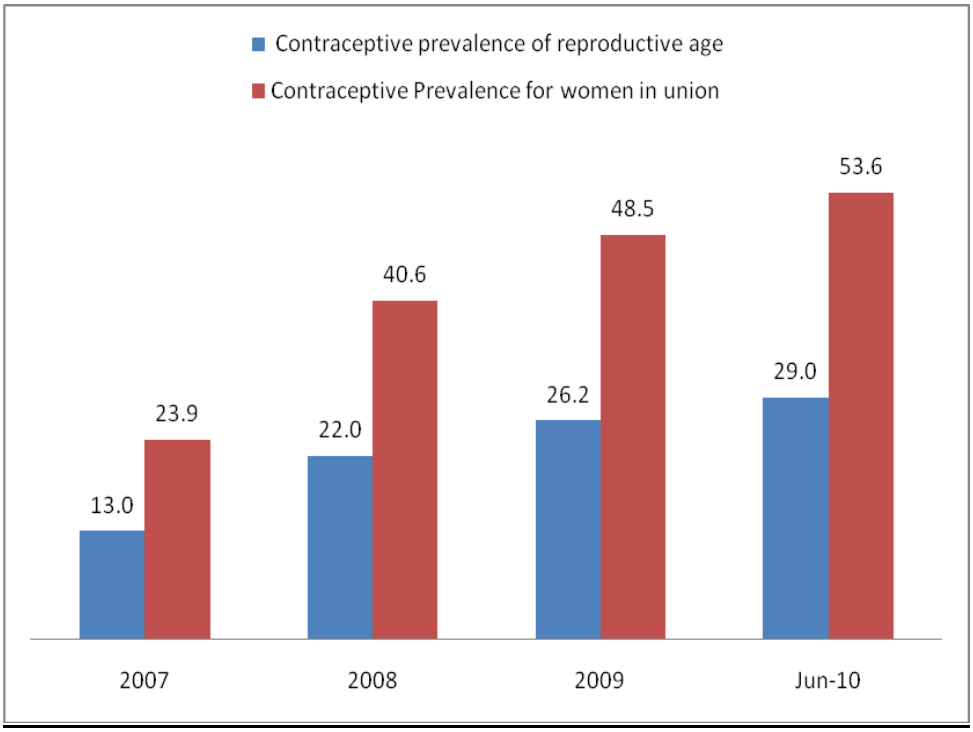
- Integrate Family Planning in HIV/AIDS services and other health services, and provide refresher training in counseling for medical staff and supervisors on FP counseling and provision of contraceptive methods
- Training of Local Authorities and RALGA members (Rwanda Association of local Government Administrators) on reproductive health/FP and HIV for consultative committees (Njyanama) at district and sector level in 3 provinces: East, North and Kigali/MVK

- A TOT of 3 MD's and 4 Nurses in Intraluminal Thermal Cautery and Fascial interposition on Prostatic end as a new technique for non scalpel vasectomy

- Sensitization campaign for involving men to accompany their wives to Family Planning services in 4 Districts.

At the end of June 2010, a total of 659,113 women of reproductive age were reported as users of modern contraceptive methods. This represents an estimated coverage among women in union of 53.6 % and among women of reproductive health of 23%. (see figure and table below).

Figure 45: Contraceptive prevalence

- 

Source: MCH annual report, 2009-2010

Tableau 32: Estimated Modern Contraceptive Prevalence, using CYP (DELIVER)
CYP: couple year projection

Year	2007	2008	2009	Jun-10	2010	2011	2012
Couple Year Contraceptive Protection	275,824	480,100	588,783	659,113	351,988		
Contraceptive prevalence for women of reproductive age	11.7	19.8	23.6	26.1	29.2	33.3	37.4
Adjusted coverage (assuming that public sector delivers 90 %)	13.0	22.0	26.2	29.0			
Adjusted coverage for women in union	23.9	40.6	48.5	53.6			
Projected coverages					56.4	64.3	72.2

Source: MCH annual report, 2009-2010

Efforts to increase family planning include campaigns during the MCH week and referral for FP of women at reproductive age by CHw's. During the MCH week of April 2009, **9 %** of the **new users** were recruited in the program. Increasing numbers of women are referred by CHW's to the health facility for initiating family planning. During 2009, roughly 1 to 2 % per month (12-24 %/year) of the eligible population was referred (see Community Health Desk Report).

Use of family planning methods

The most frequently used family planning method is Depot Provera. The use of long-term/permanent methods (implants, IUD, surgical methods) did increase, as compared to 2008 (< 4 %), to 22.3 %.

Tableau 33: Use of Family Planning Methods

Family Planning Method	%
Depo-Provera (inject able)	66.2
Pills	18.9
Implant	11.7
Barriers/condoms	1.4
MJF (Collier)	0.9
DIU	0.5
Auto-observation	0.4
Surgical Methods	0.1

Source: MCH annual report, 2009-2010

Constraints in implementation of activities & identified needs

- Health centres (HC) managed by Catholic Church are not providing modern contraceptive methods and refuse to facilitate the functioning of the secondary family planning health posts, which were established in the vicinity.
- The demand for vasectomy is high, but the need is uncovered due to very few trained staff in non scalpel vasectomy in district hospitals and lack of the specific materials

➢ **Recommendations**

- To put in place secondary health posts near all faith based HC's to ensure the full access to family planning
- Integrate a FP module into nursing education
- Promote on the job training for family planning
- To train 2 MD's and 3 Nurses in all district Hospitals in non scalpel vasectomy and avail specific materiel; Sensitization campaigns to promote this FP method.
- To organize sensitization campaigns for involving men to accompany their wives to family Planning services in all Districts.

V.3.10 Reproductive Health for Adolescents

Context

Adolescents and young people in Rwanda are 67% of the population. The exposure of this group of people to HIV/AIDS and other sexually transmitted infections (STI's), unintended pregnancies, clandestine and unsafe abortions will have a great impact on the next generations if not controlled.

In Africa, on average, 50% women have their first pregnancy by 19 years of age and adolescents contribute to 13% of the maternal deaths. From July 2009- June 2010, verbal autopsies were done for 166 maternal deaths in health facilities, among which 10 % were reported as < 20 years of age.

According to DHS 2005, the prevalence of HIV among the age group of 15 to 24 years was on average 1 %, of which are the most affected.

Among the 2,713 SGBV cases which were treated in hospitals during the reporting period, 57 % were in the 5- 18 year age group, of which 92 % were girls.

Studies are going on concerning the prevalence of abortion among adolescents.

In general there are few data on Adolescent Reproductive Health available in Rwanda. Indicators for Monitoring and Evaluation of Adolescent Reproductive Health need to be selected, and data collection initiated.

The principal task of the ARH Desk is to strengthen and avail the Adolescent Reproductive Health services.

It is in this context that the Adolescent Reproductive Health desk (ARH) was created in 2003 to achieve **three general objectives**:
(1) Increasing the knowledge about reproductive and sexual health among youth and adolescents
(2) Encouraging adolescents to adopt a positive attitude in reproductive health (RH), in particular to reduce the incidence of STIs, the prevalence of HIV and unwanted pregnancies
(3) Increased the use of RH services in public and private health institutions.

So far, only supervision of the 28 Youth Friendly Services has been done, while the preparation of the Adolescent Reproductive Health Strategic Plan has to start.

Supervision of Youth Friendly Centres

To inventorize services offered to the youth, a field visit to the youth friendly centres has been conducted by the MOH/MCH staff in June 2009. The objectives of this assessment were:

- To evaluate the minimum package of services offered in the Youth Friendly Centres and the universities engage in activities concerned with Adolescent Reproductive Health , including prevention of HIV/AIDS
- To discuss with the staff of each centre the problems encountered hindering the realization of the activities related to the Adolescents Reproductive Health
- To inventorize the strengths and weaknesses and to propose solutions.

The supervision permitted to have a global view of the services offered to youth in youth friendly centres and the following was concluded:

- Only the 10 Centres sponsored by UNFPA, PSI and UNICEF and other partners are functioning well/deliver the minimum package. The remaining 18 centres didn't have IEC materials, proper infrastructure and inadequately trained personnel in Reproductive Health.
- Staff of the unsupported youth friendly centres is very motivated/trying very hard to provide youth friendly services, but the lack of resources is an important obstacle.

Constraints in implementation and identified needs

- Absence of a national policy and strategic plan specific for youth, and the manual for youth service providers. During the implementation of the ARH related activities the importance of these documents, has been obvious.
- Few data on adolescent Reproductive health are available in Rwanda.

Recommendations

- Perform a situational analysis and develop a national policy and a strategic plan for the Adolescent Reproductive Health,.
- To develop necessary tools and guidelines related to Adolescent Reproductive Health, including a provider manual
- To strengthen adolescent reproductive health services delivery, through training, advocacy and sensitization, coordination and supervision.
- Establish linkage between Youth Friendly Centres and Health centres
- Establish data collection and monitoring on adolescent reproductive health.

V.3.11 Sexual Gender Based Violence

Context

The Government of Rwanda in response to the rampant problem of Gender Based Violence which is affecting all categories of the population especially children and women has initiated through the Ministry of Health some activities to address some of the major concerns. According to the data from UNIFEM (2008), SGBV is very prevalent:

Violence against women in the community

- 19% were victims of verbal insults or abuses
- 17% suffered touching of breasts, buttocks or forced kissing
- 10% were forced to sexual intercourse or sexually touched
- 13% were victims of insistent stalking
- 12% were victims of robberies.
-

Domestic violence against women, the following cases of violence were inflicted by the husband or partner:

- 22% were not allowed to be in contact with family and friends
- 50% were victims of psychological and verbal violence, mainly through insults
- 26% suffered physical violence, like punches, slaps or beats
- 12% have experienced death threats
- 31% were forced to have sexual intercourse

- 33% were victims of economic violence, did not have access to the household's money and other economic means.

Objective: Strengthen the access to health services of SGBV

Specific objectives:

1) Strengthening health services
2) Strengthening referrals from the health facility to other support services
3) Strengthening linkages between clinical services and other stakeholder groups to facilitate victim's access to health services.

Summary of the realization of planned activities (as the annual action plan)

ACTIVITY	STATUS	OBSERVATION
Elaboration and finalization of the clinical management manual of SGBV	Done	Validation of the manual in December 2010
Training of National trainers in clinical management of SGBV	Done	17 districts hospital received trainings : 1 CHUB, 2 Kabgayi, 1 Muhima, 1 Kanombe Military Hospital, 2 Kacyiru Police Hospital , 1 Kaduha Military Hospital,1 Kigeme, 1 Gihundwe, 1 Kibilizi, 1 Shyira, 1 Gisenyi, 1 Nyagatare, 1Rwinkwavu , 1 Byumba and 1 Rutongo (21 Health providers have been trained)
Training of district trainers in clinical management of SGBV	continuing	58 trainers trained from 17 districts hospitals : Nyagatare; Byumba; Rutomgo, Remera Rukoma; Kaduha; Kabgayi; Ngarama; Kiziguro; Rwamagana; Kibagabaga; Munini; Kigeme; Gitwe; Kaduha; Kacyiru; Muhima and Kanombe
Training in clinical management of SGBV of health centre health providers at	Continuing	**236** Health providers has been trained from all Health Centres of Byumba Hospital; Rutongo and some Health Centres of Nyagatare ; Rwamagana, Kiziguro, Muhima and Ngarama
Revision of Reproductive Health Policy	Not done	Terms of Reference elaborated and still at procurement officer for hiring a consultant

The SGBV desk coordinates all clinical partners through the SGBV TWG meetings and coordinates all trainings and others activities related to SGBV realized at district level.

Among the reported SGBV victims during the year, 57 % were in the age group of 5-18 years (the majority (92 %) being girls and 22 % in the age group of < 5, of which a relatively high percentage (30 %) of boys were victims.

The abuse of the < 5 could be explained by the fact that most of < 5 children stay alone with the housekeeper all day long , giving opportunities for sexual abuse.

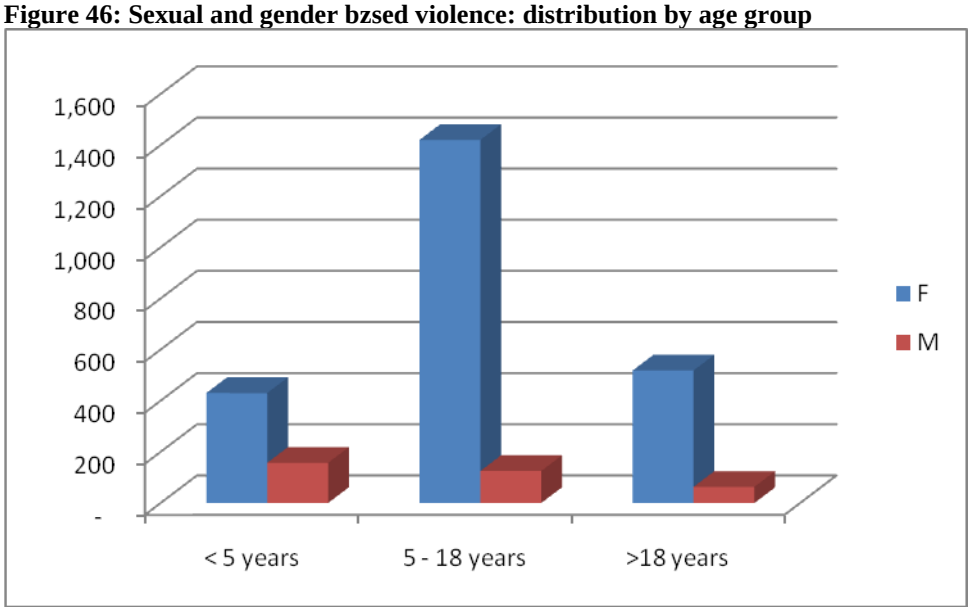
Females are mostly affected in all age groups. Causes of this predominance could be economic difficulties/unemployment which marginalizes the women's position and their economic' dependence on men.

Tableau 34: Number of SGBV cases in the District Hospitals, 2009 (HMIS)

	< 5 years				5 - 18 years				>18 years				Total
Type of case	F	M	Tot	%	F	M	Tot		F	M	Tot	%	
Clinical SGBV cases	111	58	169	23	389	32	421	**56**	128	28	156	21	**746**
Suspected cases	319	99	418	21	1,031	93	1,124	**57**	390	35	425	22	**1,967**
Grand Total	**430**	**157**	**587**	**22 %**	**1,420**	**125**	**1,545**	**57%**	**518**	**63**	**581**	**21 %**	**2,713**
% per sex	**73 %**	**27 %**			**92 %**	**8 %**			**89 %**	**11 %**			

Source: Ministry of Health: Maternal and Child Health, annual report, 2009-2010

Figure 46: Sexual and gender bzsed violence: distribution by age group



Source: Ministry of Health: Maternal and Child Health, annual report, 2009-2010

Constraints in implementation and identified needs

- No MOH budget was foreseen for SGBV and budget allocations were prepared/fund raising was done. Consequently, implementation for training was carried out later than planned
- Insufficient coordination between different stakeholders involved in SGBV (No policy/strategic plan, no technical working group between MOH/MCH and MIGEPROFE and no district multi sectoral committees)
- People living with disabilities are among the high risk groups for SGBV, but there is no targeted program

Recommendations

- Create a multi sectoral TWG (chaired and co-chaired by MIGEPROFE and MOH)
- Develop SGBV policy and strategic plan (MOH/MIGEPROFE), and joint multi sectoral annual plan, including People Living with Disabilities
- Create district multi sectoral committees
- Strengthen the referral mechanism between different stakeholders through training and definition of referral mechanisms
- Integrate SGBV activities in the MTEF budget.

V.3.12 Community Health Program

Introduction

The Community Health Desk (CHD) of the ministry of health is responsible for policy guidance and technical support to decentralized levels of the health system and other implementing agencies of community health activities.

The interventions/programs include: community performance based financing (community PBF), community integrated management of childhood illnesses (C-IMCI), community growth monitoring of under five, community management of maternal and neonatal health, technical and financial support to community health workers (CHWs) cooperatives, and community health information system (C-HIS) including phones for health (P4H). This report describes all these above-listed areas of interventions.

Main achievements

a) Community Integrated Management of Childhood Illness (C-IMCI)

A. Case Management

The Ministry of Health, in collaboration with its Development Partners, implements Community Integrated Management of Childhood Illnesses (C-IMCI) at village level. Community Health Workers (CHWs) provide care to children aged less than five years.

CHWs receive the children and according to the severity of the symptoms, refer the child or if no signs of complications, treat children with fever, diarrhoea (6-59 months), and symptoms of pneumonia (2-59 months).

Rapid tests for the diagnosis of malaria have started in some districts and it is planned to be scaled up in other districts. By the end of June 2010, CHWs in 21/30 districts provided the community IMCI- package in their villages. Those districts are: Bugesera, Kirehe, Ngoma, Gasabo, Kicukiro, Nyarugenge, Burera, Musanze, Ngororero, Nyabihu, Nyamasheke, Rubavu, Rusizi, Gisagara, Nyamagabe, Nyanza, Nyaruguru, Ruhango, Rutsiro, Gatsibo and Kirehe. During the year, training of CHWs was carried out in several districts which started implementing community IMCI.

Community Health Workers in districts where community IMCI has started attend huge numbers of children with apparently good outcomes. In 8 districts with C-IMCI, cases attended at community level by CHWs were far more than cases attended at HCs by health care providers (see table 1). Only data from 8 districts where reporting was regular until December 2009 are presented in this table.

Tableau 35: Cases attended by CHWs vs attended in HCs (Source: SIS- Com)

			COMMUNITY			HEALTH CENTRE		
district	**total population**	**u-5**	**malaria**	**diarrhea**	**pneumonia**	**malaria**	**diarrhea**	**pneumonia**
Gisagara	292 977	49 806	71 845	10 025	6 393	37 758	4710	3166
Kirehe	395 598	67 252	33 433	6 897	3 262	23 258	6740	7795
Ngoma	279 632	47 537	30 602	5 010	2 777	37 772	5292	6222
Nyamagabe	430 692	73 218		6 730	6 520	6 703	3385	5042
Nyamasheke	359 561	61 125	16 998	3 285	3 460	22 462	4422	5292
Nyaruguru	243 514	41 397		4 664	5 568	9 491	4286	2543
Nyanza	221 302	37 621	27 818	3 165	1 191	23 509	2722	2788
Ruhango	272 882	46 390	22 830	4 300	1 706	19 118	2286	4114
Total			**203526**	**44076**	**30877**	**180071**	**33842**	**36962**
% attending in the community versus HC			**53%**	**56,5%**	**45.5%**	**47%**	**43.5%**	**54,5%**

Source: Ministry of Health: Maternal and Child Health, annual report, 2009-2010

As a result some health centres receive fewer patients as approximately 50 % of children are treated by CHW's children get treated in their villages. This corresponds with the estimation that the per capita visit of the < 5 of HF's is 1.3 (HMIS, 2009) and of CHW's 1. Children attended for malaria by CHWs at village level were in certain districts far more that those attended at HCs

Training

In addition to the 8 districts with trained CHW's on C-IMCI, training of trainers (TOT) from 13 districts was done (Bugesera, Gicumbi, Rusizi, Rwamagana, Nyagatare, Gatsibo, Kayonza, Rulindo, Gakenke, Muhanga, Kamonyi, Huye, Rutsiro, Gatsibo and Rwinkwavu) and CHWs were trained on the community IMCI package in 13 districts (Karongi, Rutsiro, Ngororero, Rubavu, Musanze, Burera, Nyabihu, Nyarugenge, Kicukiro, Gasabo, Rusizi, Kayonza and Gatsibo)

Nutritional Status Surveillance

CHW's are all provided with basic tools for assessing nutritional status. In most cases this is the middle-upper arm circumference (MUAC) measurement band, detecting acute malnutrition. Nutrition status is determined as follows:

Tableau 36: MUAC: Criteria to evaluate Nutrition status

Level of under nutrition	*MUAC (mm)*
Normal Status - Green	>=185
Moderate – Yellow	< 185
Severe - Red	< 160

According to the reports from CHWs (January 2009- April 2010), the majority (89 %) of children followed for nutritional status (weight or MUAC) don't suffer from acute malnutrition ("Verte or green status") *and* the number of cases detected are clearly increasing over time almost doubling from on average 600 early 2009 to 1100 in April 2010.

The number of children with "yellow" (moderate malnutrition) and "red" (severe malnutrition) status are stable over time and constitute respectively an average of 8% and 1% of the total children followed.

B. Community Maternal and Neonatal Health (Community MNH)

Community MNH strategy has been developed with the aim to reduce the maternal and neonatal mortality. The roles of the Maternal and Child Health-CHWs formerly called traditional birth attendants (TBAs) have been revised to focus on sensitization and support to pregnant and postnatal women but NOT assisting them to deliver at home. The ministerial instructions clearly spell out the new roles of the Maternal and Child Health CHWs.

The roles include:

- Identification and registration of women of reproductive age in the community,
- Encouraging family planning, Identification of pregnant women in the community and encourage facility based deliveries,
- Encouraging birth preparedness, identifying women and newborns with danger signs and refer to health facility for care,
- Accompanying women in labor to health facilities and encouraging early postnatal facility checks for both newborn and the mother

There is a gradual increase in reported assisted deliveries and pregnancies referred/accompanied to the health facility while home deliveries remain stable at roughly 20% (very low, according HMIS home deliveries are aprox. 35 %) of all deliveries.

A surprisingly high number (roughly 50%) of pregnant women are accompanied to the health facility during the first trimester for Antenatal Care. However, this contrasts with data available from health facilities (25.1 % of ANC visits are during the first trimester, HMIS 2009)

Maternal deaths:

From January 2009-April 2010, 197 maternal deaths were reported. However as mentioned above, the mortality data seem unreliable due to data entry errors. As for child mortality reporting, it is highly recommended to reinforce the procedure for maternal and child mortality reporting as a priority.

As for child mortality, the proportion of the place of maternal death (community versus health facility) is an important indicator, but can only be reported once all districts are carrying out a maternal health program and mortality reporting has improved.

Community based Distribution of Family Planning services

Community based distribution (CBD) of FP services is a strategy which aimed to increasing the uptake of family planning services at village level. A selected package of FP services will be provided by trained community health workers (CHWs). First prescription is given at the health centre, and protocols indicate eligibility for follow up prescriptions.

Through FP technical working group meeting, consensus was reached and guiding documents on the implementation of community based provision of FP services were developed. From July to December 2009, several activities towards the implementation of community based provision of FP services were achieved, including:

1. Rapid assessment on the feasibility of community based provision of FP services by CHWs in villages. An assessment was also carried out among stakeholders (development partners) to explore the views and experiences on community based provision of FP services. Both assessments informed the development of guiding documents.

2. Based on the results of the rapid assessment and opinion from different expert stakeholders, a number of guiding documents which included the training guide for trainers, reference manual for CHWs and other service management tools were developed.

3. Gatsibo, Rusizi and Kicukiro districts were selected as pilot districts.

4. Budget estimates for the first one year of implementation was made and funding sources identified

Increasing numbers of women are referred to the health facility for initiating family planning (with a dip in April 2010). When considering the total fertile population (women aged between 15-49 years old) this is roughly 1 to2 % per month (12-24 %/year) of the eligible population (average of 4021 women.

C. Community based performance financing (PBF)

The process of implementing the new community PBF model started during the first quarter of the year 2009. By June 2009, districts were still at the first stages of implementing community PBF.

An orientation meeting for all stakeholders had been held in Rubavu and training plans were developed by end of June 2009. The implementation process involved training of staff at district and health center level and training of community health workers, contract signing between various stakeholders and, supply of data collection and reporting tools.

D. Demand side incentive strategy

With support from the World Bank, the demand-side incentive strategy was developed alongside supply-side incentives in 30 Villages Umurenge Projects (VUP). Demand-side incentives aim to motivate service users to increase the uptake of the key maternal health care services at health facilities which consequently contribute to reduction in maternal and infant morbidity and mortality.

It targets uptake of ante-natal care, assisted delivery, and neonatal/postnatal care and family planning services. The following four indicators were developed and the incentives (in-kind incentives) were determined: 1) Women in first 4 months of pregnancy who attend ANC 2) health facility delivery 3) Mother and child who consults within 7 days post- delivery 4) Women aged 21-49 years using modern contraceptive methods.

During the year, an implementation plan was developed, ministerial instructions elaborated and distributed to all health centres in the 30 VUP sectors and an information meeting held for key stakeholders in the VUP sectors country-wide.

Inputs of the very interactive meeting were used to in finalize the implementation manual. By end of December the funds for incentive were transferred to the health centres

E. Community Health Information System

The community health workers create monthly reports which are compiled at cell level and subsequently at health centre level for 1 cooperative. These cooperative reports are then submitted to the district staff that enters this in a web-enabled database.

The Community based reporting started in 2009 and the reliability of the data collected depend on the accuracy of the reporting of the individuals who submitted the reports. Currently (since March 2010) a lot of effort is going into revitalizing the

M&E for SIScom in the framework of Community PBF and it is expected to increase the accuracy of the reports in the near future.

F. Community Health Workers' Cooperatives

It is government policy that the Rwandan population engages in income generating activities through cooperatives to improve their income. This is aimed at reducing poverty at individual, household and community level. In the same manner, CHWs started transforming their associations into cooperatives to focus on income generation aiming at maximizing profits.

The Ministry of Health supports CHW cooperatives technically in collaboration with the Rwanda Cooperative Agency (RCA) and, provides financial support. Transforming CHWs associations into cooperatives is a process which involves elaboration of statutes, by laws and putting in place management committees.

CHWs' cooperatives go through several stages for approval; sector approval, district approval and the legal authorization by the RCA in the Ministry of Commerce. By the end of June 2010, all **416 CHWs' cooperatives** which were created had acquired sector authorization.

The rest of the cooperatives are at different stages of acquiring the authorization**.** 376 (90.4%) of the 16) CHWs cooperatives have received sector authorization, 270 (65%) have got the district authorization and 45 (11%) have got the legal authorization from MINICOM

G. Training of Human Resources for Health (HRH) in ITORERO RY'IGIHUGU values

Capacity building through training of the human resources for health is one of the core functions of the Ministry of health. Health providers country-wide were trained in *Itorero ry'Igihugu* values (*from July 12 – August 1, 2009*), values which are characterized to help the Rwandan culture in attaining social transformation of the society towards development.

Rwanda has improved some of its health indicators but there are several others that are still far below the level of the set targets of the Vision 2020, MDGs and EDPRS. Health providers at all levels of the health system structure play an important role in improving the health status of the Rwandan population.

Itorero ry'Igihugu training included health care providers at health facilities (nurses and doctors) and community health workers, with the aiming of building their capacity in performance improvement based on core values of the health profession, with the vision of the achievement of the countries development agenda.

Topics discussed during the training included: the historical background of *Itorero ry'Igihugu*, the country's development program the role of health worker in the country's development program, performance targets for districts, maternal and child health care, HIV/AIDS and TB, quality of health care, Mutuelle de santé (Health Insurance Scheme), community health activities, CHWs' cooperatives, hygiene and sanitation, etcetera.

A total of about 45,210 participants (participation rate of 74.5%) participated in the trainings country-wide majority, 83% of the participants were community health workers.

H. **Community Health Managing Information Systems Using Phones for Health**

The Ministry of Health has developed a reporting System for CHWs using mobile phones. The systems used are 1) mUbuzima for monthly reporting of community health indicators and 2) Rapid SMS, to be used specifically for to mother and child health emergencies, in order to realize rapid intervention.

The two reporting systems contribute to the improvement of the existing community health information system. The application builds on the existing mobile phone infrastructure in the country. Ministry of Health, districts hospitals and health centres will be able to log on to the mUbuzima and Rapid SMS website to access up-to-date data on health indicators of the community health program.

The Ministry of Health can also send educational messages to Community health workers. In the future, it is envisioned that the system will provide support in decision making, directly to Community health Workers to enhance the delivery of community maternal and child health services, which will contribute to the achievement of the MDG's which Rwanda targets to achieve by 2015.

This system will have approximately 60,000 CHW's, located in 14,837 villages in the catchment areas of the 430 health centres. When the application will be deployed nationwide, around 15,000 monthly reports will be sent by IVR (Interactive Voice Response) to the national database, and at the same time, rapid SMS will be continuously coming in the system

Lessons learnt

During the year 2009/2010, the majority of the planned activities were achieved or are ongoing Lessons learnt arose from many of the ambitious community health strategies such as community IMCI and community PBF which are implemented at full scale. The following are some of the main lessons learnt:

1. Community health workers are capable to provide community health care services in their villages

2. Most Community health workers trained in community IMCI are capable of providing care to children less than 5 years of age at village level. This is evidenced by the enormous number of clients attended and treatment outcomes were good. While training is one important part of capacity building of CHWs, supportive supervision is an important element which is crucial for quality service delivery. The existing community health system needs to ensure improved quality in provision of community services.

Challenges

Main challenges encountered during the year included;

1. Long process to get sector and district authorization for the CHWs' cooperatives. This led to failure of some CHWs' cooperatives to obtain accreditation from the Ministry of Health to receive the community PBF funds;

2. Lack of adequate capacity of the CHWs' cooperatives management committees with regards to basic knowledge and skills in cooperative business management;

3. Inadequate resources with regards to training and ensuring adequate supervision of community health activities at village level.

Next steps

During the next year 2010/2011, the Ministry of Health will focus on the following areas:

1. Complete training of community health worker in provision of the integrated community health care package in the 9 remaining districts

2. Reinforce supervision of community health activities at all levels of the community health system

3. Finalization/validation of the community health strategic plan and other strategic documents of the community health desk such as monitoring and evaluation plan, data collection tools etc

4. Provide technical support to CHWs' cooperatives management

5. Improve the community health information system (SIS communautaire) through the introduction of mobile phones for reporting training, supervision and data audits. Regular monitoring of the community health indicators needs to be done by the community health desk and other stakeholders involved in the community health program.

6. Train Community Health Desk in the use of community health database, and monitor data, with all concerned stakeholders, on a regular basis.

V.4 NON COMMUNICABLE DISEASES

V.4.1 Mental Health

The mental disorders are classified among the five out of ten main causes of morbidity in the world. The morbidity due to the mental and behavioural disorders would increase from 12% in 1999 to 15% in 2020 (Mental Health Policy project, WHO 2001).

V.4.1.1 Service de Consultations Psychosociales (SCPS)

The SCPS/MH has the mission to be a national reference in mental health care and to contribute in the development and evaluation of policies and mental health structures at the national level.
In order to fulfil its mission, the SCPS/MH has the following main duties:

1. Address needs in specialized consultations in psychiatric, psychosocial, psychosomatic and post-traumatic care of the population and to decree recommendations on prevention in mental health;
2. Make effective mental health services available to the population in terms of prevention, care, treatment, and rehabilitation equitably, effectively in the best interests of the users and the limits of the available resources, by privileging the community interventions of proximity;
3. Work out quality standards in the care of mental health for out and inpatients and to train health professionals in those two skills;
4. Serve as a training centre for health professionals, university and college students and care providers and also to be a reference center for research and documentation in the mental health domain ;
5. Promote (medical) research as well as the training in the same field;
6. Coordinate and support information, education and communication for behaviour change activities;
7. Coordinate and participate in the evaluation of all psychiatric hospitals and services, psycho social services and centers; and extra-muros services activities;
8. Organize the supervision of the programs, consultations and mental health services located in the decentralized structures;
9. Facilitate the creation of new consultation services;
10. Provide a technical support to reference hospitals, district hospitals as well as health centers;

11. Define strategies and plans of action in mental health policies and to ensure their application putting a particular emphasis on integration of mental health services in the general health care services and insure access to mental health care and rehabilitation for different users' categories;
12. Set up and diffuse reporting methods for mental diseases;
13. Ensure intersectoral, and multidisciplinary links in the mental health domain;
14. Promote and ensure the rights and obligations of mental health care users and the obligations of the mental health care providers;
15. Ensure the follow up of the cooperation in mental health dossiers, to coordinate and support international exchanges in the mental health domain;
16. Serve as focal point for NGO's, associations and others intervening in Mental Health.

The overall objective of the Mental Health programme is to promote mental health care for the entire population. Within this objective, the programme component intends to:

- Integrate mental health services into all health facilities of the health system
- Revise the Mental Health Policy and elaborate a comprehensive mental health strategic plan.
- Develop standards and guidelines for the integration of mental health into primary health care.
- Establish a mental health service for children.
- Strengthen IEC with regards to mental health and promote community care of mental health problems.
- Revise the legislation regarding mental health.

Achievements in the fiscal year 2009-2010

Consultations

1. Outpatient consultations : 17,770
2. New cases :1,580 Old cases : 16,190
3. Mean age of patients : 19 years, except for Epilepsy
4. Main cause of consultation: Epilepsy : total cases: 8,933 (new cases: 396, old cases : 8,537 cases

Tableau 37: Consultations in the SCPS

Neurological disorders		Epilepsy		Post trauma		Psychiatric		Psychosom		Divers		Others	
NC	AC	NC	AC	NC	AC	NC	AC	NC	AC	NC	AC	NC	AC
279	902	424	4306	144	449	212	2685	353	2014	140	525	229	425
1 181		**4 730**		**593**		**2 897**		**2 371**		**665**		**654**	

Source: MoH/SPCS, annual report, 2008

1. Supervision of mental health services in district hospitals : 50 supervisions achieved
2. Intervision at central level : 7 intervisions organized
3. Capacity building: a total of 8 persons are enrolled to pursue post graduate studies in Mental Health. Project to launch a master degree on Mental Health in Rwanda
4. Several refreshment trainings organized in Rwanda
5. Decentralization of Mental Health care: 8 decentralized services opened so far in district hospitals: Nyamata, Nyanza, Ruhengeri, Kibungo and Remera (Kigali) [funding APNSM II), Kibuye (funding Hôpitaux Universitaires de Genève (HUG) – APNSM II), Gihundwe (Funding HUG), Rwinkwavu (funding Peter C. Alderman Foundation (PCAF) and Partners in Health).
6. Coordination of medico-psychosocial interventions during the memorial period of Tutsi Genocide
7. IEC interventions: weekly radio broadcast, celebration of International mental day, articles in the local newspaper
8. Research: prevalence of post trauma disorders in Rwanda: project ongoing
9. Coordination of different MH projects
10. Participation in different activities to fight against drug abuse

V.4.1.2 Ndera Neuropsychiatric Hospital (HNP, NDERA)

HPN is the referral hospital for neuropsychiatric disorders. Its capacity is of 288 beds:

Tableau 38: Capacity of HNP Ndera

Hospitalization	**Crisis**	**Improved**	**Total**
Men (rooms A et B)	51	38	89
Women (rooms D et C)	52	42	94
Children (Centre Kundwa)	12	-	12
Chronic (Home St Jules)	-	22	22
CARAES Butare	33	30	63
Centre Icyizere	8		8
Total	**156**	**132**	**288**

Source: HNP Ndera, annual report

Consultations

The number of consultations in 2008 is of 31 125, meaning an average of 2 594 patients per month (both outpatients and hospitalized). The number of women is 80 persons larger than of that of men.

A total of 27.662 patients (88, 8%) were treated in ambulatory. This means that the psychiatric care is not provided in asylum. They are integrated in the district hospitals of the country

Tableau 39: Number of Consultations, HNP Ndera, 2009

Consultations /mois	CARAES Ndera			Total	CARAES Butare			Total	Centre Icyizere			Total	Total général
	H	F	E		H	F	E		H	F	E		
Jan.	858	718	105	**1681**	198	281	21	500	66	62	33	161	**2342**
Fév.	864	769	92	**1725**	197	268	25	488	52	64	30	146	**2359**
Mars	848	740	95	**1683**	200	275	27	502	62	77	24	164	**2349**
Avril	943	766	133	**1842**	218	303	29	550	70	125	53	248	2640
Mai	865	690	121	**1676**	243	322	32	597	53	112	34	199	2471
Juin	811	718	192	**1721**	207	362	32	601	46	101	23	170	2492
Juil.	956	840	119	1915	232	351	26	609	49	130	33	212	2736
Août	953	814	91	1858	240	339	39	618	48	74	33	155	2631
Sept.	881	783	136	1800	248	385	40	673	75	86	37	198	2671
Oct.	978	871	150	1999	256	376	42	674	54	81	38	173	2847
Nov.	877	804	148	1829	234	357	49	640	56	73	38	165	2634
Déc.	1002	830	141	1973	307	390	53	750	102	92	36	230	2953
Total	**10836**	**9343**	**1523**	**21702**	**2780**	**4009**	**415**	**7202**	**733**	**1077**	**412**	**2221**	**31125** **31125**

Source: HNP Ndera, annual report

Tableau 40: HNP: Number of Outpatients in 2009

	NDERA	BUTARE	ICYIZERE	TOTAL
January	1453	474	147	2074
February	1467	455	132	2054
March	1409	475	155	2039
April	1598	516	217	2331
May	1426	560	186	2172
June	1519	562	156	2237
July	1675	571	199	2445
August	1608	572	145	2325
September	1573	632	185	2390
October	1777	647	159	2583
November	1581	595	154	2330
December	1756	712	214	2682
TOTAL	**18842**	**6771**	**2049**	**27662**

Source : HNP Ndera, annual report

Tableau 41: HNP: Admissions in 2009

	NDERA			**BUTARE**		**ICYIZERE**		**TOTAL**
	H	**F**	**E**	**H**	**F**	**H**	**F**	
January	127	77	24	9	17	7	7	268
February	146	102	10	19	14	5	9	305
March	170	98	6	15	12	5	4	310
April	138	91	15	20	14	10	21	309
May	124	105	21	13	23	3	10	299
June	96	88	18	17	22	4	10	255
July	131	95	14	21	17	6	7	291
August	143	95	12	25	21	3	7	306
September	117	96	14	21	20	5	8	281
October	126	75	21	9	19	4	10	264
November	102	132	14	22	23	6	5	304
December	125	78	14	16	22	7	9	271
TOTAL	**1545**	**1132**	**183**	**207**	**224**	**65**	**107**	**3463**

Source: HNP Ndera, annual report

On 31.125 consultations, only 3463 patients have been hospitalized (11%). This figure represents 33% of hospitalizations operated in 1992. Then there is a net reduction of hospitalizations in psychiatry, what is an indicator of quality care.

Tableau 42: HNP: Nb of Patients treated and released

	NDERA			BUTARE		ICYIZERE		TOTAL
	H	**F**	**E**	**H**	**F**	**H**	**F**	
January	77	64	11	8	17	5	5	187
February	107	100	6	3	15	3	8	242
March	103	95	19	9	15	0	5	246
April	95	93	13	16	19	14	12	262
May	98	79	21	15	14	4	8	239
June	75	80	12	9	17	0	7	200
July	83	75	11	13	14	2	8	206
August	90	70	12	11	18	4	3	208
September	91	83	4	19	16	3	4	220
October	94	98	14	12	20	2	4	244
November	73	54	15	11	22	1	2	178
December	87	60	10	9	20	6	2	194
TOTAL	**1073**	**951**	**148**	**135**	**207**	**44**	**68**	**2626**

Source: HNP Ndera, annual report 2009

On 3 463 hospitalization, 2 933 came out of hospital (84, 6%). This shows that there are fewer patients who stay in hospital for a long time.

Tableau 43: HNP: Evolution of activities in the HNP Ndera, 2004-2008

ACTIVITIES	2004	2005	2006	2007	2008
Psychiatric consultations	15 362	17 149	20 124	25 830	31 125
Hospitalizations	2 089	2 247	2634	2917	3463
Exits	1 313	1 509	2030	2085	2626
Deaths	7	10	16	7	9

Source: HNP Ndera, annual report 2009

Tableau 44: HNP: Causes of Consultations

N°	Pathologies	NC	AC	TOTAL	%
1	Organic mental disorders	54	640	694	2,7%
2	Mental and behavioral disorders related to drug abuse (drugs, alcohol et volatile solvents)	139	248	387	1,5%
3	Schizophrenias et delirium disorders	1039	6931	7970	31,75%
4	Mood disorders	507	3467	3974	15,8%
5	Neurotics somatoform disorders	336	1737	2073	8,25%
6	Behavioral syndromes associated to physiological disorders	23	45	68	0,27%
7	Personality disorders and disorders of adult behavior	16	47	63	0,25%
8	Mental Retardation	23	128	151	0,6%
9	Psychological development disorders	1	10	11	0,04%
10	Behavioral disorders, emotional disorders of the child and adolescent	6	12	18	0,7%
11	Neurology	85	681	766	3,05%
12	Epilepsy	1177	7746	8923	35,5%
TOTAL		3 406	21 692	**25 098**	

Source: HNP Ndera, annual report 2009

The epilepsy and other neurological disorders are the main causes of consultation (38, 5%). Since 6 years, the epilepsy came in the first line (34%) among the illnesses that lead to consult the Ndera Neuropsychiatric Hospital

The delirious psychosis and of the mood come respectively in second and in third position among the reasons of consultation in 2008
During the year 2008, laboratory received a total of 1828 patients requiring the EEG exam: 165 were hospitalized, 1449 were outpatients, and 214 were referred patients.

Clinical psychology

In the clinical psychology service, this year has been marked by a diversity of auto enrichment of the service through the trainings, the follow up of a high number raised of students, as well as a progress in the mentality of our customers that consulted for merely psychological problems.

Tableau 45: HNP: Individualized psychotherapeutic activities

Activities	Hospitalized patients	Outpatients	Total
Individual psychotherapy	267	359	627
Systemic psychotherapy	36	13	49
Pre-test counseling	9	3	12
Post-test counseling	9	3	12
Psychometric consultation	6	4	10

Source: HNP Ndera, annual report 2009

Tableau 46: HNP: HNP: Grouped Psychotherapeutic activities

Groups	Number of sessions
- *Drug users*	83
Plunged into mourning	04
Traumatized	03
- *Prevention of relapses*	02

Source: HNP Ndera, annual report 2009

Tableau 47: HNP: Main Psychotherapy diagnosis

N°	Diagnosis	Nb	N°	Diagnosis	Nb
1	Depression	6	9	Sexual disorders	5
2	Autism	4	10	Behavioral disorders	6
3	Mental Retardation	2	11	PTSD complicated	10
4	Schizophrenias	2	12	Mood disorders	2
5	Family Conflicts	8	13	Enuresis	1
6	Troubles of Memory	1	14	Selective Mutism	2
7	Anxiety	10	15	Chronic headaches (somatoform disorders	20
8	Sexual impotence	2			

Source: HNP Ndera, annual report 2009

VI. NATIONAL REFERRAL HOSPITALS AND RESEARCH CENTRES

National referral hospitals and treatment centres form the pinnacle of medical care in Rwanda. For long time, capacity constraints have made it necessary to refer cases to medical institutions abroad. This situation presented a financial burden for the health system without contributing to the capacity for medical care in the country.

In the field of diseases with high morbidity and mortality, emerging resistance poses a challenge to health sector policy that can only be addressed with local clinical research.

Objective (s)

- Strengthen the national referral hospitals and specialised treatment and research centres. Within the overall objective, the aim is to:
- Achieve significant progress towards national self-sufficiency in the field of secondary medical care.
- Invigorate the medical sector through the creation of two centres of excellence in Butare and Kigali with complementary areas of specialisation.
- Strengthen the skill base in the Rwandan medical sector through the education of specialised medical personnel.
- Formulate strategies and policies for the development of further areas of specialisation in Rwanda.
- Develop a policy framework for clinical research on high morbidity and mortality diseases and to increase research capacities.

VI.1 UNIVERSITY TEACHING HOSPITAL OF KIGALI (CHUK/UTHK)

VI.1.1 Introduction

The Kigali Hospital Center (**CHK)** was built in 1918. In 1928, it began to work as health center. It was in 1965 when he started to work as hospital.
From April 1994 to 1996, **CHK** has played the double role of a health center, a district hospital and a referral hospital .

With the enactment of Law No. 41/2000 of 7/12/2000 on the establishment and organization of the Kigali Hospital Center of it has been an integral part and became a public institution with legal personality known as "University Teaching Hospital of Kigali" (**UTHK**);
It is one of the referral hospitals of the country with a capacity of 441 beds, (31/06/2010).

2. Mission, objectives and programs

N°	Mission	Objectives	Programs
1	Provide care to the population	1. Improve the quality of services 2. Improve and promote the environmental health of the hospital 3. Provide administrative services required by clients, 4. Provide sufficient staff and qualified, 5. Endow the UTHK of adequate regulations, 6. Build capacity hospital managers, 7. Develop ICT and activities of Telemedicine. 8. Ensure the continuity and quality of education, training nurses and support Doctors and nurses trainees. 9. Ensure the operational and scientific research.	- The improvement of Quality of care, - The fight against AIDS, - Development of human resources management, - The development of ICT, - Rehabilitation of infrastructure, - Supply or procurement, - Maintenance of equipment and materials.
2	Provide education		
3	Develop clinical research		
4	Provide technical support to district hospitals		

Source: UTHK, annual report, 2009-2010

At the end of June 2010, for its good functioning, CHUK employed 803 people (including 36 post graduate from NUR):

Some indicators of UTHK: July 2009 – June 2010

1. Staffing

Tableau 48: CHUK/UTHK: Staffing

N°	Staff	Data

1	Generalists	13
2	Specialists	39
3	Dentists	3
4	Nurses and midwives	515
5	Paramedical staff	98
6	Technicians	15
7	Administration	85
8	Post graduate programs :In internal medicine, surgery, pediatrics, gynecology, Obstetrics, anesthesiology	36

Source: UTHK, annual report, 2009-2010

2. Services delivered

Tableau 49: CHUK/UTHK: List of services delivered

N°	Services
1	Internal medicine services
2	Surgery, urology, neurosurgery,…..
3	Pediatrics services
4	Maternity services re-opened
5	Dental Care services
6	Ophthalmology services
7	ENT services
8	Dermatology services
9	Physiotherapy services
10	Clinical support services (radiology, laboratory)

Source: UTHK, annual report, 2009-2010

3. The 20 leading causes of admission at CHUK (June 2009-June 2010

Tableau 50: CHUK/UTHK: Main causes of admission, July 2009-June 2010

Nr	Code	Name	Number of days of hospitalization
		Total Days of hospitalization	98621
1	A70	Tuberculosis	5599
2	A93	Preterm newborn	4266
3	B90	Virus infection by HIV, AIDS	3925
4	L75	Femur fracture	3878
5	A94	Other perinatal morbid**ity**	3116
6	D99	Other diseases of digestive system	2942
7	W92	Complicated deliveries child alive	2568
8	D81	Congenital anomaly of digestive system	2213
9	U99	Other diseases of urinary system	1879
10	W90	Childbirth uncomplicated, child alive	1846

11	L76	Other fracture	1791
12	T90	Diabetes type 2 insulin-dependent or not	1785
13	A73	Malaria	1753
14	R81	Pneumonia	1615
15	K84	Other heart diseases	1596
16	N71	Meningitis or encephalitis	1342
17	X99	Other genital disease in women	1258
18	X74	Pelvic inflammatory disease among women	1256
19	D73	Gastroenteritis presumed infectious	1231
20	D70	Gastrointestinal infection	1207

Source: UTHK, annual report, 2009-2010

Tableau 51: CHUK/UTHK: The most frequent diseases

Nr	**Code**	**Name**	**Number of diagnostics = 17022**	%
1	W90	Childbirth uncomplicated child alive	666	3,91%
2	W92	Complicated deliveries child alive	603	3,54%
3	A94	Other perinatal morbidity	375	2,20%
4	A70	Tuberculosis	367	2,16%
5	B90	Virus infection by HIV, AIDS	300	1,76%
6	A93	Pre-term newborn	261	1,53%
7	A73	Malaria	248	1,46%
8	D99	Other diseases of digestive system	239	1,40%
9	R81	Pneumonia	194	1,14%
10	D73	Gastro-enteritis Presumed infectious	189	1,11%
11	L75	Femur fracture	175	1,03%
12	L76	Other fracture	167	0,98%
13	U99	Other diseases of urinary system	163	0,96%
14	D70	Gastro-intestinal infection	151	0,89%
15	W15	Infertility or sub fertility of women	140	0,82%
16	W82	Spontaneous abortion	128	0,75%
17	X99	Other genital disease in women	124	0,73%
18	W81	Toxemia	122	0,72%
19	D89	Inguinal hernia	120	0,70%
20	D97	Liver disease NCA	118	0,69%

Source: UTHK, annual report, 2009-2010

Tableau 52: CHUK/UTHK: The 20 most killer diseases

Code	Denomination	Number of deaths (deaths =1242 or 7,30%)	Proportional mortality	Overall proportional mortality
	Total deaths	**859**	**100**	**100**
A70	Tuberculosis	79	21,53	6,36
A93	Premature babies	66	25,29	5,31
B90	HIV/AIDS related infection	71	23,67	5,72
L75	Fractured femur	1	0,57	0,08
A94	Other perinatal morbidity	61	16,27	4,91
D99	Other diseases of digestive system	23	9,62	1,85
W92	Complicated childbirth, child living	0	0,00	0,00
D81	Congenital abnomality of digestive system	9	11,39	0,72
U99	Other diseases of urinary system	26	15,95	2,09
W90	Not complicated childbirth, child living	0	0,00	0,00
L76	Other fracture	3	1,80	0,24
T90	Diabetes type 2 or non insulin-dependent	9	10,00	0,72
A73	Malaria	11	4,44	0,89
R81	Pneumonia	25	12,89	2,01
K84	Other heart disease	19	17,92	1,53
N71	Meningitis or encephalitis	30	30,61	2,42
X99	Other genital disease in women	3	2,42	0,24
X74	Pelvic inflammatory disease in women	5	5,68	0,40
D73	Gastro-enteritis presumed infectious	7	3,70	0,56
D70	Gastrointestinal infection	10	6,62	0,81

Source: UTHK, annual report, 2009-2010

Tableau 53: CHUK/UTHK: Status of the main Indicators, 2005-2010

Indicators of July 09 to June 10	2005	2006	2007	2008	July 09 - June 10
Number of beds	403	375	418	429	421
Hospitalized	12,628	11,990	9,499	12,667	12,458
Death	1,439	1,304	999	1,108	991
Occupancy rate	101	108	87	82	83%
Total hospital Days	150,859	150,605	120,972	128,201	127,555
Admitted patients/Day	406	486	325	351	349
Mortality rate	11.4%	10.9%	10.6%	8.7%	8%
Average length of stay	12	12.6	12.8	10	10
Annual Average turnover	30	31	24	30	30

Source: UTHK, annual report, 2009-2010

New technologies at CHUK

- Development of Phaco-emulsification in ophthalmology is being done.
- Endoscopic approaches in Urology are performed.
- Minimal invasive surgery: laparoscopy has become the standard procedure for various pathologies.
- Tympano-plastic surgery
- Neurosurgery to be equiped

- Endoscopic unit of Internal medicine using video-imaging
- HIP-surgery has been upgraded
- Illizarov-technique introduced in Bone-reconstruction

Tableau 54: CHUK/UTHK:Status of indicators in the main clinical departments (internal medicine, surgery, pediatrics)

Main indicators	**Internal Medicine**				
	2005	**2006**	**2007**	**2008**	**2009/ 2010**
Number of beds (ward)	110	96	112	104	89
Bed occupancy rate (%)	109	118	70	72	97
Total length of stay (days)	120	136	79	75	12
Mortality rate (%)	19,4	19	14	16,3	14,4
Average length of stay (days)	15	16	14	14	12
Average turnover (ward beds)	26	26	18	19	29

Main indicators	**Surgery**				
	2005	**2006**	**2007**	**2008**	**2009/ 2010**
Number of beds (ward)	118	108	125	123	130
Bed occupancy rate (%)	95	97	92	94	87
Total length of stay (days)	112	125	116	116	17
Mortality rate (%)	3,7	5	3,8	2,1	2,1
Average length of stay (days)	23	27	20	21	17
Average turnover	15	12	16	16	18

(ward beds)					

In the 3 mentioned services, the occupancy rate, very high in the previous years, turned normal in the reporting period. For the death rate, it is surprisingly lower in Surgery and higher in Internal Medicine, may be due to chronic diseases, like HIV/AIDS.

Main indicators	**Surgery**				
	2005	**2006**	**2007**	**2008**	**2009/ 2010**
Number of beds (ward)	81	81	80	80	111
Bed occupancy rate (%)	135	146	102	82	75
Total length of stay (days)	110	142	82	66	11
Mortality rate (%)	6,5	5,7	7,9	8,8	11
Average length of stay (days)	8	9	11	10	11
Average turnover (ward beds)	58	59	34	29	26

Source: UTHK, annual report, 2009-2010

VI.1.2 PROGRAMS FOLLOWED UP BY UTHK BETWEEN JULY 2009 AND JUNE 2011

The programs.

a. The improvement of the quality of care
b. Improving access to care for the needy population
c. The fight against AIDS
d. The development of ICT
e. The continuation of the process leading to accreditation
f. Infrastructure rehabilitation
g. Maintenance of equipment and materials

A. Improvement of quality of care

At UTHK, the activities of improving the quality of care are numerous, but they can be divided into three groups
- The clinical activities of routine
- Those provided by the Ministry of Health in its action plan
- Those specific to various clinical departments

1. The clinical activities for routine: consultations and admissions
2. The Activities provided by the Ministry of Health in its action plan

N°	OBJECTIVE	DELIVERABLE TASKS
1	To ensure the management of severe and moderate acute malnutrition in 80% of affected children	Training of trainers on new protocol on new growth monitoring tools
2	Increase VCT sites in quantity and quality	Increase the number of people who are tested and know their HIV status
3	Reduce the rate of HIV transmission from mother to child	Increase the number of HIV pregnant women who take the ART prophylaxis in PMTCT program
4	Improve the care and treatment of PLWHA by end of June 2010	Ensure HIV positive eligible patients are initiated on ART treatment
5	Increase the number of specialized doctors	Admit new medical doctors in specialization in Rwanda
6	To improve quality of Health care	At CHUK, all departments and units have standards. Regarding the policies and procedures, all departments and units have not yet them because their development is going on
7	Ensuring the implementation of an operational plan for accreditation and certification process at all levels of the Referral hospital	• Establishment of focal points in departments to monitor the implementation of Quality Assurance(QA), • Establishment of the monitoring program of QA and accreditation process, • Establishment of the office QA. • The further development of policies and procedures and the distribution of norms and standards, • Self –evaluation and external evaluation, such as measures taken to implement QA and to continuing the accreditation process

VI.1.3 The Clinical Activities of the CHUK

N°	Department	Activities
1	**Internal Medicine**	Delivering medical care, Present difficult cases in the morning for staff discussions
2	**Gynecology & Obstetrics**	Delivering medical care for expectant mothers, medical care Take care 24 hours on 24 of gynecological and obstetrical emergencies. Develop screening activities of serious diseases (eg cervical cancer)
3	**Surgery**	Doing surgery
4	**Pediatric**	Specialized medical care
5	**ENT**	Specialized medical care
6	**Ophtalmology**	Specialized medical care Improve cataract surgery by phaco- emulsification Building glaucoma surgery
7	**Radiology**	Ensure current radiological and ultrasound examinations. Practice special examinations (contrast, interventional, radiology vascular trans-hepatic cholangiography and retrograde, myelography, venography,
8	**Anesthetics and resuscitation**	Perform a pre-anesthetic patients Take care of pain patients Supervision make a post-operative surgical
9	**Stomatology**	Specialized medical care Provide care and oral surgery (oral and maxillo-facial)
10	**Dermatology**	Specialized medical care Surgical practice in the service feasible
11	**Nursing**	Practice nursing uniform and standardized.
12	**Emergencies**	Ensure quality care for the urgent stabilization of patients before transferring them in the various specialized services
13	**Lab**	Doing quality control Maintain and manage samples in freezers Send samples to other laboratories and monitor the return of results Develop micro method for pediatrics and neonatology
14	**Physiotherapy**	Develop different assessments of patients Upgrade functional rehabilitation
15	**Orthopedic workshop**	Manufacture of orthopedic

1. Consultations

The consultations are carried out by the clinical departments. They take place every day from Monday to Friday from 7 am to 17 pm. During the period of july 2009, 110488 consultations were carried out at CHUK. As the table below, since 2005, the overall number of consultations has changed.

Tableau 55: CHUK/UTHK: Trends of Consultations, 2005-2010

N°	Department	2005	2006	2007	2008	July 09-June 10
1	Internal Medecine	18152	16424	14 394	13084	16 010
2	Pediatric	12515	13757	9 699	6948	9 395
3	Surgery	3994	5909	6 556	7414	11 624
4	Gynecology & Obstetrics	6590	4940	6125	7936	8 309
5	Emergency	15463	15252	13 721	12547	28 514
6	Stomatology	7049	7702	7 647	7337	5 963
7	Ophthalmology	9004	6824	5 963	7679	5790
8	ENT	7675	10301	9 458	7577	6865
9	Dermatology	4399	4047	4 401	3862	3 679
10	Physiotherapy	9654	14970	15 467	14023	14 231
	TOTAL	**94495**	**100126**	**93431**	**88407**	**110 380**

Source: UTHK, annual report, 2009-2010

Admissions

At UTHK, the admission was made following an outpatient and emergency reception.
Admissions to the outpatient clinic and the year July 2009- June 2010
The number of hospital admissions during July 2009- June 2010 was 12 458 patients, 1108 or 8.97% died.

Tableau 56: CHUK/UTHK: Admissions in the Major services

Department	Number of admissions
Internal Medicine	2,415
Pediatrics	2,862
Surgery	2,376
Obstetrical Gynecology	3,717

Internal medicine

Data	Bed Average stay Death Rate of death: Rate of bed occupation	150 (wards 3,4, 8 , PCK and private pavilion) 12 days 391 cases (13,52%) 14% 97%
Specific mission	Provide specialized medical care quality according to international standards	
Activities	Consultations * Polyclinic * Clinic	 9708 cases 6302 cases
	Admissions	2415
	Elaborate protocols	On TB, malaria, asthma b, lymphoma, MV B, transfusion, IRA, diabetes

Source: UTHK, annual report, 2009-2010

Tableau 57: CHUK/UTHK: The 10 first pathologies in the Internal medicine

Nr	Disease	Number	%
1	Tuberculosis	283	9,78
2	Infection by HIV / AIDS	254	8,78
3	Malaria	121	4,18
4	Liver NCA	101	3,49
5	Urinary System Diseases	99	3,42
6	Other infectious disease	79	2,73
7	Diabetes type 2	76	2,63
8	Pneumonia	73	2,52
9	Heart disease other than valvulopathy	72	2,49
10	Diabete type 1	53	1,83

Tableau 58: CHUK/UTHK: 10 first causes of mortality, Internal Medicine

Nr	Disease	Number	Lethality(%)	Mortality(%)
1	Infection by HVI/ AIDS	95	**25,59**	16,62
2	Tuberculosis	64	22,61	16,37
3	Liver NCA	33	32,57	8,44

4	Other infectious deseases NCA	20	25,32	5,12
5	Other disease of urinary system	17	17,17	4,35
6	Meningitis or encephalitis	15	29,41	3,84
7	Other heart diseases	12	16,67	3,07
8	Other digestive cancer or NCA	11	33,33	2,81
9	Diabete type 2	7	9,21	1,79
10	Pneumonia	7	9,59	1,79

Source : UTHK, annual report, 2009-2010

Surgery

Data	Bed Turnover Ratio Occupancy rate Number of deaths Mortality rate	124 in 3 wards (1,2,7), PCK and a private pavilion 18 87% 51 2,1%
Specific mission	Provide specialized medical care quality according to international standards	
Activities	* Consultations * Polyclinic * Clinic * Transfers	11624 cases 8260 cases 3344 6462
	Admissions	2376
	Elaborate protocols	On TB, malaria, asthma b, lymphoma, MV B, transfusion, IRA, diabetes
	Surgical interventions * Urology * General surgery * Orthopedics * Neurosurgery * Minor surgery	4523 278 1420 1326 159 1340
	Ensure that all outpatients are seen by a physician and the patient's file is the identification	
	Strengthening activities of endoscopic surgery in urology	
	Strengthening neurosurgery	
	Create an operating room only for emergencies	

Source : UTHK, annual report, 2009-2010

Pediatrics

Data	Beds Occupancy rate of beds Ward 1	* 80(wards 1 and 2) ,12 incubators cribs and beds for kangaroos (neonatology) * 75% * 80¨%

	Ward 2 Neonatology Average stay: Ward 1 Ward 2 Neonatology Death Global mortality rate Rate mortality in neonatology	* 72% * 71% 11 days 9 days 12 days 12,80% 22,2%
Specific mission	Provide specialized medical care quality according to international standards	
Care services	Emergency, neonatology, cardiology malnutrition, external consultation, chronic pathologies ;support the HIV + children, acute or serious chronic pathologies,	
Realized activities	Consultations: 9395 (8492 in "Centre d'Excellence" and 903 in Clinic)	
	Hospitalization: 2862	
	Support for all patients in life-threatening by a specialist	
	Supervision by a specialist GPs	
	HIV + patients are followed	
	The testing for HIV inpatient and consultation is performed to enable better management of patients	
	The various protocols have been developed, discussed and made available to all physicians	

Source: UTHK, annual report, 2009-2010

Tableau 59: CHUK/UTHK:Pediatrics: main causes of consultations: 1654 patients/9395 (17,6%)

Nr	Pathology	Number of cases
1	Flu Syndrome	599
2	HIV Infection	432
3	Gastroenteritis	151
4	Heart	95
5	Malaria	75
6	Dermatosis	67
7	Tuberculosis	64
8	Urinary Infection	64
9	Asthma	62
10	Epilepsy	44

Tableau 60: CHUK/UTHK: Pediatrics: admissions

N°	Pathology	Number of cases	%
1	Neonatal Pathology	602	17,44
2	Gastroenteritis	251	7,27
3	Pulmonary	128	3,70
4	Malaria	95	2,75

5	Nephroblastoma	44	1,27
6	Malnutrition	43	1,25
7	Meningitis	39	1,13
8	Asthma	37	1,07
9	Tuberculosis	31	0,90
10	Heart	25	0,72

Source : UTHK, annual report, 2009-2010

Mortality

Tableau 61CHUK/UTHK: Pediatrics: 10 first causes of mortality

Nr	Pathology	Number	% compared to the pathology	% compared to the overall mortality
1	Premature	66	25,98	18,13
2	Neonatal pathologies	60	17,24	16,48
3	Cardio-vascular pathology	13	40	1,77
4	Pneumonia	12	11,65	3,30
5	Meningitis	11	28,21	3,02
6	Congenital malformations	11	16,16	1,5
7	Malnutrition	10	23,26	2,75
8	Gastroenteritis	10	3,8	1,38
9	Septicemia	7	38,89	1,92
10	Tuberculosis	5	16,13	1,37

Source : UTHK, annual report, 2009-2010

Gyneco-obstetrics

Specific mission	It is the department of pathology of women in general, diseases of the pregnant woman and the health of the unborn child	
Staff	87 persons: 10 specialists, 4 post-graduates, 54 midwives, 18 nurses and a hospital Councilor	
Activities	Consultations	8309
	Admissions	3717
	Interventions	See the table below
	Practicing the "minimal invasive surgery	191 patients
	Operate the VVF	29 patients and 5 patients on LIF
	Complete tools for reverse information by the staff	
	Introduce new techniques of assisted procreation and colposcopy	
	Develop screening activities of illness (e.g. cervical cancer	
	Update protocols for the most frequent pathologies, the most deadly and whose hospital	For pre-eclampsia, eclampsia, abortion, molar,

	stay is prolonged.	caesarean section, the diabetic pregnant woman

Month	Types of delivery									
	Eutocic	Dystocic								
		Cups	Caesarean	Forceps	Total	Live births	Twins	Born-deaths	Maternal deaths	Referred
Jul-09	93	1	84	0	178	174	2	6	0	39
Aug-09	89	3	82	0	174	175	5	4	0	29
Sept-09	89	4	105	0	198	199	2	1	0	19
Oct-09	95	3	88	0	186	188	5	3	0	19
Nov-09	96	1	91	0	188	187	4	5	0	7
Dec-09	84	0	81	0	165	165	7	7	0	16
Jan-10	79	2	76	0	157	153	3	7	0	18
Feb- 10	67	58	3	0	128	124	1	5	4	14
March-10	75	0	80	0	155	145	0	10	4	23
April-10	75	1	77	1	154	150	1	5	4	24
May-10	77	0	59	0	136	132	1	5	0	17
June-10	79	1	67	0	147	143	2	6	3	17
Total	**998**	**74**	**893**	**1**	**1966**	**1935**	**33**	**64**	**15**	**242**

Tableau 62: CHUK/UTHK: Maternity : Deliveries in 2009-2010

Intensive Care Unit (ICU)

Mission	To ensure cares to the sick people
Admission	308 people
Other activities	* Diagnosis conducting using clinical and laboratory documentations * Monitoring of the vital parameters * Administration of emergency drugs, * Carrying out aggressive procedures like central line, thoracic drainage * Assistance of vital functions like respiratory mechanical ventilation, pharmacological circulatory support * Nursing care like bedsore prevention, infection control,..

Tableau 63: CHUK/UTHK:ICU: Main causes of admissions

Nr	Causes	Number
1	Tetanus	6
2	Stroke	11
3	Hemorrhagic shock	12
4	Acute pulmonary edema	7
5	Diabetes	11
6	Pulmonary embolism	6
7	Eclampsia	12
8	Pneumonia	10
9	Burns	12
10	Heart failure	19
11	Peritonitis	39
12	Intestinal abstraction	12
13	Polytrauma	15
14	Head injury	56
15	ARDS	11

Anesthesia

Anesthesia Data	**Performance rate**	58,57%		
	Type of Anesthesia * General anesthesia * Regional anesthesia **TOTAL**	**Frequency** ***** 2105 * 1422 **3527**	**Percentage** * 59,7 * 40,3 **100**	
	Nature of procedure	**Non obstetric and gynecologic**	**Obstetric and gynecologic**	
		Frequency	**Frequency**	**Total**
	Emergency	691	597	**1 288**
	Elective	1494	744	**2 238**
	Total	**2185**	**1341**	**3 526**
Specific mission	Support pre-, per and post-operative patients			
Activities	Establish effective pre and post anesthetic care services in line with all operating theatres of CHUK			
	Upgrade operating theatre services to meet the needs of patients and that of new tertiary services developed			
	Improve the care of critically ill patients in ICU			
	Improve the quality of nutritional support for critically ill patients			
	Strengthen acute pain management service (including epidural for labour and analgesic infusions)			
	Provide invasive monitoring (e.g. cardiovascular and neural)			

ENT

Specific mission	It is a specialty medical-surgical dealing with ocular diseases of 2nd and 3rd levels of patients and referrals from all over the country.
Staff	3 specialists doctors, 4 nurses (2 A1 and 2 A2)
Activities	Consultations ,admissions, surgical operations, establish and implement clinical protocols, establish protocols
Realizations	* Consultations : 7373
	* Admissions : 212 5 deaths
	* Surgical operations 288(73 major, 78 minor,137 intermediate)
	* Establish and implement clinical protocols

Dermatology

Specific mission	It is a specialty medical-surgical dealing with ocular diseases of 2nd and 3rd levels of patients and referrals from all over the country.
Staff	1 doctor and 3 nurses A1
Activities	Consultations ,admissions, surgical operations, establish and implement clinical protocols, establish protocols
Realizations	* Consultations : 3679
	* Updating the existing protocols

Out Patient Department Clinic

Specific mission	Providing quality care for outpatients in the following specialties: pediatrics, internal medicine, surgery, obstetrics and gynecology, urology, orthopedics, neurosurgery,
Activities	Consultation, echography,ECG, immunization et dressing
Realization	Consultation : 15 371 IM : 6302 Surgery : 3344 Obstetrics and gynecology : 4714 Pediatrics : 903 Other : 108
	Echography : 3338
	ECG : 62
	Vaccination (tetanos) : 396
	Dressing : 579
	Labo specimens : 4639 for NFS, sputum, chemistry, glucose, goutte épaisse, blood culture, pregnant test, stool examination, frottis vaginal, urine examination, serology,CD4, CV, TPHA, VDRL,PL

Physiotherapy

Specific mission	To deliver the maximum care to general people in need and particularly to patients in terms of functional reeducation and rehabilitation	
Implemented activities	Cares	14 231 people
	Education	To patients and their families on different physical disabilities, their prevention and on where to get treatment if needed
	Development of protocols	Respiratory disease Cardio-vascular diseases The fracture and luxation Electrotherapy

Stomatology

Specific mission	To provide dental care and surgery
Activities	Consultations, admission, treatments, update and complete the service existing protocols
Implementation	Consultations: 3617
	Admission: 24
	Treatments: 1525
	Update and complete the service existing protocols

Emergencies (A&E)

Specific mission	This department is responsible for ensuring quality care for the urgent stabilization of patients before their transfer in the various specialized services.	
Realized activities	* Admissions : 28 514 Patients road traffic accident: 2705 Death: 328 (1,1%° * Ensure that the ward round is made two times a day by a specialist or resident doctor * Update and develop guidelines on management of the most lethal, most frequent and those with longest length of hospital stay pathologies * Elaborate and validate the P&P * Implement the P&P	* Partially realized because of the lack of permanent medical team and overcrowding. * Partially realized because of the poor coordination between A&E and other departments. * The policies elaborated are partially validated * A small number is implemented

Ophthalmology

Specific mission	It is a specialty medical-surgical dealing with ocular diseases of 2nd and 3rd levels of patients and referrals from all over the country.
Activities	Improve cataract surgery by phaco emulsification. Establish glaucoma surgery Bringing strabismus surgery Update the existing protocols of the service
Implementation	***** Improve cataract surgery by phaco emulsification.
	***** Establish glaucoma surgery.
	***** Bringing strabismus surgery
	***** Update the existing protocols of the service

VI.1.4 Infection Control Program

Specific mission	To identify and reduce risks of hospital care associated infections in patients, visitors and healthcare workers.
Objectives	Monitoring of hospital-associated infections;
	Training of staff in prevention and control of HAI;
	Investigation of outbreaks
	Controlling the outbreak by rectification of technical lapses, if any;
	Monitoring of staff health to prevent staff to patient and patient to staff spread of infection;
	Advice on isolation procedures and infection control measures;
	Infection control audit including inspection of waste disposal (community infections), laundry and kitchen, hand hygiene etc……
	Monitoring and advice on the safe use of antibiotics(prevent spread of antibiotic resistance)
Activities	To put in place Policies and procedures
	Elaborate tools on nosocomial infections
	Elaborate audit tools on different aspects for quality
Implementation	**To put in place Policies and procedures** 20/23 IP&C policies have been elaborated In these 12 policies are approved, 8 are in draft and 3 are not yet formulated **Elaborate tools on nosocomial infections** These tools are already in place. **Elaborate audit tools on different aspects for quality** These tools are already elaborated; except for hand hygiene

VI.2 UNIVERSITY TEACHING HOSPITAL OF BUTARE (UTHB)

The mission of the University Teaching Hospital of Butare is to provide quality health care in accordance with international norms, to develop the competencies of health professionals, to contribute to the development of human resources, to conduct high level research and to bring a technical support to the health system. This will be achieved by a competent and motivated staff, in collaboration with the partners, using available means.

To fulfill this mission, objectives were then assigned:

- Advocacy for UTHB's development.
- Provide required resources for the implementation of our strategic plan 2008-2012.
- Provide the support to the development of countrywide and/or regional reference services (dialysis, genetics laboratory, pathology, etc.)
- Strengthen the UTH/B capacity building (Human Resources development)
- Promote «Evidence-based practice research».
- Support UTH/B for providing Technical support to district hospitals.
- Support UTH/B in the COHSASA accreditation process.
- **Staffing in the UTHB 2009-2010**

Tableau 64: CHUB/UTHB: Staffing

N°	Staff		Number	Total
1	Doctors	Rwandans	28	30
		Expatriates	2	
2	Specialists	Rwandans	15	32
		Cuban	5	
		Expatriates	12	
3	Nurse (Nigerians)		7	7
4	Nurse & Midwives		226	316
5	Paramedical staff		90	
6	Administration		67	67
Total				452

Tableau 65: CHUB/UTHB: Consultations and Admissions

ACTIVITIES / SERVICES	Consultation	Hospitalization days	Hospitalization capacity (beds)	**Rate of beds occupancies (%)**	Old cases	New cases	Hospitalization (Patients)	**Mean duration of stay**	Total number of Exit	**Exit state**											Average presence per day
															Deaths						
										Cured	Improved	Not Improved	Escaped	Transfers	***<15 years***	***15 - 29 years***	***30 - 44 years***	***45 - 60 years***	***>61 years***	***Total***	***Deaths in %***	
Clinic	0	1872	12	**46.6**	1	340	341	**6**	336	3	279	18	0	21	***0***	***0***	***3***	***5***	***6***	***14***	***4.1***	6
Dermatology	2513	301	10	**8.9**	0	34	34	**9**	24	6	16	1	1	0	***0***	***0***	***0***	***0***	***0***	***0***	***0***	1
ENT	3607	1219	6	**60.6**	0	263	263	**5**	263	6	247	9	0	1	***0***	***0***	***0***	***0***	***0***	***0***	***0***	4
ICU	0	1059	5	**63.2**	0	191	191	**6**	191	0	121	2	0	3	***14***	***15***	***13***	***12***	***11***	***65***	***34***	3
Internal Medicine	10730	18532	75	**73.8**	30	1408	1438	**13**	1375	111	902	76	16	22	***1***	***54***	***60***	***60***	***73***	***248***	***17***	55
OG	4556	9887	49	**60.2**	23	1824	1847	**5**	1845	110	1696	5	13	4	***40***	***9***	***4***	***3***	***1***	***57***	***3.1***	30
Ophtalmology	4575	150	13	**3.4**	0	38	38	**4**	36	5	31	0	0	0	***0***	***0***	***0***	***0***	***0***	***0***	***0***	-
Pediatrics	4807	12856	45	**85.3**	34	1242	1292	**10**	1269	319	650	14	62	19	***205***	***0***	***0***	***0***	***0***	***205***	***16***	38
Stomatology	9175	0	0	**0**	0	0	0	**0**	0	0	0	0	0	0	***0***	***0***	***0***	***0***	***0***	***0***	***0***	0
Surgery	3230	32902	110	**89.3**	48	1598	1646	**21**	1603	24	1353	62	72	34	***5***	***3***	***16***	***19***	***15***	***58***	***3.5***	98
TOTAL	**43193**	**78788**	**325**	**72.4**	**136**	**6938**	**7090**	**11**	**6942**	**584**	**5295**	**187**	**164**	**104**	**265**	**81**	**96**	**99**	**106**	**647**	***9.1***	235

It was observed that the Obstetrics and Gynecology service has more patients in hospitalization than other services due to women transferred for delivery. The Obstetrics and Gynecology where many more patients are hospitalized than in other services and the Surgery service, require sufficient number of nurses, doctors and specialist doctors.

The Internal Medicine Department hosts many outpatient consultations compared to other clinical services. There is a need to hire other doctors in the internal medicine as well as much more equipment/medical materials.

Considering the bed occupancy rate, the department of surgery is first with 89.3% as it hosts many patients operated who require special follow since they are hospitalized for long time in order to manage the complications that may occur. The Department of Pediatrics is the second with 85.3% occupancy rate, due to small space used because the service is being rehabilitated.

The mortality rate (death in %) is very high in the ICU (34%), because patients are admitted in critical clinical condition with a lower survival probability. Also, Internal Medicine and Pediatrics have a significant death rate due to late transfers coming from districts that cause many of neonatal deaths.

Tableau 66: CHUB/UTHB: Main causes of mortality

Nº	Department	Diagnoses	
		Most Common	**First fatal**
1	**Pediatrics**	Infections respiratoires (19.54%)	Prematurity (30.24%)
		Malaria (17.35%)	Neonatal infection (19.02%)
		Gastro-entérite (11.44%)	Septicemia (7.8%)
		Anémie (4.88%)	Pneumopathy (4.39%)
		Cardiopathies (3.98%)	Malaria (3.9%)
2	**Internal Medicine**	Gastroduodénal diseases (12.7%)	Renal failure (9.67%)
		Cardiac diseases (10.9%)	Tuberculosis (9.27%)
		Malaria (9.88%)	Heart failure (9.27%)
		Neurological diseases (6.82%)	Meningitis (6.45%)
		Liver cirrhosis (6.43%)	HIV/AIDS (5.64%)
3	**Surgical ward**	Back pathologies (22.99%)	Fractures (20.69%)
		Joints stiffness (19.42%)	Burns (12.07%)
		Traumatic and rhumatoid pains (9.03%)	Cervical spine injury (8.62%)
		Peripheral paralysies (7.84%)	Intestinal obstruction (6.889%)
		Hemiplegia and hemiparesis (6.13%)	Cancer de la prostate (3.45%)

Source: UTH Butare, annual report 2009-2010

Tableau 67: CHUB/UTHB: Status of Indicators over years

Indicators	2005	2006	2007	2008	2009	2009-2010
Number of beds (ward)	417	418	418	418	314	325*
Bed occupancy rate (%)	69%	72%	67%	65%	76.9%	72.4%
Total length of stay (days)				99,401	88,147	78,788
Daily number of patients (in the ward)			280	272	241	235
Mortality rate (%)	3.3%	3%	5.7%	7.4%	8.6%	9.12%**
Average length of stay (days)	14	15	17	13	11	11

Source: UTH Butare, annual report 2009-2010

* Pediatrics ward under rehabilitation and number of beds reduced to 36 (-60)
** More complicated and end stage illness patients transferred from DH. Many premature babies, including ''des grands prematurés'' transferred with delay from DH

VI.2.1 Clinical Activities

Pediatrics Department

The Pediatrics' department is composed by the following units of care:
-Neonatology unit
-Hospitalization room and emergencies
-ART unit
-Out patients consultation
Normally, the Pediatrics Department has 96 beds and 9 incubators but due to the rehabilitation of the service shifted to another location where space is only sufficient for 36 beds and 9 incubators.
In ART unit, there are 200 children living with HIV and 100 babies exposed to HIV (born by infected mothers).137 children are on ART treatment and 63 children on Bactrim prophylaxis.

Tableau 68: CHUB/UTHB: Outpatient consultations *(ART not included)*

Month	July 09	Aug 09	Sept 09	Oct 09	Nov 09	Dec 09	Jan 10	Febr 10	March 10	April 10	May 10	June 10	Total
New case	63	101	123	149	133	141	98	169	253	134	194	124	**1682**
old case	361	282	307	246	132	248	259	275	342	254	368	241	**3315**
Total	424	383	430	395	265	389	357	444	595	388	562	365	**4997**

*Source : UTHB, annual report, 2009-2010*ART not included

Hospitalization

Tableau 69: CHUB/UTHB: Admissions

Month	July 09	Aug 09	Sept 09	Oct 09	Nov 09	Dec 09	Janv 10	Fev 10	March 10	Apr 10	May 10	Jun 10	Total
Cured	3	1	0	2	19	16	5	5	8	24	41	16	140
Improved	66	60	32	30	28	28	24	44	47	32	25	23	446
Not improved	0	0	4	1	0	1	0	0	1	0	0	o	7
Death (%)	10 (12.3)	10 (13.8)	2 (4.8)	6 (14.2)	4 (7.6)	3 (5.9)	6 (14.6)	5 (8.9)	6 (9.2)	4 (6.3)	1 (1.4)	2	49 (7.2)
Transfert	0	0	1	0	0	1	6	3	1	2	1	1	16
Evasion	2	1	2	3	1	2	0	2	2	2	3	0	20
Tot.of admission	81	72	41	42	52	51	41	56	65	64	71	42	678

This table does not include neonatology statistics

Source : UTHK, annual report, 2009-2010

Neonatology Unit

Tableau 70: CHUB/UTHB: Neonatology activities

Month	July 09	Aug 09	Sep 09	Oct 09	Nov 09	Dec 09	Jan 10	Febr 10	Mar 10	April 10	May 10	Jun 10	Total
Cured	19	30	22	19	17	8	9	17	9	13	22	10	195
Improved	47	9	29	26	17	24	22	18	12	32	24	12	274
Not improved	0	1	1	0	0	0	0	1	1	0	0	4	8
Death (%)	10 (12.8)	11 (20)	13 (19.4)	9 (15.5)	16 (30.7)	20 (37.7)	7 (17)	11 (22.9)	16 (38)	13 (22)	16 (24.6)	7 (17.9)	149 (22.8)
Transfert	0	0	0	1	0	0	0	0	2	0	1	1	5
Evasion	2	3	2	2	2	1	3	1	2	1	2	1	22
Tot.of admission	78	54	67	57	52	53	41	48	42	59	65	37	653

Source : UTHK, annual report, 2009-2010

Gyneco-Obstetrics' Department

The Department of G-O is the one of the 4 main departments of UTHB.

Tableau 71: CHUB/UTHB: Gyneco-Obstetrics activities

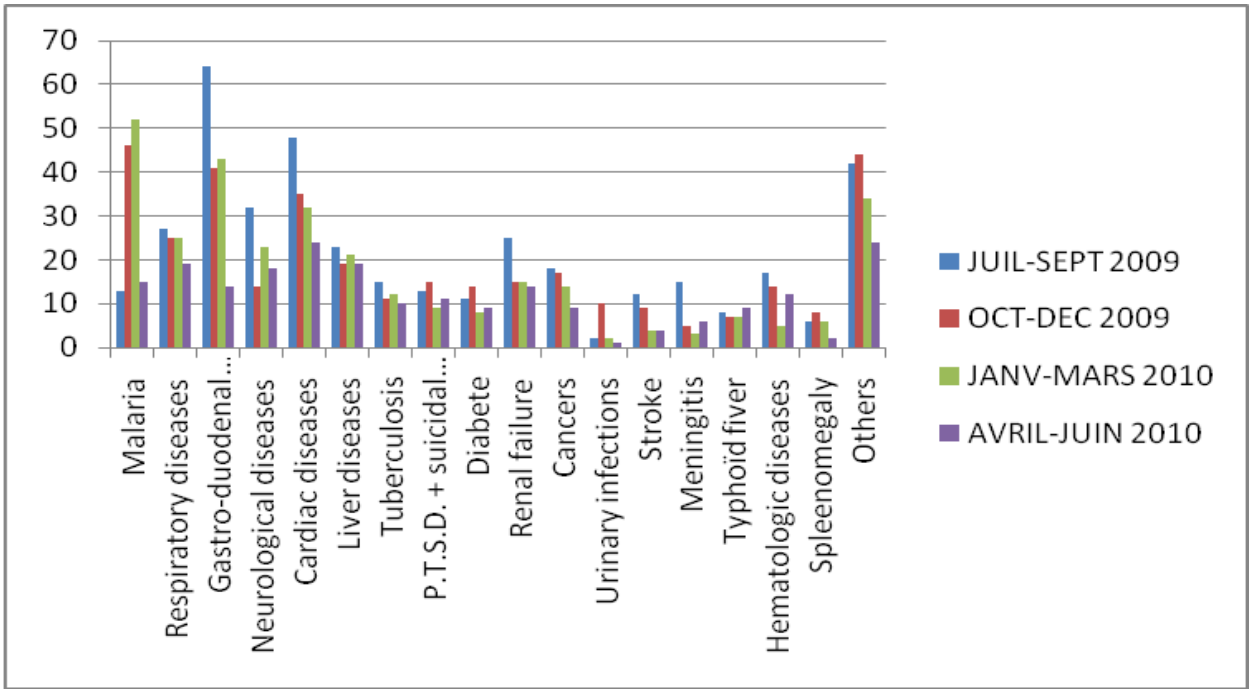
Activities	July -Sept 2009	October -Dec 2009	Jan-Mar 2010	April - June 2010	Total	Observation
Outpatient Consultation	1235	1136	1068	1117	**4556**	
Hospitalization	500	524	490	470	**1984**	
Interventions : ➢ Minors ➢ majors	 53 62 =115	 32 46 =78	 32 25 =57	 28 35 =63	 **145** **168** **=313**	Cesarean section excluded
Deliveries : ➢ eutocic ➢ cesarean section ➢ Vacuum ➢ Forceps ➢ Breech	 256 115 3 0 4 =378	 195 110 4 0 0 =309	 177 110 5 1 0 =295	 137 58 2 0 0 =197	 **765** **393** **14** **1** **4** **=1179**	
Newborn ➢ alive : ➢ Perinatal death ➢ Intrauterine Fetal death	 372 6 11	 289 1 10	 279 2 12	 189 2 6	 **1129** **11** **39**	
Vesicovaginal fistula	1	0	4	4	**9**	
Ovarian cancer	1	0	4	4	**9**	
Preterm labor	18	23	34	15	**90**	
Malaria	1	18	15	5	**39**	
Molar pregnancy and brigth ovum	6	6	12	11	**35**	
Postpartum hemorrhage	2	1	8	5	**16**	
Extrauterine pregnancy	0	1	3	3	**7**	
Breast cancer	1	7	7	4	**19**	
Eclampsia/Pre-eclampsia	3	12	10	5	**30**	
Cervical Cancer	7	8	3	5	**23**	
PMTCT= - Counseled and Tested women for HIV -HIV positive women -Partrners tested -HIV positive partners -Discordant couple	 161 10 103 0 1	 233 10 197 3 3	 221 8 160 4 2	 145 3 122 3 0	 **760** **31** **582** **10** **6**	
Echography	620	829	550	495	**2494**	
Hysterosalpingography	38	37	38	26	**139**	
Death : - Maternal death - Non maternal death	1	4 3	3 2	1 1	**9** **6**	

Source : UTHK, annual report, 2009-2010

Internal Medicine Department

The department of Internal Medicine has several units:
- Hospitalization wards and emergency room
- Mental health unit
-ARV unit
- OPD
- Private wards

Figure 47: CHUB: Consultation and admitted patients



Haemodialysis unit

The haemodialysis Unit of University Teaching Hospital of Butare started in January 2007. During the two years of its existence it largely fulfilled this mission but there is an evidence: Chronic Renal Failure was far more predominant than the Acute Renal Failure.

With this new challenge, the unit was in the obligation to assist these new patients of End Stage Chronic Renal Failure, who previously were not intended to when the Unit was set up.

The original roles of the unit were:

- Provide adequate care with haemodialysis to patients with Acute Renal Failure from different origins (Severe Infections, Hypovolemic shocks).
- Referral of patients from Peritoneal Dialysis in King Faisal Hospital, whose peritoneal filtration function is compromised by peritonitis.
- To be the vanguard of the forthcoming Unit of Nephrology.

The Unit which originally targeted acute renal failure is currently overwhelmed by a big number of chronic cases. Still patients being treated are just of the lucky few who managed to get the sponsorship, mainly from the Ministry of Health for Rwandan citizens, and private means for foreigners or Rwandans living abroad who were in holidays.

To get a comparative idea the following figures gives the statistics of 2009- 2010

Tableau 72: CHUB/UTHB: Hemodialysis activities

	Year 2009	Year 2010	TOTAL
Total number in HD	21	31	**52**
End-Stage Renal Failure	16	22	**38**
Acute Renal Failure	5 (among them 1 child)	Acute Renal Failure: 9 (among them 2 children)	**14**

Source : UTHK, annual report, 2009-2010

Prevention with screening of risk factors in the population

On a weekly basis the Unit carried out a screening of hypertension at the hospital:
1412 people were screened and 113 (8%) found to be hypertensive. These were followed in the Unit and the outcome is positive with hypertension being addressed.
However, ther is a problem of severe shortage of paramedical personnel together with insufficient machines (only one machine available). Also there is a big number of patients on End-Stage Renal Failure necessitating Renal Replacement Therapy but they cannot get it.

Surgery Department

The department of surgery is made up of two main units: **operating theatre** and **surgical ward**.

Operating theatre

The theater room is divided into three main sub units:

- Minor surgery room
- Operating theatres
- Recovery room

This unit is combined with Emergencies section. This combination is a challenge due to lack of space as there is only one resuscitation room where patients from the operating rooms and critically ill patients are received from emergency unit.

Surgical Ward

The surgical ward has 110 beds including dermatology ward A &B
Considering the topography of this unit, with the scattered sub units, the space is not enough to keep all specialities in surgery separately and this lead to the mixture of all ages patients (children and adults, infected and uninfected cases).

Ophthalmological ward where chronic osteomyelitis cases are hospitalized is in renovation to allow better management of burns cases to protect them from infection. The department received 1475 patients for hospitalization and 7652 outpatients.

Tableau 73: CHUB/UTHB: Surgery: Causes of admissions

Pathologies/Hospitalization	**M**	F
Uro-genital pathologies	36	12
Hepato-digestive pathologies	216	112
Osteo-articular pathologies	387	216
Endocrinial pathologies	4	11
Complications linked to diabetes	4	3
Vascular and neuro-muscular pathologies	75	80
Cardio-vascular pathologies	16	14
Pathologies cutaneo-muqueux et infections des parties	167	117
Pathologies/outpatient	**M**	F
Uro-genital pathologies	245	17
Hepato-digestive pathologies	206	127
Osteo-articular pathologies	878	660
Endocrinial pathologies	3	78
Complications linked to diabetes	0	1
Vascular and neuro-muscular pathologies	495	430
Cardio-vascular pathologies	0	0
Pathologies cutaneo-muqueuses et infections des parties	296	215
Digestive fistulas and fissures	21	20

Source : UTHK, annual report, 2009-2010

V.2.2 The accreditation process in UTHB

In UTHB, the process started after the report from COHSASA in 2007 and the recommendations were implemented during the period 2009-2010 such as:

- To put in place a professionally acceptable patient health record system which is functional since 2008,
- The nomination of the infection and hygiene coordinator, and appointment of a committee of hygiene, while guidelines/protocols of hygiene were drafted. Employees were trained and equipments were put in place in every service/department,
- Establishment of guidelines/protocols and policies for the laboratory service, the label of medication issued to patients, etc,

- Rehabilitation of the pediatric department and its equipments with all the necessary, the use of screens during dispensing medical care to ensure privacy,
- Appointment of the Ethic committee was created and other relevant committees: monitoring and evaluation committee, accreditation task force, etc,

In order to facilitate the access to care, panels and sign posts were put in place in the UTHB whereas identification badges were given to every employee,

Problems identified

Despite various difficulties, the end of year statement is positive due to the application and devotion of the staff. However different problems were identified:

- Old buildings, with inadequate facilities like Theatre room and recovery room which do not meet the International Healthcare standards.
- Insufficient nursing and medical staff
- Lack of materials which results in several stock out and insufficiency of equipments.
- Lack of funds to implement the capacity building plan of the year.

I.3 KING FAYCAL HOSPITAL (KFH)

Introduction

King Faisal Hospital, Kigali (KFH, K) sees itself as an implementation agent of the Ministry of Health (MoH) in partnership with other agencies.

Mandate

The primary mandate of the hospital is to provide a higher level of technical expertise than that available in the national referral hospitals to both the private and public sector and to ensure that there is a reduction in the number of transfers abroad.

Mission statement

"We, King Faisal Hospital, Kigali, are committed to providing cost-effective, self-sustaining, high quality and specialized health services in collaboration with our clients. We do this with an empowered workforce in an environment that values professionalism respects patients' rights and upholds human dignity at all times. With our partners and within available resources, we contribute to the development of health services, research and education in Rwanda".

The major activities are detailed in the table below (Clinical activities not included):

<table>
<tr><th>Major activities</th><th>Status</th><th>Way forward</th></tr>
<tr><td>Open Heart surgery programme
3 groups namely;
(1) Operation Open
(2) Heart
(3) Team Heart and Healing Hearts</td><td>Started with 1 group coming per year but now we have 3/year. The total number of patients operated so far is 137 (55 adult patients and 82 Children)</td><td>• Train local staff in the same
• Buy equipment for KFH, K so that team doesn't have to bring theirs
• Get a Cardiac Surgeon for KFH, K so that patients don't have to wait for up to a year for surgeries
• Get a Catheter lab in KFH, K</td></tr>
<tr><td>Accreditation Program</td><td>There has been gradual improvement from the baseline external survey done in February 2006 up-today
<table>
<tr><th>Period</th><th>Type of the survey</th><th>Overall Hospital Score</th></tr>
<tr><td>February 2006</td><td>Baseline Survey (External Survey)</td><td>41%</td></tr>
<tr><td>February 2009</td><td>1st Internal Survey</td><td>56%</td></tr>
<tr><td>August 2009</td><td>2nd Internal Survey</td><td>74%</td></tr>
<tr><td>February 2010</td><td>2nd External Survey</td><td>86%</td></tr>
</table></td><td>• Ensure that all criteria that are currently compliant remain so.
• Address the remaining critical criteria which are still non-compliant or partially compliant
• Continue the process of developing quality improvement projects in all service elements
• Continue training programmes and analyze data thereof
• Organize filing and documentation
• Clinical Audits and performance reviews, including resource utilization (stock-outs and expired drugs/consumables inclusive)
• Continue with Policy and Procedure development, validation and implementation</td></tr>
</table>

Major activities		**Status**	**Way forward**
HMIS		• Completed system study for Phase 1, 2 and 3 and signoff of the respective system requirements scope documents is in place • On site implementation of Phase 1: ➢ Change Requests for further customization approved and signed off ➢ Completed set up of training server and in process of preparing training database ➢ Identified process champions and preparing stage 1 training	• Process champion and End user training Phase 1 stage 1 • Process champion and End user training Phase 1 stage 2 • Data migration • Internal Application testing Phase 1 • Conduct acceptance training for process champions and end users • Process sign off • Go live – Phase 1 • Post production support plan
Works for rehabilitation and expansion of the hospital	• *Detailed study , Design and constructio n supervision*	OZ Architect has already signed the contract with the Government of Rwanda represented by KFH and advance payment of 20% has already been paid by MINICOFIN. Site study is now being carried out by OZ	• Prepare a detailed study, design and the bill of quantities for Phase one (Doctors' Plaza) • Procurement to advertise for the Construction companies and submit to the Donor (SFD) for no objection for fund reservation and contract negotiation
	Construction and expansion of existing of KFH.	KFH,K is waiting for the consultant to submit the complete design for Phase one.	• Prepare a tender notice to be issued in local, regional and international papers • Bid opening and evaluation. • Notification of tender award • Contract negotiations and signature • Commence with the actual construction • Commissioning of the building

Medical Equipment	*All contracts for the laboratory, dental, ophthalmology and radiology equipments tenders have been signed and partially delivered for the first phase*	82% of the budget for medical equipment under the SFD loan has been utilized and all requested equipments by the end-users have been delivered.	• Develop specification for the remaining medical equipments in phase II including: theatre instruments, medical furniture and biomedical equipments. • Prepare the tender document to be submitted to the donor for no objection
	Additional medical equipments that are not funded by SFD but were included in our capital needs budget funded by the Government of Rwanda.	All requests with supporting documents for funds reservation have been submitted to the Ministry of Health.	Prepare payment orders for the Ministry of Health to transfer the funds to KFH,K accounts in order to proceed with the acquisition of these essential medical equipment for the new specialties in the hospital to improve Healthcare services.
Consultancy services	*To develop a schematic design for the entire hospital.*	The Government of Rwanda has agreed to finance the entire budget for the consultancy services	Request the SFD to re-allocate the amount of USD 400,000 for consultancy to the category of medical equipment.(Already done)

MRI Project (Magnetic Resonance Imaging)	• The building in which the MRI will be housed is under construction and the PHILIPS MRI is expected to be delivered to KFH, K by September 2010. I • Training for staff in progress	• .Install the machine • Continue staff training
Supply and Installation of Haemodialysis equipment	The installation of the haemodialysis equipment is currently taking place at KFH,K.	Negotiate an after sales service agreement with the Manufacturer and set a budget for maintenance of these equipments
Rwanda Neurosurgical Center	• Officially opened on 31st July 2010 • Two adult wards and one paediatric ward have been secured at CHUK. • At King Faisal Hospital the wards, ICU and high care are available for use with other departments. • A room for this purpose has been provided by King Faisal Hospital administration and is being refurbished. • An administrative secretary who will double as a librarian recruited • Collaboration network established with Halifax, Dalhousie University, Duke University, Harvard University and FIENS (Foundation for International Education in Neurological Surgery)	Perform • Neurovascular surgery • Endoscopic neurosurgery • Surgical treatment of epilepsy • Deep brain stimulation

KFH HOSPITAL ACTIVITIES SINCE AUG 09 TO JULY 010

Department	unit	Aug	Sept	Oct	Nov	Dec	Jan	Feb	March	Apr	May	June	July	
NICU	%occup	45%	92%	95%	65%	19%	46%	52%	91%	67%	71%	104%	82%	
ICUAD	%occup	61%	55%	73%	69%	47%	58%	53%	72%	83%	58%	69%	59%	
PAED	%occup	59%	51%	42%	68%	59%	58%	74%	60%	70%	80%	75%	58%	
MED	%occup	85%	69%	64%	64%	64%	62%	56%	73%	74%	62%	70%	66%	
SURG	%occup	79%	55%	50%	66%	61%	57%	61%	77%	74%	76%	76%	71%	
URUSARO	%occup	42%	58%	35%	51%	9%	49%	42%	51%	52%	42%	50%	52%	
MATERN	%occup	55%	55%	62%	54%	44%	32%	37%	55%	47%	46%	50%	50%	
HSPT	%occup	69%	57%	56%	63%	56%	54%	56%	69%	68%	65%	71%	69%	**TOTAL**
A&E	nbr of patients	802	767	945	907	1002	1006	949	1162	955	1112	1107	1016	**11730**
OPD	nbr of patients	3462	4094	3866	3646	3758	2954	2872	3193	3871	3720	3793	3228	**42457**
LABO	nbr of samples	4733	4303	4214	3791	4112	4163	3938	4559	4378	5472	4450	4500	**52613**
	nbr of test	24768	24627	24841	20975	21157	22845	21929	26822	27764	25818	28764	26553	**296863**
RADIO	nbr of test	1807	1870	1979	1963	2104	2142	1957	2202	2345	2336	2511	2351	**25567**
	nbr of patients	1195	1153	1141	1331	980	982	854	1471	1321	1256	1220	888	**13792**
THEAT	nbr of ops	192	214	248	215	227	192	169	202	220	223	194	225	**2521**
	nbr of patients	190	211	243	215	227	183	164	202	219	221	194	223	**2492**
PHYS	nbr of patients	673	679	649	625	625	604	494	643	574	706	508	480	**7260**
PHARM	Total prescription	9213	9117	9049	9006	8776	9209	7902	10193	9813	9855	10694	9322	**112149**
	total nbr of items	32086	31965	33298	32263	31284	32376	27826	36645	34960	34828	33992	31966	**393489**
	Average item per prescr	352	351	368	358	356	352	352	36	356	353	318	343	**3895**

Clinical activities in the KFH

The following is the list of surgical operations carried out from August 2009 to July 2010.

COMMON THEATRE OPEREATIONS IN AUGUST 2009-JULY 2010

TYPE OF OPERATION		
UNDER GENERAL ANAESTHESIA (1412)	**UNDER LOCAL ANAESTHESIA (LOCAL:278/SPINAL:473)**	**UNDER CONSCIOUS SEDATION (358)**
Caesarean section	Caesarean section (spinal)	Gastroscopy, Colonoscopy
Adenotonsillectomy	Circumcision	Diagnostic hysteroscopy
Craniotomy	Debridement and dressing	Dental procedures
Tracheostomy	Incision and drainage	Wound debridement and dressing
Circumcision	Lymphnoide biopsy	Reduction of dislocation
Hysteroscopy, Laparoscopy for infertility	Total Hip/Knee replacement(spinal)	Central vein fixation
Transurethral resection of prostate/ Bladder	Internal and External fixators(spinal)	Foreign body removal(ENT)
Total Hip/Knee replacement	Transurethral resection of prostate(spinal)	
Internal and External fixators	Varicocelectomy	
Cholecystectomy	Strapping of varicose	
Appendicectomy	Catheter insertion	
vip shunt	Transurethral resection of Bladder(spinal)	
Thoracothomy		
Myomectomy		
Gastrectomy		
Open heart		

COMPARISON OF KFH HOSPITAL CLINICAL ACTIVITIES FROM 2005- JULY 2010

HSP Wo	% occup	2005	2006	2007	2008	AUG 09-JUL 010
A & E	Nbr of patients	10463	12687	11895	11702	**11730**
OPD	Nbr of patients	50199	53600	36665	32004	**42457**
LABO	Nbr of tests	203005	228116	185068	168726	**297298**
	Nbr of samples	25315	32609	52183	46625	**52613**
RADIO	nbr of tests	19581	20804	15663	15487	**25567**
	Nbr of patients	16440	17426	14185	14574	**13792**
THEAT	Nbr of ops	2021	2417	2248	2116	**2505**
	Nbr of patients	1862	2283	2062	1672	**2169**

VI.4 THE NATIONAL REFERRAL LABORATORY

VI.4.1 Introduction

The National Reference Laboratory (NRL) was established in July 2003 with the main roles to:

(a) Provide training and technical support to laboratory personnel in the national lab
(b) Establish quality assurance for laboratory network in the country;
(c) network;
(d) Perform specialized tests for the diagnosis of prevention and surveillance of various infectious diseases;
(e) Participate epidemiological surveillance;
(f) Carrying out research and
(g) Develop a national medical laboratory system, in line with the national decentralized health system.

To achieve the above mission, NRL is mandated with the following responsibilities:

(i) ***Prevention, control and surveillance of diseases***: In this respect, NRL:

- Provides expertise and serves as a centre for detection, identification and analysis of biological agents in human diseases: Malaria, STDs, TB, HIV/AIDS, diarrhea, emerging and re-emerging diseases, epidemic bacteria etc;
- Provides accurate analytical results for assessment monitoring and surveillance of infectious, communicable and chronic diseases;

- Provides specialized tests for low-incidence, high risk diseases like rabies;
- Provides the population with surveillance, screening for conditions of interest and / or concern to public health;
- Performs tests to meet specific program needs of public health and related agencies.

(ii) ***Provision of laboratory reference and specialized testing***: to provide referral laboratory services to all health care providers in the country, and also acts as a center where specialized testing services are provided.

(iii) ***Integrated data management***: As a central laboratory with the mandate for quality assurance, research and capacity building for medical laboratories in the country, NRL will serve as a focal point for generation, processing/ analysis and dissemination of scientific/ laboratory related information in support of public health programs.

(iv) ***Policy development and regulation*** – Although the mandate of initiating and formulating all health related policies lies with MINISANTE, the NRL is the technical agency with the mandate for laboratory policy development and implementation.

(v) ***Public health and related research*** – Research and Development (R&D) in biomedical and public health issues, constitute some of the core tasks of the NRL.

(vi) ***Education and Training***: To improve the quality of Health care services the NRL participates in pre-service training of the biotechnologist by providing part time visiting lecturers, participating in curriculum development. This role is to ensure the improvement of quality of human resources within the national laboratory network.

(vii) ***Quality Assurance and quality control***: Provision of quality laboratory services depends on effective and efficient performance of the national laboratory network. The Quality Assurance (QA) of the network is the core function of the NRL especially considering the poor infrastructure and skills gap at all level of laboratories. NRL develops sufficient capacity to manage the task of having all labs involved in quality assurance:

VI.4.2 Laboratory epidemiological surveillance and identification of epidemic bacteria

The NRL received a total of 206 biological samples from different laboratories in country and participated in collection of samples from areas with suspected bacteria of epidemic potential in collaboration with the Epidemiology unit of TRAC plus and Health Facilities country wide.

The majority of specimens come from Northern and Western provinces: most of blood specimens are from Northern Province and Stool specimen from Western province.

Tableau 74: NRL: Isolated Organisms from stool samples

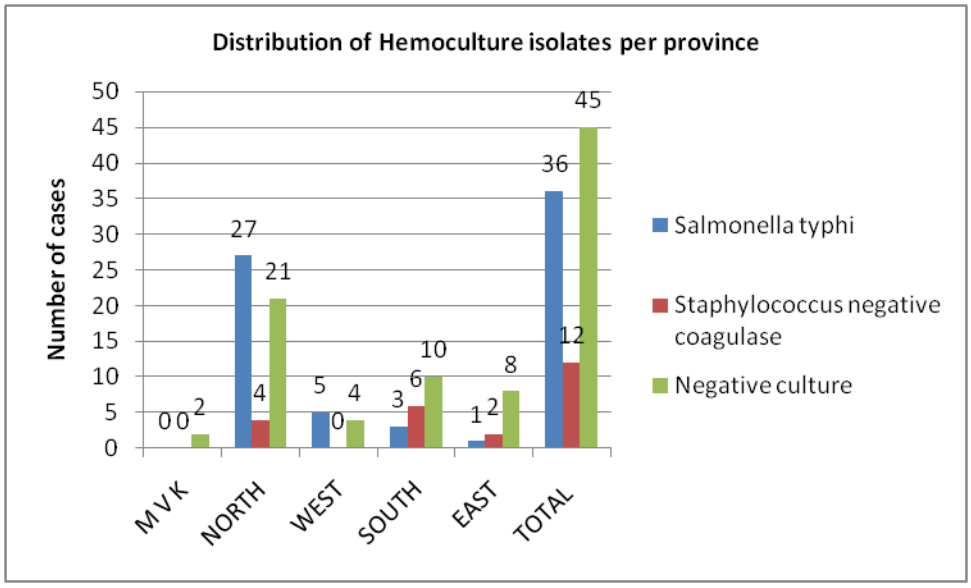
Province	*Vibrio cholerae Inaba*	*Shigella sonnei*	*Shigella flexineri*	*Escherchia coli 0157*
M V K	-			-
NORTH		1	-	-
WEST	28	2	2	-
SOUTH	-	-	-	-
EAST	-	-	-	-
TOTAL	**28**	**3**	**2**	**0**

Source: NRL, annual report, 2009-2010

Out of 97 stool samples analyzed, 33 were positive for high pathogenic organisms as indicated in the table. 85% of the organisms isolated were *V. cholera* from Rusizi district, Western province.

- **Blood Samples**

Figure 48: LNR: Distribution of Hemoculture isolates by Province



Source: LNR, annual report, 2009-2010

The majority of specimens come from Northern Province.
A lof of contaminated specimen come from Southern province, especially from Remera Rukoma hospital.

Out of 101 blood/ hemoculture samples collected and analyzed, 36 (35, 6%) contained pathogenic organism *S. typhi*. 45% (45/101) of the total samples collected and analyzed were confirmed negative with majority of samples from the Northern and Southern Provinces.

Tableau 75: NRL: Drug susceptibility on standard antibodies

	Antibiotics susceptibility for *Vibrio cholerae*	
Antibiotics	**Sensitivity (S)**	**Resistance (R)**
Ciprofloxacin	28	-
Tetracycline	28	-
Ampicillin	-	28
Chloramphenicol	3	25
Naldixic Acid	-	28
Cotrimoxazole	4	24

Source: LNR, annual report, 2009-2010

V. cholerae isolated from the 28 specimens was found sensitive to ciprofloxacin and tetracycline and resistant to ampicillin, chloramphenicol, naldixic acid and cotrimoxazole.

Recommendations:

Since the isolated organisms above are water and food-borne, it's recommended:

(i) Field staff involved in disease prevention and epidemiology should reinforce their prevention strategies in water and food sanitation.
(ii) NRL should build capacity in food and water microbiology at the NRL.
(iii) Antibiotics for treatment to be utilized as recommended by WHO i.e. ciprofloxacin and tetracycline should be monitored to avoid resistance.

Internal and External Quality control

1nternal quality control

A total of 1015 media were prepared and passed quality tests to include culture media (895) and stool transport media (120). Stool transport media were distributed to peripheral labs for collection of stool specimens for suspected epidemics.
The NRL conserved bacteria for internal quality control for validation of results of the isolation and drug susceptibility on the media and reagents in the diagnosis of suspected bacterial infection.

External quality control

In collaboration with the National Institute for Communicable Disease (NICD), South Africa, the NRL participated in 2009-2010 external quality control and the results are as indicated below.

Tableau 76: NRL: External Quality Control on epidemic bacteria laboratory

Serial	Number of control panels received	Score obtained (%)*
Quarter 2/2009	4	71 %
Quarter 3/2009	4	70 %
Quarter 1/2010	4	67%

*** Minimum acceptable % is above or equal to 70%.**

Source: LNR, annual report, 2009-2010

Comments:

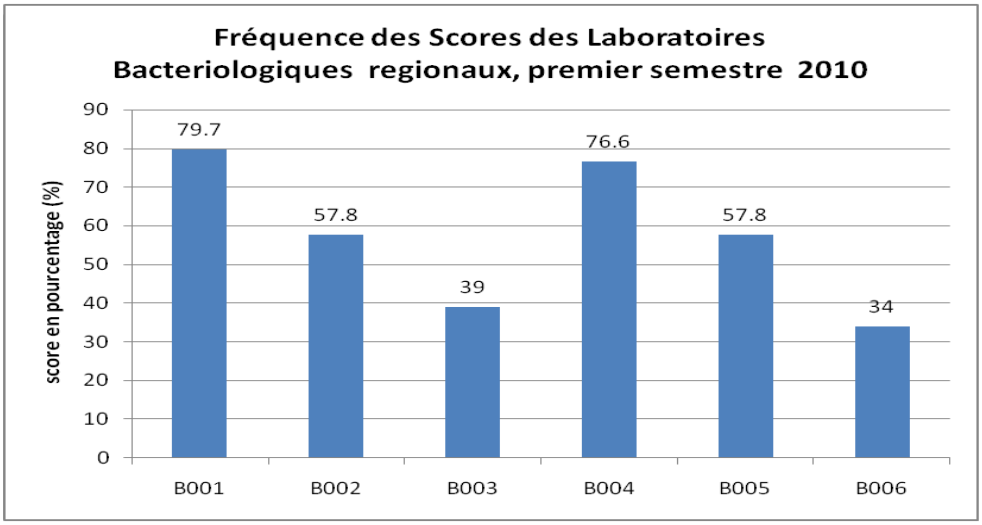
(i) The EQA result shows that the microbiology service achieved the acceptable percentage in the two quarters of year 2009 and failed for the first quarter 2010.

(ii) Areas of strength are: Identification of non epidemic bacteria.

Proficiency testing

The NRL has prepared proficiency panels for district hospitals competency evaluation: four different panels have been distributed to 6 district hospitals where bacteriology service is functional (Ruhengeri, Byumba, Kibungo, Nyagatare, Kanombe and Gihundwe hospitals).

Figure 49: Proficiency testing: bacteriology regional scores



Source: LNR, annual report, 2009-2010

Comments.

(i) Only two laboratories performed well their evaluation
(ii) The laboratory hospitals which failed this evaluation must be supervised and get refresher training.

The research conducted by NRL: Surveillance of drug resistant *salmonella spp*. And *Shigella Spp*. Opportunistic infections in Rwanda.

Objective:

To determine prevalence of *salmonella spp* and *shigella spp* strains circulating in Rwanda and emergence of drug resistance by retrospective and prospective screening of clinical isolates from 8 hospitals.

The project proposal: Surveillance of drug resistance salmonella Spp and Shigella Spp opportunistic infections in Rwanda has been drafted and approved by the National Ethics Committee.

Tableau 77: NRL: Outbreak interventions and surveillance

N°	Period	Outbreak area
1.	September 2009	Cholera/ Bugarama
2.	November 2009	Food poisoning/Rulindo
3.	December 2009	Typhoid / Gakenke
4.	December 2009	Beer poisoning/Nyabihu
5.	May 2010	Cholera/ Rusizi

Source: LNR, annual report, 2009-2010

1. Cholera/Bugarama: In September 2009, we confirmed 16 cases of Vibrio Cholera 01 Inaba from Rusizi district, Bugarama health center.

2. Food poisoning/Rulindo: In November 2009, there was a food poisoning, Rulindo district, Rutongo hospital.
   3 Escherichia coli were isolated from specimen collected at that hospital.

3. Typhoid/ Gakenke: In December 2009, we confirmed 8 cases of Salmonella typhi from Gakenke district, Nemba district hospital.

4. In December 2009, there was a food poisoning, Nyabihu district, Shyira hospital.
   2 shigella Sonnei were isolated from specimen collected at that hospital.

5. Cholera/Rusizi: In May 2010, we confirmed 4 cases of Vibrio Cholera 01 Inaba from Rusizi district, Gihundwe hospital.

Laboratory investigation of hotel employees

NRL in collaboration with hotel institutions organize annually general check up for their employees.

In bacteriology section we did the culture of different specimen collected from Hotels for screening.
The results of tests performed and number of specimen processed is indicated in table below:

Tableau 78: NRL: Laboratory investigation of hotel investigation

Sample type	Number of specimen processed	Provenance
Urine	150	SERENA Hotel
Stool	5	
Urine	15	MANOR Hotel
Total	**170**	

Source: LNR, annual report, 2009-2010

VI.4.3 MYCOBACTERIOLOGY SERVICE

Planned Activities:

- Preparation of the dyes for the diagnosis of tuberculosis (Maintenance of Quality),
- Specialized tests,
- Operational research,
- To do Quality control on a national and international level (Internal and external QC),
- Training and Supervision of peripheral laboratories (CDT),
- Development and implementation of fluorescence microscopy throughout 9 CDTs (Gisenyi Hospital, Ruhengeri Hospital, Kabgayi Hospital, Kabutare Hospital, Nyagatare Hospital, Biryogo Health Centre, Kicukiro Health Centre, CHUK and Nyamata Hospital).

Achievements:

1. Preparation of the stains for the diagnosis of tuberculosis (Maintenance of Quality)

The following amounts were prepared and distributed to peripheral laboratories:

- **565 liters** of Fuchsine, **912 liters** of Sulfuric Acid and **590 liters** of Methylene blue for Ziehl-Neelsen in 190 CDTs,
- **20L** of Auramine, **22L** of decolorizing solution, **20L** of Potassium permanganate (KMnO4) in 9 CDTs.

Tableau 79: NRL: Cultures for mycobacteriology

Nb samples	Total	
	Number	%
Specimens received	1666	100%
Positive Cultures	404	24.2%
Contaminated	54	3.2%
Cultures in process	218	13.08%
Negative cultures	990	59.4%
AAFB pos C pos	263	15.7%
AAFB neg C pos	139	8.3%
AAFB pos C neg	116	6.9%
AAFB neg C neg	867	52.0%

Source: LNR, annual report, 2009-2010

Comments:

Among the specimens received at NRL, only 24 % were positive in culture, 13% still in process and 59% were negative.

Quality control

National External Quality Control

6337 specimens from the **190** CDT were retested for QC and the results were retested.

Tableau 80: NRL: Quality control for Mycobacteriology

	2003	**2004**	**2005**	**2006**	**2007**	**2008***	**2009-2010**
Number of CDT	73	131	149	170	183	169	190
Number of slides	1486	2757	3853	7370	9057	6390	6337
Discordance (%)	1.1	4.3	3.4	1.5	0.8	0.9	0.5

Source: LNR, annual report, 2009-2010

* ZN method was utilized from Feb - April 2008 in District Hospitals and from June 2008, in the remaining CDTs. Prior to this period, Kinyoun method was used.

Observation:

These results indicate that the rate of discordance decreased progressively. This is due to supervision, continuous training and a new integrated approach of quality control done at District and NRL levels of the lab network.

Regional External Quality Control (microscopic identification of AFB)

The NRL participates in international quality control schemes. In 2009-2010, NRL received 16 panel slides (8 slides every four-months) from National Health Laboratory Services (NHLS/WHO), South Africa. The concordance of the results is of 100%.

Tableau 81: NRL: Results EQC Mycobacteriology

	2005, (n*=1)	2006(n=2)	2007(n=3)	2008(n=3)	2009-2010(n=4)
Concordance (%)	85,71	87,5 100	100 100 100	100 100 100	100 100 100 100

*** Number of participation in EQC**

Source: LNR, annual report, 2009-2010

3.3 International External Quality Control (TB culture and susceptibility tests)

A total number of 30 samples for quality control for culture and susceptibility tests were received in December 2009 from the Institute of Tropical Medicine of Antwerp (IMT), Belgium. They were processed and results sent back in February to ITM. Feedback is still expected.

Leprosy cases in Rwanda

13 slides for the diagnosis of leprosy were received in 2009-2010 and of these 13 cases; 2 were positive. The positive cases were from Rambura health centre (1) in Nyabihu District, Byumba District Hospital (1) in Gicumbi District.

Tableau 82: NRL: Leprosy cases diagnosed

	2003	2004	2005	2006	2007	2008	2009-2010
Number of specimens	26	14	64	13	11	16	13
Positives cases	13	4 (28.5%)	6 (9.3%)	3	4	4	2

	(50%)			(23%)	(36.3%)	(25%)	(15.3%)

Source: LNR, annual report, 2009-2010

FNA results for extra-pulmonary TB diagnosis July 2009- June 2010

A total number of 142 FNA have been collected, processed using ZN, Gram stain and Papanicolaou slides interpreted from various sites, mainly coming from CHUK, CHUB, Kanombe Military Hospital, Kabutare Kibagabaga hospitals and other trained sites.

Papanicolaou stain & Ziehl Neelsen stain

In 14 (10.7%) cases a Ziehl-Neelsen (ZN) stain was done and yielded positive results for AAFBs. In 116 (89.2%) cases a (ZN) stain was done and yielded negative results for AAFBs. In 11 (7.80%) cases either ZN was not done or it could not be ascertained whether a ZN stain was done. ***In 10 (7.9%) cases Papanicolaou stain was supportive to the definitive diagnosis of tuberculosis made by ZN stain.***

In 15 **(10.64%)** cases the diagnosis or suspicion of tuberculosis was raised by cytological features on Papanicolaou stain in the presence of a negative ZN result. In 116 (92.1%) cases Papanicolaou stain did not show any features of tuberculous lymphadenitis.

Tableau 83: NRL: Results of ZN stain for Leprosy diagnosis

	ZN results	
	Frequency	%
Positive	***14***	***10.7***
Negative	116	89.2

Source: LNR, annual report, 2009-2010

For 130 FNA specimens where ZN stain has been performed, 10.7% yielded a positive result for AFBs. While 89.2% were negative.

Tableau 84: NRL: papanicolaou results

	Papanicolaou results	
	Frequency	%
Highly Suggestive for TB	10	**7.9**
No evidence of TB	116	92.1

Source: LNR, annual report, 2009-2010

Among the FNA samples where Papanicolaou stain has been done, 7.9% ***was supportive to the definitive diagnosis of tuberculosis made by ZN stain.***

FNA on Lymph node Results

In 26 (18.44%) cases are either lymph nodes positive for tuberculosis through confirmation by ZN stain or are suspicious/suggestive of tuberculosis on the basis of features in a Papanicolaou stain in the presence of a negative ZN result. 19 (13.48%) cases show inflammatory or reactive features in a lymph node. 33 (23.4%) cases are inadequate for any diagnostic interpretation. 20 (14.18%) cases are indeterminate.

25 (17.73%) cases show evidence of other pathology outside tuberculosis (including lymphoma, other malignancy benign masses and abscess). The category "other" included 3 suspected breast carcinomas, 8 suspected lymphomas, 9 other malignancies, 2 abscesses, 4 benign lesions including (probable salivary gland cysts, epidermal inclusion cysts) and 1 other lesion. 18 (12.77%) cases show unremarkable lymphoid tissue.

Training on FNA techniques

A total number of 120 medical personnel has been trained among them 71 Medical doctors and clinicians or nurses and 49 technologists working in the District hospitals laboratory.

Another training has been conducted at Kigali Health Institute (KHI), a teaching institution, a total number of 42 students and 3 laboratory technologists have been trained on FNA technique.

FNA supplies distribution

All trained hospitals have received FNA kits intended to collect FNA samples while CHUK and CHUB have received large equipment intended to be used in their histopathology laboratory among them they are Tissue Processor, Microtome, Fume hood, Water Distillator, Centrifuge etc... More details on FNA Supplies distribution is in the FNA Supplies distribution report.

Constraints

- Insufficient personnel compared to the volume of work;
- Problem of maintenance and servicing of all equipments;

Recommendations

To improve good functioning of the service, we recommend the following:

- The maintenance of the equipment especially centrifuge, balances for the safety of the personnel and quality work.
- To ensure the specialized training of staff to improve the performance

VI.4.4 PARASITOLOGY SERVICE

Training, supervision, National quality control, International quality control, National proficiency panel control, research with NTD/ACCESS Project, Capacity building and skills development for National Reference Laboratory staff, Preventive malaria epidemics and Laboratory investigation of hotel employees.

Training

With the aim of increasing the capacity in knowledge and skills on laboratory diagnosis in the laboratory network, 225 Biomedical laboratory technologists from different health facilities were trained on malaria microscopy diagnosis; and 80 Biomedical laboratory technologists from WEST and EASTERN provinces were trained for diagnosis of intestinal helminthiasis (especially Schistosoma).

Supervision

- In the context of improving quality analysis of laboratories, 410 Health facilities were supervised.
- For strengthening the capacity analysis of laboratory network, procurement to the Health centers of **172 Hemocue machine** with **148 boxes of** 29.600 microcuvettes for determination of anemia due to malaria in general; **48.960 slides;** and **72 boxes for slide conservation** were distributed during supervision for malaria microcopy.

Quality control

Internal quality control

This is a continuous activity done by rereading of slides and comparing our results with the health centers results to assure the standard and quality of malaria microscopy diagnosis, (not necessary: helminthes and other soil transmitted worms).

► **4,357** malaria blood slides from 291 health district and health facilities laboratories were controlled based on quarterly random selection of 8 positive slides and 7 negative slides results as indicated in table 1 below.

Tableau 85: NRL: Quality control for Malaria diagnosis

Year 2010	Number of slides	Discordance	% of discordance
Positive slides	1585	30	1,8 %
Negative slides	2772	51	1,8 %

Total slides	4357	81	1,8 %

Source: LNR, annual report, 2009-2010

Comments:

It was noted discordances in malaria diagnosis, but related measures were taken:
the special supervision was performed by the NRL and the staffs of District Hospitals in affected health centers

There were reactions on these discordances in malaria diagnosis; a special training on malaria microscopy was done at Gihundwe, Mibilizi and Rwamagana District Hospitals. In total 29 biomedical technologists are trained on malaria microscopy diagnosis.

International Quality Control

NRL (Parasitology section) participated in external quality assurance program in which ten proficiency testing panels (malaria slides for microscopy) were supplied at different periods of the year by WHO/NICD South Africa
20 Blood slides (thin and thick smears) are controlled which were brought in 2 terms by 10 slides per term; results were sent back to S. Africa and feedback results of 1 term (October 2009) indicates the concordance of 97,5 %, the last term results is still in waiting.
NB: for **NICD**, acceptable result is 75 %.

3.3 National Proficiency Panel Control

In order to improve the quality of microscopic diagnosis of malaria, quality assurance of reagent and knowledge of identification of plasmodium species, for laboratory technicians of only District Hospitals, 80 none stained and 120 stained blood smears prepared in NRL (parasitology section) were sent to 40 District Hospitals for National proficiency panel control.

Laboratory investigation of hotel employees:

NRL in collaboration with Hotel institutions organize annually general health check up for their employees ; in this case **67** STIPP hotel' staffs ; **87** BOOBON COOFEE hotel's staffs ; **15** Green Hills Hotel's staffs **155** SERENA Hotel's staffs; and **17** MANOR Hotel's staffs were undergoing stool, urine and sputum microscopy diagnosis, Stool and urine culture when necessary , blood screening for HIV and Hepatitis to look for helminthiasis ,septicemia and viral infections ; this activity is

supervised by NRL parasitology section. In total during the year 2009-2010 we tested **341 samples.**

General constraints:

The problem of GIEMSA stain remains a problem at national level, and this affects at the highest degree, microscopic diagnosis of malaria

Corrective actions have been taken:

Protocol has been established for internal Giemsa Quality control before use at NRL. A letter from NRL to the District Hospitals is in process to be implemented to allow District Pharmacists to purchase controlled Giemsa of good quality

VI.4.5 MEASLES SURVEILLANCE SERVICE

Activity planned: - Analysis of all samples received
- Record of data concerning patients
- Stored sera samples management
- Participate in EQAS with UVRI(Uganda Virus Research Institute)
- Supervision in districts hospitals and health centers
- Unplanned activities done in the course of the year.

Activity realized

-Analysis of all samples received

July 2009- June 2010, NRL received 297 samples from suspected cases of measles from all over the country. 4were positive for Measles IgM (1.3%) and 34 were positive for rubella IgM
(11.6%).
Rubella IgM diagnosis is done as differential test of Measles in case of Negative results for Measles IgM.

Tableau 86: NRL: Measles surveillance

Results	1st Term	2ndTerm	3rd Term	4th Term	Total
NUMBER OF SPECIMENS RECEIVED	77	100	59	61	297
POSITIVE	0	2	0	2	4

NEGATIVE	77	98	59	59	293
% POSITIVE	0 %	2%	0%	3%	1.3%

Source: LNR, annual report, 2009-2010

1.3 % were positive for Measles IgM.

Tableau 87: NRL: Rubella surveillance Rubella results

Results	1st Term	2nd Term	3rd Term	4th Term	Total
NUMBER OF SPECIMENS RECEIVED	77	98	59	59	293
POSITIF	14	16	2	2	34
NEGATIF	63	82	57	57	259
% POSITIVE	18 %	16%	3.4%	3.4%	11.2%

Source: LNR, annual report, 2009-2010

11.6% were positive for Rubella IgM

Participation in EQAS with UVRI (Uganda Virus Research Institute):

External Quality Control

NRL participated in international external quality control scheme (EQAS) with Uganda Virus Research Institute (UVRI). NRL sent one panel which contained 10 % of specimens received to UVRI once per term the NRL also received a panel of 20 specimens from UVRI 2009, the samples were analyzed and results sent to UVRI and the feedback received, concordance was 100%.

External quality control Feedback from UVRI: Concordance of NRL results with UVRI results July 2009-June 2010

Tableau 88: NRL: EQC with UVRI

1st term	2nd term	3rd term	4th term
Measles: 100%	Measles: 100%	Measles: 100%	
Rubella: 87%	Rubella: 100%	Rubella: 100%	

Source: LNR, annual report, 2009-2010

The feedback for 4th term is not yet ready from UVRI **(Uganda Virus Research).**

Feedback for proficiency panel from UVRI: NRL received 1PT once per Year, from Uganda Virus Research, which is composed by 20 sera samples, in 12/2009 and the score was as follow: Score received by NRL from UVRI: Measles: 95%, Rubella: 100%

VI.4.6 BIOCHEMISTRY AND HEMATOLOGY SERVICE

Clinical biochemistry and hematology service carries out the tests of biochemistry and hematology for the follow up of the patients on ARV and for research programs. This service also provides skills and capacity building for the national lab network through refresher training of personnel.

During the year of July 2009 to June 2010 the hematology and clinical biochemistry service achieved the following results:

Follow up of patients who are on ARV:

A total number of **3,057** samples of clinical biochemistry and **2,063** samples of hematology were performed for the follow up of the patients who are on ARV.

-Tableau 89: NRL: Hematology and Chemistry.

Period / Tests	July-September	October-December	January-March	April-June	**Total**
Clinical biochemistry samples	760	768	764	766	**3,057**
Hematology samples	515	520	510	518	**2,063**
Total	**1,275**	**1,288**	**1,274**	**1,284**	**5,120**

Source: LNR, annual report, 2009-2010

The specimens come from TRAC Plus, WEACTx, Kigali Center Prison (KCP), Betshaida Health center, Rutonde Health center and Rugarama Health center, Nyacyonga.

VI.4.7 SEROLOGY SERVICE

Achievements

Ensure the quality control of HIV
Serology section offers the service of quality control (QC) of HIV to over 450 PMTCT/VCT sites from the District hospitals and Health facilities (Public and Private Health facilities)

Perform HIV retesting: To ensure the HIV quality control testing, serology regularly received 10% of positive samples and 5% of negative samples from the District Hospitals and Health facilities each month within fifteen (15) days, the result cumulative of **72,285** samples received from July 2009 –June 2010 from these sites and all data are entered into lab computer and showed below as :

- Concordance rate of **(99.4%)**
- Discordance rate of (**0.6 %)**

Tableau 90: NRL: Serology Qualit Control

Month	**N of specimens received**	**True positive**	**False Positive**	**True negative**	**False Negative**	**Total Discordance**	**% FP**	**% FN**	**% Disc**
July	6750	898	8	5842	2	10	0.8	0.03	0.1
August	6034	869	7	5155	3	10	0.7	0.05	0.3
September	6699	847	6	5844	2	8	0.7	0.03	0.1
October	6365	914	6	5442	3	10	0.6	0.05	0.5
November	6679	850	5	5820	4	12	0.5	0.06	0.2
December	5497	589	3	4903	2	4	0.5	0.04	0.3
January	6287	817	5	5462	3	8	0.6	0.05	0.3
February	6365	914	6	5443	2	8	0.6	0.03	0.5
March	6030	869	4	5154	3	5	0.4	0.05	0.3
April	6618	780	4	5832	2	6	0.5	0.03	0.1
May	6764	480	3	6277	4	5	0.6	0.06	0.3
June	2328	289	1	2038	0	1	0.3	0	0.3
TOTAL	**72285**	**9116**	**58**	**63111**	**30**	**88**	**6.9**	**0.4**	**0.60**

Source: LNR, annual report, 2009-2010

Tableau 91: NRL: Laboratory testing with VCT/PMTCT services

Year	2003	2004	2005	2006	2007	2008	July2009-June 2010
CT/PMTCT Sites	60	135	238	328	350	412	450
Number of samples received	15000	37.208	63.964	70.685	70243	56.527	72.285
Discordance rate	3%	2.6%	2%	1%	0.8%	0.5%	0.6%

Source: LNR, annual report, 2009-2010

Participation in External Quality Assessment (EQA)

Serology section also participates in International external Quality control scheme (EQAS) with National Institute of communicable disease (NICD) AFRO-WHO for HIV at regular interval of 2 times per year , NRL also received one panel of 10% samples in October 2009 and 10% panel of samples in April 2010 , the sample were analyzed and results sent to NICD and the feedback received , with concordance of 100%.

First quarter	Second Quarter
October 2009	April 2010
HIV : 100%	HIV : 100%

Source: LNR, annual report, 2009-2010

VI.4.8 IMMUNOLOGY SERVICE

Planned activities

- CD4 sample test
- National and Extenal QC
- Supervision
- Training and capacity building

CD4 count
During a period of July 2009 to June 2010; a number of **252,439 samples of CD4** were tested countrywide for clinical staging and monitoring immunological failure among patients at ARV:

51,395 have been tested (20.4%) at NRL from July 2009 up to June 2010
201,044 tested (79.6%) in 32 Districts Hospitals from July 2009 up to June 2010.
The percentage of samples done at NRL is reduced due to decentalization process of CD4 count at district level.

Tableau 92: NRL: CD4 counts in District hospitals

LAB	HOSP	July-09	Aug-09	Sep-09	Oct-09	Nov-09	Dec-09	Jan-10	Feb-10	Mar-10	Ap-10	May-10	Jun-10	total
1	RUHENG	696	675	559	602	525	946	810	701	780	629	373	998	8294
2	KABGAYI	1242	1390	1363	1356	1474	1561	1133	1622	980	1757	1074	1957	16909
3	KANOMB	487	542	564	521	559	468	451	508	600	569	333	722	6324
4	CHUB	932	834	941	854	845	319	170	0	1407	1305	348	1032	8987
5	KIBOGOR	604	474	476	536	677	648	693	327	787	680	458	1032	7392
6	KIBUYE	777	660	700	760	705	856	851	724	690	773	671	771	8938
7	BYUMBA	699	684	717	658	837	819	728	778	965	786	509	1147	9327
8	KABAYA	254	249	339	262	291	289	275	329	429	309	289	349	3664
9	RWAMAG	832	801	1021	950	973	937	911	906	1028	1003	1080	1080	11522
10	NYAGATARE	840	962	1049	791	760	859	680	622	530	568	370	738	8769

Source: NRL, annual report 2009-2010

11	GIHUND	528	659	943	807	505	575	348	263	73	797	359	709	6566
12	GISENYI	830	796	841	803	958	947	905	766	985	743	919	1057	10550
13	RWINKW	1108	788	927	1003	1100	956	960	720	649	1615	1175	1301	12302
14	KIBUNGO	432	452	396	350	409	464	435	354	134	523	455	336	4740
15	NYAMAT	508	118	391	529	256	663	499	417	479	634	632	610	5736
16	GAKOMA	6	104	44	0	0	0	0	0	0	0	0	0	154
17	SHYIRA	423	926	532	527	480	597	480	456	755	547	485	636	6844
18	NEMBA	541	518	556	512	620	557	594	587	429	642	198	730	6484
19	MIBILIZI	204	268	350	263	297	197	260	275	35	397	0	507	3053
20	KIRINDA	203	212	269	193	227	210	218	157	267	294	187	258	2695
21	RUTONG	216	313	191	209	356	116	175	3	169	294	418	355	2815
22	MURUND	365	362	437	390	364	452	155	436	724	405	489	469	5048
23	KIGEME	664	671	654	608	724	879	678	410	417	688	589	942	7924
24	MUNINI	233	154	167	160	186	188	222	188	213	167	188	206	2272
25	NYANZA	332	323	324	281	367	424	294	0	26	632	458	733	4194
26	MUHORO	238	214	234	227	256	216	272	123	188	306	271	233	2778
27	MUHIMA	1486	819	0	631	1119	1187	1374	1211	709	1048	890	1568	12042
28	KIZIGUR	197	360	479	295	336	460	197	344	560	348	300	713	4589
29	NGARAM	265	207	366	262	278	304	272	174	347	254	371	337	3437
30	BUTARO	139	150	205	206	79	189	139	169	160	107	222	172	1937
31	BUSHENG				50	293	373	390	556	564	349	429	587	3591
32	CHUK					91	163	163	135	157	133	140	185	1167
33	LNR	3521	4471	5231	4269	4078	3862	4161	4043	5497	3918	3938	4406	51395
	Total	19802	20156	21266	19865	21025	21681	19893	18304	21733	23220	18618	26876	252439

VI.5 RWANDA BIOMECAL CENTRE (RBC)

The Rwanda Biomedical Centre is an institution that will integrate several currently autonomous institutions: CNLS, CAMERWA, CNTS, LNR, LABOPHAR, ACM, EPI (Expanded Programme for Immunization).

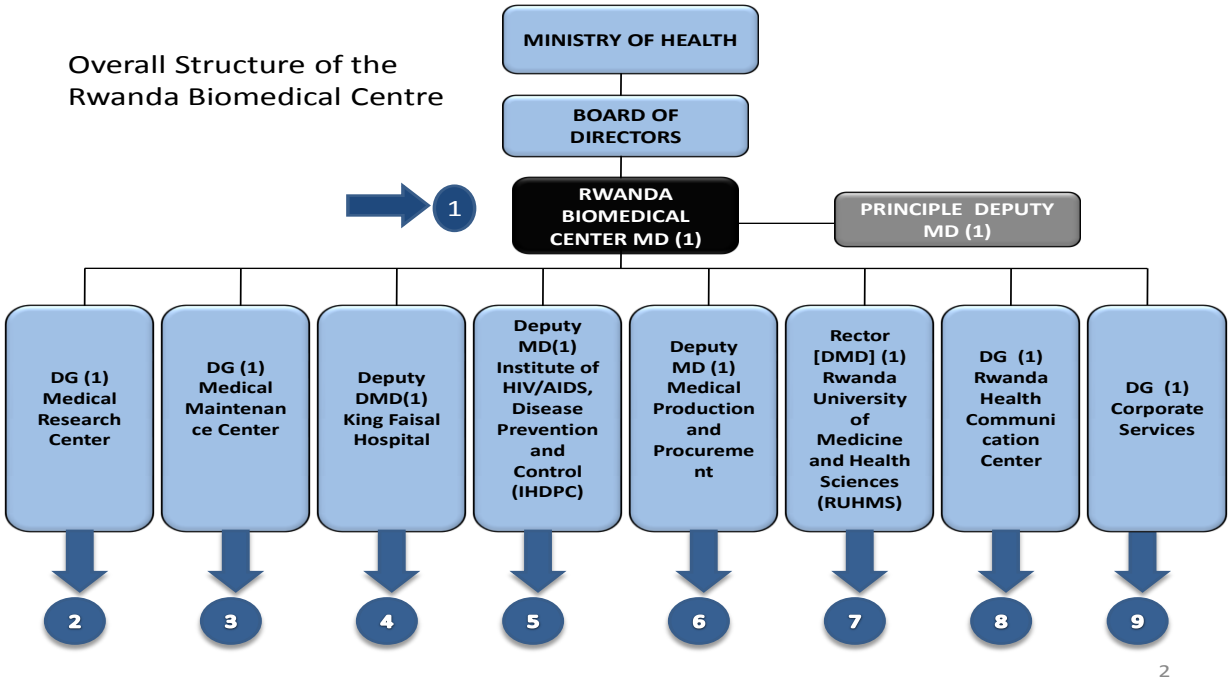
Its mission will be:

1. Serve as a center for Medical research and development.
2. Offer educational and training skills to Rwandan citizens.
3. Procure medicines and other medical equipments at good prices.
4. Serve as a national and regional center for healthcare.
5. Establish regional and international cooperation in the field of medical and health care.
6. Serve as a center for treating and research on HIV/AIDS, Malaria, TB and other infectious diseases

The administrative organs of RBC will be:

- Board of Directors: Supreme Organ of RBC.
- General Directorate : Deputy Managing Directors of different units.
- Management: Personnel and staff of RBC serving under different units and departments

Figure 50: RBC: Proposed structure



Source:

<u>The current status of RBC institutionalization:</u>

1. After approval by the Cabinet,

2. Draft was presented before Chamber of Deputies in October.

3. In December the Law was unanimously voted by the Senate.

<u>Next steps</u>

1. The Draft must conform to the Constitutional Amendments that require a few Organic Laws, RBC not one of them.

2. A draft legal Opinion has been prepared, pending approval by MINIJUST which proposes the manner for constitutional conformity.

VI.6 RESEARCH

Research conducted by NRL

1. Assessing the incidence of and risk factors for adverse effects of HAART as well as its impact on reproductive health in a Rwandan cohort of HIV-Infected persons (in collaboration with TRAC Plus)
2. Surveillance of drug resistant *salmonella spp.* And *Shigella Spp.* Opportunistic infections in Rwanda.
3. The real time to screen MDR TB
4. TB screening on HIV patients
5. Baseline survey on the prevalence of Schistosomiasis and other soil transmitted helminthes (STHs) in Rwanda (in collaboration with TRAC Plus)
6. Efficacy and toxicity of anti-retroviral drugs (in collaboration with TRAC Plus and ENTERACT)

Research conducted by TRAC+

1. Assessing 18 month HIV-free Survival in Children in Kigali, Rwanda

Research conducted by UTH Kigali

1	Dissertations	Evaluation of DRE,US and PSA as diagnostic tools for patients with enlarged prostate	Dr Alex Bonane	
2		Gastric cancers at KUTH: epidemiological, clinical and therapeutic aspects	Kayondo King	
3	Other research activities	Prediction of outcome using the Mannheim peritonitis index in patients with peritonitis at Kigali University Teaching hospital	Dr Ntirenganya Faustin	
4		The effect of surgical delay on morbidity and early mortality in patients with proximal femoral fractures as seen at Kigali university teaching hospital,	Dr Byiringiro Jean Claude	Completed

5		A comparison of KTS II and Revised Trauma score in Kigali University Teaching Hospital,	Dr Nzayisenga Albert	
6		Evaluations of latent Class Analysis and Decision Threshold to guide the diagnostic of Pediatric tuberculosis in Rwandan Reference Hospital		
7	Dissertations	Asthme chez les adolescents des écoles secondaires de Huye et de Nyarugenge	Dr Ntigurirwa dirigé par Pr Muganga	
8		In Rwandan children 0-15 years : Efficacity and incidence, severity and shortout Out come of side effects	Dr Mutwa, PhD student dirigé par Pr Muganga	
9	Research activities	Profil clinique des complications du diabète au CHUK	Dr Rudasingwa	Ongoing
10		Améliorer le diagnostic de la TBC par l'examen microscopique d'un crachat enrichi par centrifugation	Dr Manzi	
11		Rôle de l'infection à Klebsielle dans les infections nosocomiales au CHUK	Dr Manzi	
12		Diabete mellitus in rural area in Rwanda Case of Rwinkwavu district	Dr Bavuma	
13		Metabolic issues in HIV patients	Dr Bavuma	
14		Blood pressure control in CHUK patient attendant CHUK	Dr Kagame	
15		La prévélance des fentes labio-palatines au Rwanda	Dr Kamanzi I	
16		Achieving large ends with limited means :Grand strategy in global health,	Stephen Rulisa	Finished and published
17		Malaria has no effect on birth weight in Rwanda	Stephen Rulisa	Finished and published
18		Pharmacovigilance of Arthemether Lumefantrine Comparison of coarnate versus coartem I simple malaria	Stephen Rulisa et al	Finished and published
19		Safety and Pharmacikinetics of Arthemether- lumefantrine in pregnant women in Rwanda	Stephen Rulisa et al	Finished and published
20		Cardiotogram(CTG) changes during malaria in pregnant women in Rwanda	Stephen Rulisa et al	Finished and published
21		In Utero growth monitoring by Ultrasound in malaria (evaluation of	Stephen Rulisa et al	Finished and published

		growth retardation due to malaria in Rwanda)		
22		Safety and side effects of Arthemether- lumefantrine in children exposed in utero	Stephen Rulisa et al	Finished and published
23		Coartem or Coarine for uncomplicated malaria and parasite carriage in Rwanda (comparison of efficacy and safety) (Co-Co trial)	Stephen Rulisa et al	Finished and published
24		Sublingual Artemether in Severe Malaria in Children	Stephen Rulisa et al	Finished and published
25		Pharmacokinetics of Artemether Sublingual Spray	Stephen Rulisa et al	Finished and published
26		Sulfonamides in the treatment of malaria: the role of Artesunate plus Sulfaethoxypyrazine-Pyrimethamine	Stephen Rulisa et al	Finished and published
27		Devenir des enfants nés par le siège	L. Munyankindi, J. Vyankandondera; Stephen Rulisa	Finished and published
28		Efficacy and safety of a fixed dose artesunate –sulfamehoxypyrazine-pyrimethamine compared to artemether –lumefantrine for the treatment of uncomplicated falciparum malaria across Africa :a randomized multi-centre trial	Issaka Sagara, MD, Stephen Rulisa	Finished and published

Research conducted by UTH Butare

1. A multiple meal study to evaluate human iron absorption from typical Rwandan meals based on beans.
2. Optimization of the therapy of HIV/TB co-infection in Rwandan population: pharmacokinetic/ pharmacodynamic modeling of HAART in TB patients
3. Acute respiratory infections and gastroenteritis in children in Rwanda
4. Investigation of anemia and exploration of ferroportin polymorphism in HIV positive adult females in Rwanda
5. Exploration of an affordable and reliable diagnostic approach of sexually transmitted infections.
6. HIV infection, malaria, geohelminths and malnutrition among children in Butare, Rwanda
7. Prevalence of neurocysticercosis in epileptic patients in Southern Province of Rwanda
8. Epidemiological, diagnostical and aspects of extrapulmonary tuberculosis in the internal medicine
9. Clinical, epidemiological profile and management outcome of myelopathies in neurologic.
10. Association between HIV infection and pulmonary tuberculosis disease

11. Clinical, epidemiological and therapeutic characteristics of pediatric patients with spina bifida and hydrocephalis
12. Epidemiological study of neurological cercotis and polices to reduce the spread of the disease

VII. INSTITUTIONAL STRENGTHENING

VII.1 Administration, Finance and Internal Resource Management

The main tasks of this unit are:

- Budget preparation and execution
- Procurement of goods and services
- Payment of goods and services
- Financial management and reporting on budget execution
- Management of human, material and financial resources
- Central secretariat, where: 19.174 files were received and 6.324 files were expedited

Human Resources

The desk of Human Resource Management has been strengthened with the recruitment of 3 new staff.
The following activities have been achieved by the desk:

- Routine activities concerning the management of HR
- Training of the HR staff on the new salary calculation software IPPS
- Training of Internees on the HD management
- Recruitment process for 27 SAMU staff
- Deployment of 255 new Health professionals
- Preparation contracts for 40 post-graduates candidates

Summary Turnover of Health staff

Qualification	**Affectation**	**Change of Qualification**	**Mutation**	**Departure**
Specialist Doctors	**15**	**2**	**11**	**6**
Generalist Doctors	**27**	**1**	**1**	**8**
Pharmacists	17			**2**
A1Nurses	**45**	**6**	**1**	**1**
A1 Midwives	**5**	1	**1**	
A2 Nurses			**4**	
Anesthesist A1	**14**		**3**	
Laboratory Technicians A1	**6**			
Radiology technicians A1	**8**		**1**	**1**
Dentist Technicians A1	**11**		**1**	
Mental Health Technicians A1	**16**		**1**	
Environmental Health A1	**37**		**5**	
Master in Physiotherapy	**3**			
Physiothérapist A1	**6**		**2**	
Dermatology A1	**1**			

Ophtalmology A1	**5**			
Sociology A0	**5**	**2**		
Clinical Psychology **A0**	**4**	**1**	**1**	
Nutritionist A0		**1**		
Nutritionist A1	**1**			
Management A0	**11**	2	**4**	
Management A1	**1**			
Accountant A0	**1**			
ICT A0	**3**			
Drivers SAMU	**13**			
TOTAL	**255**	**16**	**35**	**18**

VII.2 Planning

Under the new MoH organogram, the Planning desk is in charge of:

- Preparing sector policies, strategies and plans
- Coordination of the budget preparation
- Monitor the budget implementation according to programs and projects planned
- Evaluate the impact of the implementation of policies and programs
- Establish institutional relationship with Local Government
- Coordinate the elaboration of the annual reports

Apart from routine activities, 2009-2010 was the first year of implementation of HSSP II. The programmes areas have been divided in 2 main axes:

a) **Client-centered service delivery**, containing all objectives related to improving the health of people: Family Planning, MCH, Reproductive Health, Nutrition, Infectious Diseases, Non Communicable Diseases, Disabilities and Injuries, and promotion of primary prevention of diseases by influencing people's lifestyles

b) **System-focused components**, containing objectives and outputs strengthening the health system for optimally effective and efficient service delivery : planning and M&E, health financing, HR development, infrastructure, equipment and transport, commodity supply and logistics, quality assurance, research and governance

The levels of interventions are divided into 3 service delivery modes:

- Family-oriented community based services: consist of what families and communities can practice themselves when provided with information and education by Community Health Workers
- Population-oriented schedulable services : prevention services delivered to all individuals

- Individual-oriented clinical services: all individual curative and delivery services, to be offered by skilled health care professionals

Another activity was the preparation of the Joint Annual Work Plan 2009-2010 (JAWP): a consolidated annual plan prepared together by the MoH and Development Partners. This is completed by the development of district strategic plan, to better perform in provision of health services.

VII.3 Legal Department

The attributions of the Legal Department are:

- Develop legal and regulatory provisions (decrees and instructions) of the institution
- Provide legal opinions on cases or dossiers and contracts engaging the institution
- Give legal opinions on litigious issues involving the institution

The main achievements of the Legal Department are:

Description of Activities	Primary stakeholders	Objective	Means of Verification	Target	Key milestones	Progress against milestones
Draft law on use of Tobacco	Health care dpt	Regulate the use and commercialization of tobacco	Adopted by the Cabinet	Protect the population against the consequences	Adopted the opportunity in Parliament	Waiting adoption by Parliament
Draft law on Medical and dental Council	Medical Council	Regulate Medical and dental profession	Adopted by the Cabinet	Fight mispractice	Adopted the opportunity in Parliament	Waiting adoption by Parliament
Draft law on Narcotics	PTF,	Regulate use of narcotics	Adopted by the Cabinet	Criminalize use of Drugs	Adopted the opportunity in Parliament	Waiting adoption by Parliament

Draft Law on Nursing Schools,	Nursing TF	Regulate and formalize the status of five nursing schools	Adopted by the Cabinet	Nursing Schools	Adopted the opportunity in Parliament	Waiting adoption by Parliament
Draft Law on Medical insurance	Rwanda Medical Council	To establish a compulsory insurance for health Professionals and rights of patients and health professionals	Adopted by Cabinet	Health Professionals	Transmitted to PM Office for Parliament approval	Ongoing
Law on donation of Human body	Faculty of medecine	Utilization of human body in education and research	Published in Official Gazette (OG)	The all population		OG n° 18 of 03/05/2010
Draft Law on Food and Drug Administration	PTF	Regulate Food and Drug use	Adopted by Cabinet	Food and Drug use	Creation of F&D authority	Regulations on Food and Drug use and Authority under one Law
Presidential Order on Food supplements	PTF	Security of food	Publish in OG			OG n° special of 20/12/2009
Draft Ministerial Order on Nursing & Midwifery Code of Ethics	NTF	Nursing and Midwifery Ethics	Finalized. Forwarded to PM's Office for publication	Nursing & Midwifery professions	Publication in the Gazette	Follow up from Minijust and PM'sOffice
		Establish measures for registration	Approved by the Cabinet	Nursing and Midwifery Professions		Follow up from Minijust and PM's Office
		To put the Board in place	Ministerial order signed			The Board in place
		Good management of health professionals	Adopted by ISMM			

VII.4 E-Health

The mission of the Department of e-Health is to provide and maintain highly effective, reliable, secure, and innovative information systems to support clinical decision making, patient management, education and research functions of the health sector in Rwanda in a bid to improve healthcare service delivery

Strategies

The e-Health steering committee has set the following key strategic tasks and priorities for the Department of e-Health has, which will guide the department to implement and realize Rwanda's vision for e-Health.

- Developing the overall business architecture for the e-Health system;
- Engaging with stakeholders across the country to gain their participation in building awareness of the e-Health strategy and activities;
- Leveraging available financial resources and sourcing for extra funding;
- Developing detailed implementation plans for e-Health strategies;
- Designing the architecture for an integrated e-Health system and setting standards for e-Health systems;
- Safeguarding privacy and security for health information;
- Setting strategies and evaluation measures for the e-Health Department;
- Making a governance and accountability model that will allow e-Health to be managed in a way that delivers on the government's goals of transforming the healthcare system in a coordinated and integrated way;
- Conducting external reviews of e-Health initiatives to ensure that they are following best practices when it comes to project governance, charters, and other critical elements;
- Identifying other policy or regulatory recommendations to ensure that no unintended hurdles remain that might get in the way of e-Health initiative implementation.

Key benefits

The key benefits which are envisioned through a comprehensive e-Health strategy are:

- Enhanced healthcare service availability and access;
- Improved healthcare quality, safety and outcomes;
- Increased service efficiency, productivity and cost effectiveness that satisfies citizens, patients and providers;
- Improved teaching methods facilitated by e-learning systems
- Provision of evidence based information required to make appropriate, timely and informed clinical decisions concerning patient care;

- Provision of more comprehensive reports that enable better informed decisions in health service planning.
- Improved distribution and usage of medical supplies
- Improved financial accessibility to healthcare services

Achievements

1. **National e-Health strategic plan :** Completed and adopted by the MoH senior Management meeting

2. **National E-Health Enterprise Framework:** The National e-Health Enterprise Framework will govern health information systems in terms of harmonization, interoperability and integration. The enterprise framework will include various national registries such as client registry (with unique identifiers for health), facility registry, provider registry, service registry and indicator registry. The framework will also offer terminology standards services as well as messaging standards for interoperability amongst various electronic systems in the healthcare sector and other relevant sectors.

   Status:

   - requirements and design of the framework completed
   - all related attributes for the various national registries defined .
   - All terminology standards (for disease, drug, procedure and laboratory) are available.
   - Negotiations to customize the Brazilian framework to Rwandan requirements are underway.
   - Target is to have the enterprise framework (with some registries and all terminology standards by end Dec 2010.

3. **Community Health workers Information system**
   - Procurement and distribution of Phones:
     - Three CHWs per village have acquired phones
     - One CHW per village to acquire phones (from UNICEF) by end of September
   - Phones for Health (mUbuzima system)
     - Training of trainers in progress, to be completed end September
     - System not yet operational
     - Negotiation of contract (awaiting final comments from MINICT)
   - Rapid SMS
     - Training of trainers in progress, to be completed end September
     - System operational in Musanze District
     - Hosting contract with MTN signed

4. **Primary healthcare system**
   - Functional requirements completed
   - OpenMRS being developed to meet the requirements

5. **Hospital Management systems and PACS**
   - Implementation at KFH in progress
   - PACS implementation completed at KFH

6. **Telemedicine**
   - Videoconference
     - Operational between KFH, CHUK, CHUB and recently MoH
     - Regular conferences scheduled every week
     - District hospitals yet to be connected due to lack of sufficient bandwidth
   - **Pan-African e-Network Project**
     - Construction/rehabilitation of building complete
     - IT installations done
     - Medical equipment installation in progress
     - Procurement of furniture in progress

7. **Computed Radiography**
   - Operational in 6 district hospitals

8. **National Reference Laboratory Information System**
   - Technical evaluation of bids in progress
   - System to be up and running by November 2010

9. **Supply Chain Information System (Logistics Management Information System)**
   - RFP issued to shortlisted potential providers of the LMIS
   - System to be up and running by April 2011
   - An interim system is in place

10. **Blood Bank management information system**
    - System is fully operational

11. **Routine reporting tools**
    - HMIS
      - System installed and operational in all district hospitals
      - Data managers trained in both GESIS and data audit procedures
    - TRACnet
      - Operational

12. **Ambulance Tracking**
    - Monitoring system is installed in SAMU main office

- 65 Ambulances have GPS monitoring system installed in.
- SAMU staffs were trained how to use the system

13. **Call Center in SAMU (Hotline 912)**
    - All call center was put in place to help in receiving multiple calls in coming
    - All staffs were trained on how to use and manager it.
14. **Queue management System:** It is an IT system that helps better service provision including at Hospitals and healthcare facilities by organizing client flow and creating a dedicated attention to all visitants. Now CHUK, MUHIMA and RWAMAGANA Hospitals are in Operational and it will be extended to other hospitals

Main elements of 2010-2011 Action plan

1. Development of the National e-Health Enterprise Framework
2. Development and deployment of Electronic Medical Records
3. Deployment of a new Logistic Management Information System
4. Deployment of a new Laboratory Management Information System
5. Development of the Mutuelles database
6. Extension of telemedicine services to district hospitals
7. Roll out of mobile phone-based Community Health Workers Information System

VII.5 Monitoring and Evaluation: HMIS

Within the new MoH Organogram, the HMIS desk has the following attributions:

- Leads and coordinates the development and implementation of integrated, strategic HMIS plans and policies for the Ministry.
- Coordinates the identification and prioritization of required HMIS initiatives among the Ministry's various operating components
- Coordinate the operationalization of the integration of data sub-systems across the Ministry of Health, including the HMIS, TRAC Plus, PBF, Mutuelles and other data sources.
- The routine use of the HIS in health service delivery within the DHAs
- Participate in the development of the HIS policies and procedures
- Coordinate and supervise and advise on the HMIS data warehouse
- Coordinate the in-service training for new and existing employees of the DHAs and MoH sites

Achievements

During the reporting period, the HMIS continued its strengthening to solve the acute problem of the quality of the health information.

The recruitment of Data managers was completed in the districts, and was done in the Health Centers, as well as their training to use data collection tools, and to use ICT equipment provided to them

Computers for data management were distributed to hospital districts and health centers, the new HMIS software was installed and data managers continued to be trained on its utilization.

The innovation of the 2009-2010 period is the recruitment of the data quality officer and the organization of the quarterly data quality audit to ensure that data collected from health facilities are reliable.

Finally, the DHS 2010 has started and its results will provide Rwanda with the progress made on the Health indicators from 2005.

VII.6 MoH/HMIS Annual Statistical report 2009

For more details on the health sector indicators, refer to the separate document to be published soon

The number of non-private Health Facilities (HFs) in Rwanda at the end of 2009 was 541, this is up from 497 in the previous year. This increase was primarily due to the opening of 25 new health posts and 16 Health Centers. These are classified as Referral Hospitals, District Hospitals, Health Centres, Health Posts and Dispensaries.

Tableau 93: HMIS: Number of Health Facilities 2008-2009

Year	2008	2009
National Referral Hospitals	4	4
District Hospitals	39	39
Military/Police Hospitals	2	2
Health Centers	412	428
Dispensaries	18	18

Prison Dispensaries	13	16
Health Posts	9	34
Grand Total	497	541

Public health facilities represent 69% of the total number of non-private health facilities in Rwanda, with 30% run by Faith-Based Organisations referred to as "Agrée" and 1% by Communities.

The number and type of health facility per district is shown in the table below

Tableau 94: HMIS:Distribution of Health Facilities by District

District	Referral Hospital	District Hospital	Military/ Police Hospital	Health Centre	Dispen-sary	Prison Dispen-sary	Health Post	# of Health Facilities
BUGESERA		1		13		1		15
BURERA		1		15				16
GAKENKE		2		18	1		5	26
GASABO	2	1	1	13		1		18
GATSIBO		2		20			4	26
GICUMBI		1		21				22
GISAGARA		2		13				15
HUYE	1	1		15		3		20
KAMONYI		1		11				12
KARONGI		3		19	3			25
KAYONZA		2		14			4	20
KICUKIRO			1	8				9
KIREHE		1		11	2			14

MUHANGA		1		12	1	1		15
MUSANZE		1		11	3		2	17
NGOMA		1		12		1	4	18
NGORORERO		2		12	5			19
NYABIHU		1		16			3	20
NYAGATARE		1		21		1	3	26
NYAMAGABE		2		17		2	2	23
NYAMASHEKE		2		18			1	21
NYANZA		1		14		2		17
NYARUGENGE	1	1		8	1	1		12
NYARUGURU		1		15				16
RUBAVU		1		9		1	1	12
RUHANGO		1		13			3	17
RULINDO		1		18				19
RUSIZI		2		13		1		16
RUTSIRO		1		16	1			18
RWAMAGANA		1		12	1	1	2	17
Grand Total	**4**	**39**	**2**	**428**	**18**	**16**	**34**	**541**

Tableau 95: HMIS: Minimum Package of health services

Health facilities	Minimum package of services provided
National Referral Hospital	Inpatient/outpatient services , surgery, laboratory, gynaecology, obstetrics; radiology
District hospitals	Inpatient/outpatient services, surgery, laboratory, gynaecology obstetrics, radiology
Health centres	Prevention activities, Primary health care, inpatient, referral, maternity
Dispensaries	Primary health care, outpatient, referral
Health posts	Outreach activities (immunisation, family planning, growth monitoring, antenatal care)

VII.7 Coordination of Partners and SWAp

In the Health Sector, the Partner Coordination Desk is in charge of :

- Strengthening the bilateral cooperation
- Strengthening the Multilateral cooperation

- Strengthening Coordinator the capacity pooled fund
- Strengthening the Coordination of International and local NGO
- Strengthening the external financing
- Strengthening the Heath Sector Wide approach
- Strengthening the coordination of the International Technical assistant Human resource
- Strengthening the inter institutional relationship

Main achievement realized in 2009-2010

A. Strengthening the bilateral cooperation,

Ministry of health has contracted new partnerships, renewed or extended the partnership with different countries, through the joint conservatives meeting: China, Belgium, United Kingdom, Switzerland, Federal Republic of German, USA, South Africa, Egypt, Uganda, Burundi, East African Community, Luxembourg, Cuban etc

In this regard the Federal Republic of German, Kingdom of Belgium, and United Kingdom have contributed in Health Sector Budget Support.
The Switzerland, USA, South Africa, China have contributed financially through defined programs, projects and in Human Resource Technical Assistance

B. Strengthening the Coordination of the capacity Building pooled fund

The Kingdom of Belgium, United Kingdom, Switzerland, and Federal Republic of German supported financially the Ministry of Health through the CDPF. Activities to be financed through CDPF were commonly defined, such the elaboration the SWAP manual of procedures, payment of salary of a biomedical engineer, Verification of nurses' diplomas and their registration in the National Nursing Council, identified the non realized activities with the district and Hospital's plan .

C. Strengthening the Coordination of International and local NGO

The standards operating procedures for coordinating the activities of the NGO were developed, as well as the criteria for getting or renewing the MoU with the Ministry of Health, getting the recommendation letter, analyzing the NGO request, quarterly and annually report.

D. Strengthening the external financing

During the 2009/2010, a quarterly meeting was initiated with all Partners for discussion on the budget execution, and proposed actions to be taken for better budget execution

E. Strengthening the Heath Sector Wide approach

To improve the aid effectiveness in the Heath Sector, the Sector wide approach manual of procedure was developed to serve as guidance to any one operates or wish to operate in the health sector.

F. **Coordination of the HRH international technical assistance**

During this year, several new Technical Assistants and Volunteers (mainly from Nigeria and Cuba) were deployed in many Health Facilities and MOH agencies. The deployment was done according to the regional equity and based on MoH priorities

VII.8 Policy Formulation, M&E of Public Health Facilities

The main mission of the desk is to organize the Health System that provides health care and services in accordance with the needs of the population.

The objectives are:

- To develop policies, strategies, norms, guides, standards and protocols related to health care and health service.
- Organize a clinical framework of services provision in health sector, public and private.
- To coordinate the Quality process of health care and health services including the accreditation programme at all levels of the Health System
- Set up policy and a strategies in monitoring and evaluation of health facilities management
- Up date and adapt health facility management tools
- Ensure the availability of accurate management tools in all facilities
- Supervise the management of referral and district hospital
- Set up policies and strategies guidelines and standards in legal medicine practice, care and treatment management

For the period 2009-2010, the main achievements of the Desk are summarized in the table below:

N°	OBJECTIVE	BASELINE (SOURCE)	TARGET (SOURCE	DELIVERABLE TASKS	Progress
1	**Review and integrate and disseminate Policies, Norms and Standards**	Old norms	Have a new referencial document	Review the existing document	Done
				Integrate all norms from different departments and programs	Done
				Put the documents on website	Done
2	**Disseminate Patient Charter of Rights to the CHWs**	Charter approved	Charter known	Produce 60,000 reeflets for CHWs	Done
				Distribute the reflects to the CHWs	Done
3	**To improve quality of Health care by setting up Customer care norms**	0	Finalise norms and proceed for approval	Document approved	Document already approved.
		Not disseminated	Document on the web site	Put the approved document on the web	Done
4	**Improve quality of Health Care by setting up Nation quality of care governing structure framework**	It doesn't exist	To have approved document	Draft available for approval by SMM	Done
5	**Improve Quality of Health Care by disseminating norms and standards**	Not disseminated	Documentsa on the web	Put the approved document on the web	Done

VII.9 Decentralization

Decentralisation and Integration have been put in place in 2005 with the main responsibility of Decentralisation and Integration of HIV services. The objective was to address the issue of decentralisation, integration and expansion of HIV services in the Rwandan health system as well as concretising their integration

In order to fulfil its mission, following main duties are assigned to Decentralisation and Integration:

- ✓ Support districts in planning (strategic plans and operational plans) and implementation of activities planned
- ✓ Mentor health facilities in order to ensure the continuing quality improvement and respect of protocols and guidelines
- ✓ Mentor health facilities in order to improve the financial management
- ✓ Coordinate integrated supervisions from central level
- ✓ Support districts in trainings of health care providers
- ✓ Coordinate all HIV partners in order to ensure equity in extension of HIV services in all health facilities

Achievements :

a) Integrated Supervisions and Data quality audit

Several Joint visits at peripheral level have been conducted in a framework of integrated supervisions and in data quality assessment.
All MOH departments and institutions were supposed to provide a group of supervisors (2 to 7), but according to their availability; those institutions were represented as follow:

Tableau 96: Decentralization: Integrated supervision groups

Institutions	Number of supervisors due	Number of supervisors availed
TRAC plus (HAS)	7	6
TRAC plus (Malaria Unit)	7	0
TRAC plus (TB Unit)	7	0
UPDC/Intégration	7	6
UPDC/M&E	10	10
LNR	7	7
Community Health	7	2
MCH	7	4
ACM	7	0
PTF	7	0
CTAMS	7	0

The objectives for these visits were:

- To evaluate integration level of HIV services in health system.
- To ensure the respect of national protocols and guidelines and improve quality of care.
- To improve data quality and data management
- Mentor the District Hospital's supervisor to use the supervision tool and to conduct data quality audit on their own.
- Formulate recommendations for improving quality of care

Approach used

- Consultations of registers, reports, drug stock cards and administrative documents
- Working with medical staff to correct some weaknesses and mentor them in specific activities
- physical inspection of various equipments and infrastructure
- Feed back to the responsible of the Health Facility supervised

The table below summarizes strengths, weaknesses and recommendations as found in different Health Facilities:

District Hospitals	
Strengths	• Data management tools available even though not complete (registers, reports) and well kept mostly • Functional Services • Respect of confidentiality in data management Other findings: (Kibungo, Rwinkwavu, Nyamata) • Availability of an electronic medical record system(IQCHART) • Back up done regularly (each month) • HMIS well functional (Rutongo) • Good reporting on ART data (Byumba)
Weaknesses	• No feed back to HC of the data analysis • No formative supervisions done at health centers, only PBF evaluations are done • Sometimes no DH's supervisors available to accompany the team at HC • Data discordance observed (difference between reports and registers) • OPD registers badly drawn, lack of some important columns and wrongly fulfilled • ART Register not complete : many patients not registered
Recommendations :	• Provide feed back to HC on reports analysis • Conduct formative supervisions in health centers • Conduct data verification in HC and even in DH to

	correct discordance observed in reports and send the errata reports at each level • Design correct OPD registers and keep them complete • Ensure the enrollment of all PLWHIV in ART registers
Health Centers	
Strengths	• Health and management committee functional with regular meeting schedules(reports available) • Quality improvement committee full functional • Data management tools available even though not complete (registers, reports) and well kept mostly • Fridge monitoring sheet available and updated. • TB screening done regularly (Karenge, Nyakabungo) • PIT Service functional (Karenge, Nyakabungo)
Weaknesses	• Low rate in adherence in Mutuelle de santé for Faith based Health Centers (Rukoma sake, Karenge) • No maintenance plan and maintenance records available • Fridges out of use • Data discordance observed (differences between reports and registers: sometimes lower or higher), big differences in Munyaga and Shyorongi HC. • OPD registers badly drawn, lack of some important columns and wrongly fulfilled, which make wrong statistics. • Data managers not trained
Recommendations	• No feed back to HC of the data analysis • No formative supervisions done at health centers, only PBF evaluations are done • Sometimes no DH's supervisors available to accompany the team at HC • Data discordance observed (difference between reports and registers) • OPD registers badly drawn, lack of some important columns and wrongly fulfilled • ART Registers not complete : many patients not registered
Recommendations for Central level	• Harmonize the data collection and reporting tools used at each level (community, Health center and district Hospital…); provide pre printed registers in OPD for all Health Facilities

	• Provide feed back for data analysis and report analysis to health facilities. • Elaborate a guide for Health Facilities for fulfilling the HMIS reports with definitions of all indicators • Provide ambulances were need is raised (Nemba) Resolve the insufficiency of staff in Health Facilities • Organize trainings for data managers in Health Facilities

b) Implementation of Task shifting

In order to address the problem of qualified human resource some tasks are being shifted from medical doctors who are not enough countrywide to trained nurses available in health centers (Task Shifting)

For this purpose, a Ministerial Instruction determining conditions and modalities of therapeutic care of people living with HIV and AIDs has been approved and signed in September 2009.

Trainings of health care providers have been conducted countrywide with main objectives such as: :

- Ensure the integration of services in our health care delivery
- Build capacity of health care providers
- Empower health care providers in ART prescription especially nurses
- Facilitate access to ART to all patients in need

About 856 have been trained during 4 months by Decentralization staff in collaboration with TRAC Plus. Each district hospital and each health center sent 2 people in those trainings. The unit participated both in providing trainers and in financial support. The process is still ongoing.

c) Development of Integrated formative supervision tool

In order to harmonize and standardize the supervision system in the Ministry of Health and at decentralized level, elaboration of an integrated supervision tool has been amorced since last year. Integrated supervision tools are already developed and it's split into 3 tools:

- one to be used at district hospital by referral hospitals
- one to be used at health center by the district hospital
- one to be used at community level by the health center

For all these tools, all programmatic and clinical indicators for all departments are considered specifically at each level

d) Coordination and organization of TRACK 1.0 transition activities

In order to organize the transition of TRACK 1.0 activities, many actions have been initiated and conducted by the unit : About 8 meetings on preparation and planning, elaboration of MOU between MOH and DH (and HC affiliated) to be transitioned in the 1st phase of transition, basic capacity assessments in ICAP and AIDS RELIEF sites. As results, we have identified sites to be transitioned in 1st phase:

- 1/3 of ICAP sites and 1/3 of AIDS RELIEF sites (24 sites in total) referring to results from the rapid capacity assessment conducted in 76 sites both for ICAP and AIDS RELIEF
- The transition process is running in 18 sites : 12 ICAP sites and 6 for AIDS RELIEF from march 2010 and 1 ICAP site and 5 AR sites in October 2010
- Baseline Capacity assessment elaborated and assessment conducted in all sites to be transitioned in May 2010, for both clinical performance indicators and management and financial indicators.

e) Planning at district level

In order to harmonize support from different Implementing partners at district level, the MOH in collaboration with CNLS organized joint planning meetings between the IPs and the district health teams and leaders at district level for elaboration of a Joint Annual Working Plans (JAWP) for the FY 2010-2011. Objectives of those meetings were:

- To ensure that the IP activities are aligned with district priorities in health sector
- To ensure that District Health teams and authorities are aware of IP activities at all levels

The JAWPs were elaborated and agreed on by both parties: DHTs and IPS

f) Standardized procedures for District planning and budgeting

A standardized procedure manual to be used at district level to ensure the harmonization for planning and budgeting has been produced. The objective of this procedure manual was to harmonize planning, budgeting and financial procedures in health sector.
Meetings took place in 30 DHs and one procedure' manual sorted out and is available and 450 HF staffs (2 by HF) administrative staff was trained on this manual

VIII CONCLUSION

In the fiscal year 2009-2010, implementation of the HSSP-II started. In the spirit of the Kivu Leadership Retreat decisions, the improvement of the Maternal and Child Health was a top priority of the Health Sector. For this purpose, high and innovative interventions focused on the purchase of ambulances for emergency transport, the construction and equipment of maternities, and the fight against malnutrition among children under five years.

Also, the Ministry of Health continued to improve the geographical accessibility with the construction of 6 district hospitals, and equipment of several health centres while technical studies are planned for other construction projects. The capacity building remains of high priority: specialization training of doctors and upgrading of Nurses to A1 level have been enforced, while other activities related to health, namely: prevention and treatment of diseases, coordination, continued as planned.

The next fiscal year 2010-2011 is the starting year of the new 7 year mandate of President Paul Kagame and health sector priorities have been determined, which actions will continue to focus on Maternal and Child Health with a strong engagement to fight malnutrition, to reduce maternal mortality with strengthened community interventions, improved supervisions, evidence based planning and decision making, geographical accessibility will continue to be improved with construction and renovation and equipment of health facilities, health system strengthening, as well as addressing the quality of service issues and the capacity building. Also, the health financial policy, including health insurance, will be implemented through comprehensive and effective strategies that guarantee equity and sustainability.

Finally, institutionalization and operationalization of the RBC will be effective in 2010-2011

END OF THE REPORT