THE RWANDA DISTRICT HEALTH SYSTEM STRENGTHENING FRAMEWORK
(Best Practices for District Planning)

Ministry of Health
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1. Context

Over the past few years, Rwanda has embarked on a thorough and comprehensive decentralization process. In the health sector, this has translated into a greater autonomy and accountability of health service delivery at the district and sector levels. A number of policies have been introduced to improve the quality and accessibility of care within this context. Greater efforts have been made to move away from vertical, disease-specific interventions, towards integrated care and treatment. At the national level, the introduction of the health SWAp in late 2007 showed the willingness of the Government and its partners to strengthen collaboration and cooperation, and make better use of existing resources to improve the health of all Rwandans.

Nonetheless, Rwanda faces challenges in reaching some of the key health-related MDGs. Many successful interventions in malaria, family planning, reproductive health, HIV/AIDS, etc. have been implemented and should continuously be strengthened. Within the context of a decentralized governance structure, however, such interventions can only succeed and be sustainable if the system supporting them is robust and effective. It is for this reason that greater attention must be placed on the key unit responsible for implementation: the district.

Districts now have high-level District Development Plans for all sectors, including health, linked to the EDPRS. They are also in the process of developing facility-based plans. These planning processes may be supported by best practices from the District Health System Strengthening Framework.

This framework aims to facilitate the development of such plans at the district level. It provides a comprehensive picture of what it takes to put in place a robust health care system that enables the delivery of quality care and treatment at all levels. It also lays out some specific strategies that districts can adopt, adapt or even change in order to best meet Rwanda's health objectives within the specific context of the district. These remain at a relatively high level, and should not be considered as exhaustive since the intention is to give enough flexibility to districts to find their own solutions to address their needs.

The scope of the district framework and the subsequent existing district plans are aimed at strengthening the health care system. This is not done in a vacuum, and takes as point of departure the key health priorities of the country. It aims to enable and support the implementation of various health interventions such as family planning and reproductive health, maternal and child health, malaria, TB and HIV/AIDS prevention, care and treatment, among others..

It is important to see this framework as complementary to other critical interventions and approaches such as the "Evidence Based Planning and Costing" that aim to address specific and targeted issues and bottlenecks. In fact, without a solid foundation and system in place, many such interventions will not succeed. Furthermore, this framework should be seen as a dynamic and flexible framework, that needs to be updated as new 'best practices' and evidence emerge.

This framework, adapted to the realities of each district would serve:

- To lay out the current situation against the needs of the district and chart out the means and resources required to bridge that gap.
- To coordinate all partners and activities at the district level
- To mobilize additional resources and support the prioritization of those resources

This framework is grounded in the firm beliefs that:

1. **Comprehensive and universal access to health care** – The framework's underlying philosophy is to serve the vast majority of the needs of all patients. In areas where barriers to healthcare abound, the only way to build faith in and increase usage of health services is to improve access and quality of care. In keeping with this approach, health care workers must also be given the necessary motivation, training and equipment to meet patient needs.

2. **Relentless focus on the patient and quality of care, regardless of the challenges of the environment** - The framework is driven by a very strong ethos of doing "whatever it takes" to provide equal access to high quality care. Health care workers need to have a service-oriented

approach, placing the needs of patients first. Quality of care also requires efficient program management, procurement and reporting, which are best achieved through the building of local capacity and the use of modern information technologies. These steps are necessary to ensure that treatment and innovative technologies are also made available in resource-poor settings.

3. **Community-based approach, decentralized where possible from hospital to health center and from health center to patients' homes** – Health services must be placed as close to patients' homes as possible to strengthen health promotion, prevention and rapid treatment. These efforts also minimize the overcrowding of facilities while encouraging the community to become involved and invested in the well being of their neighbors. Community Health Workers (CHW) outreach is critical in supporting this approach in order to prevent ill-health, increase case identification and encourage utilization of health services.

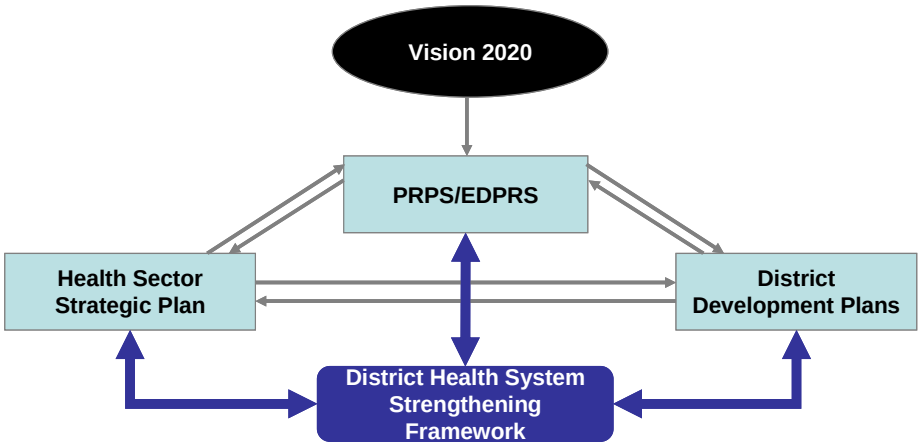
4. **Holistic care for the community beyond the purely clinical** - Fighting disease in impoverished settings also means fighting the poverty at the root of poor health and thus achieving good health outcomes requires attention to both the social and economic needs of the population. In working with other sectors (such as education, water, infrastructure, agriculture) and through community partners, facilities should strive to provide services focused on improving access to food, housing, clean water, sanitation, education, and economic opportunities. This framework can act as a catalyst to increase multisectoral collaboration and improve the many 'wrap-around' services that directly influence health.

The ten principles introduced below are used to shape both the financing and implementation of the framework. For each principle, goals and principles have been defined.

10 Key Principles to ensure quality health care
1. High quality health care requires a truly comprehensive and integrated approach over time and at all levels.
2. High quality care depends on a comprehensive supply chain & procurement system in place for drugs, diagnostics and other commodities.
3. High quality care should be accessible to all.
4. Healthcare workers must be highly trained and compensated fairly.
5. All health facilities must have decent basic infrastructure and functional equipment to support the services they provide.
6. Community mobilization and participation is essential to comprehensive quality health care.
7. Nutrition is an essential element of any comprehensive health care service.
8. ICT must be optimally used to improve the delivery of health care.
9. Health institutions should be held to the highest standards of care, through robust Quality Assurance and Monitoring & Evaluation.
10. Good governance and effective management will enable the delivery of quality care, while also addressing socioeconomic determinants of health care.

The District Health System Strengthening Framework should be seen as supporting the implementation of the Health Sector Strategic Plan and the EDPRS. At the district level, the framework supports the overall District Development Plans, as depicted in the diagram below.

As the diagram below highlights, the District Health System Strengthening Framework is designed to strengthen existing strategies and to introduce new approaches while maintaining the same overall goal: **to guarantee the well being of the Rwandan population by reducing poverty, increasing production and guaranteeing access to health services**.



2. General Overview

The national "Rwanda District Health System Strengthening Framework" was developed through a consultative process and reflects existing policies as well as good practices that have been implemented across the country by a variety of partners. It has served as a guiding framework for the planning work undertaken by the districts. It is important to emphasize that as a district framework, it captures the primary (community and health centers) and secondary (district hospitals) levels of care, not tertiary (referral hospitals). The full Framework can be found in *Annex A*.

In 2007 already, an initial version of the Framework had been used to develop comprehensive plans and gap analysis in four initial districts. In order to have a consistent approach across the country, it was decided in early 2008 that such plans were needed in all districts. Based on their previous experience, the Clinton Foundation was asked to coordinate and facilitate this process with the Ministry of Health. A team of 20 MOH staff and external analysts was assembled. Over a 3-month period, this team worked with all districts to establish a baseline across all the dimensions of the health system framework, to discuss the needs and strategies with district stakeholders, and to detail out the costs. In parallel, information was gathered from all implementing partners about their activities and budgets in order to better understand what the financing gap is in each district. The methodology used to develop these plans is fleshed out in *Annex B*, and an example of the products developed with each district can be found in *Annex C*.

This overview briefly describes defining characteristics of Rwanda's health system. It then outlines the major findings and priorities across the country based on the work carried out with all the districts. It summarizes the estimated cost of strengthening the district health system, and makes clear the estimated financing gap. The next chapter presents the situation for each of the 10 principles, and the last chapter discusses the proposed implementation mechanism.

2.1. Defining Characteristics of Rwanda's Health System

Rwanda's health system, already fragile, was severely disrupted during the Genocide – many health facilities were destroyed or abandoned, and the issue of limited trained health personnel was exacerbated by the death and flight of countless Rwandans. Despite the significant progress achieved over the last 10-15 years, it is only recently that pre-genocide health levels have been reached. Over the last few years, marked progress has been achieved: the 2008 interim DHS survey results show that IMR has decreased from 86 per 1,000 live births to 62 per 1000 live births; U5MR decreased from 152 to 103 per 1,000 live births; and life expectancy has risen to above 50 years for the first time. The Government of Rwanda is committed to improving access to healthcare for all Rwandans, and hopes to be able to do this through increased decentralization, whereby resources and responsibility for implementation are increasingly being shifted to districts.

National level administration

The Ministry of Health and its related specialized institutions are responsible for establishing public health policies and national strategies; for developing protocols and guidelines and ensuring these they are properly implemented; for mobilizing resources; and for monitoring and evaluation.

There are a number of specialized institutions at the national level that are part of the health sector and under the administrative responsibility of the Ministry of Health, but that are not formally part of the Ministry of Health. TRAC+ is the technical arm of the Ministry of Health with regards to major epidemics such as HIV/AIDS, Malaria and Tuberculosis. The CNLS (*Commission Nationale pour la Lutte contre le SIDA*),Rwanda's national HIV/AIDS commission, reports directly to the President's Office and cuts across all ministries for all matters related to HIV/AIDS. CAMERWA is another specialized institution responsible for the procurement of drugs and commodities in Rwanda. Another important institution is the National Reference Laboratory that oversees the lab network in the nation, tests samples when local labs are not equipped to do so (e.g. viral load, dried blood spot), and distributes lab consumables.

District level administration

In 2005-2006, the overall administrative structure of the country, including the health system was overhauled in the context of greater decentralization. Administrative entities were re-drawn so as to match administrative and health districts. There are now 30 districts in Rwanda, each located in one of 5 Provinces: Kigali (3), North (5), East (7), South (8) and West (7).

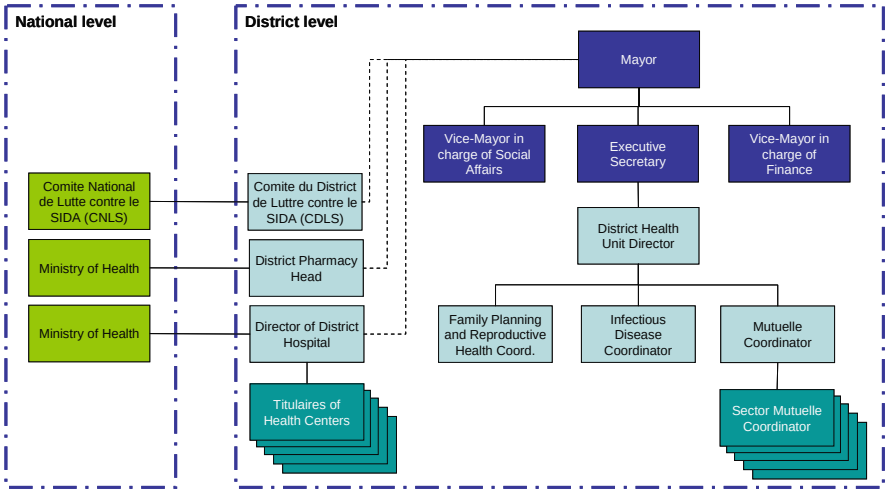
Each district, which on average has a population of about 300,000, is headed by an elected Mayor. The mayor has full authority in the district, and signs a yearly performance contract with the President, where clear objectives and indicators are agreed upon.

The Mayor is supported by 2 Vice-Mayors, one for Social Affairs (including health) and the other for Finance. An Executive Secretary manages day-to-day operations across all units, including overseeing the District Health Unit (DHU) Director and his or her team.

The DHU administers and coordinates all health activities in the district. However, while all coordination happens at the district level, some direct reporting lines remain with the central level: the Head of the District Pharmacy and the Director of the District Hospital report directly to the Ministry of Health (although all of their activities are coordinated at the district level and all communication to the Ministry is copied to the Mayor's office). Similarly, the person in charge of the CDLS (the district HIV/AIDS commission) reports to the central/national CNLS. The work of the CDLS is coordinated at the district level by the mayor.

The Medical Director of the District Hospital has the overall responsibility for all clinical activities in the district. The Medical Director and the other doctors at the District Hospital oversee and support the work of all Health Centers in the District. As per national policy, there should be at least one District Hospital in each District. Once the construction of the Kirehe and Burera Hospitals are complete, that requirement will have been met. For Districts with more than one District Hospital, Medical Directors split the Heath Centers they oversea and are responsible for.

Health Centers are managed by a *Titulaire*, who is usually a nurse. As per national policy, there should be a health centre in each Sector – a Sector is the administrative entity below the district, typically encompassing about 20,000 people.



Key innovation & approaches

It is important to point out some of the important innovations and approaches that have been adopted over the recent years to strengthen the health system. These, and other aspects of the health system, are also addressed in the next chapter in greater detail.

A key aspect, already mentioned, has been an increasing degree of decentralization. This has translated in 2008, for example, in a shift in the management of **human resources**. Previously all hiring of doctors was managed centrally, and if a doctor was transferred the budget for that position was transferred with him or her; now districts are provided the budgets for medical positions and they need to manage the hiring process themselves. If a doctor leaves a District Hospital, the position's budget remains with the facilities.

Related to the management of human resources, Rwanda is placing an increasing emphasis on **Community Health Workers** (CHWs). There are today at least 2 CHWs per village (nearly doubling their number to about 35,000). Mechanisms are being put in place to strengthen the training, supervision and motivation of this invaluable workforce.

A key pillar of health financing is the **Community Based Health Insurance**. While all public servants and employees of large private companies and international organizations are covered by private health insurance scheme, the majority of the population can access a public insurance scheme known as the *Mutuelle de Santé*. Current national enrollment is estimated at 85%. *Mutuelles* require a yearly individual contribution of 1,000 RWF (~US$2), the government and donors cover remaining 1,000 RWF for a total of 2,000 RWF/person/year. Significant efforts are being placed in reaching 100% coverage and enrollment has recently been strengthened by recent legislation. While this serves to alleviate some of the barriers to care, mechanisms such as subsidies are still needed to support the very poor who would otherwise not be able to cover this cost. Ways of improving the scheme are continuously being examined.

Coupled with this system are **'user fees'** at the point of care. With a *mutuelle* card, patients can access primary care services for a fee of around 200 RWF (US$0.4). It is called a *ticket moderateur*, or 'moderating ticket', put in place to avoid abuses of the system. If referred to a District or Referral Hospital, 10% of all costs must be borne by the patient, which in many cases is not affordable. As with the *mutuelle*, safety nets are required for these cases.

A few years ago, Rwanda launched a number of different pilots aimed at using '**performance-based financing**', (such schemes are also called 'pay for performance' or 'output-based' financing) to improve the quality of services. Based on the positive results, a national roll-out is now on-going since 2006. At the District Hospital (DH) level, it involves the Ministry of Health and/or partners "buying" certain health indicators. The DH is then evaluated through a peer review mechanism, and based on its performance, receives a "payment" that serves to supplement its budget. A similar system exists also for Health Centers, who are evaluated by the District Hospital and checked by a district PBF Steering Committee. Such a mechanism is now also being introduced for individual health care workers as well as Community Health Workers.

2.2. Major findings and priorities

The challenges and issues faced by the districts are relatively similar. Respiratory illnesses, malaria and diarrhea diseases are consistently cited as the most frequent causes of health visits and hospitalizations across the country. The population size of the districts and sectors are relatively similar across the country, in particular for districts outside of Kigali. There are of course some variations due, for example, to the geographical specificities, the relative presence of partners, the existing infrastructure, the local leadership, etc. but the concerns and priorities expressed by all districts in respect of strengthening the health system were strikingly similar.

High quality healthcare requires a comprehensive and integrated approach over time and at all levels. While healthcare providers in Rwanda consistently aim to provide high-quality care, limited resources (including staffing, infrastructure and equipment) make the provision of the minimum package of activities (MPA, at health centers) or the Complementary Package of Activities (CPA, at hospitals) a challenge. Having the ability to provide the full package of services remains a top priority for the vast majority of districts.

Being able to do so also requires a strong referral system. Patients who are too ill to walk are carried to a health center on a hammock-like woven stretcher (a traditional ambulance, or '*ingobyi*"), hoisted over the heads of community volunteers that carry the patient on foot, often for more than an hour. These *ingobyi* are also used by health centers when the road is impassible by a 4x4 ambulance to carry a patient to the nearest point in the road an ambulance can reach. Half of districts cite the need for more ambulances among the top 5 interventions required to improve overall healthcare for the patients they serve. While the rehabilitation of roads falls outside the purview of the health sector *per se*, poor roads do impact patient access to care. Once patients reach a health facility and receive care, their medical records are scattered among numerous registers, on average 15, and in some cases as many as 35. The creation of an integrated medical record, (eventually leveraging improved ICT infrastructure and transitioned into an electronic medical record) would streamline patient documentation and referral follow-up further supporting the delivery of high quality services.

The availability of drugs commodities, medical supplies, and laboratory reagents supports the provision of care. While the District Pharmacy acts as the district's central procurement body, all districts in the country highlight the need for strengthened pharmacies and labs, especially with regards to the level of stocks of drugs and reagents. Currently no district pharmacy in Rwanda has a vehicle to procure medicines and lab reagents from Kigali, or to implement active distribution to health facilities — drugs are often transported via minibus taxi or motorcycle, limiting the amount of medication that can be provided, particularly during Rwanda's rainy seasons. In fact, half the districts have prioritized the need for a vehicle at the District Pharmacy. A strengthened District Pharmacy would also limit the drain on health facilities that have to sent their workers to the DP or even Kigali to procure drugs from CAMERWA.

Top priorities expressed by districts to strengthen their district health system

- **Infrastructure and Equipment** – Physical infrastructure, water, electricity and equipment.
- **Staffing** – Adequate staffing, incentives and training.
- **Financial Access** – Increase available funds to the District's Health Insurance Risk Pool and expand coverage for indigents
- **Drugs & Commodities** – Strengthen District Pharmacies and investment in pharmacy stock/inventory
- **Community Health Workers** – Support for the CHW network, including training, equipping and motivating CHWs.

Most pharmacy staff in health facilities is A2 nurses, with very little training in pharmacy. Training in Supply Chain Management (SCM) and pharmacy management will help ensure timely availability of high-quality drugs, reagents and consumables. While stock-outs have decreased over the past years, two thirds of health facilities would nonetheless require a one-time cash injection enabling them to increase their stock levels. Due to overall staffing shortages in most health facilities, pharmacy staff also assume clinical responsibilities beyond their dispensing roles, leading to long waits at pharmacy windows and overworked staff.

Rwanda's national health insurance scheme, *la mutuelle de santé,* has greatly expanded coverage since its inception in the year 2000. By mid-2008, coverage had increased to 85%. However, many Rwandans still remain uninsured. To further expand coverage to all patients, some health facilities conduct outreach, often using Community Health Workers to sensitize communities about the importance of enrolling in the *mutuelle*, others have schemes to cover the cost of ID photos, or work with the local leaders to increase awareness. For indigents, the *mutuelle* subscription fee is covered, but this still leaves a significant amount of people uninsured. A majority of health centers reported treating all patients who presented themselves for treatment, regardless of their ability to pay. This however places a burden on them, Hospitals in particular. Indeed, it is a priority for majority of facilities to create a small 'solidarity fund' to cover costs and immediate necessities of vulnerable patients who have no coverage, or cannot afford the co-payments.

While reimbursement from *Mutuelle Sections* to Health Centers in the first half of the year is relatively timely, District Hospitals note a significant delay in payment from the *Mutuelle* District Risk Pool. Many District Risk Pools are heavily indebted to hospitals and thus ensuring adequate financing to the Pool is a top priority. Providing training in health insurance and financial management, and strengthening the human and capital resources of *mutuelle sections* would strengthen the efficiency and sustainability of the overall health system.

Hiring a sufficient number fairly compensated staff stands out as a clear priority for Rwanda's healthcare system. Staff shortages are particularly acute in certain cadres such as: specialized and generalist doctors; Specialist nurses ,e.g. Midwives, Mental Health nurses, A0, A1 nurses; pharmacist; and trained administrative and support staff. A significant driver of staff shortages is the lack of funds to pay salaries; another is retention. Retaining personnel in remote areas poses a challenge nationwide, notably in more remote parts the country where there is little or no local housing, and the means for transportation are limited or very expensive. Rehabilitation of staff housing and an increase in housing and/or transport allowances for those health workers working in rural areas would allow health centers and hospitals to retain trained staff, and attract more qualified personnel. Nurses in Rwanda also lack opportunities for professional advancement, possible only through another year of training. On average, an A2 nurse wishing to advance to A1 level would have to drive over 4 hours to the nearest training facility—in some cases, leaving Rwanda entirely to attend schools in the DRC. Many A2 nurses leave the medical profession, and seek A1 qualification in another field in order to earn more money. Establishing professional training centers in districts where none exist would enable more

districts to retain qualified professionals, as well as strengthen the skills of nurses, laboratory and pharmacy technicians.

Reliable access to clean water and electricity, indispensable to the provision of quality care, could easily be taken for granted. However, in nearly 40% of Rwanda's health facilities, delivering babies at night by kerosene lamp is a regular experience. Delivering that same baby in a bed that needs repair, in a health center more than an hour by foot from the mother's home, in cramped semi-public space, by a nurse who is on the overnight shift and who will work through the coming day to compensate for staffing shortage is common. Health Centers, Health Posts, and Hospitals in all districts require expansion or refurbishment of infrastructure and equipment. Equipment needs range from high-tech medical instruments like anesthesia machines or ambulances to facilitate patient access to a higher-level facility, to simple items like bed sheets, or a new, sharper surgical knife. There a still a number of sectors in the country without a Health Centre – these facilities need to be built urgently to improve geographical accessibility.

An important innovation in healthcare delivery in Rwanda, where access to a health facility can prove difficult, are the 'army' of Community Health Workers (CHWs) who bring important health education and services directly to the patient's village and home. Most districts note training, minimum compensation and equipment for CHW among the top interventions needed to strengthen this valuable link between the patient's home and the Health Facility. Currently CHWs are volunteers who can potentially receive a performance-based stipend of around US$ 4.50 per month, in addition to any funds generated by newly-formed CHW cooperatives. Increasing the pool of funds available for CHW motivation through Community PBF to $30 per month per CHW would more fairly compensate CHWs for their work in their communities, as well as for their time away from other economic activities, such as farming.

When a patient is hospitalized, a family member or friend usually stays with them in the hospital and prepares their meals, washes laundry and bed linens, and tends to their sick family member. While providing nutritional support to *all* in-patients would not be feasible in the short-term, 80% of the districts ranked the ability to provide nutritional support for vulnerable in-patients – those that do not have a family; whose family is too poor to support them; or who have medical dietary requirements – as one of their most pressing needs. Medical professionals also note a strong need for nutrition education programs to reduce malnutrition, urging support for demonstration gardens, refurbished cooking facilities for patients families (that would also serve as demonstration kitchens), and nutrition education to improve the overall health of the community.

With an eye towards improving the quality of care through the integration of technology, all districts in Rwanda name ICT training, equipment and maintenance as top among their needs. Computers and appropriate software allows facilities to integrate, track and use patient data to improve the quality of care; enables better financial management; and allows pharmacies to better monitor stocks and order medication online. A reliable mobile network or landline phone connection allows for faster patient transfer, and communication among medical professionals.

A robust healthcare system depends upon strong Quality Assurance to keep the elements supporting the system strong. Key to good governance and effective management are appropriate budgets for facility operations, complemented by funds earned for high achievement of performance-based financing (PBF) indicators. Increasing resources channeled through PBF and strengthen the functioning of the PBF scheme is an important step. This would also respond to the need for increased budgets for operations of facilities, including management systems, such as financial management systems, health information management and human resources management. Hiring a trained accountant at every health facility, especially at those health centers where nurses are handling accounting tasks, contributes to sound financial management. There is also a need to train all staff and health committee and hospital board members in Quality Assurance.

Meetings to share best practices and improve quality, coupled with community feedback mechanisms like The Partnership for Quality Improvement (PAQ) draw on Rwanda's strong tradition of community participation. Strengthening the District Health Unit is central to quality improvement, pointing towards a need for a locally-based, integrated approach to healthcare, where everyone, from the nurse who treats the patient, to the ambulance driver who transfers an emergency case to the hospital, to the *mutuelle* officer who processes the claim, to the local political authorities, works together to provide high-quality care to the entire population. In this context, the coordination of all stakeholders is paramount, including holding development partners more accountable to the work they do in partnership with the district.

Last but not least, greater efforts are needed across all socio-economic sectors through such mechanisms as the Joint Action Forum for more cooperation and collaboration.

2.3. What will it cost?

The estimated resource requirements reflect an input-based costing approach. As such, the actual health interventions were not costed out; rather the different inputs needed to carry out those interventions were estimated. Each principle is broken down into a set of goals, which are in turn broken down into a series of strategies. Resource requirements were then estimated for the various activities needed to carry out each strategy. Assumptions made about the input costs such as salaries, drugs, equipment, maintenance, etc. are based on the current known costs in Rwanda.

Each activity of the plan is budgeted either as an investment or operational cost. Investment costs relate principally, though not exclusively, to infrastructure costs, and are the one-time costs required to upgrade districts to desired standards. Operational costs are the running costs of the health care system, including salaries, medical supplies, training, maintenance costs, etc.

The costs detailed here cover 27 districts of Rwanda. The 3 districts of Kigali are not included.

Significantly improving rural health care services will require about **US$211 million** over the next 5-6 years in capital investment costs. Once the scale-up is fully implemented across all rural districts, operational costs are estimated at around **US$ 238 million** per year. These costs reflect the full costs to run the health system in the 27 rural districts of Rwanda. Based on a population of 9.6million in those 27 districts by 2012, the total costs per capita would equal about US$27[1].

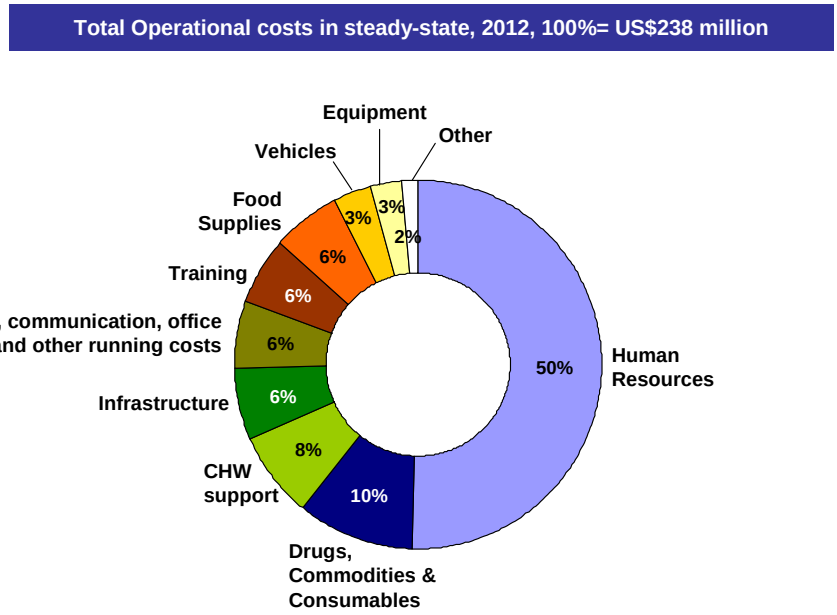
The table below lays out these costs along the 10 principles of the Rwanda District Health System Strengthening Framework.

Estimated budget of the Health System in 27 Districts (USD Thousands)

Principles	Investments (2009-2013)		Operations (per yr, 2012)	
1. High quality health care requires a truly comprehensive and integrated approach over time and at all levels.	**-**	**-**	**-**	**-**
2. High quality care depends on a comprehensive supply chain & procurement system in place for drugs, diagnostics and other commodities.	**10,408**	**4.9%**	**26,530**	**11.1%**
3. High quality care should be accessible to all.	**842**	**0.4%**	**8,033**	**3.4%**
4. Healthcare workers must be highly trained and compensated fairly.	**17,259**	**8.2%**	**124,502**	**52.2%**
5. All health facilities must have decent basic infrastructure and functional equipment to support the services they provide.	**169,024**	**79.9%**	**24,541**	**10.3%**
6. Community mobilization and participation is essential to comprehensive quality health care.	**4,662**	**2.2%**	**18,133**	**7.6%**
7. Nutrition is an essential element of any comprehensive health care service.	**1,277**	**0.6%**	**14,755**	**6.2%**
8. ICT must be optimally used to improve the delivery of health care.	**7,129**	**3.4%**	**2,932**	**1.2%**
9. Health institutions should be held to the highest standards of care, through robust Quality Assurance and Monitoring & Evaluation.	**-**	**-**	**3,286**	**1.4%**
10. Good governance and effective management will enable the delivery of quality care, while also addressing socioeconomic determinants of health care.	**1,045**	**0.5%**	**15,831**	**6.6%**
TOTAL	***211,647***	***100%***	***238,542***	***100%***

[1] Population growth estimated at 2.8%, from a 2006 baseline of 8.2 million (excluding 3 districts in Kigali). In 2012 total operational and investment costs are estimated at US$260million. Extrapolating the costing to all 30 districts and factoring in tertiary care, the total cost per capita would equal between US$32-35 per capita.

In order to better understand the costing of the system, it is also important to see the various cost categories and what the major cost drivers are. These are detailed in the two graphs below.



Not surprisingly, **Human Resources** make up the largest operational costs. About 75% of this amount (US$75m) is dedicated to salaries of staff in health facilities as well as administrative units within the district (e.g., mutuelles staff, district pharmacy, etc.). The remaining portion is for training and performance-based incentives for salary top-offs.

Drugs and Commodities follow. It must be noted that the cost of donated drugs (e.g., TB, HIV) are not included in this analysis. The amount here represents essentially the budgets managed by the facilities to purchase essential drugs and commodities.

The key cost drivers for **CHW support** are the performance-based motivation, budgeted at an average of about US$30 per CHW. Training of the CHWs is also a very significant part of this cost item.

Infrastructure costs refer here to maintenance of health care infrastructure. The running and maintenance costs of the energy supply account for about 50% of the overall cost. The maintenance of physical infrastructure is also a key cost driver, at nearly 40% of the total.

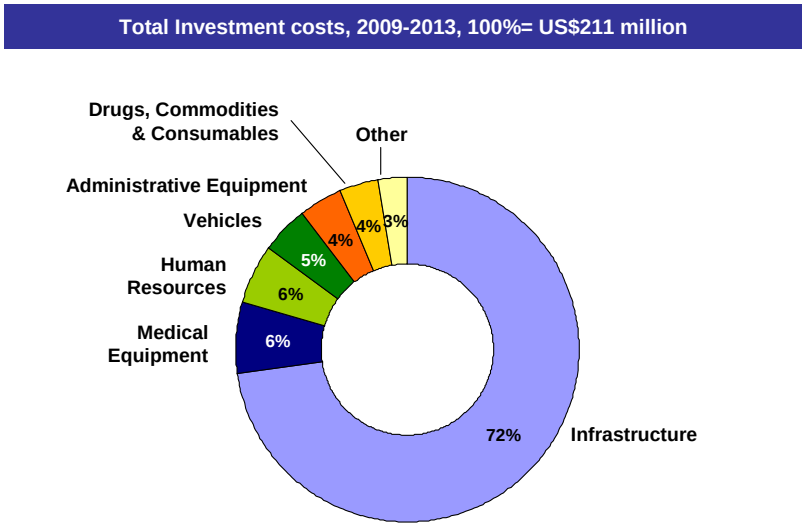
Costs for **communication, office supplies, and other running costs** are driven largely by the need for facilities to have an operational budget to support their daily activities such as fuel for supervision, office supplies, etc. Close to 50% of this amount should be coming through performance-based financing for facility operations.

Training costs cover the on-going training needs of health facility staff as well as district-based staff. It accounts for roughly 2-days of training per month per staff.

Food supplies costs include out-patient food support for vulnerable patients, prevention activities in the community as well as a more limited in-patient food support program.

Vehicles and **Equipment** costs cover the maintenance of ambulances and other vehicles supporting the health system, as well as the maintenance of medical and administrative equipment.

The **Other** category covers social support programs for indigents and other vulnerable groups through the health facilities and the district health unit.



Infrastructure costs account for nearly three quarters of the total requirements (US$130m). More than 50% (US$65m) of this is for the rehabilitation of existing infrastructure. Close to US$25m are required to build new Health Centers and Health Posts. While all districts now have at least one Hospital, several districts have expressed the need for a second DH, totaling US$15 million. An estimated US$10m are needed in energy investments.

Medical Equipment needs were estimated in all facilities. The majority of cost would be incurred at Health Centers, which have greater equipment gaps than Hospitals.

Human Resource investments reflect the need to build or rehabilitee staff housing for remote health facilities as part of the incentive scheme.

The need for additional **Vehicles** is great. Some 55% of the investments are for ambulances, the remainder of the costs cover other vehicles (e.g., for the district pharmacies) and motorbikes for Health Centers.

Costs related to **Administrative Equipment** covers principally ICT needs including hardware (80%) and connectivity.

Investment in the area of **Drugs, Commodities and Consumables** covers a one-time cash injection to increase the stock levels of District Pharmacies and health facility pharmacies.

Other investment costs include the purchase of equipment and supplies for Community Health Workers (80%) and investments for animal husbandry as part of malnutrition prevention programs.

2.4. What resources are available and what is the gap?

Rwanda's district health system if far from starting from scratch. Efforts to strengthen the system have been underway for a long time, and there are already a significant amount of resources that are channeled directly to districts. This has further increased recently as the decentralization policy is being implemented. Resources available to districts are partly managed directly by the districts and partly managed centrally and disbursed for specific programs over the year.

Resource directly available and managed by the district level flow from a variety of sources, including:

Transfers from central government. These resources are part of the internally-financed Health Sector Budget and are directly transferred to health facilities from the Ministry of Finance, sometimes via the Ministry of Health. This revenue principally covers salaries and operating budgets. A part of this transfer is done through the Performance-Based Financing Mechanism (PBF), which contributes to salary incentives, operating budget, and training costs. Other resources include those channeled through the Ministry of Local Governance. This overall amount is conservatively expected to increase at the same rate as the overall GOR budget, ie at 9% per year.

Resources raised locally at the district and facility level. These resources include:

- Transfers from Districts, primarily towards salaries, but also other operating budget
- *Mutuelle* reimbursement, towards drugs and services
- *Ticket Moderateur*, towards drugs and services
- Other user fees and bills submitted (RAMA, MMI, etc.)
- Direct (client) payment for services
- Direct (client) payment for drugs

These amounts were gathered from each individual facility. Where these were not available, estimates were derived based on the averages of similar facilities. A year-on-year 10% increase was factored in.

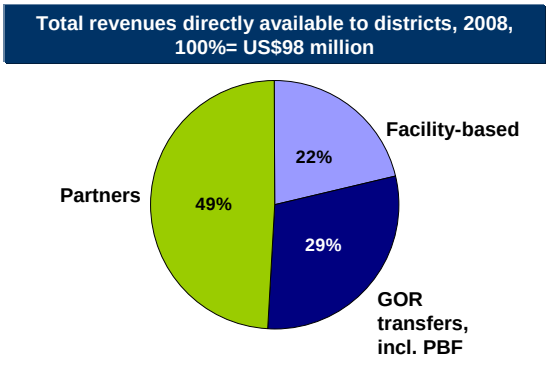
Partner support. A number of development partners – bilaterals, multilaterals, NGOs – also provide a significant amount of funding to the district. These resources are, however, often earmarked and may not necessarily directly contribute to the strengthening of the health system per se. For instance, about 50% of the resources from partners at the district level is HIV-related, though these resources in many instances contribute to the strengthening of the system. Resources included here are budgets provided by the partners themselves, where they indicated the districts they were active in, the facilities they supported, the specific areas of intervention, etc. It is estimated that there are about 50 different international partners working across the country, many of which are very small. About 95% of the estimated resources from partners come from some 20 agencies, which have been included in this analysis. Because it is never easy to tell how existing partner support evolves from one year to the next, a flat growth rate was assumed.

The pie chart shows how these three different sources of revenue break-down at the district level. Similarly to the financing of the overall Health Sector budget, nearly 50% of resources are from external partners.

There are, furthermore, resources managed centrally that also directly benefit districts. It is, however, not possible to forecast or estimate in which districts these will be used in advance. These sources include:

Sector-Budget Support. A number of key partners such as DFID, the German Cooperation and the Belgian government have begun provide Sector Budget Support (SBS) to the Health Sector. These resources are managed centrally but benefit for the most part districts' health systems. The use of these resources are negotiated on a yearly basis between the Ministry of Health and the respective SBS partners.

The Global Fund. Given its size, the Global Fund to Fight AIDS, TB and Malaria (GF) should be considered in its own right. While a small share of GF resources are transferred directly to health facilities (and therefore capture above already), a much larger share is managed centrally. Although targeting the 3 diseases, the majority of resources from the GF can be considered to contribute to the financing needs of the district health system. Accurately forecasting for the various Rounds and Components would not be difficult, but given the track record of Rwanda, it can be safely assumed that the flow of resources on a yearly basis from the GF will remain constant over the medium to long term.



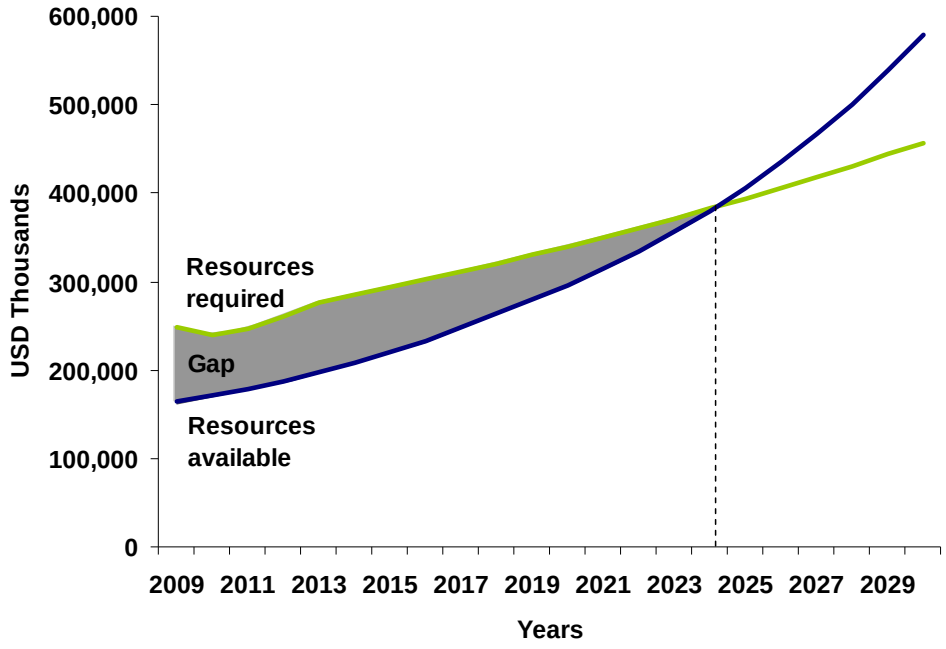
MOH internal development budget. A smaller source of revenue to districts come from the Ministry of Health's development budget, which can be used throughout the year to meet specific needs. Similary with other government sources of revenue, a 9% year-on-year increase was assumed.

The table below lays out the resource requirements, by Investments and Operations and compares that to the resources available, both those that are directly managed by the districts and those managed centrally in favor of the districts. A number of unknowns remain, however, such as the level external support over time, and the financing gap will need to be continuously monitored. The numbers nonetheless clearly point towards a decreasing gap over the coming 15-20 years.

Total costs of strengthening the health system at the district level (primary and secondary care), 27 districts (all except Kigali)

	2009	2010	2011	2012	2013	2014	2015
Resource requirements at district level							
Investment	76,784	61,335	32,581	21,573	19,375	19,568	19,764
Operational	171,452	178,096	214,012	238,542	256,964	264,673	272,613
Total Resource Requirement	***248,236***	***239,430***	***246,592***	***260,115***	***276,338***	***284,241***	***292,377***
Resources available at district level							
Transfers from central government	37,256	41,825	46,916	52,583	58,891	65,908	73,712
Resources raised locally at the district and facility level	23,231	25,554	28,109	30,920	34,012	37,414	41,155
Partner support	50,904	50,904	50,904	50,904	50,904	50,904	50,904
Sub-Total	***111,391***	***118,283***	***125,929***	***134,407***	***143,807***	***154,226***	***165,771***
Resource managed centrally that are directed towards districts							
External Sector Budget Support	9,703	9,703	9,703	9,703	9,703	9,703	9,703
Global Fund to fight AIDS, TB & Malaria	24,945	24,945	24,945	24,945	24,945	24,945	24,945
MOH internal Development Budget	2,950	3,216	3,505	3,820	4,164	4,539	4,947
Sub-Total	***37,598***	***37,863***	***38,153***	***38,468***	***38,812***	***39,187***	***39,595***
Total Resources Available	***148,988***	***156,146***	***164,081***	***172,875***	***182,619***	***193,412***	***205,366***
Remaining Gap to Strengthen Health System	***99,248***	***83,284***	***82,511***	***87,240***	***93,719***	***90,829***	***87,011***

The table above shows a gradually decreasing gap assuming external support remains constant at current levels. Projecting this trend forward, the health system resource requirements would be covered by 2025. This is shown in the graph below. The grey zone highlights the total gap.



3. Principle-by-Principle Overview

The following section presents in turn each principle. It summarizes some of the key findings of each dimension of the Framework. It highlights the key priorities and strategies that need to be implemented, and makes clear the associated investment and operational costs. It then details the resources available and the estimated financing gap.

Principle I: High quality health care requires a truly comprehensive and integrated approach over time at all levels.

Goal 1
Comprehensive health service package available in all health facilities.

Goal 2
Infectious disease interventions integrated with primary care and preventive services.

Delivering the full complement of the Minimum Package of Activities (MPA) and the Complementary Package of Activities (CPA) will require the regular update and the distribution of national norms and guidelines on the minimum set of services to be offered by all each type of facility. The referral systems within the district and nationally will also need to be strengthened to ensure that patients can access all services available to them. All services should be offered in an integrated manner, and their supervision should measure not only their comprehensiveness but how facilities utilize protocols and integrate key services. This will be further supported by the development of an integrated medical recording for all patients that may eventually be transitioned into an EMR, and improving the organization of services and patient flow to promote integration of services.

I. ANALYSIS OF CURRENT SITUATION

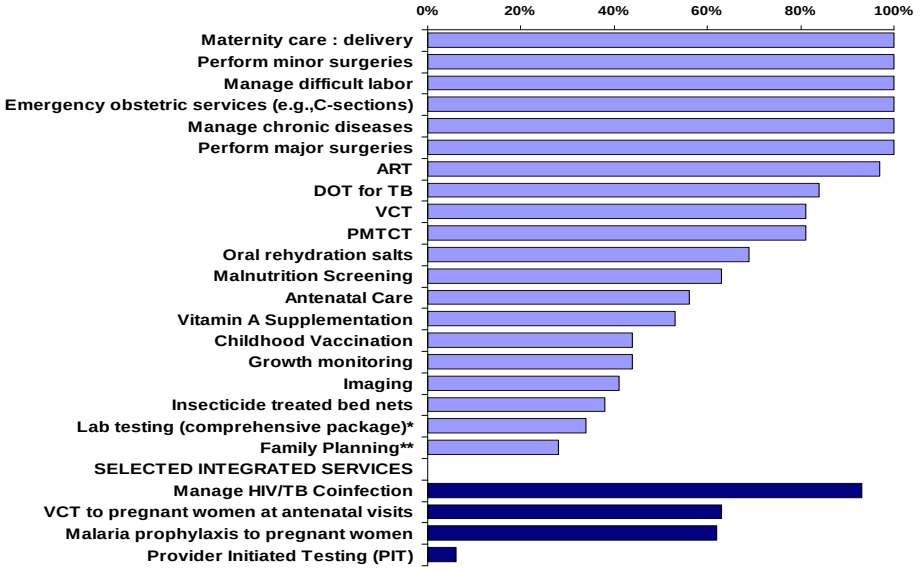
The tables to below show the most and least common protocols and guidelines at facilities.

Box : Protocols available at *more than 75%* of facilities
• Management of malaria
• STI diagnosis and treatment
• Family Planning
• Infection control (Gestion de dechet)
• PMTCT

Box : Protocols available at *less than 50%* of facilities
• Health Management Information System (HMIS) and EMR
• Blood transfusion
• Severe Acute Malnutrition
• Mental Health and counseling
• Integrated Management of Adult Illness (IMAI)

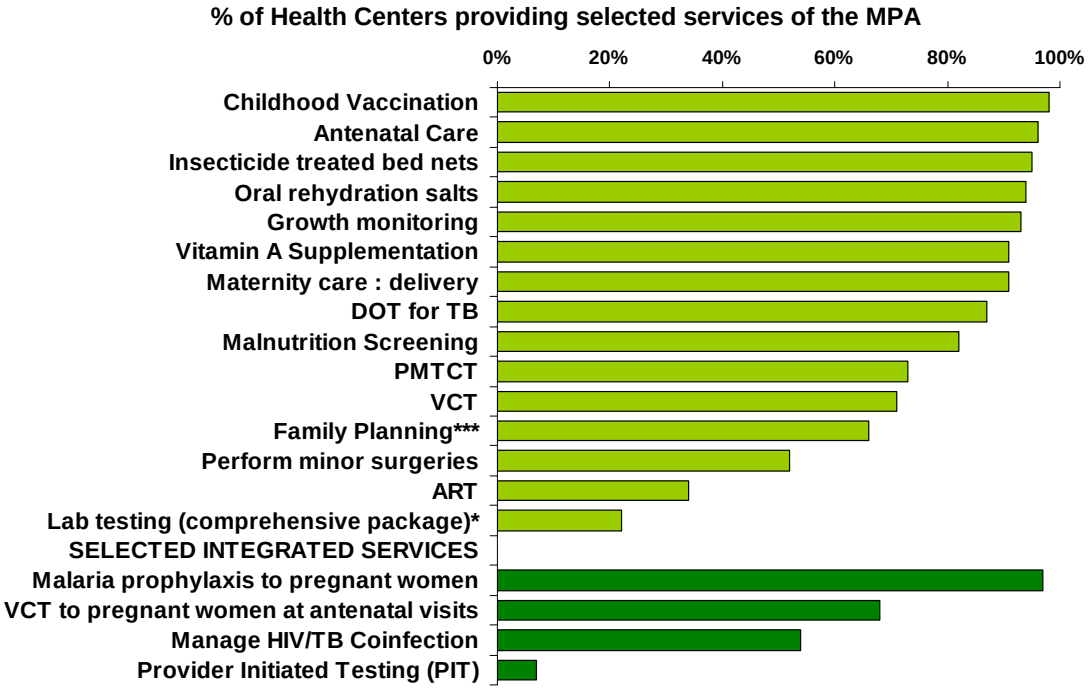
The chart below demonstrates that all District Hospitals offer the six major CPA services that are not included in the MPA, and that a majority of hospitals do not duplicate Health Centre services.

% of District Hospitals providing selected services of the CPA

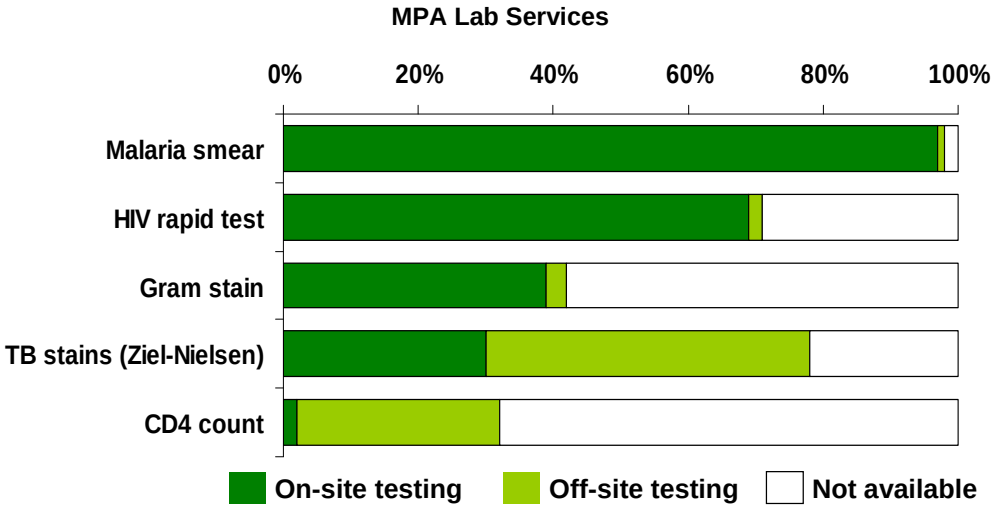


** Family Planning at DH includes: tubal ligation, vasectomy, IUD, and emergency contraceptives.
* The comprehensive package of Lab Tests includes: malaria smear, gram stain, VDRL/RPR for syphilis, TB stain, HIV rapid test, dipstick for urine protein. The number in the table represents the percentage of facilities that provide these tests either onsite or offsite.

Most Health Centers provide the vast majority of the MPA, though some services such as ART and Family Planning are still lagging behind.



Because most facilities do not provide the full package of lab tests, the graph below shows the availability of the five basic laboratory tests and whether they are performed on-site or if the test sample sent offsite.



Box : Other Selected Findings

- **Neglected Tropical Diseases, an emerging priority, is still under-served. While 60% of facilities have the capability to detect and diagnose some NTDs, only 45% report tracking any NTDs.**
- **The patient clerk position, which aims to improve patient management and flow, is not standard practice. Only 5 facilities have clerical staff to perform all the needed functions; 138 facilities have staff, most often clinical that carry out some of these functions.**
- **The referral system still requires strengthening, with only 242 (about 75%) of Health Centers reporting receiving feedback from the District Hospital.**

II. PRIORITIES AND COSTS

- ***Provide the Full Complement of the MPA and CPA*** – Facilities would like to able to provide the full MPA for Health Centers and CPA for District Hospitals. Priority services include full family planning options, maternity, ART/VCT/PMTCT and mental health services (currently not part of the MPA). This priority will be made possible through the interventions in all the remaining principles. These services should be provided in an integrated fashion. A patient clerk is also recommended as part of the staffing profile of health facilities to ensure that patients can be given guidance and triaged towards services they need.
- ***Strengthen the Referral System*** – Strengthening the referral system is imperative to coordinated care and communication when Health Centers send patients to higher level facilities. Although all Health Centers utilize a common transfer system and referral form, mechanisms must be put in place to ensure that hospitals communicate back to referring facilities. The referral system is further strengthened through ambulance services, as well ICT that would facilitate better communication. Integrated Patient Medical Records (and eventually EMR) support the facilities' ability to transfer and receive a full patient history.
- ***Updating Guidelines and Protocols*** – All Health Facilities must be kept up-to-date with the latest norms and treatment procedures, hospitals, the DHU, MINISANTE and Health Centers should collaborate in order to ensure timely dissemination of information.

There are no costs associated with this Principle, as they are all reflected in the 9 subsequent principles.

Principle II: High quality care depends on a comprehensive supply chain & procurement system in place for drugs, diagnostics and other commodities.

Goal 1

Quality drugs and commodities should be available at the right time and right place.

Goal 2

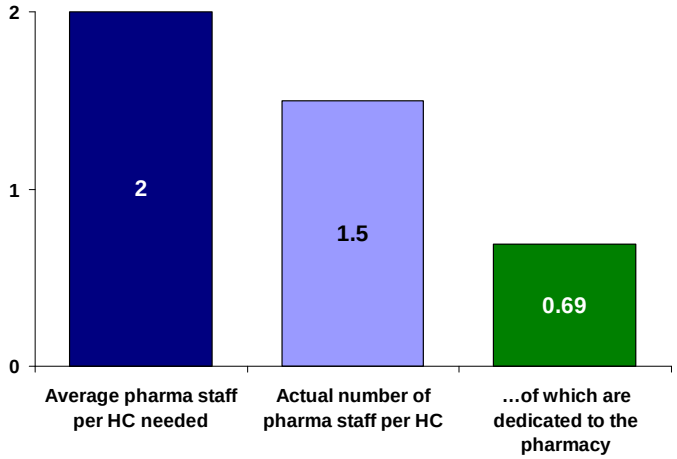
Well stocked and functioning pharmacies and laboratories in place.

To ensure that all essential drugs and commodities are available in the country and at the point of care, a well developed system of procurement, quality assurance and distribution; Active Distribution, a CAMERWA initiative should be strengthened to support supply chain management of drugs and commodities. This should be coupled with the strengthening of District Pharmacy system that aggregates demand and distribution at the district-level and supporting all facility laboratories and pharmacies through well-trained staff, functional equipment and ICT, adequate operations budgets and adequate physical space.

I. ANALYSIS OF CURRENT SITUATION

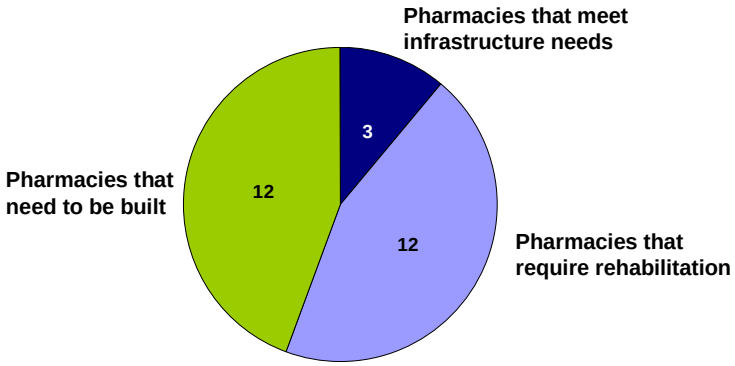
The graph below shows that the half of the current staffing for pharmacies is shared with other services demonstrating the pressures that most services at facilities face with inadequate staffing.

Average number of Pharmacy staff per Health Center



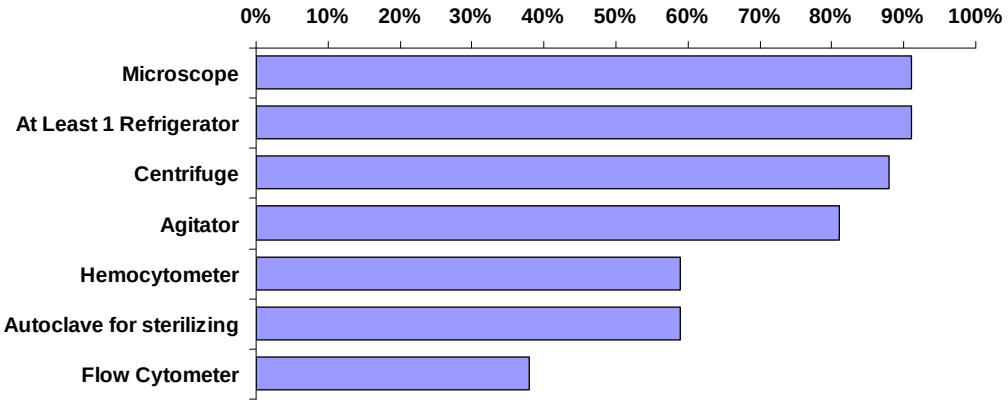
The chart below shows the overall infrastructure needs of District Pharmacies in the 27 Districts outside of Kigali. It should be noted that some of those counted as "need to be built" may commence construction in Q4, 2008.

Infrastructure state of District Pharmacies

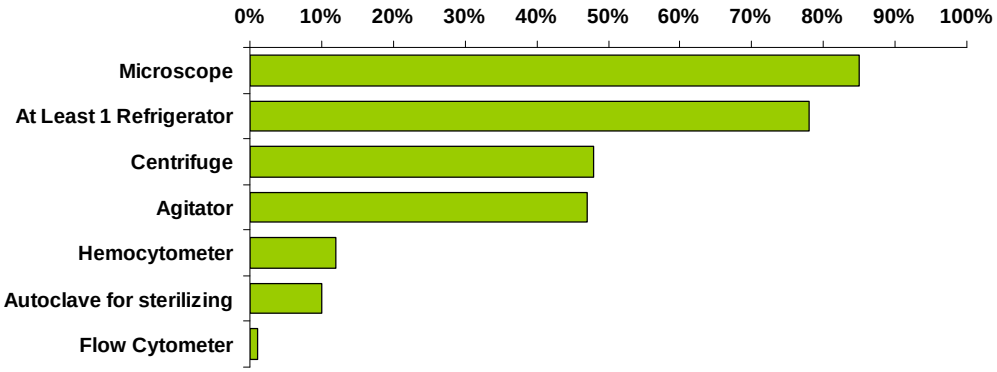


The following graphs indicate the percentage of District Hospitals and Health Centers, respectively, with the lab equipment listed below in at least *a mostly functional state*.

Percent of District Hospitals that have functioning equipment



Percent of Health Centers that have functioning equipment



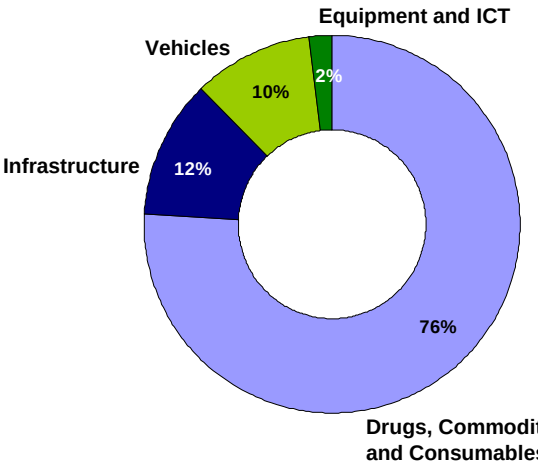
Box : Other Selected Findings

- **The average HC spends $12,000 every year on drugs and commodities, however, only 12% of these facilities report that this budget is sufficient.**
- **The average DH spends $90,000 every year on drugs and commodities, however, only 13% of these facilities report that this budget is sufficient**
- **Most HCs lack the proper means of transport to retrieve their monthly orders from the District Pharmacy—often requiring that they rent a vehicle or take several trips on a facility motorcycle. 30% of health facilities report needing two to three hours to reach the District Pharmacy.**
- **The average DH has five dedicated Laboratory staff members, 25% of whom have been trained in Supply Chain Management.**
- **Health Centers should have at least two dedicated laboratory staff members, but the average HC currently has 1.4, 20% of whom are trained in Supply Chain Management.**

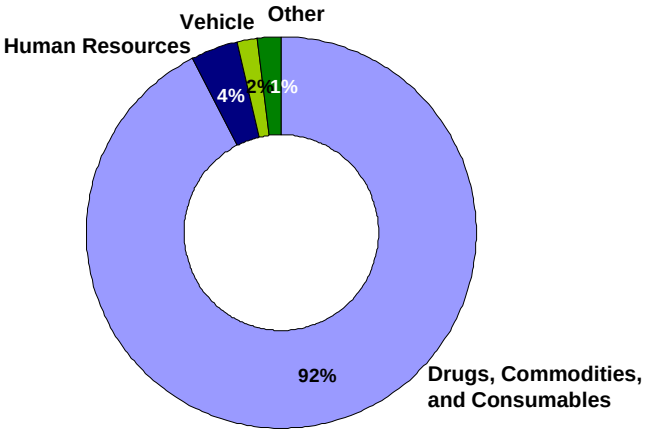
II. PRIORITIES AND COSTS[2]

- ***Strengthen District Pharmacies*** – Needs expressed include building District Pharmacies where none exist, providing a vehicle for transportation and distribution of drugs and medical commodities, rehabilitation and expansion of existing District Pharmacies and support for operations and drugs, staffing, training and equipment.
- ***Investment in Pharmacy Stock*** – A significant number of facilities express that drug stocks are not sufficient to meet utilization. They express a need for *a one-time* investment or infusion of cash to bring up their drug stock levels to a sufficient amount to meet patient demand.
- ***Strengthen Facility Laboratories and Pharmacies*** – This requires an investment in infrastructure and equipment, dedicated staffing and training (especially in Supply Chain Management). ICT with the appropriate software may be leveraged to improve the management of drug, commodities and reagent stocks.

Total Investment Costs , 2009-2013
100%= US 10.4 million



Total Operational Costs in steady state, 2012,
100%=US 26.5 million



Box : Principle II Investment Costs

- **The major cost driver is the initial investment in pharmacy inventories at both the District Pharmacies and Facility Pharmacies**
- **Infrastructure needs include construction or rehabilitation of the District Pharmacies**
- **Vehicle costs include the purchase of a vehicle at every District Pharmacy to be used for delivery and distribution**
- **ICT costs include providing internet connections and purchasing ICT hardware at all District Pharmacies**

Box : Principle II Operational Costs

- **The operational drug budget includes cash infusions to augment stock at the District Pharmacies and Facility Pharmacies, as well as the recurring budget for drugs, consumables, vaccines and reagents in the district.**
- **Salaries for District Pharmacy staff are the second largest operational cost**
- **Continuing costs associated wit the District Pharmacy vehicles include fuel, running and maintenance costs**
- **Other costs include those associated with monthly DTC meetings, the operations budget for the District Pharmacy staff and DTC members, administrative equipment and ICT for the District Pharmacy and maintenance of ICT equipment and internet connection fees at all District Pharmacies**

[2] Drugs & Commodities donated to Rwanda or those managed centrally and given to districts in-kind are not included in the costs of the system (or in the revenues). These include drugs & commodities for HIV, TB, Opportunistic Infections, Malaria, Family Planning, and Vaccines.

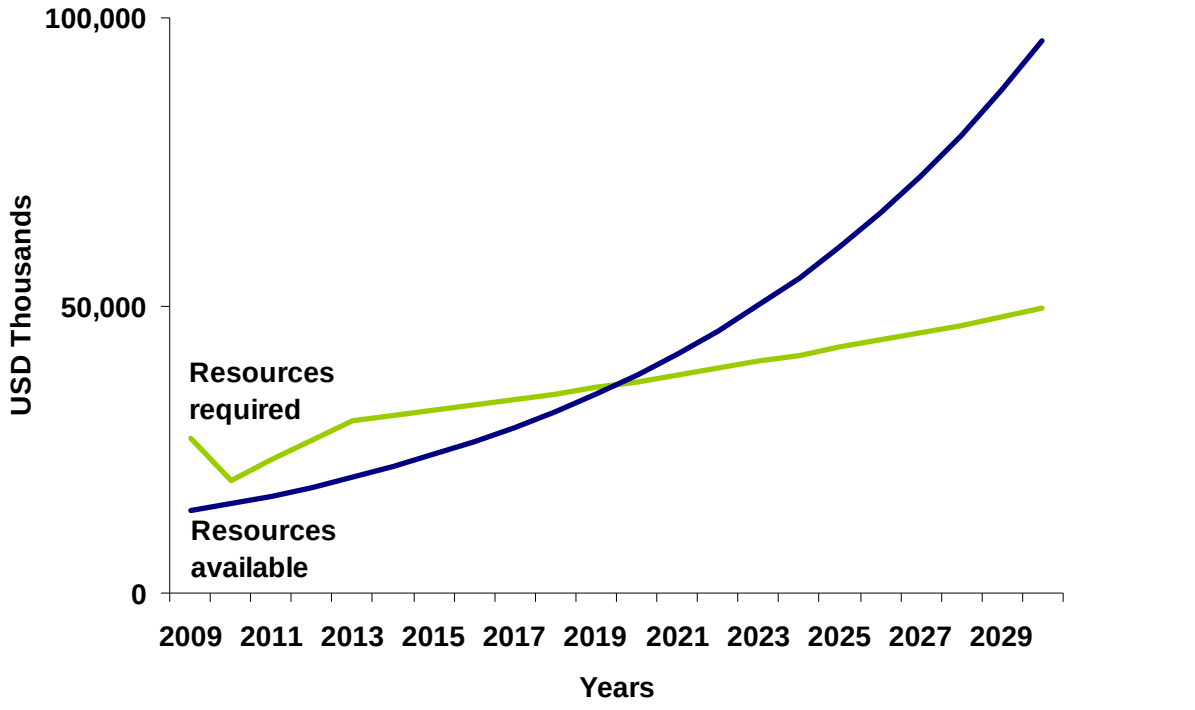
III. FINANCIAL GAP ANALYSIS

As the table and the graph below show, the gap to ensure facilities have the right drugs & commodities at the right time and in the right place is not large. The initially higher gap reflects the investments needed to strengthen pharmacy infrastructure as well as the need to inject resources to augment stock levels. Once this is done, and assuming the revolving funds at the facilities function efficiently, the gap should be bridged. A separate analysis is required to look the potential gap at the national level with regards to donated drugs, which are not included below.

Total costs and available resources to strengthen PRINCIPLE II the health system at the district level (primary and secondary care), 27 districts (all except Kigali), USD thousand

	2009	2010	2011	2012	2013	2014	2015
Resource requirements at district level							
Investment	9,982	323	96	6	0	0	0
Operational	17,047	19,306	23,217	26,530	29,927	30,825	31,750
Total Resource Requirement	***27,029***	***19,629***	***23,313***	***26,536***	***29,927***	***30,825***	***31,750***
Resources available at district level							
Transfers from central government	0	0	0	0	0	0	0
Resources raised locally at the district and facility level	12,790	14,069	15,476	17,024	18,726	20,599	22,659
Partner support	1,432	1,432	1,432	1,432	1,432	1,432	1,432
Sub-Total	***14,223***	***15,502***	***16,909***	***18,457***	***20,159***	***22,032***	***24,091***
Resource managed centrally that are directed towards districts							
External Sector Budget Support	0	0	0	0	0	0	0
Global Fund to fight AIDS, TB & Malaria	0	0	0	0	0	0	0
MOH internal Development Budget	0	0	0	0	0	0	0
Sub-Total	***0***	***0***	***0***	***0***	***0***	***0***	***0***
Total Resources Available	***14,223***	***15,502***	***16,909***	***18,457***	***20,159***	***22,032***	***24,091***
Remaining Gap to Strengthen Health System	***12,806***	***4,127***	***6,404***	***8,079***	***9,769***	***8,794***	***7,659***

Gap Analysis for PRINCIPLE II at the district level (primary and secondary care), 27 districts (all except Kigali)



Principle III: High quality care should be accessible to all.

Goal 1

All Rwandans have health insurance coverage.

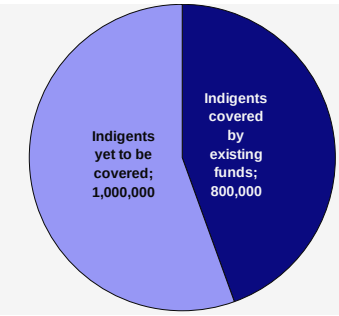
Goal 2

There are no financial barriers to care.

Affordable health insurance coverage helps increase patient access to care. Enrolment in *Mutuelle de Santé,* the national health insurance, as well other available insurance should be facilitated through education and enrolment campaigns. Processes to identify the neediest members in every community should be well-coordinated and transparent, with the proper mechanisms in place to mobilize. Mutuelle offices at the district and in health need investments in staffing and training, infrastructure rehabilitation and equipment, and operations budget and risk pool funds to pay claims from facilities. A multisectoral approach is required to reduce poverty in the community.

I. ANALYSIS OF CURRENT SITUATION

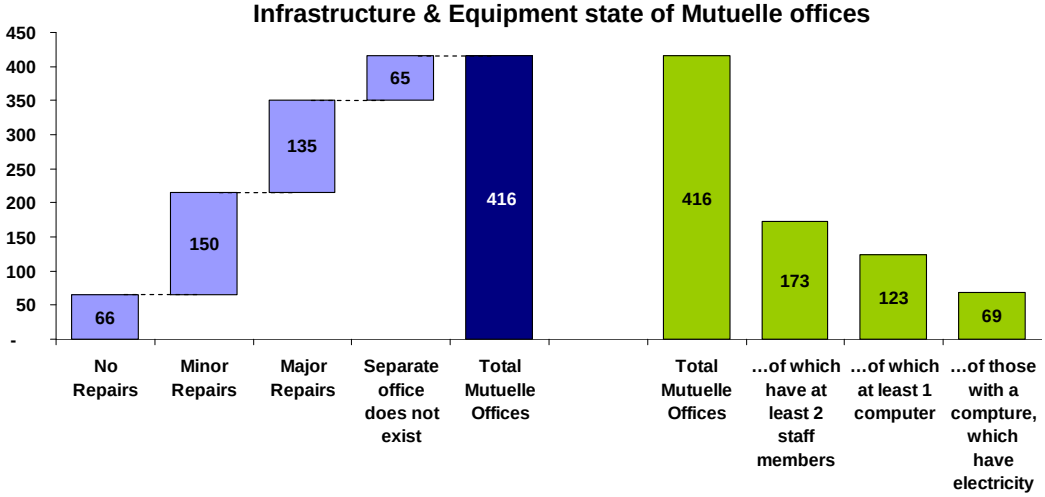
Significant progress has been made across all districts of Rwanda in terms of Health Insurance coverage, reaching an average of 85%. Greater awareness, coordinated campaigns, and efforts to reach out to the most vulnerable population are behind these results. Despite this very positive development, there are still pockets of population that are not covered. Funds for the coverage of indigents are still insufficient as the pie-chart below shows: current available funds to support indigents' insurance registration fees cover about half the need.



An issue that was raised across all districts concerned the current solvency of the *Mutuelle* system. The average Sector Risk Pool (Section *Mutuelle*) was 8.6 million RWF, and the average District *Mutuelle* Risk Pool was 48 million RWF. Although Section *Mutuelle* are able to pay HC bills submitted in the first half of the year, a majority of them are unable to cover claims submitted to them in the second of half of the year, most times using the following year's subscriptions to cover current and previous costs. The District *Mutuelle* Risk Pools in all districts were not able to pay all the hospital bills submitted in 2007. The backlog of claims in some districts is as long as 14 months, and as much as 110 million RWF in unpaid claims. While the issue is being addressed centrally, available resources are still insufficient. This is due to many factors including insufficient safeguards for transparency and accountability on management of funds; limited training of *mutuelle* staff in financial management & forecasting; limited ICT tools; delayed or lack of disbursement of money to the risk pools by districts, partners or GoR; and over-billing and rising cost of care (especially drugs).

The graph below outlines the infrastructure needs of Sector *Mutuelle* offices (at HCs) and also shows that a majority of offices are not adequately staffed, do not have enough computers and have no access to sufficient electricity.

Infrastructure & Equipment state of Mutuelle offices



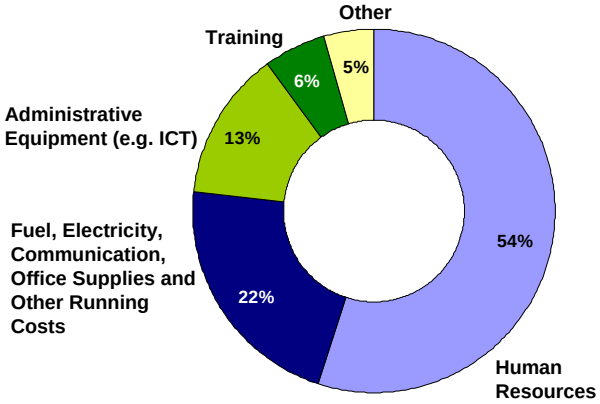
PRIORITIES AND COSTS

- ***Increase available funds to the District Risk Pool*** – The back-log of reimbursements to District Hospitals is a priority need in all districts. The *District Risk Pool* will require additional funds in order meet all the claims presented by hospitals, its own expenses and have a reserve fund. For some districts, there is a need to support the *Sector Risk Pool*. Because these costs all contribute to the financing of human resources, drug & commodities, facility operations, etc., which have already been fully accounted for in other Principles, they are not reflected here to avoid any double counting.
- ***Expand Coverage for Indigents*** – While a number of indigents are covered for *mutuelle*, there are still some that are left out. The priority here is to strengthen the indigent identification process to ensure that everyone with a need is identified and can gain access to assistance. In the medium to long term, a multisectoral collaboration approach is required to address the causes of poverty with an aim to increase community self-sufficiency and thus the ability of poor community members to afford the *mutuelle* subscription fee. For some indigents, support to cover the user fee (*ticket moderate)* is necessary. Facilities should also receive some funds they can spend towards social programs to support indigents become self-sufficient, and a fund to offset costs when indigents present for care and do not have any insurance coverage.
- ***Strengthen the Mutuelle Offices*** – Support to the *mutuelle* offices in facilities and at the districts involves adequate staffing, improving the management and accountability structures in place to allow for better management funds and reimbursement to facilities for services. It also requires an investment in the physical infrastructure to expand these offices.

Total Investment Costs , 2009-2013
100%= US 0.8 million

All investment costs are for administrative equipment, including ICT hardware

Total Operational Costs in steady state, 2012, 100%=US 8.0 million



Box : Principle III Investment Costs

- **Rehabilitation of District Mutuelle offices is one of the major investment costs associated with Principle II, however, this rehabilitation is including in Principle V costs**
- **The remaining investment is in administrative equipment, which includes internet connection for the District Mutuelle, ICT hardware for the District and facility Mutuelle offices and general office equipment**
- **This cost also includes digital cameras/webcams and printers to be used at sector Mutuelle offices to help enroll new members and issue membership cards**

Box : Principle III Operational Costs

- **Staff salaries at the District and facility Mutuelle offices are the largest operational cost**
- **Other costs include a discretionary fund for socio-economic assistance at facilities, and support to Mutuelle associations**
- **Maintenance of ICT equipment and recurring internet connection fees at all District Mutuelle offices and the cost of developing photos for membership cards for the very poor are also included.**
- **Mutuelle running costs include budgets for operations, sensitization and mobilization at the District and facility Mutuelle offices**
- **Training costs include ongoing costs for both District and facility Mutuelle staff**

III. FINANCIAL GAP ANALYSIS

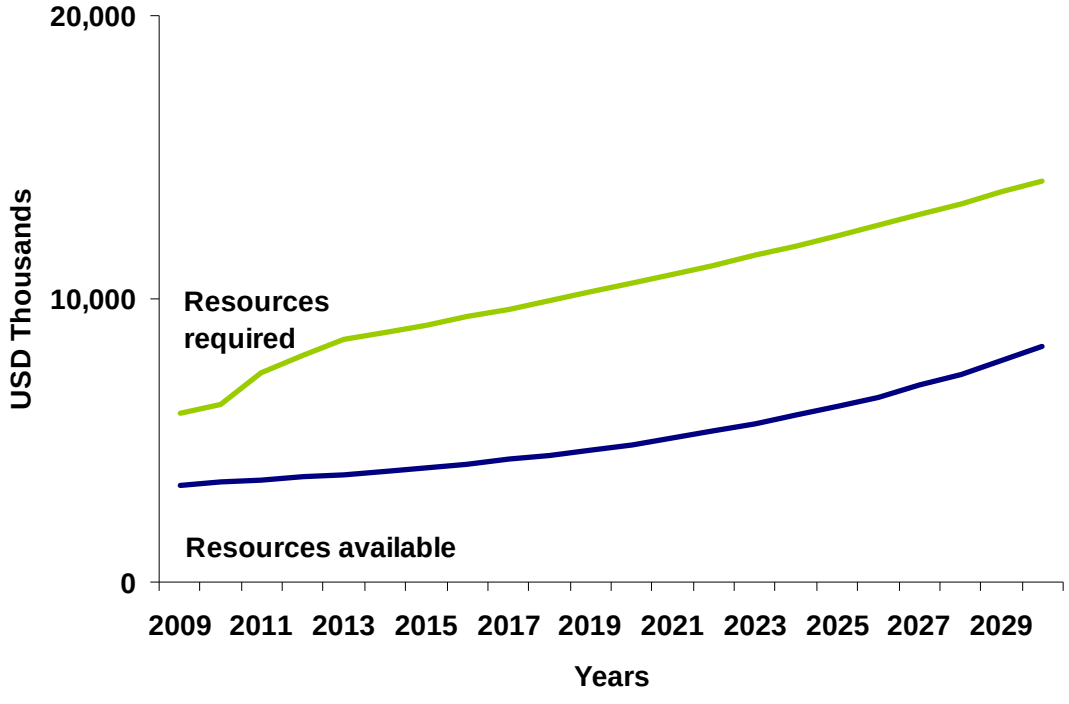
The analysis below factors in costs and revenues related to measures to increase access to the *Mutuelle* for the most vulnerable, and the strengthening of *Mutuelle* offices. While the overall gap is not very significant, it remains constant as most support comes from external sources, which have been projected as constant for the years to come, given the uncertainty around external support.

As mentioned above, the more resource intensive need to ensure the solvency of the *Mutuelle* system is not reflected here to avoid double counting. It is estimated, however, that some US$ 25 million will be needed to address the backlog of claims submitted by District Hospitals (US$ ~5 million – **one time**), and support the District & Tertiary Risk Pool (US$ ~20 million **per year**) would need to be injected in the system to allow District Risk Pools to reimburse their debts. Subsequent injections of cash cannot be excluded.

Total costs and available resources to strengthen PRINCIPLE III the health system at the district level (primary and secondary care), 27 districts (all except Kigali), USD thousand

	2009	2010	2011	2012	2013	2014	2015
Resource requirements at district level							
Investment	753	63	23	2	0	0	0
Operational	5,189	6,231	7,354	8,033	8,575	8,832	9,097
Total Resource Requirement	***5,942***	***6,294***	***7,377***	***8,035***	***8,575***	***8,832***	***9,097***
Resources available at district level							
Transfers from central government	0	0	0	0	0	0	0
Resources raised locally at the district and facility level	763	839	923	1,016	1,117	1,229	1,352
Partner support	1,080	1,080	1,080	1,080	1,080	1,080	1,080
Sub-Total	***1,843***	***1,919***	***2,003***	***2,095***	***2,197***	***2,309***	***2,432***
Resource managed centrally that are directed towards districts							
External Sector Budget Support	1,604	1,604	1,604	1,604	1,604	1,604	1,604
Global Fund to fight AIDS, TB & Malaria	0	0	0	0	0	0	0
MOH internal Development Budget	0	0	0	0	0	0	0
Sub-Total	***1,604***	***1,604***	***1,604***	***1,604***	***1,604***	***1,604***	***1,604***
Total Resources Available	***3,447***	***3,523***	***3,607***	***3,700***	***3,801***	***3,913***	***4,036***
Remaining Gap to Strengthen Health System	***2,495***	***2,771***	***3,770***	***4,336***	***4,774***	***4,919***	***5,061***

Gap Analysis for PRINCIPLE III at the district level (primary and secondary care), 27 districts (all except Kigali)



Principle IV: Healthcare workers should be highly trained and compensated fairly.

Goal 1	Goal 2	Goal 3
All health facilities should meet national staffing norms and guidelines.	Attract and retain healthcare workers in rural settings.	All healthcare staff should have appropriate training to perform the tasks they are assigned.

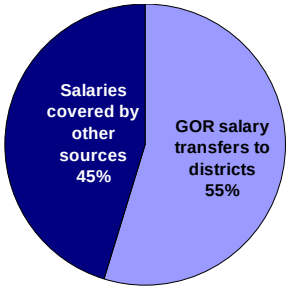
To improve the quantity and quality of healthcare workers, efforts should be made to attract and retain qualified personnel, especially in rural areas, through incentives, including seniority pay, housing and transport allowances, and preferential scholarships for training. There is a need to regularly update staff norms to ensure adequate staffing in facilities coupled with task-shifting and cross-training whenever appropriate to help streamline the human resource needs of health facilities. In Nursing, the transition of nurses of certification level A2 to A1 level needs to be addressed. On training and skills upgrade, there is a need to increase the number of training facilities taking into consideration their proximity to rural healthcare works and a greater focus on practice-based training, establishing a national staff development plan for all cadres of health workers and updating education curriculums to reflect current population health needs for pre-service professionals.

I. ANALYSIS OF CURRENT SITUATION

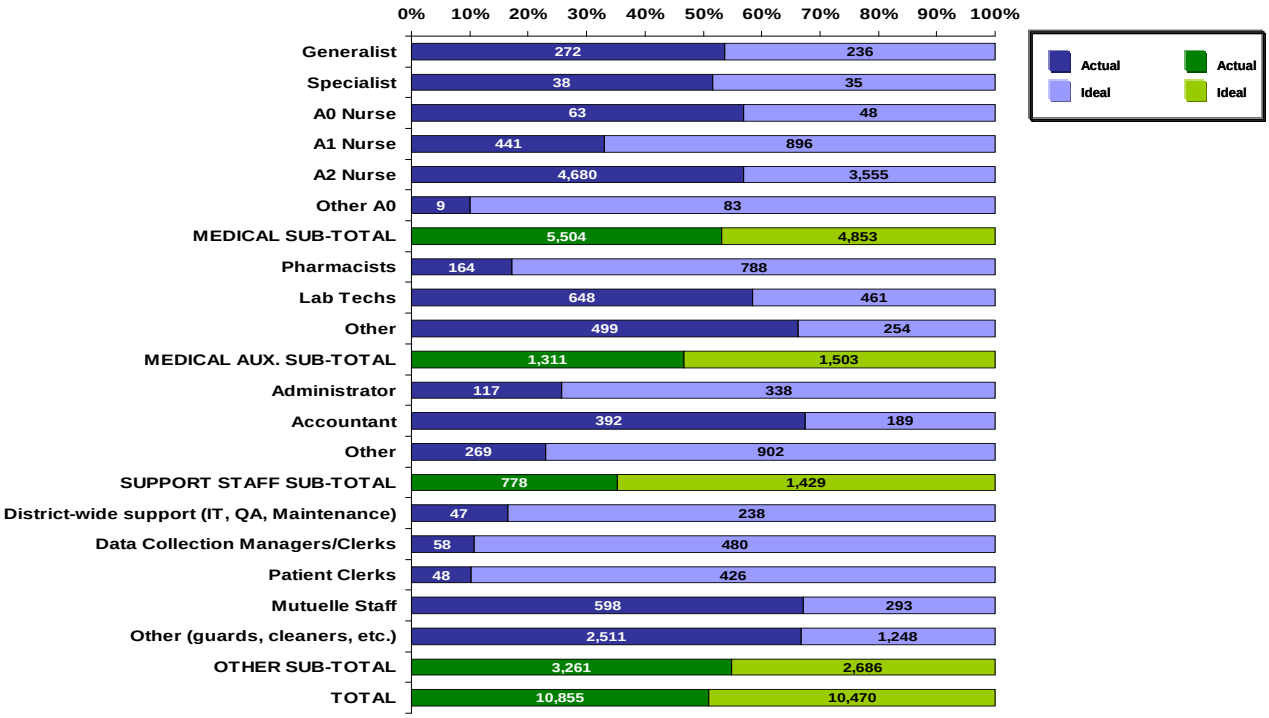
The pie chart to the left below shows that just over half of the staff positions in facilities are supported through the Ministry of Health transfers, the rest is covered by facility resources or partners.

The graph below illustrates the current national health facility staff numbers, and the gap needed reach the total staff needed in each category of position. The needs were defined by the District health facility managers.

Staff Salary Coverage

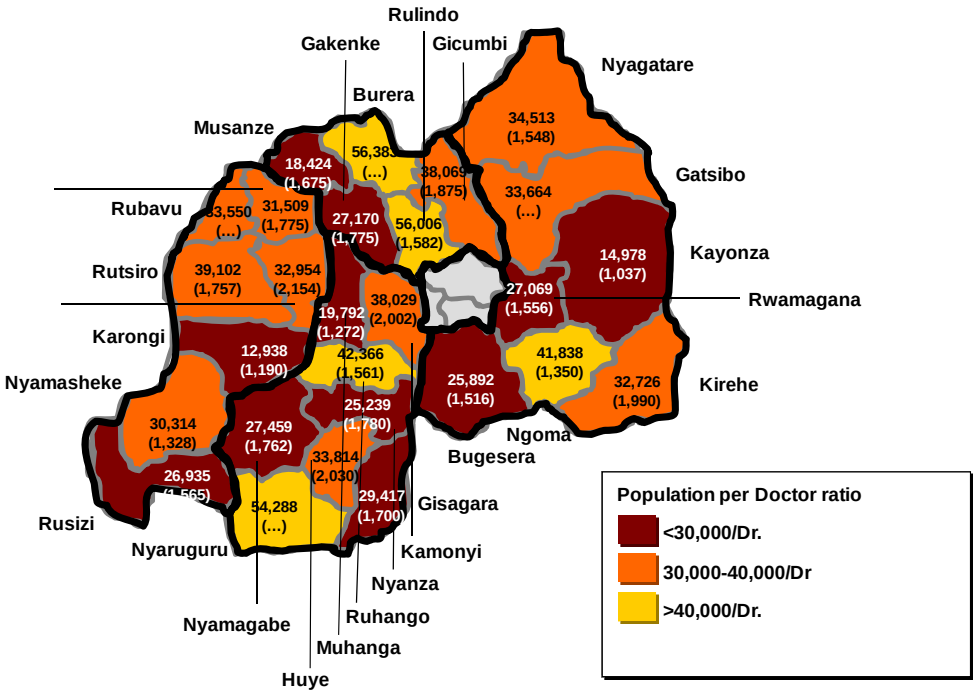


Staff Needs



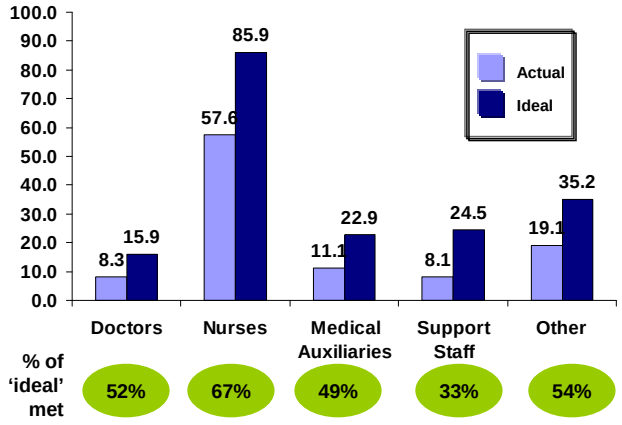
The map below shows the distribution of doctors and nurses per capita throughout the 27 districts (all but the three districts of Kigali) of the country. The color coding is based on the ratio of doctors to the population and shows the discrepancies across districts. The numbers in parenthesis are the nurse to population ratio, and show a lesser degree of variation.

Coverage of Doctors and Nurses by district



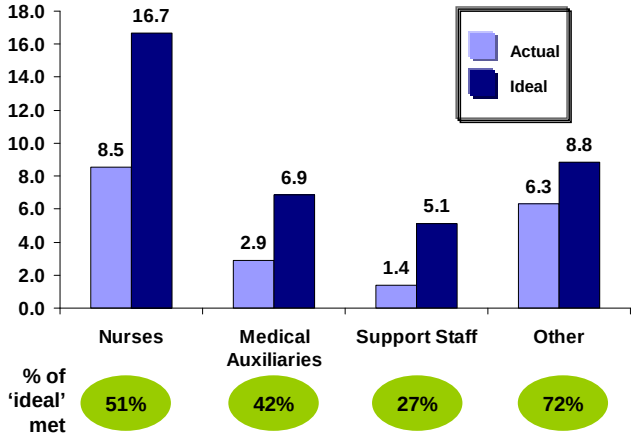
The following graph shows the national average of District Hospital staff, the average need and the extent to which the need is currently met. The average DH has just a little over half its needs for doctors, two-thirds their needs for nurses, and a little less than half their Medical Auxiliary staff such as pharmacists/pharmacy technicians, lab technicians, etc. The greatest need, compared to the ideal numbers is in Administrative/Support staff category (e.g., Administrators and HR-Managers, Accountants, Patient Clerks to mange patient flow and records, Data Clerks, etc. Other staff category includes gardening, driving, cleaning and guarding staff.

Average District Hospital Current Staff and Ideal Numbers

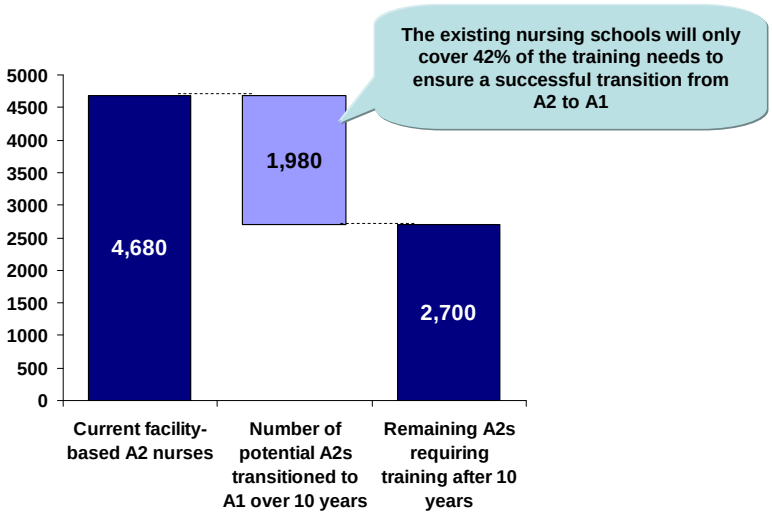


This next graph shows the national average of Health Center staff, the average need and the extent to which the need is currently met. Just a little over half the facility nurse needs are currently being met, less than of their needs are being met for Medical Auxiliary staff, and just over one quarter of the need

Average Health Center Staff Current Staff and Ideal Numbers



is currently being met for Administrative Support Staff, such as Accountants & Cashiers, Patient Clerks, Data Clerks, etc. Other staff category includes gardening, driving, cleaning and guarding staff.



The graph below shows the country's current capacity to transition existing A2 nurses working in facilities to A1 level. Although there are five A1 schools spread throughout the country, they have limited admission and graduation numbers.

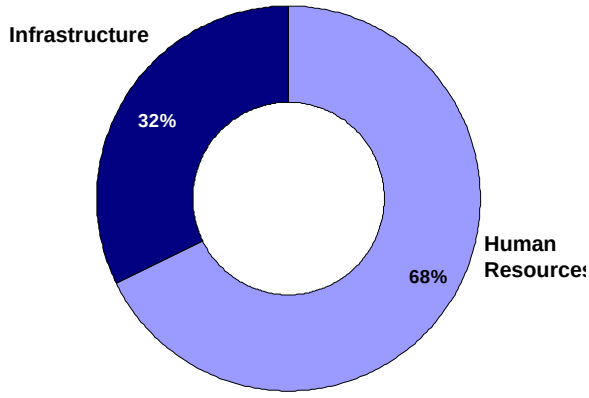
Box : Other Selected Findings

- **The amount of training opportunities available varies greatly between facilities, with some facilities reporting a total of 153 days of training for various staff positions in the six month previous to the baseline study, and some reporting two days or none.**
- **The number and duration of training opportunities also varies greatly between different staff positions:**
  - **A2 Nurses are receiving the most training: an average of 16 days during the six months prior to the baseline study.**
  - **A1 and A0 Nurses received fewer than one day of training during the same six month period**
  - **General Physicians received an average of one day.**
  - **Laboratory technicians, Pharmacists and Pharmacy Dispensers, and Social Workers received an average of 3.8, 3.1 and 2.5 days respectively**
  - **Among existing facility staff, Accountants (at all education levels) received the least training, with an average of 1.3 days during the same time period**
- **A majority of the training subjects are determined by the donor providing the training, so despite the relatively high number of days of available training for some positions (particularly A2 Nurses) there is still a high reported need for training because the subjects most lacking are not being addressed**
- **Although staff retention varies between facilities, the majority report that it is an issue for medical positions and that greater compensation is needed to motivate staff. Adequate housing for remote locations (or sufficient housing stipends in more populated areas) and greater access to education advancement opportunities could also help in improved staff retention rates.**

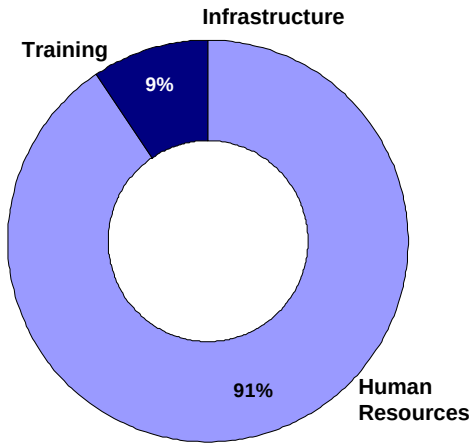
II. PRIORITIES AND COSTS

- ***Adequate Staffing*** – Facilities need the right staffing profile at all times to enable them to offer all the services they are supposed to. The needs were identified by the facilities and districts themselves bearing in mind their current situation and the Ministry of Health norms.
- ***Incentives for Staff Motivation*** – Incentives such as staff housing, increased travel allowance and salary top-offs are among those mentioned.
- ***Training for Facility Staff, including A2 to A1 Transition for A2 Nurses*** – There is a need for a well-defined training program for facility staff to allow them to upgrade their clinical and management skills, and provide better services. Access for A2 staff to reach A1 level certification (and higher) with increased practical training is also a need. Facilities express the need for a decentralized training system structured around a Training Center attached to a District Hospital in each district to facilitate didactic and practical training.

Total Investment Costs , 2009-2013
100%= US 17.3 million



Total Operational Costs in steady state, 2012,
100%=US 124.5 million



Box : Principle IV Investment Costs

- **Human resources investment costs include rehabilitation to clinical and senior management staff housing**
- **The major infrastructure cost driver is the construction of a Training Center in each district**

Box : Principle IV Operational Costs

- **Approximately half of the Human Resources operation costs result from staff salaries. The remainder includes staff housing and travel allowances, PBF related to salaries, practical training and supplementary staffing at health facilities.**
- **Training operational costs include ongoing training for staff and PBF dedicated to training**
- **Infrastructure is comprised of the running cost of the District Training Center**

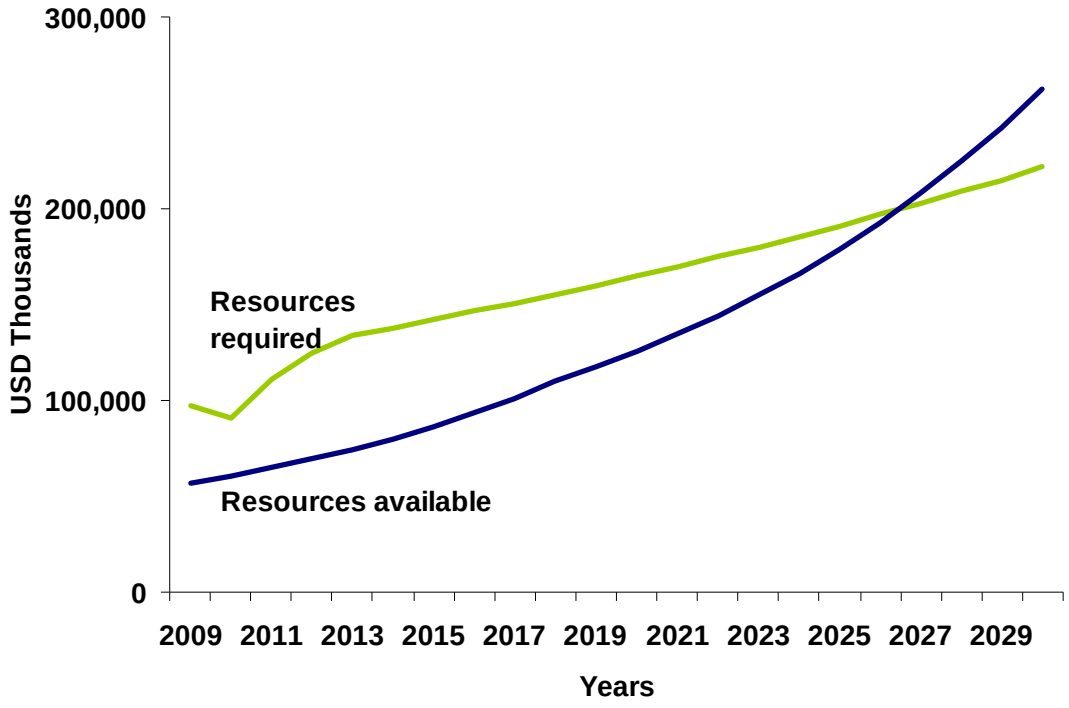
III. FINANCIAL GAP ANALYSIS

Principle IV, related to Human Resources, is the single largest share of the costs of the system. While a large amount of resources are channeled towards human resources, it remains significantly insufficient. Furthermore, this is typically an area that benefits relatively less from external support. While over the next 15 years it is estimated that the gap could be met, there is currently a significant gap which threatens the ability of the Rwandan health system to strengthen in a sustainable fashion. The dip in the gap in 2010 is related to investment costs, which are much higher in the first year of the health system strengthening.

Total costs and available resources to strengthen PRINCIPLE IV the health system at the district level (primary and secondary care), 27 districts (all except Kigali), USD thousand

	2009	2010	2011	2012	2013	2014	2015
Resource requirements at district level							
Investment	11,240	5,895	125	0	0	0	0
Operational	85,808	85,129	110,559	124,502	134,050	138,072	142,214
Total Resource Requirement	***97,048***	***91,023***	***110,684***	***124,502***	***134,050***	***138,072***	***142,214***
Resources available at district level							
Transfers from central government	25,763	29,067	32,757	36,876	41,470	46,594	52,303
Resources raised locally at the district and facility level	3,721	4,093	4,503	4,953	5,448	5,993	6,592
Partner support	13,249	13,249	13,249	13,249	13,249	13,249	13,249
Sub-Total	***42,733***	***46,409***	***50,509***	***55,078***	***60,168***	***65,836***	***72,145***
Resource managed centrally that are directed towards districts							
External Sector Budget Support	2,476	2,476	2,476	2,476	2,476	2,476	2,476
Global Fund to fight AIDS, TB & Malaria	11,732	11,732	11,732	11,732	11,732	11,732	11,732
MOH internal Development Budget	0	0	0	0	0	0	0
Sub-Total	***14,209***	***14,209***	***14,209***	***14,209***	***14,209***	***14,209***	***14,209***
Total Resources Available	***56,942***	***60,618***	***64,717***	***69,286***	***74,376***	***80,044***	***86,353***
Remaining Gap to Strengthen Health System	***40,106***	***30,405***	***45,967***	***55,216***	***59,674***	***58,027***	***55,860***

Gap Analysis for PRINCIPLE IV at the district level (primary and secondary care), 27 districts (all except Kigali)



Principle V: All health facilities should have decent basic infrastructure and functional equipment to support the services they provide.

Goal 1	Goal 2	Goal 3	Goal 4
All health facilities should meet standard norms for design, space, & maintenance.	All health centers should have uninterruptible electricity & water all year round.	All health equipment should be standardized and functional at all times.	All health facilities should be accessible to target population all year round.

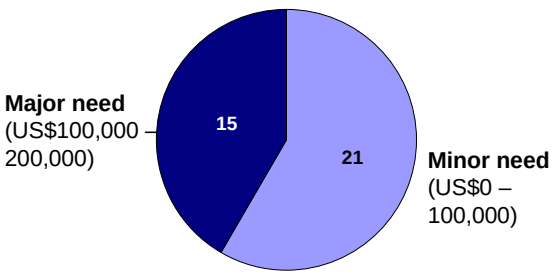
Each facility needs a clean, welcoming and adequate physical space in order to provide appropriate care to patients. Facilities also need the right equipment. Infrastructure and equipment rehabilitation should be coupled with proper waste management (e.g., latrines, incinerators), adequate cleaning and gardening staff, reliable electricity and clean water supplies and regular equipment maintenance. The community's geographical access to care is equally important—there should be a HC in every sector, with HPs where necessary so that the population can walk to a health facility within one hour. Furthermore, there should be an adequate number of ambulances in the district so that emergencies can be quickly transferred to the next higher level facility whenever necessary.

I. ANALYSIS OF CURRENT SITUATION

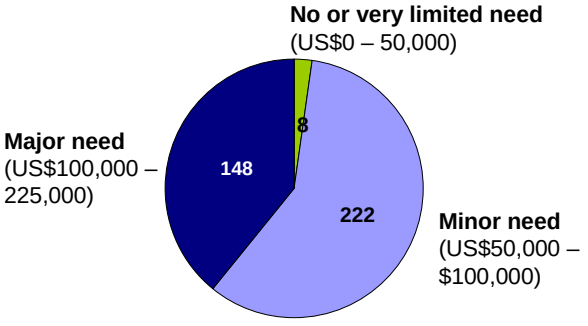
The pie charts below show the infrastructure and equipment need for District Hospitals and Health Centers across the country. All facilities need to infrastructure upgrades and the overall needs are significant, in particular at the Health Center level. In terms of equipment, a key issue if broken equipment that is not repaired.

Break-down of facilities by INFRASTRUCTURE REHABILITATION needs

DHs

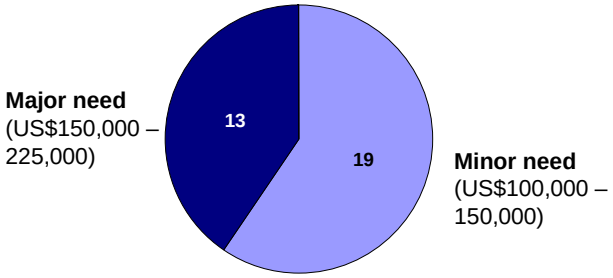


HCs

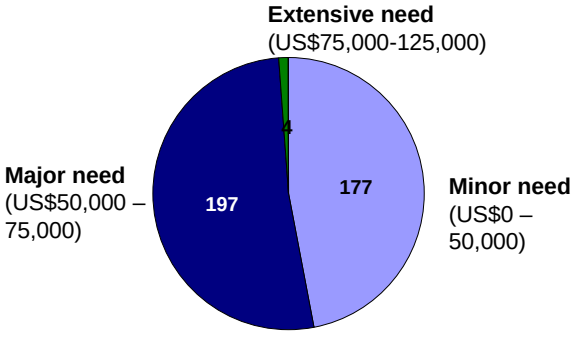


Break-down of facilities by MEDICAL EQUIPMENT needs

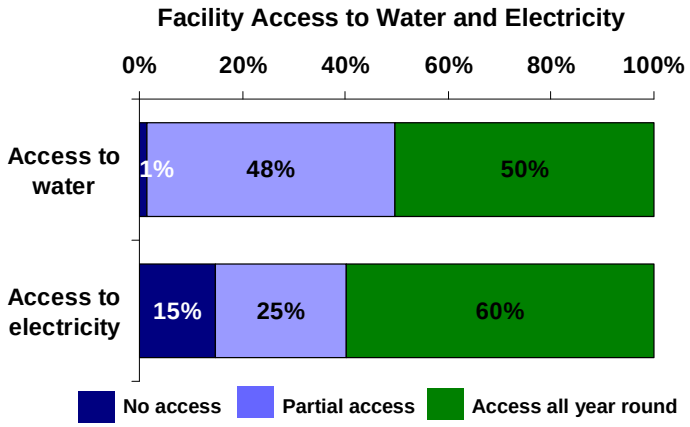
DHs



HCs

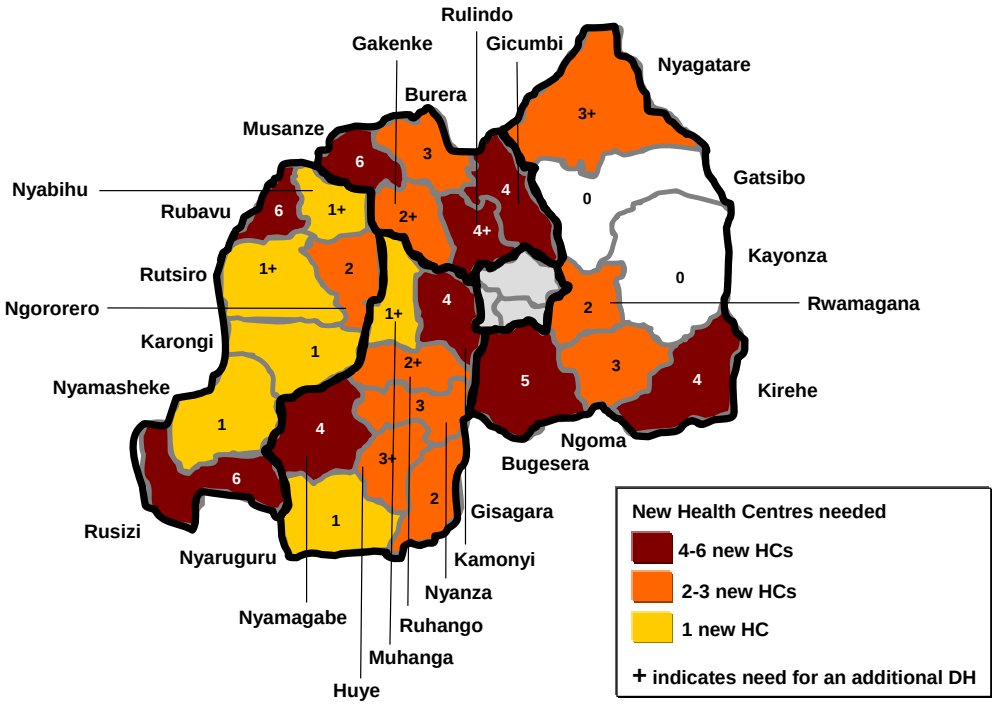


The graph below shows the distribution of health facilities in the country with nonexistent, partial and regular, full access to water and electricity. Access to water is relatively less of an issue than access to electricity.



There are still a number of sectors without Health Centers and the following map shows the numbers of new Health Centers needed in each of the 27 Districts. Despite the fact that all districts now have a District Hospital, some 8 districts have expressed the need for an additional hospital.

New Health Centers and District Hospital needs



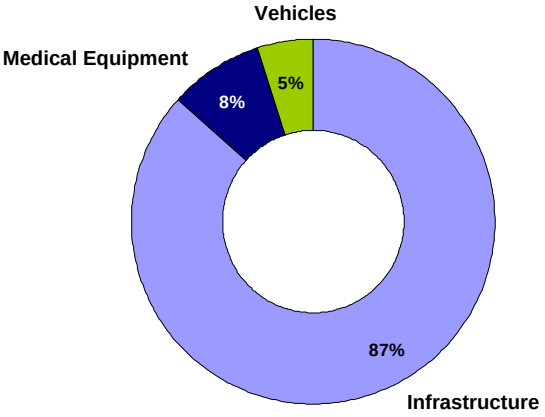
Box : Other Selected Findings

- **On average there are today 2.5 ambulances per district, many of which are in a poor condition. With this level of service, only 25% of facilities report always having access to an ambulance within the hour. On average an additional 4 ambulances are required per district.**
- **There is no clearly-defined package of services that should be offered at Health Posts. Some provide simple interventions like wound bandaging and refer patients to health centers for care, while others are able to test for malaria or even deliver babies. They are also inconsistently staffed: some rotate staff from a nearby HC, some have permanent staff; some staff are paid by the community, others use HC staff, etc.**
- **77% of facilities have no maintenance plan and no dedicated budget for equipment maintenance.**

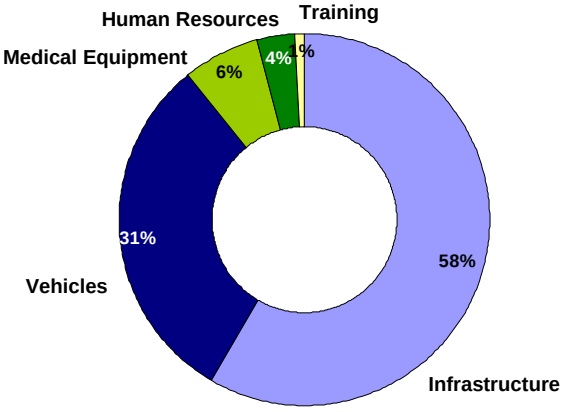
II. PRIORITIES AND COSTS

- ***Physical Infrastructure*** - All facilities had an infrastructure need. New facilities need to build to meet the government of a one Health Center in each Sector to allow for greater accessibility to all members of the population. Existing facilities need to be rehabilitated and expanded so that they are able to cope with patient demand and have adequate space for all services. While all district have or on the way of having a District Hospital, 8 districts expressed the need for a second hospital.
- ***Water and Electricity*** – Most if not all facilities will require some investment to provide the appropriate profile for water and energy all year round.
- ***Medical Equipment*** – All facilities need additional equipment to support the services they are meant to provide. This should be accompanied by a maintenance plan to address both curative and preventive maintenance needs.
- ***Ambulances*** – Districts need the number of ambulances available for patient transfer increased and stationed in higher proportion at Health Centers or near Health Centers to ensure that emergency cases can be transferred immediately.

Total Investment Costs , 2009-2013
100%= US 169 million



Total Operational Costs in steady state, 2012,
100%=US 24.5 million



Box : Principle V Investment Costs

- **Infrastructure needs are the major cost drivers of Principe V. These costs include construction of new District Hospitals, Health Centers and Health Posts, as well as the rehabilitation of existing structures.**
- **Infrastructure costs also include investments in energy and water access, handicap accessibility and incinerators**
- **Medical equipment includes equipment for the District Maintenance Workshop and additional equipment purchase and replacement**
- **Vehicle cost drivers include the purchase of ambulances in the districts along with vehicle purchase and rehabilitation for all health facilities**

Box : Principle V Operational Costs

- **Infrastructure operational cost drivers include running and maintenance costs for energy, water and physical infrastructure, as well as water treatment and recurring budget for landscaping/ground maintenance**
- **Vehicle costs include fuel, running and maintenance of ambulances and vehicles**
- **Medical equipment operational costs are comprised entirely of ongoing maintenance**
- **Human resources include costs to staff ambulances in the district**
- **Training costs include budges for the District Maintenance Workshop to continually train staff at Health Centers**

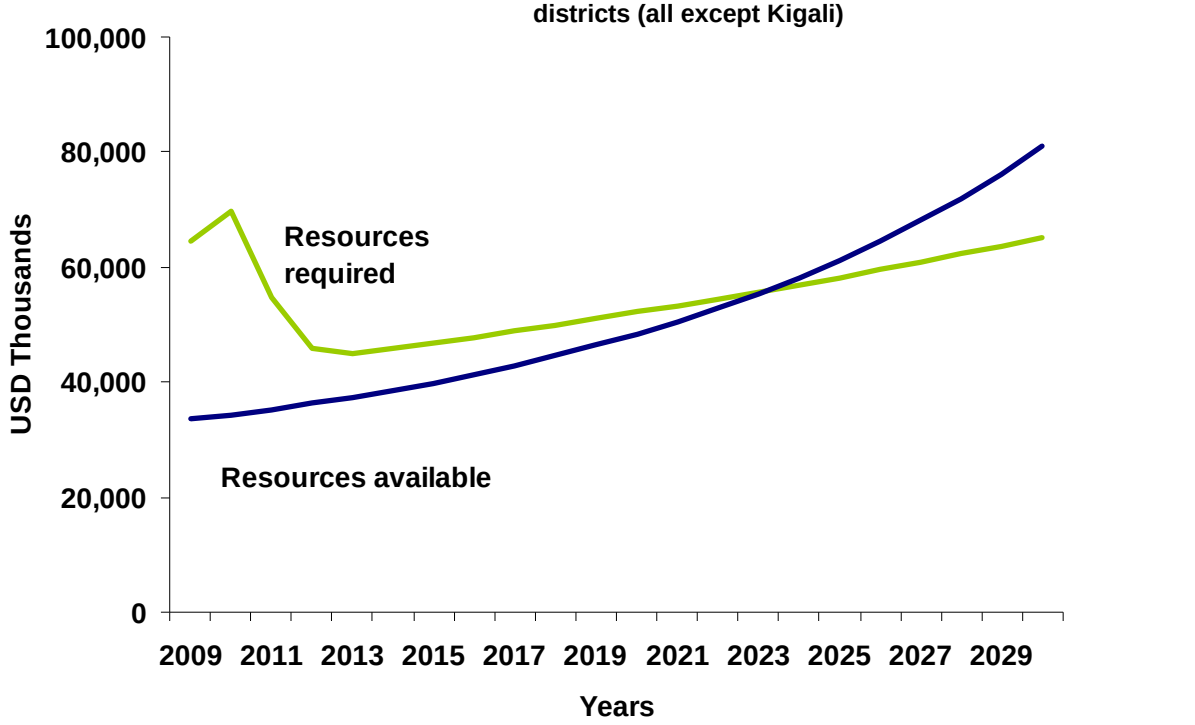
III. FINANCIAL GAP ANALYSIS

Assuming resource availability, the bulk of investment costs will be incurred in the first 3 years, notwithstanding the fact that many investment costs such as equipment and infrastructure refurbishments have been spread out over 5 years. This is typically an area that may benefit from external support given the finite nature of the investments. However, these remain still insufficient.

Total costs and available resources to strengthen PRINCIPLE V the health system at the district level (primary and secondary care), 27 districts (all except Kigali), USD thousand

	2009	2010	2011	2012	2013	2014	2015
Resource requirements at district level							
Investment	47,298	49,558	31,705	21,281	19,181	19,373	19,567
Operational	17,133	20,293	22,955	24,541	25,682	26,452	27,246
Total Resource Requirement	***64,432***	***69,852***	***54,660***	***45,822***	***44,863***	***45,825***	***46,812***
Resources available at district level							
Transfers from central government	6,086	6,658	7,284	7,968	8,717	9,536	10,432
Resources raised locally at the district and facility level	0	0	0	0	0	0	0
Partner support	13,187	13,187	13,187	13,187	13,187	13,187	13,187
Sub-Total	***19,273***	***19,845***	***20,471***	***21,156***	***21,904***	***22,723***	***23,619***
Resource managed centrally that are directed towards districts							
External Sector Budget Support	3,382	3,382	3,382	3,382	3,382	3,382	3,382
Global Fund to fight AIDS, TB & Malaria	7,933	7,933	7,933	7,933	7,933	7,933	7,933
MOH internal Development Budget	2,950	3,216	3,505	3,820	4,164	4,539	4,947
Sub-Total	***14,265***	***14,530***	***14,819***	***15,135***	***15,479***	***15,853***	***16,262***
Total Resources Available	***33,538***	***34,375***	***35,291***	***36,291***	***37,383***	***38,577***	***39,881***
Remaining Gap to Strengthen Health System	***30,894***	***35,476***	***19,370***	***9,531***	***7,480***	***7,248***	***6,931***

Gap Analysis for PRINCIPLE V at the district level (primary and secondary care), 27 districts (all except Kigali)



Principle VI: Community mobilization and participation is essential to comprehensive quality health care.

Goal 1

The community – from families to community leaders – is actively engaged in addressing the health challenges and well being of the population.

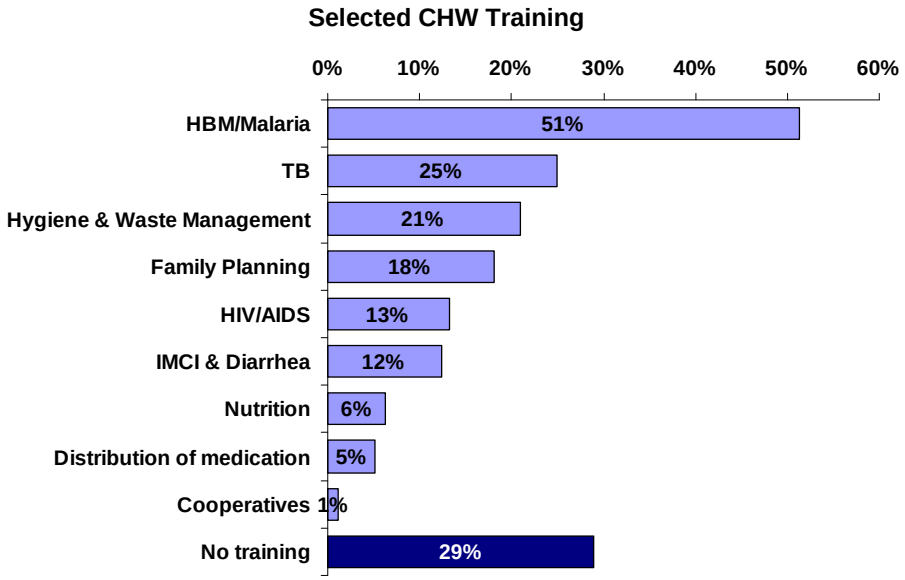
Goal 2

Community Health Workers are well trained and motivated to support health prevention, care and treatment.

The ability of the community to cope with health issues can be enhanced through engaging community and religious leaders in health promotion and sensitization campaigns, and strengthening the community's ability to access emergency services should they need to. Community Health Workers (CHWs) are an important interface between the health system and the community; they should be trained using an integrated curriculum and properly equipped to deliver integrated services. There should also be a robust supervision system put in place to track their impact. While CHWs often receive nominal monetary incentives for their work (e.g. transport fees for attending meetings), the MOH anticipates that by organizing CHWs into cooperatives, and providing them with their initial business investment, they will be able to generate their own incomes over time. Cooperatives should also be coupled with regular cash payments based on performance from measured health indicators (C-PBF).

I. ANALYSIS OF CURRENT SITUATION

The graph to the right indicates the percentage of CHWs trained in the 2008 MOH training module subjects as reported by the health facilities. These figures should be treated as indicative as some of these trainings may have been provided last year. CHW training has been slow to pick up across the country.



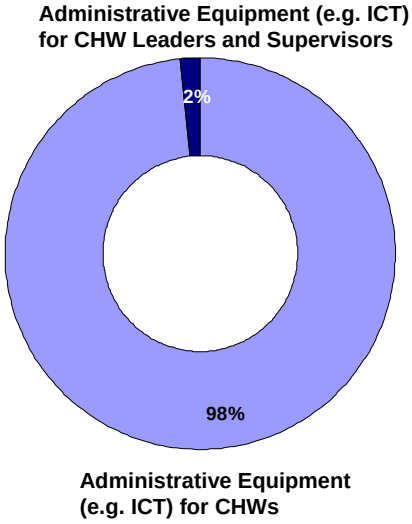
Box : Other Selected Findings

- **High involvement of local leadership (88% of facilities report their involvement) and religious leaders (78% of facilities report their involvement).**
- **While all districts have elected binomes, there remains a need to properly train, equip and motivate these CHWs.**
- **While 71% of HCs report that CHWs have formed cooperatives, only 50% of them are described as being active, mostly in nascent stages.**
- **25% of facilities indicate providing irregular monetary incentives to CHWs, such as transport allowances or payment for bringing an expectant mother to the HC to give birth; 12% provide non-monetary compensation. All declare this level of compensation is insufficient.**
- **63% of facilities report having a CHW supervisor in place, though the exact role and responsibility of the supervisor is not always clear or consistent.**
- **30% of facilities have no nurse at all trained to train CHWs.**

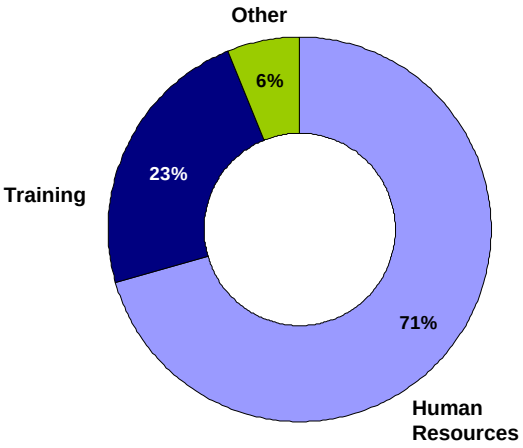
II. PRIORITIES AND COSTS

- ***CHWs Training and Equipment*** – It is crucial to provide integrated, ongoing training for CHWs, their Supervisors and Trainers so that they can be effective. CHWs will also need the right equipment (e.g. MUAC scales and tapes) to effectively deliver services in the community.
- ***CHWs Motivation*** – A majority of facilities indicate that there is a need to offer regular performance-based motivation to CHWs to encourage them to offer high quality services as well as compensate them for their efforts. Linked to this, they also expressed a need to better support CHWs cooperatives, providing them with an initial investment so that to allow them to develop a business and a sustainable source of income.
- ***Community Leaders' Involvement in health promotion*** – Facilities express a greater need to get community, district and national leaders involved in engaging with the community to address the health issues facing the community, which will assist in the effectiveness of campaigns and health messages.

Total Investment Costs , 2009-2013
100%= US 4.7 million



Total Operational Costs in steady state, 2012,
100%=US 18.1 million



Box : Principle VI Investment Costs	Box : Principle VI Operational Costs
• Administrative equipment for CHWs includes equipment and supplies such as MUAC tape measures and scales • Administrative equipment for CHW supervisors and Head Leaders includes equipment and supplies such as bicycles and mobile phones	• Human resources costs include CHW, Head Leader and Trainer compensation, PBF associated with CHW activities and income generating activity investment for CHW cooperatives • Training costs include initial and ongoing training of CHWs and Trainer of Trainers (TOTs) • Other costs include maintenance and insurance of CHW equipment, phone airtime for Head Leaders and Trainers as well as running costs for the offices of Head Leaders/Trainer

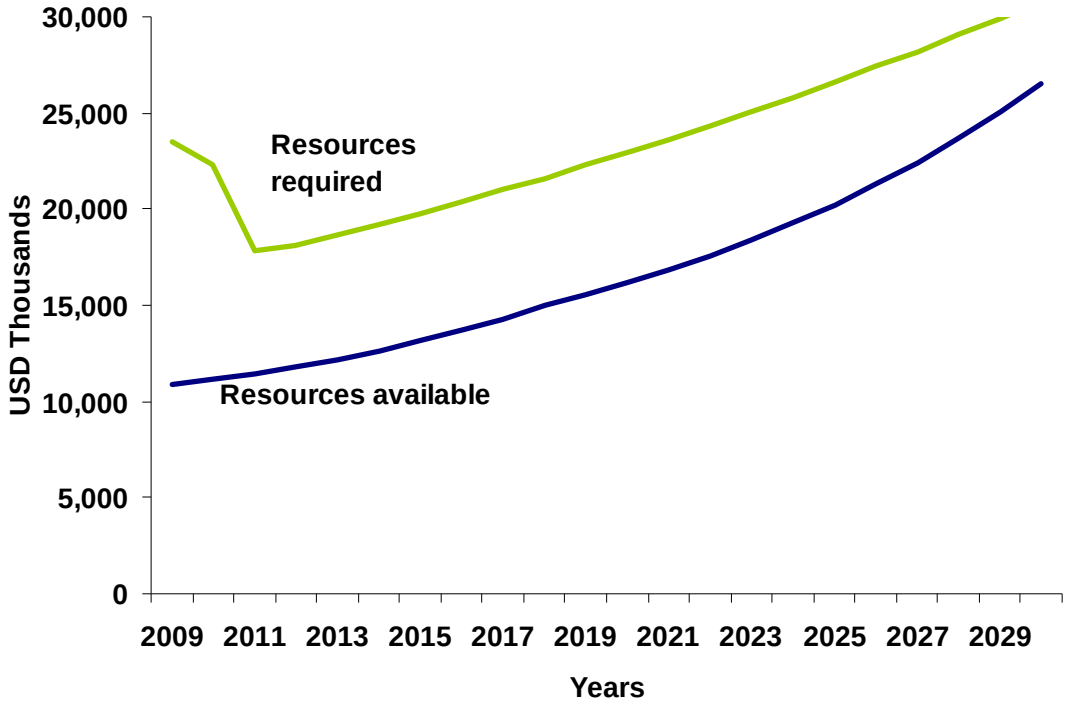
III. FINANCIAL GAP ANALYSIS

Despite it being an important priority for Rwanda, Community Health interventions, in particular around Community Health Workers remains under-funded. The key gaps relate to the establishment of a well structured and functioning Community Health Worker network in each district, including equipping CHWs, training them and compensating them for the services they provide. The greater initial gap is due to the costs of equipment and training of CHWs.

Total costs and available resources to strengthen PRINCIPLE VI the health system at the district level (primary and secondary care), 27 districts (all except Kigali), USD thousand

	2009	2010	2011	2012	2013	2014	2015
Resource requirements at district level							
Investment	2,267	2,337	58	0	0	0	0
Operational	21,198	19,961	17,751	18,133	18,654	19,214	19,790
Total Resource Requirement	***23,465***	***22,299***	***17,808***	***18,133***	***18,654***	***19,214***	***19,790***
Resources available at district level							
Transfers from central government	2,226	2,512	2,831	3,187	3,584	4,027	4,520
Resources raised locally at the district and facility level	0	0	0	0	0	0	0
Partner support	4,207	4,207	4,207	4,207	4,207	4,207	4,207
Sub-Total	***6,433***	***6,719***	***7,038***	***7,393***	***7,791***	***8,233***	***8,727***
Resource managed centrally that are directed towards districts							
External Sector Budget Support	1,889	1,889	1,889	1,889	1,889	1,889	1,889
Global Fund to fight AIDS, TB & Malaria	2,523	2,523	2,523	2,523	2,523	2,523	2,523
MOH internal Development Budget	0	0	0	0	0	0	0
Sub-Total	***4,411***	***4,411***	***4,411***	***4,411***	***4,411***	***4,411***	***4,411***
Total Resources Available	***10,844***	***11,130***	***11,449***	***11,805***	***12,202***	***12,644***	***13,138***
Remaining Gap to Strengthen Health System	***12,621***	***11,169***	***6,360***	***6,328***	***6,452***	***6,569***	***6,652***

Gap Analysis for PRINCIPLE VI at the district level (primary and secondary care), 27 districts (all except Kigali)



Principle VII: Nutrition is an essential element of any comprehensive health care service.

Goal 1	Goal 2	Goal 3
All malnourished outpatients should be provided with nutritional support.	Increased community-based nutritional support to prevent malnutrition.	All in-patients should receive appropriate nutrition as part of the basic health service package.

Nutritional interventions have the best impact when they cover all aspects of care at the community level, in outpatient and inpatient settings. The facility's ability to provide both inpatient and outpatient food support should be strengthened through infrastructure upgrade (e.g. demonstration gardens, demonstration kitchens, a warehouse to store food), staffing, training and a budget for food packages for outpatients and food for vulnerable patients, including provision therapeutic feeding for inpatients. Health facilities should work to actively improve the nutrition in their communities through Community-Based Programs such as nutrition education through CHWs, positive deviance programs, and nutritional education outreach in primary schools.

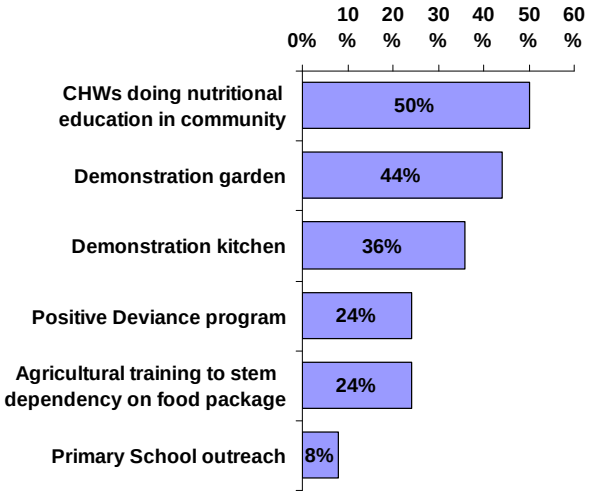
I. ANALYSIS OF CURRENT SITUATION

Box : In-patient and out-patient nutritional support

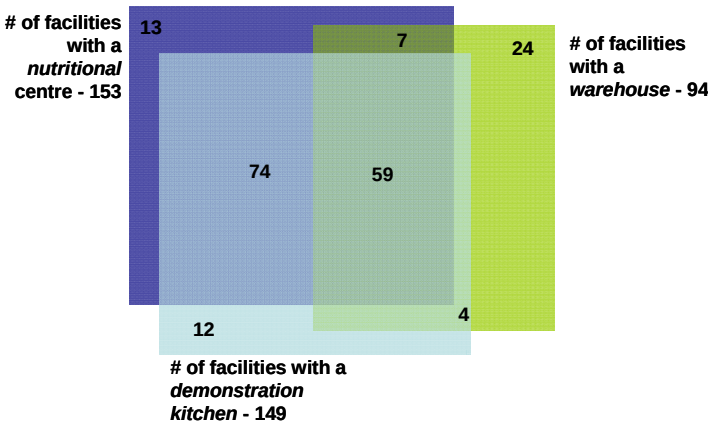
- **A number of facilities offer some kind of out-patient support, but the supply of food and the contents of food packages are not consistent across districts and time (24% offer out-patient support to HIV; 6% to TB; 27% to malnourished patients)**
- **80% of facilities that offer outpatient food support do so with donor funding.**
- **In-patient nutritional support is near non-existent: only 3% of facilities offer this service**

A key aspect of nutrition programs recognized by all districts is prevention in the community. The graph to the right shows the proportion of facilities that offer various components of Community-Base Program on Nutrition, while the chart on the right illustrates the existing nutritional infrastructure at health facilities to support outpatient and inpatient food programs. Only 59 facilities have *all* the necessary infrastructure to provide nutritional support: a demonstration kitchen, nutrition center and warehouse space to store food.

Community-based malnutrition prevention activities



Facility nutrition infrastructure



II. PRIORITIES AND COSTS

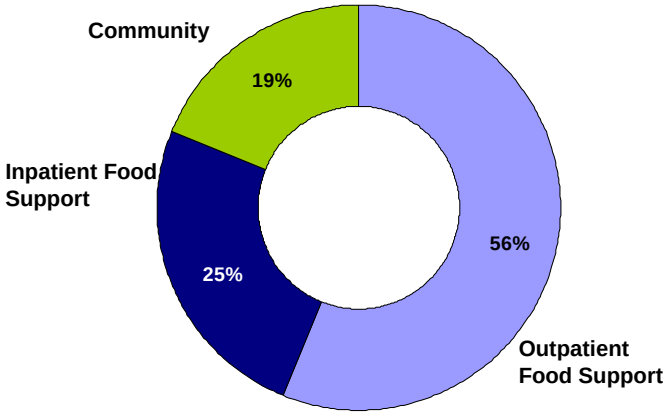
- ***Community-Based Nutrition Programs*** – The first priority for most districts is to strengthen and support community-based solutions to prevent malnutrition, providing community nutritional education through facility staff and CHWs, demonstration gardens at health facilities, and .Positive Deviance/Hearth Programs. There is also need for a multisectoral approach to increase the communities' capacity to improve its food production through improved seeds, improved farming techniques, fertilizer and irrigation, and access to market to sell off the excess for additional income.
- ***Strengthen the facilities' ability to provide nutrition services*** – This should be done through the construction and rehabilitation of nutrition centers – complete with a nutritional consultation room, demonstration kitchen and garden. It will also require a malnutrition ward in every facility to provide inpatient therapeutic feeding for patients and the appropriate staff to run nutrition services.
- ***Outpatient Food Support*** – There is a need to ensure that outpatient food support is available to those who need it, both in the form of food packages as well as agricultural inputs and other programs to stem dependence once the clinical indication for food support is past.

Total Investment Costs , 2009-2013
100%= US 1.3 million

The majority of investment costs relate to infrastructure upgrades at facilities – these costs are captured in Principle V

Investment costs included here are for starting animal husbandry programs

Total Operational Costs in steady state, 2012, 100%=US 14.8 million



Box : Principle VII Operational Costs

- **Outpatient food costs include purchase of food and provision of therapeutic food (e.g. Plump'ynut**
- **Inpatient food support includes purchase of food, introductory infant feeding packages and infant feeding formula**
- **Community costs include nutritional education in schools, nursery and garden budgets as well as animal husbandry running costs**

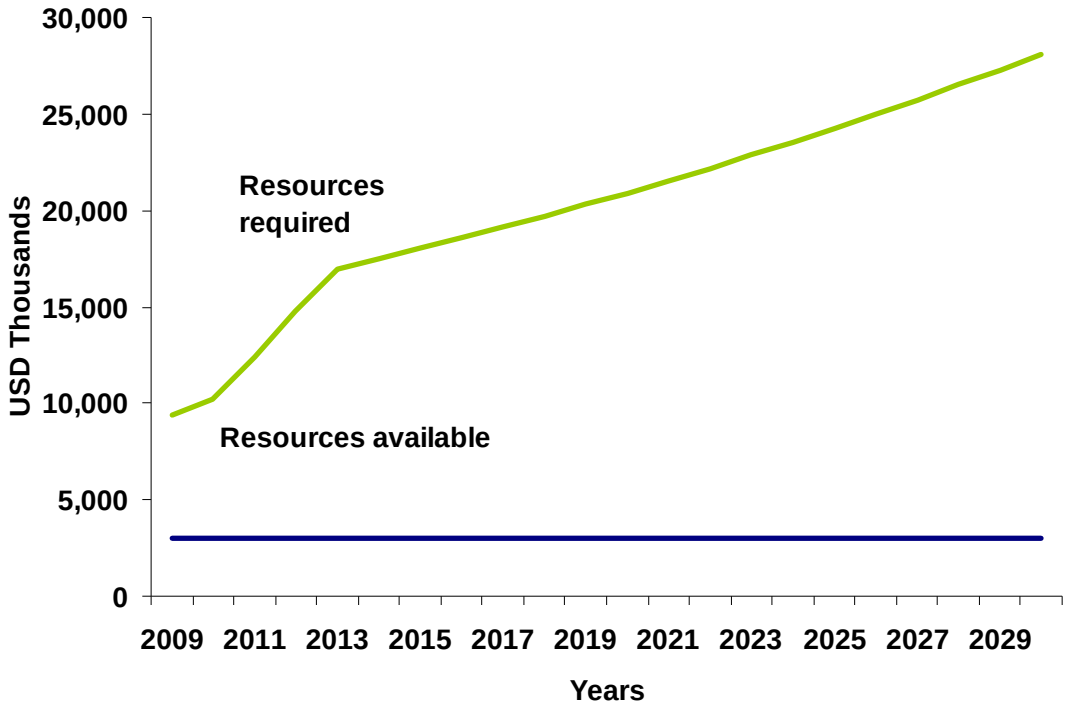
III. FINANCIAL GAP ANALYSIS

Nutritional programs, at the facility level and the community remain largely un-funded. The flat curve representing available resources reflects the fact that the small resources contributing to nutritional programs are principally from external sources, and these have not been projected to grow. Much greater efforts are required in this area.

Total costs and available resources to strengthen PRINCIPLE VII the health system at the district level (primary and secondary care), 27 districts (all except Kigali), USD thousand

	2009	2010	2011	2012	2013	2014	2015
Resource requirements at district level							
Investment	1,160	83	31	3	0	0	0
Operational	8,270	10,134	12,395	14,755	17,006	17,516	18,041
Total Resource Requirement	***9,430***	***10,217***	***12,425***	***14,758***	***17,006***	***17,516***	***18,041***
Resources available at district level							
Transfers from central government	0	0	0	0	0	0	0
Resources raised locally at the district and facility level	0	0	0	0	0	0	0
Partner support	1,707	1,707	1,707	1,707	1,707	1,707	1,707
Sub-Total	***1,707***	***1,707***	***1,707***	***1,707***	***1,707***	***1,707***	***1,707***
Resource managed centrally that are directed towards districts							
External Sector Budget Support	0	0	0	0	0	0	0
Global Fund to fight AIDS, TB & Malaria	1,261	1,261	1,261	1,261	1,261	1,261	1,261
MOH internal Development Budget	0	0	0	0	0	0	0
Sub-Total	***1,261***	***1,261***	***1,261***	***1,261***	***1,261***	***1,261***	***1,261***
Total Resources Available	***2,968***	***2,968***	***2,968***	***2,968***	***2,968***	***2,968***	***2,968***
Remaining Gap to Strengthen Health System	***6,462***	***7,249***	***9,457***	***11,790***	***14,038***	***14,548***	***15,073***

Gap Analysis for PRINCIPLE VII at the district level (primary and secondary care), 27 districts (all except Kigali)



Principle VIII: ICT must be optimally used to improve the delivery of health care.

Goal 1
All health facilities have basic IT infrastructure in place, including access to the internet and a mobile phone network.

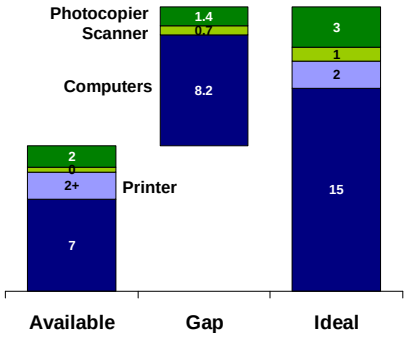
Goal 2
Support the development of e-health within the country.

Information and Communication Technologies (ICT) can help health facilities streamline services, facilitate managerial and administrative tasks, and improve intra-provider communication. Moreover, ICT tools such as Health Management Information Systems (HMIS) and Electronic Medical Records (EMR) can also act as an important platform through which healthcare facilities can integrate service provision. Health Facilities in Rwanda require, almost without exception, increased ICT training, hardware and equipment, and connectivity to allow them to leverage ICT to deliver higher-quality care.

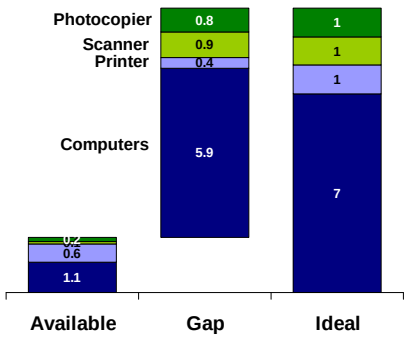
I. ANALYSIS OF CURRENT SITUATION

The charts below illustrate the average national number of computers, printers, photocopiers and scanners currently available and are needed at District Hospitals and Health Centers. The key gap remains computers, though there is a need for more photocopiers and scanners. 57% (233) of the 406 sites that reported have at least one computer; 119 of sites had just one computer. Training is also very weak, with less than 12% of facilities reported having ever received ICT training.

Average District Hospital hardware

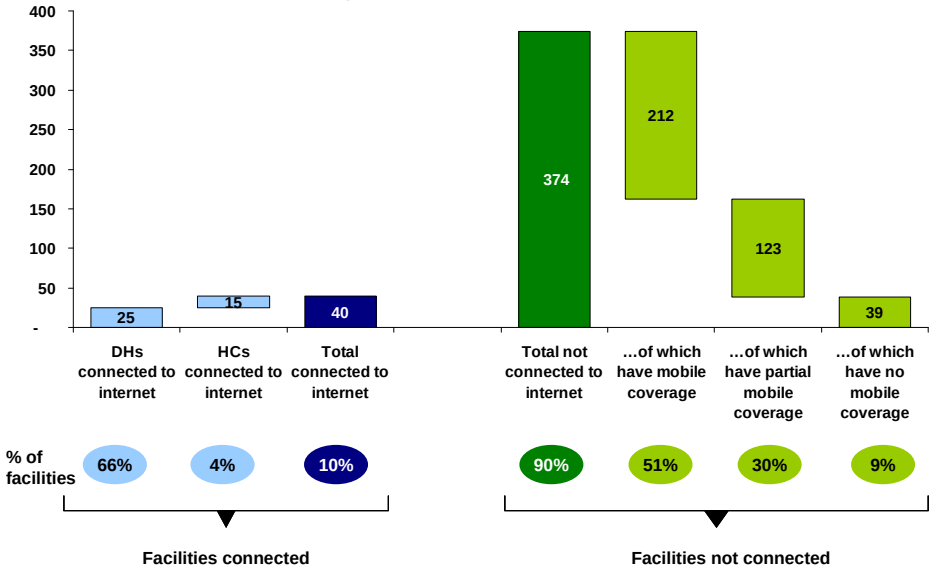


Average Health Center hardware



The chart below indicates the low number of facilities currently connected to the internet, and among the large majority not connected, how many have a mobile connection through which they may potentially be able to access the internet in the future.

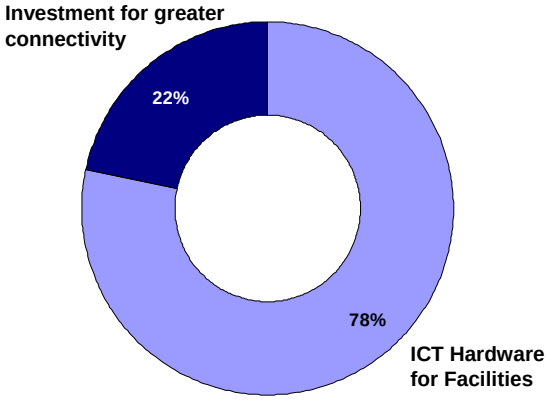
Connectivity of Health Facilities in Rwanda



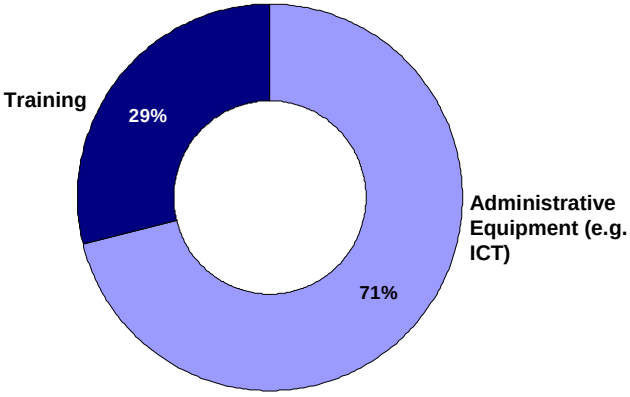
II. PRIORITIES AND COSTS

- ***ICT Hardware*** – It is necessary to ensure that there is adequate ICT hardware in the facilities.
- ***ICT Training*** –. Staff will require training in the use of the hardware as the software packages that will enhance facility operations. Initial training will include training in basic typing skills, internet and email, simple use and maintenance of computer hardware and the use of antivirus software. Additional training will be required for service-specific software packages and the Microsoft suite (and like products).
- ***Connectivity*** – There is also a need to connect all facilities to the Internet where possible to improve communication, reporting, monitoring and data sharing Connectivity solutions will vary from satellites for District Hospitals without any other means of connection, to dial-up using computer or mobile modems. ICT will eventually allow for further development and the use of HMIS that will be leveraged to provide better services at facilities.

Total Investment Costs , 2009-2013
100%= US 7.1 million



Total Operational Costs in steady state, 2012,
100%=US 2.9 million



Box : Principle VIII Investment Costs

- **The major cost driver in Principle VIII is investment in ICT hardware for facilities**
- **Costs for investment in greater connectivity include internet connections and boosting mobile network signal or purchasing radiophonies at facilities.**

Box : Principle II Investment Costs

- **Administrative equipment and ICT costs include maintenance of ICT equipment and monthly cost for internet connections at health facilities**
- **Training costs include initial and ongoing training for all district facility staff on ICT**

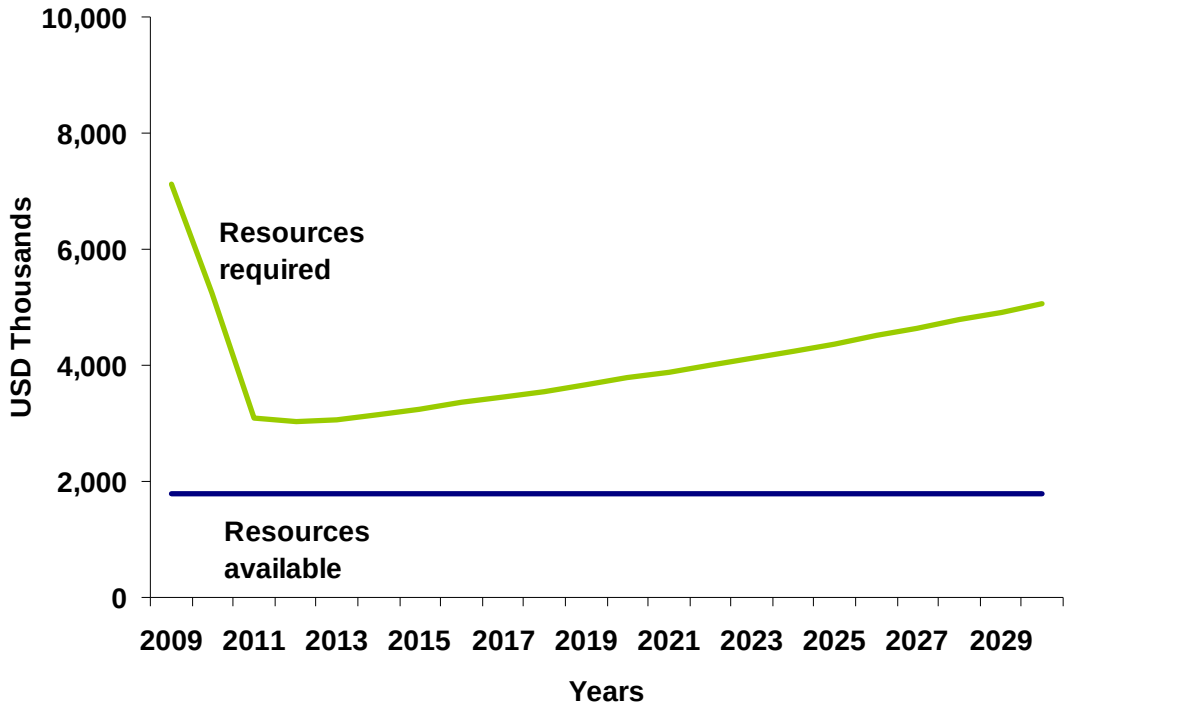
III. FINANCIAL GAP ANALYSIS

The up-front gap is related to the investment needs for ICT infrastructure. Thereafter, the operational gap is relatively small and could be met.

Total costs and available resources to strengthen PRINCIPLE VIII the health system at the district level (primary and secondary care), 27 districts (all except Kigali), USD thousand

	2009	2010	2011	2012	2013	2014	2015
Resource requirements at district level							
Investment	3,835	2,819	368	100	7	7	7
Operational	3,288	2,422	2,719	2,932	3,061	3,153	3,248
Total Resource Requirement	***7,123***	***5,242***	***3,086***	***3,032***	***3,069***	***3,161***	***3,255***
Resources available at district level							
Transfers from central government	0	0	0	0	0	0	0
Resources raised locally at the district and facility level	0	0	0	0	0	0	0
Partner support	1,374	1,374	1,374	1,374	1,374	1,374	1,374
Sub-Total	***1,374***	***1,374***	***1,374***	***1,374***	***1,374***	***1,374***	***1,374***
Resource managed centrally that are directed towards districts							
External Sector Budget Support	0	0	0	0	0	0	0
Global Fund to fight AIDS, TB & Malaria	418	418	418	418	418	418	418
MOH internal Development Budget	0	0	0	0	0	0	0
Sub-Total	***418***	***418***	***418***	***418***	***418***	***418***	***418***
Total Resources Available	***1,791***	***1,791***	***1,791***	***1,791***	***1,791***	***1,791***	***1,791***
Remaining Gap to Strengthen Health System	***5,332***	***3,450***	***1,295***	***1,241***	***1,277***	***1,369***	***1,464***

Gap Analysis for PRINCIPLE VIII at the district level (primary and secondary care), 27 districts (all except Kigali)



Principle IX: Health institutions should be held to the highest standards of care through Quality Assurance and Monitoring & Evaluation.

Goal 1

High quality standards should be adhered to and managers and staff held accountable.

Goal 2

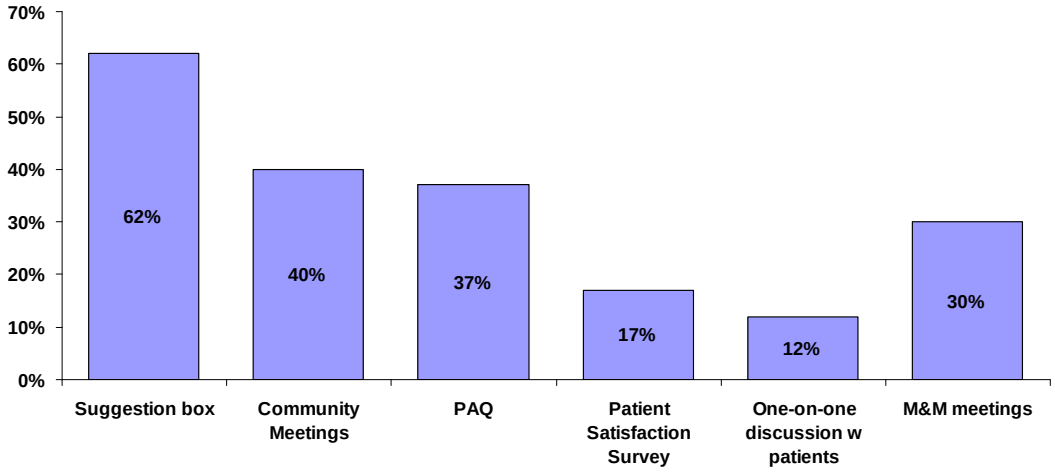
Integration of HMIS into QA and M&E.

Health facilities themselves, the communities they serve, District Hospitals and the DHU all cooperate to assure the provision of quality care. One important intervention in the area of QA in Rwanda has been the introduction of Performance-Based Financing, through which health facilities are rewarded with cash incentives when meet certain indicator targets. Over time, the largest health services payer - in *Mutuelle de Santé,* should develop quality indicators that should factored into their reimbursement formula. The community participation in QA & ME should be enhanced through patient surveys, community meetings and PAQ, and the District Health and District Hospital should be provided with the capacity to adequately supervise facilities through budget support, staffing and training. Data plays an important role in QA & ME, the integration of HMIS and hiring trained staff to manage data enhances the facility's ability to use it track their progress and impact.

I. ANALYSIS OF CURRENT SITUATION

The following graph shows the percentage of health facilities across the country that report having the QA mechanisms listed currently in place.

Chart : QA Mechanisms currently in place



Box : Other Selected Findings

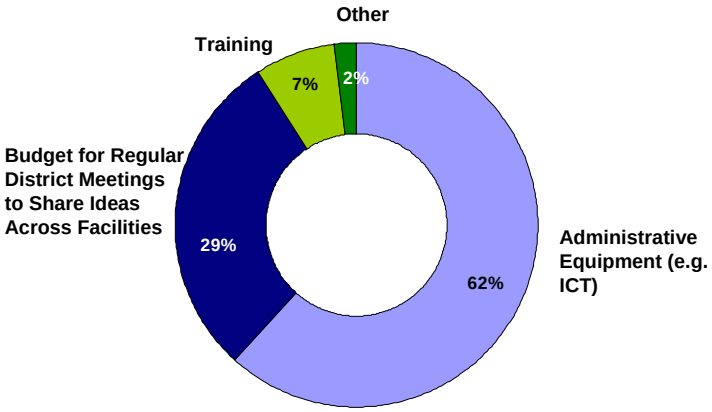
- **PBF – various studies have shown the positive impact of PBF. The issue is that the amounts are still relatively low and scattered over too many indicators. Current PBF disbursements are lower than the government targets: on average $1.12 per capita in PBF, against $1.5 per capita target. Ideal, it should be at least 3$ per capita.**
- **EMR systems are basically non existent with only 9 facilities report using an EMR. Even paper-base systems are rare and Medical records are currently scattered among an average of 15 different registers per facility**
- **HMIS being implemented but not used enough by the facilities themselves. Only 13% of facilities use a computer to enter health information statistics – there are very few data clerks**

II. PRIORITIES AND COSTS

- ***Strengthen Facility Supervision*** – This means providing the appropriate training, staffing and budget to the District Hospitals so that they can adequately supervise the services provided at Health Centers, and sufficiently mentor Health Center staff. There is thus a need for at least one vehicle with the appropriate fuel and maintenance budget for Health Center supervision and training.
- ***Strengthen Performance-Based Financing*** – Facilities would like to see prompt disbursement of PBF funds once the indicators have been submitted and verified. Also, additional funds will be necessary to continue to reward more indicators and even encourage greater improvement in existing ones with higher rewards.
- ***Strengthen HMIS*** – This mainly involves the strengthening and expanding existing HMIS systems such *SIS* and allowing analysis of the data to provide meaningful information to improve quality. There is a need for data staff in all facilities to accurately record, analyze and report health information and indicators.

There are no investment costs associated with Principle IX

Total Operational Costs in steady state, 2012, 100%=US 3.3 million



Box : Principle IX Investment Costs

- **Investment costs associated with Principle IX are the purchase of ICT hardware and equipment, which is included in Principle VIII**

Box : Principle IX Operational Costs

- **The major cost driver in administrative equipment is due to the roll-out and maintenance costs for EMR and shared databases**
- **Training costs include continuing training in QA and M&E, along with support for a training team to perform such instruction at health facilities**
- **The second largest cost driver is budgets for regular district meetings, which cover Quarterly Collaborative Approach, PBF and the sharing of ideas across all facilities**
- **Other costs include facility budgets for PAQ meetings**

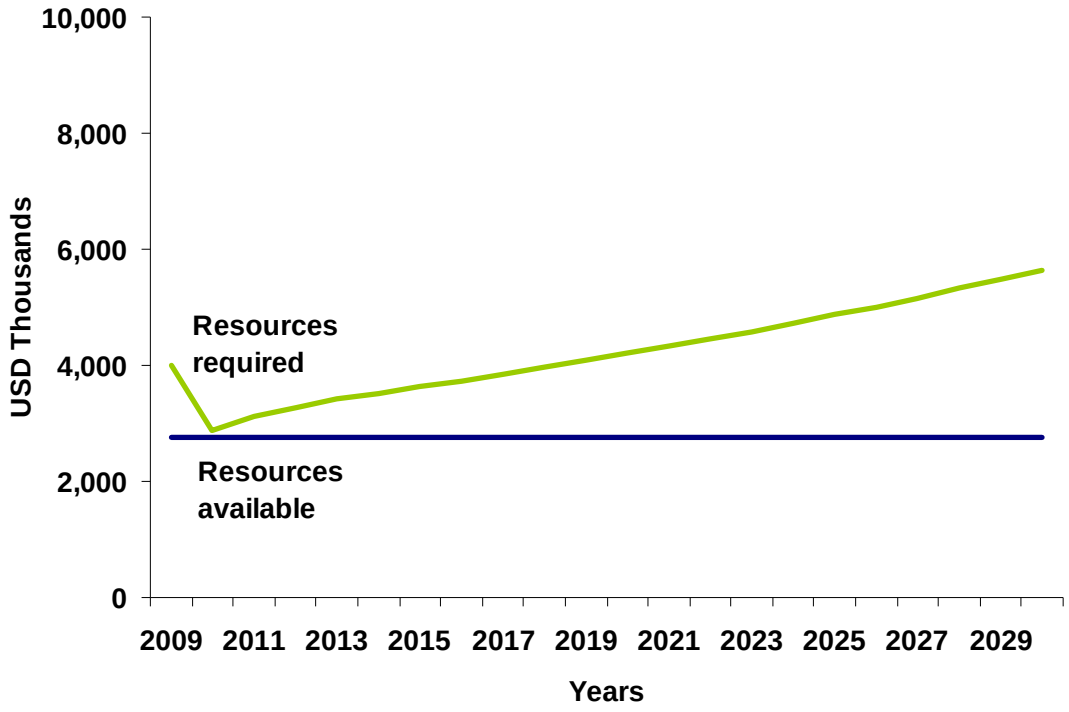
III. FINANCIAL GAP ANALYSIS

While the gap in this principle appears relatively small, a word of caution is required. Indeed, the resources available categorized as M&E are not necessarily what this Principle actually calls for. Indeed, as the table below shows all available resources at the district level are from external sources. A significant share of that is to monitor and evaluate those specific programs as opposed to strengthening the Quality Assurance and M&E capacity at the district level.

Total costs and available resources to strengthen PRINCIPLE IX the health system at the district level (primary and secondary care), 27 districts (all except Kigali), USD thousand

	2009	2010	2011	2012	2013	2014	2015
Resource requirements at district level							
Investment	0	0	0	0	0	0	0
Operational	4,008	2,884	3,115	3,286	3,414	3,517	3,622
Total Resource Requirement	***4,008***	***2,884***	***3,115***	***3,286***	***3,414***	***3,517***	***3,622***
Resources available at district level							
Transfers from central government	0	0	0	0	0	0	0
Resources raised locally at the district and facility level	0	0	0	0	0	0	0
Partner support	1,666	1,666	1,666	1,666	1,666	1,666	1,666
Sub-Total	***1,666***	***1,666***	***1,666***	***1,666***	***1,666***	***1,666***	***1,666***
Resource managed centrally that are directed towards districts							
External Sector Budget Support	0	0	0	0	0	0	0
Global Fund to fight AIDS, TB & Malaria	1,079	1,079	1,079	1,079	1,079	1,079	1,079
MOH internal Development Budget	0	0	0	0	0	0	0
Sub-Total	***1,079***	***1,079***	***1,079***	***1,079***	***1,079***	***1,079***	***1,079***
Total Resources Available	***2,745***	***2,745***	***2,745***	***2,745***	***2,745***	***2,745***	***2,745***
Remaining Gap to Strengthen Health System	***1,263***	***140***	***370***	***541***	***670***	***772***	***878***

Gap Analysis for PRINCIPLE IX at the district level (primary and secondary care), 27 districts (all except Kigali)



Principle X: : Good governance and effective management will enable the delivery of quality care, while also addressing socio-economic determinants of health.

Goal 1	Goal 2	Goal 3
A strengthened health system through local leadership, ownership and accountability, and improved coordination.	Availability of good managers and management structures in all healthcare facilities.	The social and economic underpinnings of disease should be addressed within the framework of health care.

District Health Units should be reinforced with appropriate staffing, training and equipment to allow them to effectively carry out their supervisory and coordinating roles. Structures such as Joint Action Forum (JAF), District Health Committee that bring together all donors, partners and health actors in the district should be strengthened. There should also be an agreed upon code of conduct to achieve transparency, accountability, and ownership between the district and partners in their health interventions. A district-wide and multisectoral approach will also help coordinate programs designed to address the socioeconomic underpinnings of disease (including lack of access to education, housing and clean water) that impact the population's health. At the facility level, each DH and HC should have a Board of Directors and Health Committee respectively to whom the Medical Director and Titulaire are accountable. Management committees, quality committees, management procedures should put in place and strengthened to support the Medical Director/Titulaires who themselves require management training. Human Resources and Finance/Accounting are two areas that currently need particular attention in their management and supervision.

I. ANALYSIS OF CURRENT SITUATION

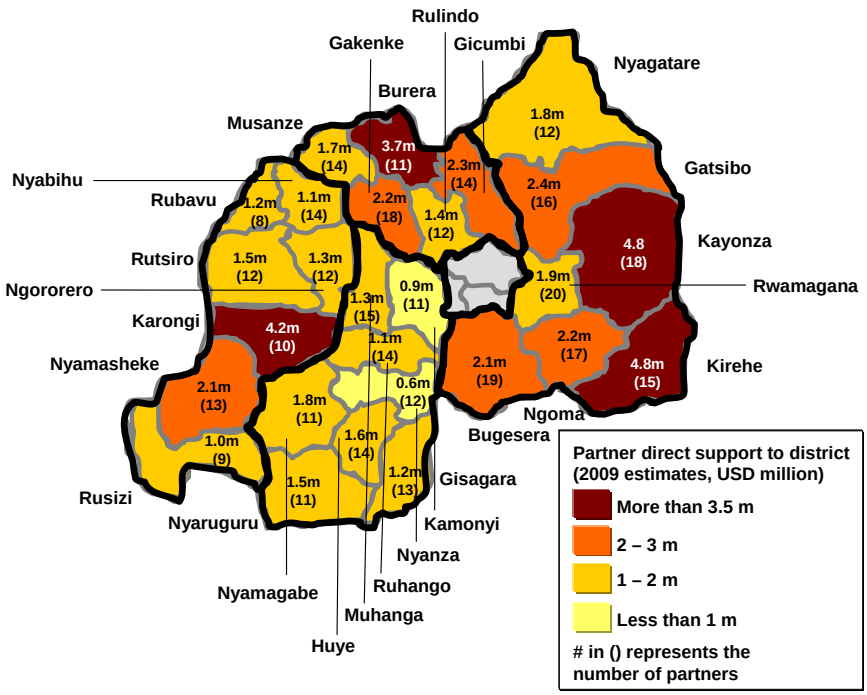
All DHUs have a director in place. In 9 districts there is also an assistant Director and 9 DHUs report having an accountant. All Districts have either a *mutuelle* director or *mutuelle* accountant in place, but not both. 16 districts have an A0 Pharmacist.

97% of facilities have a health committee or board in place and 94% have a management committee. 73% have a strategic action plan developed.

Health facility leaders report a strong need for management training. Less than 20% of facilities report having attended management training in the past year. Only 30% of DHU directors report having had some form of management training in the past year.

There is an average of 9 international development partners supporting a district. 75% of partner funding is project-specific and earmarked. While partner interventions range significantly, an average partner contributes about $50,000-$100,000 to one district. All in all, partners contribute an average of $2 million per year per District. (See Map on right).

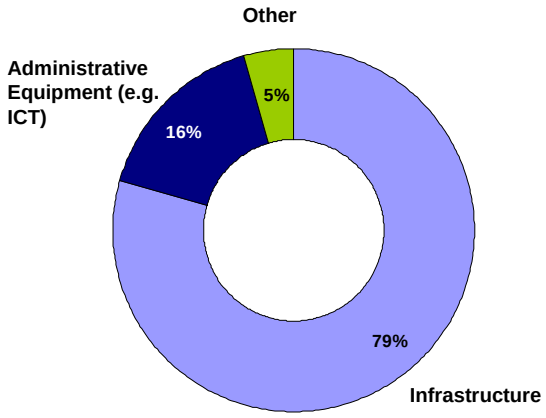
While most districts report holding JAF meetings, only 26% report having established a health subcommittee or another type of regular health sector coordination mechanism.



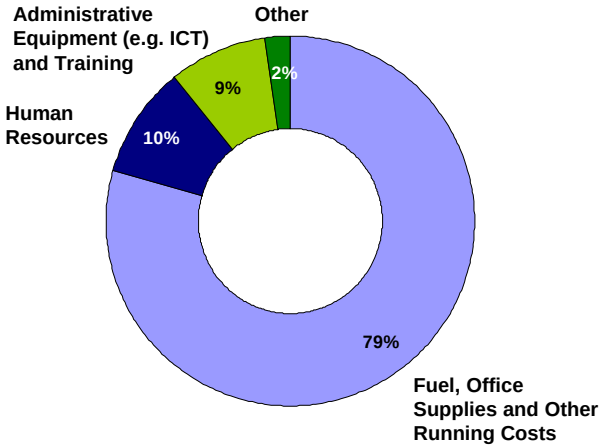
II. PRIORITIES AND COSTS

- ***Strengthen the District Health Unit –*** This priority aims to address good governance and transparency at the district level. The DHU requires adequate staffing and training, infrastructure and equipment investment, and operations budget to adequately perform its supervisory and coordination role. There is also a need to adequately delineate the DHU role to that of the Hospital's Medical Director in facility supervision. The DHU should further be strengthening in coordinating the health partners and their activities. With a view to multisectoral collaboration, other district officials (e.g. Mayor) should be included in meetings between the DHU and partners.
- ***Strengthen Management at Facilities*** – This will require the reinforcement of existing management structures that facilitate better facility management, such as management committees, the Health Committees/Board of Directors structure, and providing management training to Titulaires, Medical Directors and Hospital Administrators. There is also a need to include additional staff cadres such HR, and Deputy Titulaires to share the administration responsibility, especially in HR management.
- ***Strengthen Financial Management at Facilities*** – There should be regular trainings for accountants in both financial management and the use of accounting software (e.g. QuickBooks). There should be defined protocols and established budgets at the national, district, and facility level that support transparency in financial reporting, including regular audits and financial supervision by the District Auditor.

Total Investment Costs , 2009-2013
100%= US 0.9 million



Total Operational Costs in steady state, 2012,
100%=US 13.5 million



Box : Principle X Investment Costs

- **The major cost driver in Principle X is infrastructure upgrade at the District Health Unit**
- **Administrative equipment includes ICT hardware**
- **Other costs are comprised of a furnishing upgrade at the District Health Unit**

Box : Principle X Operational Costs

- **The major cost drivers listed under fuel, office supplies and running costs include budget support for facility and District Health Unit operations and PBF dedicated to this purpose**
- **The fuel, office supplies and running costs category also includes a budget for car rental for District Health Unit functioning as the DHU cannot own a car**
- **Human resources costs includes salaries for the District Health Unit staff**
- **Other costs include facility budgets for social programs for indigents**
- **Administrative equipment and training costs include connecting the District Health Unit to the internet, ICT maintenance and a Closed User Group (CUG) between the District Health Unit, District Hospital(s) and Health Centers.**

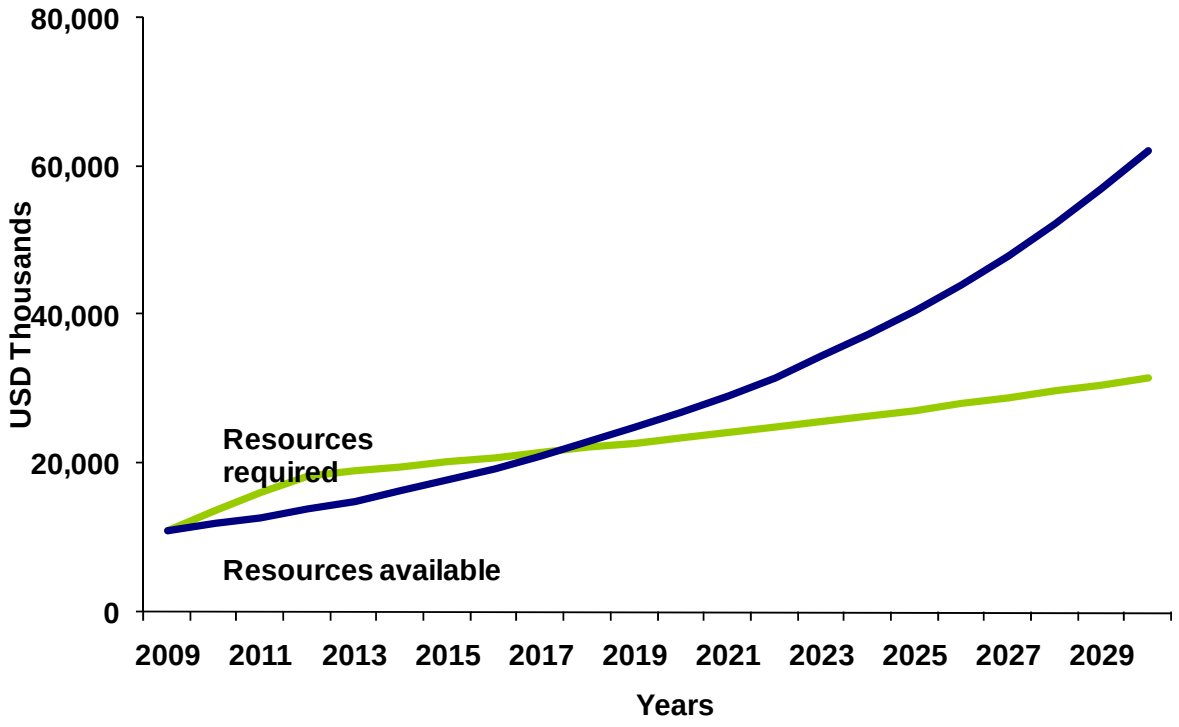
III. FINANCIAL GAP ANALYSIS

There is significant facility and GoR spending towards this principle mostly targeting facility operations budgets. However insufficient resources are being allocated to strengthening management in facilities. The gap could be filled within the next few years.

Total costs and available resources to strengthen PRINCIPLE X the health system at the district level (primary and secondary care), 27 districts (all except Kigali), USD thousand

	2009	2010	2011	2012	2013	2014	2015
Resource requirements at district level							
Investment	248	255	175	181	186	188	190
Operational	10,804	13,496	15,943	18,179	18,943	19,511	20,096
Total Resource Requirement	***11,052***	***13,752***	***16,119***	***18,360***	***19,129***	***19,699***	***20,286***
Resources available at district level							
Transfers from central government	3,181	3,588	4,044	4,553	5,120	5,752	6,457
Resources raised locally at the district and facility level	4,519	4,971	5,468	6,015	6,617	7,278	8,006
Partner support	2,894	2,894	2,894	2,894	2,894	2,894	2,894
Sub-Total	***10,594***	***11,454***	***12,407***	***13,462***	***14,631***	***15,925***	***17,358***
Resource managed centrally that are directed towards districts							
External Sector Budget Support	352	352	352	352	352	352	352
Global Fund to fight AIDS, TB & Malaria	0	0	0	0	0	0	0
MOH internal Development Budget	0	0	0	0	0	0	0
Sub-Total	***352***	***352***	***352***	***352***	***352***	***352***	***352***
Total Resources Available	***10,946***	***11,806***	***12,759***	***13,814***	***14,983***	***16,277***	***17,710***
Remaining Gap to Strengthen Health System	***106***	***1,946***	***3,360***	***4,546***	***4,146***	***3,422***	***2,576***

Gap Analysis for PRINCIPLE X at the district level (primary and secondary care), 27 districts (all except Kigali)



4. Implementation Mechanism (preliminary)

Having clear and detailed plans for each district is a good start. Success, however, will depend on the ability to follow through on these plans and see through their proper implementation. The Ministry of Health, the districts, and the health facility have a shared responsibility to make this happen.

Because of the scale of these plans, which cover the entire health system in a comprehensive manner, implementation should be understood as a medium to long term approach over the next two or three decades. Despite this long term horizon, mechanisms must be put in place to track progress and monitor and evaluate implementation in real-time in order to maintain focus, be able to take corrective action, and, where relevant, learn from new experiences and be able to replicate successes elsewhere. Strengthening the district health system is as much about the actual delivery of quality health care services as it is about a coordinated and collaborative process leveraging all the different sources of resources – human, financial, technical – available to the country.

Furthermore, there are already a number of mechanisms and structures in place that can and will be built upon to ensure constant progress of health system strengthening measures are monitored, both at the national and district level.

4.1. Central coordination and oversight

Performance 'Dashboards' are being successfully used by many organizations today in a variety of settings to monitor and track progress across different units. In line with other performance-based approaches, a simple Dashboard should be established to track the progress of the implementation of the health system strengthening plans across all districts. This Dashboard will focus on health system strengthening metrics so as not to duplicate other M&E mechanism that focus more on health impact and outcomes such as the SIS (HMIS) and DHS. Results from the Health Systems Dashboard would be compared to the health metrics indicators to provide a more complete picture of progress across all districts.

The diagram below shows conceptually what the Dashboard could look like and which metrics could be measured. It is only illustrative at this stage.

Example of metrics that could be tracked periodically across all districts

	Drugs & Commodities		Access to care		Human Resources		Infrastructure		...	
District	# of days of stock outs of essential drugs (av. Per facility)	% of DP staffing plan fulfilled	Mutuelle coverage	% of mutuelle offices meeting minimum standards	Doctor/pop ratio	Rention rate (years)	% of facilities with electricity	% of facilities with 90% of minimum equipment functioning	...	...
District 1	3	100%	80%	30%	30,000	1.5	50%	50%		
District 2	12	80%	95%	80%	55,000	3.0	85%	75%		
District 3	-	100%	70%	80%	20,000	3.0	85%	50%		
District 4	5	20%	80%	50%	45,000	1.0	40%	20%		
...										
...										
...										

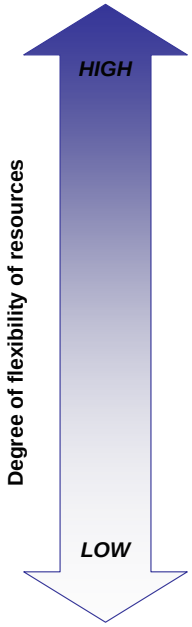
Based on a periodic (quarterly or semi annual) review of such indicators across all districts, decisions can be made on resource allocation to strengthen the health system, remedial actions to support districts that are lagging behind, and best practices from districts doing well.

Such a mechanism would need managerial and administrative support. To ensure a sustained commitment and follow-through, as well as to ensure that all bottlenecks to implementation are addressed rapidly, a **senior-level Steering Committee** should be established by the GOR, lead by the Ministry of Health. Because of the breadth of health systems, other Ministries should also be invited to participate such as MINECOFIN, MINEDUC, MINALOC, MININFRA, etc. The Steering Committee should meet every 3-4 months to monitor progress across all districts, share lessons learned, and resolve outstanding issues.

A smaller and more operations-oriented **Health Systems Strengthening Secretariat (HSSS)** should be established. This group would be made up of technical and managerial staff within the Ministry of Health and would be tasked to monitor progress of health system strengthening activities; compile the information received from districts; raise and address outstanding issues; share lessons learned; and prepare and support meetings of the Steering Committee. It should be lead by a senior MOH staff and

be closely linked, if not part of, the current UCPD (Department of Planning, Policy and Capacity Building). 1-2 additional staff may be required for this. The HSSS will provide financial oversight and will facilitate the central coordination of funds, including resource mobilization efforts.

A key issue related to the effective implementation of the health system strengthening efforts revolves around the management of different sources of funds. The Ministry of Health, and Districts, received resources from a variety of sources, which each have their own specificity. Given the inclusive and comprehensive nature of health systems strengthening, the key to success is to be able to most effectively and efficiently leverage all these sources of funds. The diagram below provide (a perhaps simplified) view of the different types of resources and how they are managed. While there are significant differences, all have their advantages and should be leveraged.



Typology	*Typical approach to planning*	*Typical approach to implementation at district level*	*Typical approach to M&E*
• General Budget Support	• High-level government planning • Agreed budget envelope at discretion of MOH	• Implementation through transfers to districts • Centrally managed funds for national programs coordinated centrally	• Part of HMIS and other national M&E mechanisms
• Sector Budget Support	• High-level consultation and agreement on broad priorities between MOH and donors	• Implementation through transfers to districts • Centrally managed funds for national programs coordinated centrally	• Part of HMIS and other national M&E mechanisms • Sub-set of 'triggers' to disburse funds
• Large bilaterals, multilaterals or NGOs	• Consultation with MOH within scope of particular agency • Extent of consultation/ alignment may vary	• Direct implementation at district level • Implementation through 'contracts' with facilities or other local organizations	• Agency-specific • Efforts under-way to harmonize with national M&E
• Smaller NGOs	• Lesser degree of coordination with MOH • Coordinates with district, if at all	• Direct implementation at district level	• Agency-specific • Typically not integrated

In order to more efficiently use existing funding, a much clearer picture is needed of who is doing what and where. This is particularly a challenge for the multitude of smaller NGOs: while they are usually very effective on the ground, often neither the district nor the central levels has a clear visibility on what they do. While significant efforts are being made to ensure that all partners are 'on plan', if not 'on budget', it must be acknowledged that there will always be players outside this framework. Working from the least flexible sources of funding to the more flexible, the government should strive to use the more flexible resources to fill gaps. A periodic (ideally, real-time) mapping of activities and resources from all stakeholders working with districts is essential and should be coordinated by the HSSS. At a minimum, this will be done once a year to inform the allocation of General Budget Support (GBS) and Sector-Budget Support (SBS) resources.

4.2. District-level coordination and support

In the context of Rwanda's decentralization policy, ultimate responsibility for the successful strengthening of district health systems lies with the districts themselves because they are accountable for results in their districts.

Under the leadership of district authorities, existing coordination mechanisms like the Joint Action Forum must therefore continue and be strengthened. The health sector, through the District Health Unit (DHU), must play the lead role at the district level (with the guidance of the district mayor) to oversee implementation.

The DHU will be responsible for monitoring and tracking the Dashboard for its respective district. The proposed QA Team (and even the HMIS manager/data clerks at the District Hospital) at the District Hospital could administer record and analyze the semi-annual survey of Health System Indicators in line with HSSP II Indicators.

Because the DHU position is relatively new within Rwanda's decentralized administrative structure, its capacity is weak in many districts. It will therefore be vital for implementing partners that have on-the-ground human resources to play an active role in building the DHU's planning, coordination and M&E capacity. Where feasible, a mentoring approach should be carried out, at least in the short to medium term, both for the DHU and senior managers in the health facilities. As this capacity is strengthened more centrally-managed resources could be devolved directly to districts.

It is at the facility level that the implementation really happens. Thus it is the District Hospital Medical Director, his/her team of doctors and senior nurses and administrators, and all the *Titulaires* that have a central and critical role to play. 'Implementation Guides', providing practical guidance on strengthening key aspects of the health system at the district or facility level, need to be developed along the different Principles, Objectives and Strategies of the Framework.

The District Health System Strengthening Framework is focused on tailoring healthcare to suit the needs of communities. It is thus important to ensure a strong involvement from Community-based organizations and other local associations. This will be reinforced through the network of local CHWs, but must extend to the entire community. Periodic feedback from the community should be sought.

Strengthening the health system is a long term commitment involving planning, monitoring and evaluation, baselining, costing and budgeting. It is therefore necessary to ensure that the Districts have the managerial and operational capacity to oversee this entire process. This will require mentoring the DHU team and the development of all the tools (survey, plan template, facilitation templates, budget and costing tool) necessary to facilitate the regular update of the district baselines, needs, priorities, plans and budget.