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# Rwanda Reproductive, Maternal, Newborn and Child Health Facility Service Availability and Readiness Assessment Results

Kigali, Rwanda



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# Foreword

Rwanda is a landlocked country in eastern Africa with both mountains and plateaus. Following decades of unrest, up to 1 million lives were lost during the 1994 genocide, leaving behind a nation with destroyed economic and social power. Specifically, the health system was devastated by the genocide against Tutsi, which was marked by a severe health worker shortage, as well as limited health infrastructure. In 1995, the government began to rebuild the country by implementing policies to support equitable rights for the Rwandan population. In the process, advanced social and political reforms led to improved living standards and increased life expectancy. Policies in place have emphasized investment in major infrastructure, commercial, and agricultural productivity, as well as skills development (Crisafulli and Redmond 2012). In the health sector, constructive administrative reforms took place to increase the coverage and quality of primary health care including decentralization and capacity-building of a district level health system in terms of autonomous planning and implementation of health interventions (Westley and Antadze 2010).

Since then, Rwanda has been hailed as among the few sub-Saharan nations on track to reducing child and maternal mortality and achieved the fourth and fifth United Nations Millennium Development Goals in 2015. Such a spectacular change has been rendered possible by the government's prioritization of reproductive, maternal, newborn, and child health (RMNCH) among other health primacies. The Government of Rwanda has prioritized RMNCH throughout its policies and major health system reforms. The country has focused on health systems strengthening (health workforce and infrastructure), evidence-based policymaking, government-led planning, strong community partnership and involvement, innovative health financing, a community-based health insurance scheme, a performance-based financing (PBF) system, as well as a strong surveillance system through the health management information system (HMIS) and community health workers information system to monitor changes and trends in a timely and effective manner.

Since 2005, maternal mortality in Rwanda has more than halved, from a maternal mortality ratio of 750/100,000 in 2005, 476/100,000 in 2010 to 210/100,000 in 2015 (RDHS 2005, RDHS 2010 and RDHS 2015). Despite the Government's intense efforts to foster greater change in maternal, newborn and child health, however, like most sub-Saharan African countries, Rwanda still bears a heavy burden of high neonatal mortality (20/1,000 live births), children under 5 mortality (50/1,000), and infant mortality (32/1,000 live births) (RDHS 2015).

In the industrialized countries, neonatal mortality is approximately 3/1,000 live births. In Eastern Europe, Latin America, and the Caribbean, mortality rates rise to moderate levels. In Africa and South Asia, rates increase to 10–15 times those of the industrialized nations. Of the nearly 4 million neonatal deaths per year, 98% occur in the developing and least developed parts of the world.

Geographical accessibility of services and the shortage in number of trained midwives are still the main challenges encountered to achieve the sustainable development goals.

The human resources regarding midwives is at a population ratio of 1/66,749 (National Institute of Statistics of Rwanda, MOH et al. 2008; National Institute of Statistics of Rwanda 2014).

Rwanda is one of the countries where the United States Agency for International Development (USAID) initiated the ending preventable child and maternal deaths (EPCMD) program. In 2015, Maternal and Child Survival Program (MCSP) planned implementation of high-impact and low-cost RMNCH interventions and innovative approaches matched with Ministry of Health (MOH) capacity-building that would contribute to EPCMD goals. For that purpose, the CVI, a local organization was recruited to perform a health facility assessment (HFA) looking at the readiness of the RMCNH services. Results from this assessment will serve as a baseline against which to track the progress of the MCSP and will also be used for future planning of RMNCH interventions.

# Abbreviations

<b>ANC</b>	Antenatal care
<b>BEmONC</b>	Basic emergency obstetric and newborn care
<b>CEmONC</b>	Comprehensive emergency obstetric and newborn care
<b>CHWs</b>	Community health workers
<b>CVI</b>	Community vision initiative
<b>DH</b>	District hospital
<b>DHIS</b>	District health information system
<b>DHMT</b>	District health management team
<b>EPCMD</b>	Ending preventable child and maternal deaths
<b>FP</b>	Family planning
<b>GBV</b>	Gender-based violence
<b>GPS</b>	Global positioning system
<b>HFA</b>	Health facility assessment
<b>HIS</b>	Health information survey
<b>HMIS</b>	Health management information system
<b>IMCI</b>	Integrated management of childhood illness
<b>L&amp;D</b>	Labor and delivery
<b>MCHIP</b>	Maternal and Child Health Integrated Program
<b>MCSP</b>	Maternal and Child Survival Program
<b>MOH</b>	Ministry of Health
<b>NGO</b>	Non-governmental organization
<b>PBF</b>	Performance-based financing
<b>PDA</b>	Personal digital assistant
<b>PNC</b>	Postnatal care
<b>PPFP</b>	Postpartum family planning
<b>QI</b>	Quality improvement
<b>RDHS</b>	Rwanda Demographic Health Survey
<b>RHSA</b>	Rapid health systems assessment
<b>RMC</b>	Respectful maternity care
<b>RMNCH</b>	Reproductive, maternal, newborn, and child health
<b>SARA</b>	Service availability and readiness assessment
<b>SPA</b>	Service provision assessment
<b>SRH</b>	Sexual and reproductive health
<b>USAID</b>	United States Agency for International Development
<b>WHO</b>	World Health Organization

# Executive Summary

The Maternal and Child Survival Program (MCSP) planned the implementation of high-impact and low-cost reproductive, maternal, newborn and child health (RMNCH) interventions and innovative approaches to include capacity-building with the Ministry of Health (MOH) that would contribute to ending preventable child and maternal deaths (EPCMD) goals. The MCSP Rwanda RMNCH baseline assessment was designed to collect information and guide planning of the MCSP/Rwanda work plan activities as well as inform the MOH and other stakeholders. An assessment will be conducted at endline to assess changes over time.

This baseline assessment had two components: a quantitative health facility assessment (HFA) and a qualitative rapid health systems assessment (RHSA). The HFA was designed by adopting the service availability and readiness assessment (SARA) developed by the World Health Organization (WHO) in collaboration with the United States Agency for International Development (USAID). It also built upon past health facility surveys conducted in Rwanda, including the 2007 Service Provision Assessment and the 2011 Maternal and Child Health Integrated Program (MCHIP) quality of care survey.

The HFA targeted public hospitals and health centers in the 10 districts where MCSP is implementing RMNCH interventions in Rwanda. Of the 12 hospitals and 155 health centers in the 10 districts, all 12 hospitals were included in the sample, but one-third of the health centers (52) were sampled. The number of health centers sampled per district was proportional to the total number of health centers per district. In contrast, the RHSA was intentionally structured as a rapid diagnostic, and as such, the sample size was limited to three districts that demonstrate varied strengths and weaknesses. The findings and recommendations that follow should be considered as possible ways to improve the health system.

Data collection for the HFA was conducted from 5–16 October 2015 using personal digital assistant devices (PDAs) to allow verification and data cleaning during field work by a quality assurance team from MCSP, MOH, and CVI hired by MCSP. All 64 sampled facilities were visited, and each provided all the required information to the enumerators.

The qualitative RHSA was designed to highlight key health systems challenges across health system building blocks that were limiting accessibility, utilization, and affordability of high-quality RMNCH services in Rwanda. These observations and suggestions are intended to inform MCSP's planned activities and to highlight areas of potential focus in the future. The qualitative RHSA was done after the quantitative HFA was completed, so that quantitative HFA findings could be explored further during the RHSA.

The specific objectives of the HFA were to examine the following components:

- Service readiness and availability for RMNCH services, including five domains: basic amenities, basic equipment, standard precautions for infection control, diagnostic capacity, and availability of essential medicines.
- Data recording and reporting format at the facility and monthly facilities service utilization by type of service, presence of trained human resources for data sharing and data analysis and information use for decision-making at health facility and district levels, and process of health facility level use of data including barriers and constraints in terms of the availability and use of RMNCH data.
- Integration of interventions focused on the community-facility health services linkage and community-level demand creation.

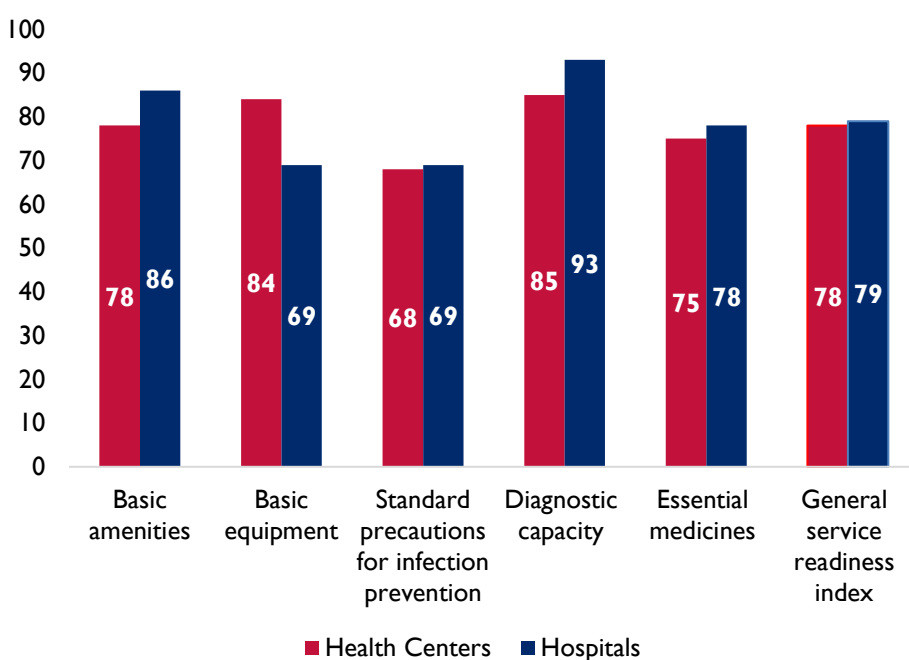
Five domains were considered for the general service readiness evaluation at each health facility: basic amenities, basic equipment, standard precautions for infection control, diagnostic capacity, and availability of essential medicines. Multiple tracer items were assessed under each domain, and a score was developed to

determine general service readiness. The general service readiness index is a score of composite measure that combines results from the tracer items under the five domains.

Eight health service availabilities were specifically assessed during the HFA including: antenatal care (ANC), obstetric and newborn care, cesarean section, family planning (FP), gender-based violence, child preventive and curative services, child immunization and adolescent health. Four of the eight services (ANC, child preventive and curative services, child immunization, and adolescent health) are included in the minimum package for health centers but are not included in a district hospital package. Cesarean section was only assessed in the 12 district hospitals and one health center that offered the service.

The general service readiness index was calculated based on the mean availability of items in five domains and was 78% for all 64 health facilities; the lowest score was for the standard precautions for infection prevention (68%), and the highest score was for the diagnostic capacity (86%).

**Figure I. General service readiness by domain and level of care**



General service readiness assessment showed that most health facilities had basic amenities and diagnostic capacity, but standard precautions for infection control were poor. Basic amenities, such as computer and internet availability, which was 92% in hospitals and 87% in health centers, was closer to the 2015–2018 Health Sector Strategic Plan III national target that aimed to cover 95% of health facilities with functional information technology infrastructure. Moreover, diagnostic capacity of health facilities improved compared to the 2007 service provision assessment (SPA) survey. For example, the urine protein and urine glucose test for ANC service was 92% and 88% in the current HFA compared to the 58% and 53% reported in the 2007 SPA survey. Availability of a functioning toilet in the labor and delivery room for clients was low for both health centers and hospitals. Moreover, the difference among districts was large for some service readiness assessments. For example, Huye and Nyagatare had the lowest standard precautions for infection control and adequate sanitation, and Musanze and Rwamagana had the highest score in general basic amenities and standard precaution for infection control, respectively.

Health centers performed better than hospitals for most of the basic equipment availability assessments. Overall, availability of basic equipment improved from the 2007 SPA findings. For example, thermometers

and sphygmomanometers (blood pressure apparatus) were available in the ANC unit in 81% and 92% of health facilities, respectively, compared to the 44% and 88% of the facilities reported in 2007 SPA. There was a concern regarding some essential medicines that were lacking, especially in health centers; some medicines were expired on the day of the visit. The benzathine penicillin powder for injection was only available in 46% of health centers and in 58% of district hospitals. However, availability of some drugs, such as oxytocin in the delivery area, improved compared to the 2012 MCHIP quality of care survey. The quality of care survey reported that 78% of health centers and 95% of hospitals had oxytocin in the delivery area, but the current assessment showed that 100% of the assessed hospitals and 98% of the assessed health centers had oxytocin in the delivery area.

The specific service availability assessment focused on ANC; obstetric and newborn care; FP; child health and immunization; adolescent sexual and reproductive health; and gender-based violence (GBV) screening services. The ANC service assessment showed that most ANC elements were available. Some supplements were reported to be routinely provided (prescribed) as part of the ANC service such as iron (83%) and folic acid (62%) supplements. However, these supplements were not found during actual observation of the ANC areas in the facilities assessed. The low percentage of iron (38%) and folic acid (24%) tablets observed in the ANC service area may be because these items typically existed in the pharmacy but were not in the ANC service area. Low numbers of staff recently trained in ANC may be the result of high turnover in the districts and at the health facilities. The percentage of facilities that had ANC guidelines (35%) was similar to the 2007 SPA finding (36%), which is surprising because such guidelines were developed and produced at the national level, and therefore, should be available to providers.

Providers reported that availability of any basic emergency obstetric and newborn care (BEmONC) was high. However, few health centers (6%) and hospitals (42%) were observed to have all seven BEmONC signal functions available. Moreover, some facilities reported providing some services, such as newborn resuscitation (75% of the health centers and 100% of the hospitals reported that newborn resuscitation service was provided), but basic equipment needed for newborn resuscitation was available only in few of the facilities (67% of hospitals and 35% of health centers). Thus, there was no major change in availability of newborn resuscitation equipment compared to the 2012 quality of care survey done by MCHIP, which reported less than 70% of all facilities assessed had supplies needed for newborn resuscitation.

More than 90% of the facilities provided all ranges of FP services. Combined estrogen/progesterone injectable contraceptives and female condoms were less available in both hospitals and health centers. The 2007 Rwanda SPA reported that only 22% of the health facilities assessed had female condoms, and the current survey showed 36% of hospitals and 47% health centers assessed had female condoms. In contrast, the high percentage of facilities that reported availability of implants in the current HFA (100% for hospitals and 94% for health centers) was far above the 2007 SPA that showed only 27% of the facilities assessed had implants available and were providing the services. Thermal care for low-birthweight babies was low at health centers (10%) due to the absence of incubators/warmers. This figure was similar to the 2007 SPA that reported that 9% of the health centers had an external heat source for newborns.

Availability of vitamin A in the child health service area remained low (50% of the health centers) corroborating the SPA report of 42%. Similarly, availability of basic supplies, such as growth monitoring charts, treatment guidelines and protocols, remains low. Only 29 of 52 health centers reported availability of adolescent sexual and reproductive health services. Similarly, of the 57 health facilities that reported availability of GBV services, less than half had a specific guideline and a specific area designated for this service.

More than 90% of all facilities reported having a facility management committee, and one-third of the hospitals included a community representative in the management committee and only two hospitals reported a community group in their catchment area. The majority of the health facilities reported having trained community health workers (CHWs), however, it was recognized that a few health facilities had newly elected CHWs that were waiting for training. CHWs were involved in increasing community demand for RMNCH

services. However, there was a shortage of other local organizations involved in community mobilization. The existing local non-governmental organization (NGOs) were involved mainly in HIV and prevention of mother-to-child transmission of HIV (32.7% and 34.6%, respectively) compared to immunization of children under five (23.1%) and facility-based deliveries (21.2%).

Data visualization and use for specific clinical decisions was low. Although most health facilities (60% of health centers and 75% of hospitals) display data related to assisted deliveries, few facilities (less than 10% of health centers and less than 60% of hospitals) display mortality data for maternal and very early newborn deaths. Moreover, the influence of data in decision-making at the health facility level was low, and the main reason was reported to be lack of resources. The RHSA indicated that the work of the quality improvement (QI) committees depended on the strong use of data to guide decision-making and track the impact of different interventions during monthly data review meetings. Data analysis could also be expanded beyond the comparison of key performance indicators against Imihigo targets. MCSP could develop tools to support improved analysis of data to better track interventions and link the data manager's activities even more strongly with QI processes.

Key informants during the RHSA described the referral system as strong overall, but noted an opportunity to improve emergency drills, the alert system, and the counter-referral system, particularly back to the community level. There may be an opportunity to look more closely at ways to improve the RapidSMS system and to consider direct modes of communication with CHWs when individuals return to the community. Many stakeholders valued supervision and requested that supervision visits be more frequent, but supervisors noted their limited ability to perform supervision visits with regular frequency. MCSP could explore innovative methods for providing ongoing supervision, such as formalized peer mentorship or the use of technology to provide supervision remotely. There is also an opportunity to analyze supervision reports and to evaluate what effect the supervisory visits are having.

Overall, health personnel seemed to be highly motivated and committed to a culture of improvement. Accreditation in Rwanda was well underway at the hospital level, with many hospital directors noting improvements in their level of standardization and a commitment to continuing work to improve quality. For the future, as MCSP and the MOH work together to strengthen the delivery of RMNCH services, several observations can help inform that work. Regarding accreditation and quality, it will be important for hospital staff to maintain focus on improving service delivery processes even as they work through Level I accreditation. It is crucial that the focus on clinical service delivery not be lost as staff time is focused on the development of new policies and procedures. To improve accreditation and quality in Rwanda's health system, MCSP could support the introduction of QI tools that would provide a more systematic process for identifying root causes (e.g., fishbone, 5 why tools), propose new structures to increase the involvement of lower level staff in QI, and provide capacity-building for the data manager and other staff at the facility level.

Most key informants for the RHSA commended the success of the Mutuelle de santé (community-based health insurance) system in facilitating access to services for all individuals regardless of income level. In addition, when probed on issues of gender imbalance for health workers or issues faced specifically by men and women, stakeholders pointed to small areas for improvement, such as better access to services for unmarried women. Overall, these strengths position Rwanda to make substantial strides toward high quality and accessible RMNCH services. Although there was a general perception among most health providers that equity was not a major issue because of the strength of the Mutuelle de santé system, CHWs reported several vulnerable groups in need of greater support, including the very poor, unmarried women, elderly, adolescents in need of FP and reproductive health services, malnourished children, and those infected with HIV or TB. Some female CHWs also reported work/life balance issues, especially as additional duties and responsibilities have been added.

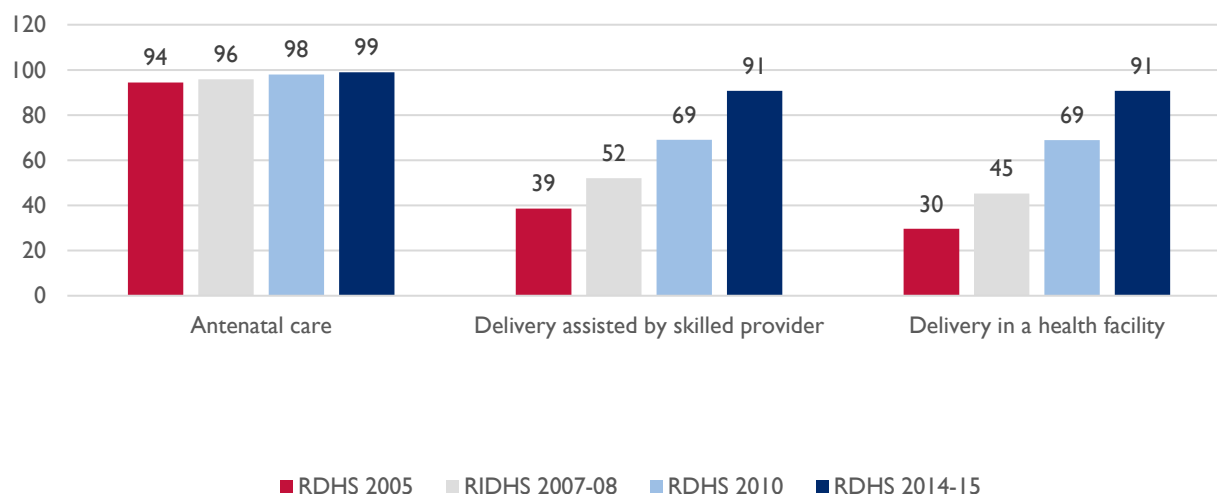
One potentially exciting opportunity for MCSP would be to develop a method for tracking equity of health service utilization within Rwanda by cross referencing utilization registration based on household number with the Ubudehe listings. Although MCSP is not focused specifically on supporting health financing activities, many informants noted the overall decline in funding levels that Rwanda is experiencing, including specific support for core staff positions. As activities are planned, it may benefit the team to look more closely at the cost-effectiveness of proposed interventions and to consider whether there are ways to support financing management skills for district health management teams and facility leadership.



# I. Introduction

The maternal mortality ratio in Rwanda has more than halved, from 750/100,000 in 2005, 476/100,000 in 2010 to 210/100,000 in 2015 (RDHS 2005, RDHS 2010 and RDHS 2015). According to the 2014-15 Rwanda Demographic Health Survey (RDHS 2015) results, antenatal care (ANC) has reached 99% of all women with live births compared to 98% in 2010. The achievement also included meeting the four standards of ANC visits that have increased from 35% to 44% of women with live births. In addition, skilled birth attendance has increased from 69% in 2010 to 91% in 2015. According to RDHS 2010 and RDHS 2015, postnatal care (PNC) services have also increased from 18% to 42% of women who received PNC checkups within 48 hours after delivery.

**Figure 2. Trends in antenatal care, assisted delivery, and facility delivery in Rwanda**



Strategic actions that may have contributed to these improved reproductive, maternal, newborn and child health (RMNCH) indicators include the combination of service delivery and system strengthening measures, the maternal death surveillance and response, the performance-based financing (PBF), the improved referral chain down to the community level, and functional emergency obstetric and newborn care facilities in health centers, district hospitals (DHs), and national referral hospitals.

The annual health statistics report by the Rwanda Ministry of Health (MOH) indicated that all health facilities have a regular source of electricity: 95% have electricity from the national power grid and 78% use it as a primary source and 17% as a secondary source. In addition, 69% have a generator with 12% using it as a primary source and 57% as a secondary source. Solar energy is available in 35% of the facilities, with 10% using it as a principle source and 25% using it as a secondary source. Biogas is used by 1% as a secondary source (Rwanda MOH 2014).

The distribution of water sources was dominated by rain water reservoirs and piped water within the health centers and district hospitals: 55% of the facilities had water supplied through rain water reservoirs and 51% had water supplied by piped water supply in the facility. Nine percent of facilities reported having no regular source of water (Rwanda MOH 2014).

The report also showed that skilled professionals were still insufficient in the country with the ratio of health workers as 1 doctor per 15,806 inhabitants, 1 nurse per 1,236 inhabitants, and 1 midwife per 15,891 inhabitants (Rwanda MOH 2014).

Despite efforts from the MOH and partners to improve RMNCH service delivery, reports from the health management information system (HMIS) have helped to shed light on health system related bottlenecks such as inadequate health infrastructure, limited geographical access to health services, inadequate quality of services, shortage of skilled health providers, lack of sufficient equipment and supplies, and limited health management capacity (Abbott and Rwirahira 2012).

Therefore, at the beginning of the implementation plan of RMNCH interventions in Rwanda, the Maternal and Child Survival Program (MCSP) conducted a health facility service availability and readiness assessment (SARA) to determine the readiness of the health care facilities to reduce preventable maternal, newborn, and child mortality and to propose an evidence-based action plan for development and implementation during the life of MCSP.

## 1.1 Objectives

A. The objectives of the health facility assessment (HFA) were to:

- Assess the readiness of infrastructure, equipment, supplies, and medications needed to provide ANC and labor and delivery (L&D) care including management of obstetric and newborn complications, PNC, postpartum family planning (PPFP), gender-based violence (GBV), and child health services (treatment of childhood illness and immunization);
- Assess the availability of health service providers and their profile: number and type of providers available in each health facility who provide ANC, L&D care, PNC, PPFP, GBV, and child health services;
- Assess the availability of services including ANC, L&D (management of obstetric and newborn complications), PNC for both mothers and babies, PPFP, GBV, and child health services and if services are gender-sensitive and youth/adolescent friendly;
- Assess health facility level community health services and demand creation activities; and
- Assess the data recording and reporting formats at facility and district levels and monthly facility service utilization by type of service: ANC, L&D, PNC, PPFP, adolescent/youth corner and integrated management of childhood illness (IMCI).

B. Objectives of qualitative health systems assessment:

- As a complement to the quantitative assessment, MCSP conducted a rapid, qualitative assessment to provide a deeper understanding of the findings and to outline the health system drivers that may be affecting the delivery of RMNCH services. The qualitative assessment was intended to build on the quantitative facility assessment by assessing the strengths, weaknesses, and health systems bottlenecks that are affecting care on the day of birth, with a specific focus on areas identified as priorities by the Rwanda country team (referrals, accreditation and quality, supervision, gender and equity). **Table 1** highlights these priorities.

## 2. Methodology

This study included two elements: 1) A cross-sectional health facility readiness assessment using an adapted SARA Tool, developed by the World Health Organization (WHO) and United States Agency for International Development (USAID). It was conducted in 10 administrative districts, consisting of a total of 64 public health facilities: 12 district hospitals and 52 health centers, and excluding health posts and private clinics. The field data collection was conducted from 5-16 October 2015, the data cleaning and analysis were conducted during the five days following the data collection and a first draft report was finalized and submitted on 30 October 2015. 2) The qualitative assessment was a systems level assessment with predefined themes presented below.

**Table 1. Thematic areas for qualitative rapid health systems**

Categories	Themes
<b>Accreditation and Quality</b>	<ul style="list-style-type: none"> <li>• What are the bottlenecks that stand in the way of facilities achieving accreditation status?</li> <li>• What is the perceived impact of accreditation, as reported by hospital leadership?</li> <li>• What are the anticipated challenges in rolling out accreditation to lower level facilities?</li> <li>• How has the integration of PBF into accreditation changed provider behaviors?</li> <li>• What are the specific factors that have enabled certain characteristics that can be observed in facilities/districts that have been more successful in institutionalizing quality improvement (QI)? What are the bottlenecks that facilities are facing in meeting accreditation standards?</li> </ul>
<b>Referral System</b>	<ul style="list-style-type: none"> <li>• What incentives in the system promote or prevent appropriate referrals among providers?</li> <li>• What cultural barriers exist (if any) that promote/prevent appropriate health seeking behavior among women?</li> <li>• For example, for a pregnant woman who has complications during delivery, can you describe the referral system from:               <ul style="list-style-type: none"> <li>• Community to health center</li> <li>• Health center to district hospital</li> <li>• District hospital to referral hospital (if necessary)</li> <li>• Facility back to community</li> </ul> </li> <li>• Are there examples of strong communication across the referral chain? What specific practices could be useful to translate elsewhere?</li> </ul>
<b>Supervision</b>	<ul style="list-style-type: none"> <li>• How well is the supportive supervision approach working?               <ul style="list-style-type: none"> <li>• (Probe): How frequent are the visits?</li> <li>• (Probe): Who conducts the visits?</li> <li>• (Probe): What is discussed and/or reviewed during those visits?</li> <li>• (Probe): What kind of tools do you use during the supervision visits?</li> </ul> </li> </ul>
<b>Equity</b>	<ul style="list-style-type: none"> <li>• How are people defining and thinking about equity?</li> <li>• What inequities exist?</li> <li>• How are these inequities being addressed (e.g., what strategies are they using to reach the underserved)?</li> </ul>

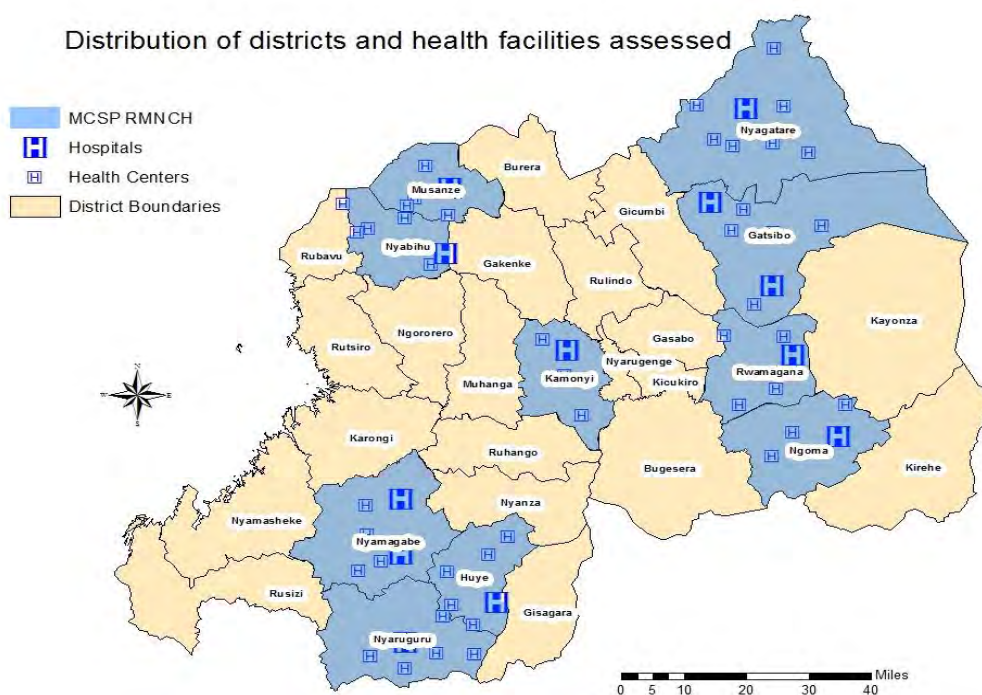
Categories	Themes
Gender	<ul style="list-style-type: none"> <li>How does the experience of health workers differ according to gender? Do these differences affect the quality of care (e.g., disparities in terms of opportunities for training, supervision and mentorship, or in a provider's ability to progress in his/her career)?</li> <li>Integration: How does the provision of GBV services in facilities affect other services like ANC?</li> <li>Are there policies/practices in place to ensure respectful maternity care? What are the barriers to implementing more respectful maternity care in Rwanda?</li> </ul>

## 2.1 Quantitative Methods

### 2.1.1 Sampling

Only public hospitals and health centers in the 10 districts were included in the facility assessment. A list of public health facilities in the 10 districts was obtained from the MOH and was used as a sampling frame. There were 12 hospitals and 155 health centers in the 10 districts. All 12 hospitals were included, and one-third of the health centers ( $155/3=52$ ) were included. The number of health centers sampled per district was determined to be proportional to the total number of health centers per district.

**Figure 3. Geographic scope of health facility assessment in Rwanda**



### 2.1.2 Data Collector Recruitment and Training

Six data collection teams, each with 20 data collectors were recruited based on medical background (medical doctors and nurses) and experience of data collection in health facilities. A five-day training of data collectors was conducted in Karongi district (not part of the HFA and RMNCH implementation) including a field test of the questionnaire in six health facilities. During the last day of training, a feedback meeting was organized whereby data collectors and supervisors addressed challenges and proposed changes on the questionnaire. At the end, the questionnaire was revised according to the proposed changes. The field data collection coordinators and supervisors were from CVI, MOH, and MCSP.

### 2.1.3 Data Collection Tools, Fieldwork, and Data Entry

The current HFA adapted the tools from the WHO SARA, adding a few items from the service provision assessment (SPA) tools and removing other items from service areas not being assessed in this study. The questionnaire was translated into French and both English and French versions were used together during data collection.

All the 64 sampled facilities were visited and provided all the required information to the enumerators. Team leaders (supervisors) presented a letter of introduction provided by the MOH to the health facility directors when they first arrived at a facility (see Annex 21).

The data collection procedure included key informant interviews with heads of the health facilities and relevant staff in the health facilities. Machines and equipment were checked for availability and functionality. Permission was requested from in-charges of facilities to visit the facility and conduct key informant interviews with members of staff. Whenever it was necessary to conduct a key informant interview of the health facility staff, permission was requested before the interview. Names of those who participated were not recorded.

Data were collected from 5-16 October using personal digital assistant devices (PDAs) to allow verification and data cleaning during field work by a professional quality assurance team from MCSP, MOH, and CVI. In addition, geographical locations of each health facility were encoded using global positioning system (GPS) coordinates. The data in the PDA were later exported into a database for analysis.

### 2.1.4 Quality Assurance Procedures

For the data quality control assurance, a double data collection approach was employed using hard copies of the questionnaire and PDAs for the data entry process. Supervisors of each team were assigned a supervisory checklist that served as guidance on their roles and responsibilities before, during, and after the data collection.

Also, each supervisor completed and signed a supervisor reporting form that confirmed the final check and approval of collected data, which was handed to the CVI at the end of the field data collection. Additionally, daily meetings were organized for all data collectors and research coordinators to assess and address all challenges faced by each team. At the end of the data collection exercise, a two-day meeting was organized with all data collectors and supervisors to double check on missing data and errors; the process included comparing hard copies and data registered in PDAs.

### 2.1.5 Data Analysis

The data collected using the HFA tool were merged and cleaned in SPSS before running descriptive analyses. The current report provides a descriptive summary of variables that measure factors per the objectives of the research, including univariate analysis: frequency and graphical presentation (bars, histograms) described components.

Composite variables were also calculated according to the WHO SARA tabulation plan. Using a definition for each tracer item, one of two values was given for each item: 1 if the item was available or 0 if the item was not available. This calculation was done for each health facility and summarized by district. In addition to that, stratification was done according to the level of care provision—hospital or health center.

The service readiness refers to the overall capacity of health facilities to provide health services, and in this assessment five domains were included: (1) basic amenities that included availability of power, water, and communication; (2) basic equipment such as availability of a child scale, thermometer, and stethoscope; (3) standard precautions for infection control; (4) diagnostic capacity; and (5) essential medicines. A detailed description of the analysis for each domain is presented before the results of each service readiness domain.

**Individual facility domain score=Mean score of items as a percentage, or Number of items in domain available/total number of items in the domain\*100**

The District Domain score =  $\left(\frac{\text{Total number of items available at each HF sampled in district}}{\text{Total number of items assessed in each HF sampled with the district}}\right)*100$

## 2.2. Qualitative Methods

The rapid health systems assessment (RHSA) follows a three-step process beginning with developing discussion guides, then conducting interviews, synthesizing results, and incorporating these findings into MCSP's planned activities. These steps are described in detail below.

### 2.2.1 Step I: Document Review and Tool Development

The research team reviewed the activities included in the MCSP Rwanda Y1 work plan and began a systematic review of existing literature on Rwanda's health system, with a specific focus on RMNCH services. The team reviewed documents including national health sector policies, strategic documents, guidelines, and operational manuals, assessments conducted by international organizations and research institutions, as well as research papers produced by local organizations. A complete list of documents included in the review can be found in the annex.

Data from the document review, as well as discussions with the MCSP team, helped to inform (1) a list of key informants for interview who were knowledgeable about the Rwandan health system, and (2) discussion guides used during site visit semi-structured interviews and focus groups. Separate guides (modules) were developed for national, district, and local/community actors, reflecting the division of health system responsibilities across the levels of government in Rwanda. These guides included:

- General District/Referral Hospital Guide (District Hospital Level)
- General District Health Management Team Guide (District Administration)
- General Health Center Guide (Health Center)
- Accreditation (National Level)
- Accreditation (Provincial Hospital Level)
- Community-Based Health Care (National Level)
- Community-Based Health Care (Health Center Level)
- Community-Based Health Care (Community (Community Health Worker) Level)

In addition to developing guides for each level of government in Rwanda, interviewers selected questions from the guides targeted either to administrative or facility provider/clinician participants.

### 2.2.2 Step II: Data Collection

The team conducted key informant interviews with three national stakeholders, 16 district hospital and administrative stakeholders, and 20 health center and community stakeholders between December 2 and 12, 2015. In Kigali, the team interviewed national level stakeholders including representatives from the Maternal, Child and Community Health Division at the Rwanda Biomedical Center and from the MOH. In Ngoma, Huye, and Nyamagabe districts, the team interviewed members of the district health management teams (DHMTs), personnel at the district and/or referral hospitals, health centers, and community health workers (CHWs). Most interviews were semi-structured, informal focus groups arranged for the convenience of the participants, although several one-on-one interviews were conducted. A lead researcher led the discussions, selecting relevant questions from the menu of questions included in the RHSA discussion guides. A second



researcher recorded notes during the discussions. A third researcher facilitated discussion in Kinyarwanda and provided clarifications, as needed. In addition to interviews, the team conducted informal facility observations at a mix of facilities at the primary, secondary, and tertiary levels.

### **2.2.3 Step III: Data Triangulation, Analysis, and Synthesis**

Researchers coded extant and interview data using the WHO health systems building blocks framework (with the addition of community) as a coding scheme. The data collected as part of the desk review, along with the data collected from a variety of different health system actors allowed the research team to triangulate information, leading to better overall data quality. The team synthesized the data to help diagnose health systems gaps and weaknesses, prioritize key areas for strengthening, and identify potential activities, assets, and partnerships to improve the feasibility and sustainability of planned MCSP interventions. The research team also used the data and identification of bottlenecks to complete a mapping of the health systems in Ngoma, Huye, and Nyamagabe Districts, illustrating administrative relationships, drug and commodity supply chains, and funding, data, and referral flows.

## **2.3 Ethical Considerations**

This assessment did not involve human subjects, and was not subject to oversight by an institutional review board. Team leaders (supervisors) presented a letter of introduction provided by the MOH to health facility directors when they first arrived at a facility (see Annex 21). Permission was requested from the person in-charge of facilities to visit the facility and conduct key informant interviews with staff. Permission was obtained from the respondent before each key informant interview. Names of those who helped with the data collection were not recorded.

## **2.4 Limitations**

As with any survey, this assessment was subject to the following limitations and constraints.

1. The health facility survey covered 64 health facilities in 10 districts but did not include private health facilities. Communities who sought health care services in these facilities were not adequately represented. This particularly affected results for people living in semi-urban areas who sometimes relied on private clinics to address their health needs.
2. The survey was planned and implemented as a rapid assessment context, thus, time to conduct the survey was very limited.
3. The assessment by its nature assessed the readiness and availability of health services; unfortunately, it did not evaluate the quality of services and skills of health providers nor clients' satisfaction toward the services offered by health facilities.
4. Other limitations of the survey stem from shortcomings in the survey questionnaire design. There were no general questions on gender, and only questions on GBV were focused on gender, thus, these issues may not have been adequately covered.

## 3. Results

### 3.1 Quantitative Results

The assessment included 64 health facilities comprised of 12 district hospitals and 52 health centers. Two hospitals were planned to be provincial hospitals but as of the date of the assessment, they delivered the district hospital services.

#### 3.1.1 General Characteristics of Health Facilities Surveyed

**Table 2. Distribution of health facilities by districts and level of care**

Districts	Hospitals	Health Centers	Urban	Rural	Total
Gatsibo	2	6	1	7	8
Huye	1	5	2	4	6
Kamonyi	1	4	0	5	5
Musanze	1	5	2	4	6
Ngoma	1	4	2	3	5
Nyabihu	1	5	1	5	6
Nyagatare	1	7	1	7	8
Nyamagabe	2	6	1	7	8
Nyaruguru	1	5	0	6	6
Rwamagana	1	5	2	4	6
Total	12	52	12	52	64

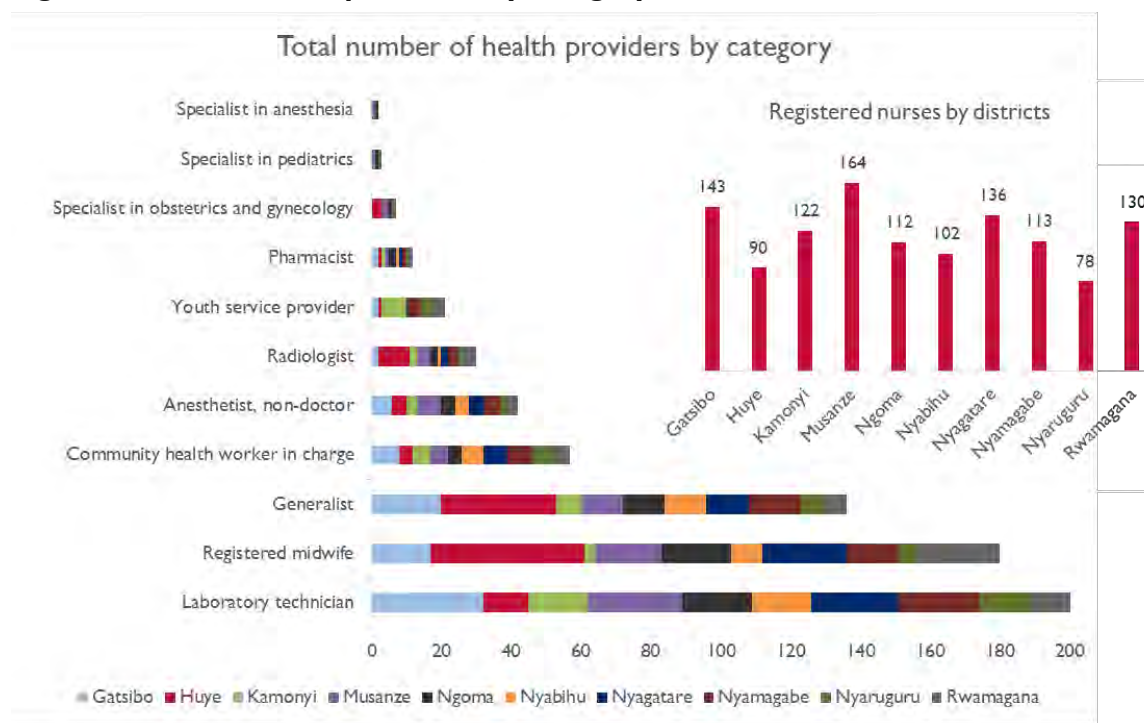
Health facilities assessed include both public and faith-based health facilities. No private health facilities were assessed because generally in the targeted districts, the coverage for private facilities was low and often the package of services offered was not comprehensive. Among facilities surveyed, 52 (81%) were owned by the government and 12 (19%) were faith-based facilities.

#### 3.1.2 Health Provider's Profile by District

Distribution of health service providers in facilities assessed showed the number of registered nurses was higher than any other category. Moreover, laboratory technicians and registered midwives were available in most of the health facilities, but there was a shortage of specialized pediatricians and anesthetists in most of the facilities (see Figure 4).



**Figure 4. Health service providers' by category in 10 districts of Rwanda**



### 3.1.3 General Service Readiness

General readiness of the health facilities in the assessed districts factored in five readiness domains: basic amenities, basic equipment, standard precautions for infection prevention, diagnostic capacity, and essential medicines. The general score of service readiness across the 64 health facilities was 79%. The general service readiness score was a composite measure that combined results from the five domains mentioned below (Table 3).

**Table 3. General service readiness items and index in all health facilities**

General service domains	Domain score (n=64)	
	Health Centers	Hospitals
Basic amenities	78	86
Basic equipment	84	69
Standard precautions for infection prevention	68	69
Diagnostic capacity	85	93
Essential medicines	75	78
<b>General service readiness index</b>	<b>78</b>	<b>79</b>

General service readiness assessment showed most of the health facilities had basic amenities and diagnostic capacity, but standard precautions for infection control were poor. Basic amenities components, such as computer and internet availability, which were at 92% in hospitals and 87% in health centers, was closer to the Health Sector Strategic Plan III national target in the year 2015-2018, which aimed to cover 95% of health facilities with functional information technology infrastructure. Moreover, diagnostic capacity of health facilities showed improvement compared to the 2007 SPA survey. For example, the urine protein and urine glucose test for ANC service was 92% and 88% in the current survey compared to the 58% and 53% reported in the 2007 SPA survey. Availability of a functioning toilet in the L&D room for clients was low for

both health centers and hospitals. Moreover, the difference among districts was wide for some of the service readiness assessments. For example, Huye and Nyagatare had the lowest standard precautions for infection control and adequate sanitation, but Musanze and Rwamagana had the highest score in general basic amenities and standard precautions for infection control, respectively.

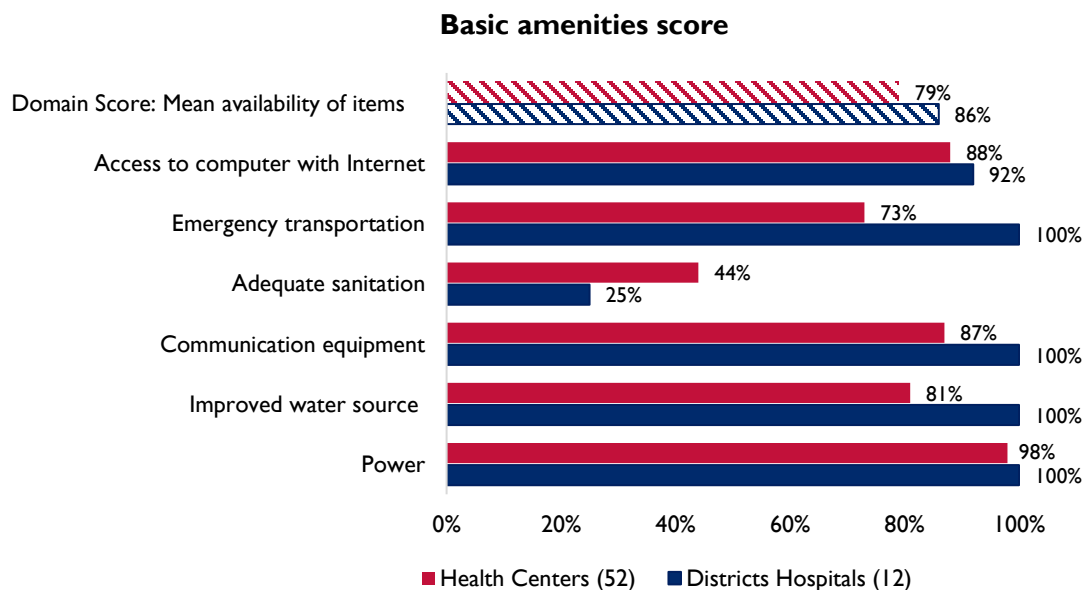
Health centers performed better than hospitals for most of the basic equipment availability assessments. Overall, availability of basic equipment improved from the 2007 SPA findings. For example, thermometers and sphygmomanometers were available around the ANC unit in 81% and 92% of the health facilities, respectively, compared to 44% and 88% of the facilities reported in SPA. There was concern regarding some essential medicines that were lacking, especially in health centers; some medicines were expired on the day of the visit. The benzathine penicillin powder for injection was only available in 46% of health centers and in 58% of district hospitals. However, availability of some drugs such as oxytocin in the delivery area improved compared to the 2012 Maternal and Child Health Integrated Program (MCHIP) quality of care survey. The quality of care survey reported that 78% of health centers and 95% of hospitals had oxytocin in the delivery area, but the current assessment showed that 100% of the assessed hospitals and 98% of the assessed health centers had oxytocin in the delivery area [1]. Details for each service domain is presented below.

### Basic Amenities Domain

Multiple tracer items were used to calculate each service readiness domain. Therefore, tracer items for basic amenities domain were:

- Power (a grid or functional generator with fuel);
- Improved water source within 500 m of facility that was defined to include only piped into facility, piped onto facility grounds, public tap/standpipe, tubewell/borehole, and protected dug well;
- Room with auditory and visual privacy for patient consultations;
- Availability of adequate sanitation facilities defined as a functioning toilet in the L&D room for clients;
- Communication equipment (landline/cell phone or short-wave radio owned by the facility); and
- Access to computer with e-mail and Internet and emergency transportation.

**Figure 5. Total score for basic amenities for all surveyed health facility**



Each of these tracer items was scored as available (score=1) or not available (score=0) in each health facility. Then, the number of health facilities that had each tracer item available out of all health facilities per district was counted. For example, if a district that had eight health facilities, of which all eight health facilities had power, seven had improved water source, all eight facilities had communication equipment, only one had adequate sanitation, seven facilities had emergency transportation, and all eight facilities had access to computer with internet, then the total availability of items in that district was 39. The number of health facilities per district was multiplied by the number of tracer items for a readiness domain to produce the denominator for a mean availability score. For example, this denominator was 48 for a district with eight health facilities and six tracer items under basic amenities domain. The final domain score that generated the percentage for mean availability score of each item per district was calculated by dividing the total availability of items per district to a denominator per district. Therefore, the final domain score that was mean availability of items by district was 81% ( $39/48 \times 100 = 81\%$ ) for the district mentioned above. Table 3 presents the score for basic amenities domain by district.

All health facilities assessed have most of the items for basic amenities; however, the percentage of health facilities that had a functioning toilet in the L&D room for clients was low (41%). Nyagatare district had no functioning toilets in the L&D room for clients. Apart from Huye and Kamonyi, none of the remaining districts had more than half of the facilities with a functioning toilet in the L&D room for clients.

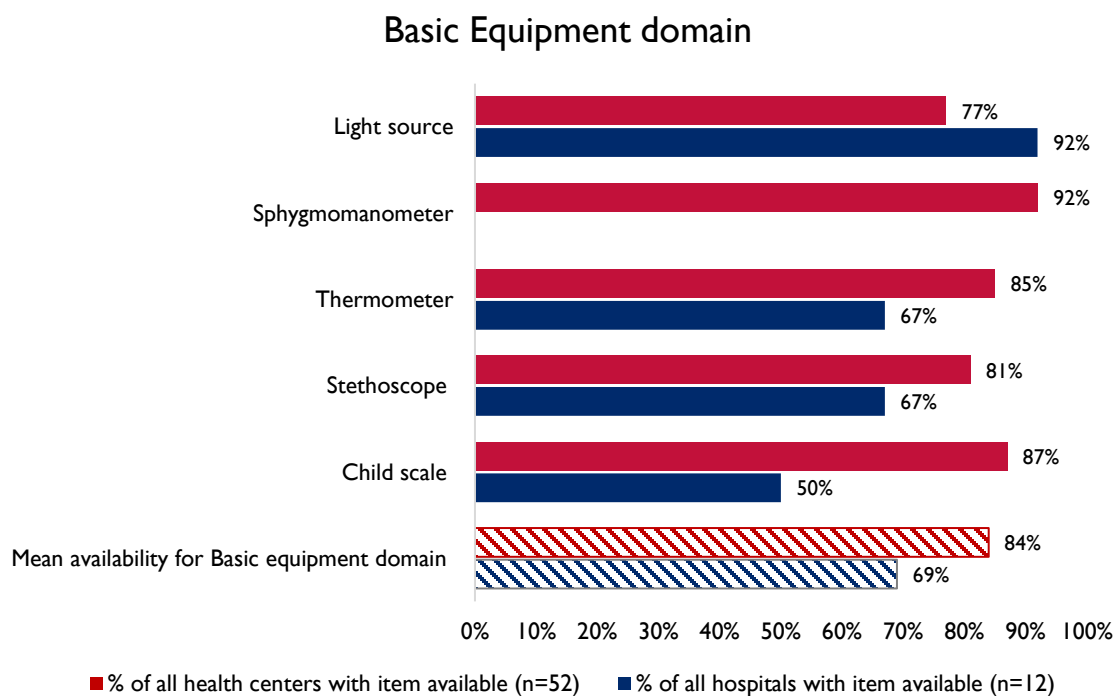
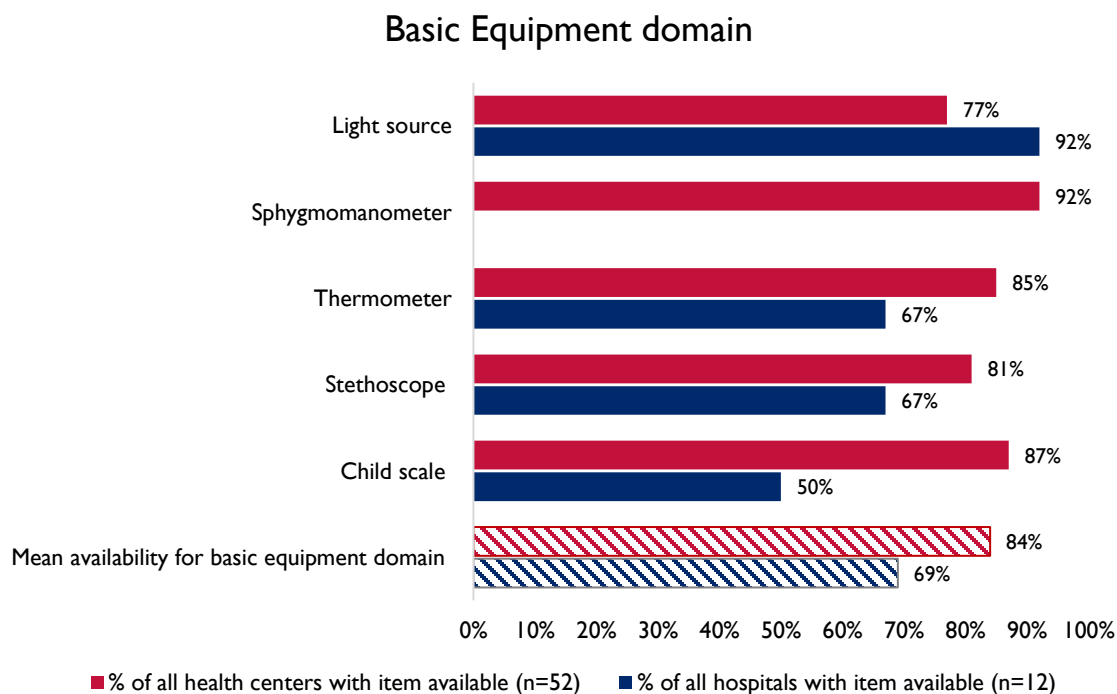
Among the six tracer items assessed for basic amenities, power had the highest score: 100% of district hospitals and 98% of health centers had access to a power grid. The smallest frequency was for adequate sanitation, which was 44% for health centers and 25% for hospitals. The majority of facilities in the study had access to four of the six tracer items, including power, improved water source, communication equipment and access to a computer with Internet, although they were not necessarily the same facilities.

### **Basic Equipment Domain**

A few tracer items that were needed for basic services were used to measure basic equipment domain: child weighing scale, thermometer, stethoscope, sphygmomanometer at the ANC area, and light source at maternity area. Only equipment that was available and also functional was included for domain score calculation. Basic equipment domain was calculated in the same way as basic amenities where each of these tracer items were scored available (score =1) or not available (score =0) in each health facility. Then, the number of health facilities that had each tracer item available of all health facilities per district was counted. These scores were added to generate total availability of items per district. The number of health facilities per district was multiplied by the number of tracer items for a readiness domain to produce the denominator for a mean availability score. The final domain score that generated the percentage for mean availability score of each item per district was calculated by dividing the total availability of items per district to denominator per district.

Availability of basic equipment in health facilities was more than 75% on average in all health facilities, and the highest percentage was 92% for sphygmomanometer availability at the ANC area including both digital and manual sphygmomanometer with stethoscope. Interestingly, for basic equipment, health centers performed better than district hospitals: 69% of district hospitals and 84% of health centers had access to basic equipment. Analysis by administrative district showed that Ngoma district had the lowest average score (75%) whereas Musanze and Rwamagana had the highest average score (90%).

**Figure 6. Basic equipment domain score by level of health facility (n=64 facilities)**



### *Standard Precautions for Infection Prevention Domain*

The MOH has a national hospital accreditation standards document highlighting techniques for precaution against infection, including appropriate waste management and hand hygiene, that are essential to any program to reduce the risk of infections in patients and staff (Rwanda Hospital Accreditation Standards 2014). To be effective, the supplies must be available, readily accessible, used, and disposed of correctly. Hence, for the purpose of this assessment, the availability of handwashing stands, water, soap, decontamination container solution, disposable latex and sterile gloves were assessed to appraise the hand

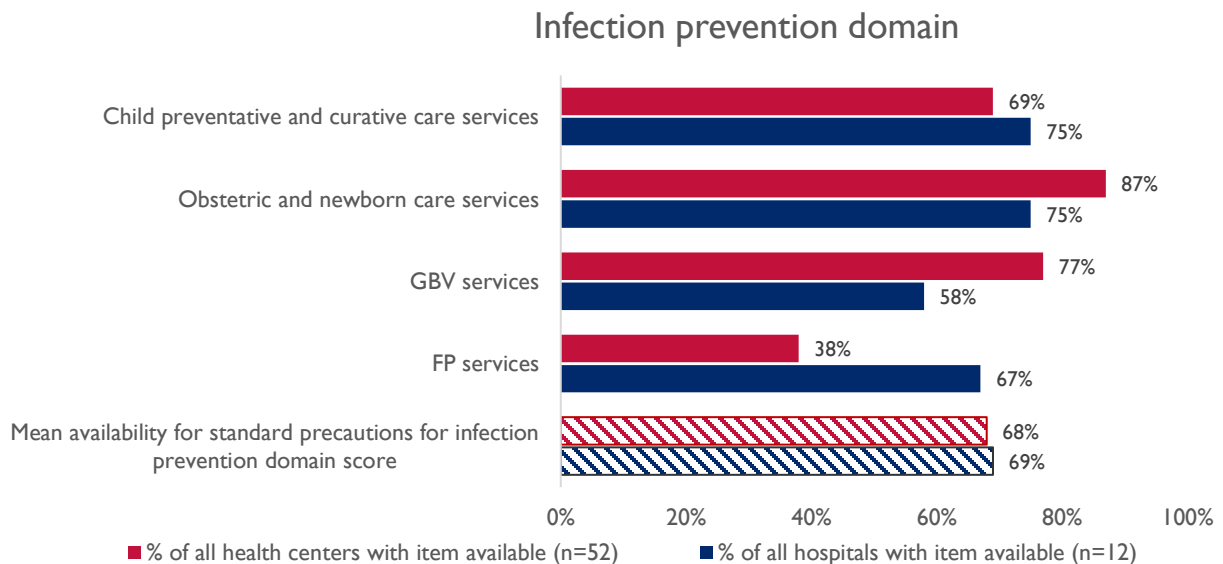
hygiene standards. In addition, the availability of the sharps container and disposable syringes with disposable needles that showed appropriate waste management, were considered to be an indicator of a safe environment for patients and medical staff.

For the purpose of this assessment, both hand hygiene and waste management standards were evaluated at each health facility and in the main RMNCH service areas, including FP, obstetric and newborn care services, child preventive and curative care, and GBV screening areas. Calculation of standard precautions for infection prevention domain included assessing:

- Presence of handwashing stand with soap for providers in the FP service area
- Presence of sterile gloves, sharps/container box, and disposable syringes with disposable needles in the obstetric and newborn care services area
- Presence of disposable latex gloves, decontamination container solution, and regular trash bin in the child health service area
- Presence of examination gloves and sharps container/safety box in the GBV screening area

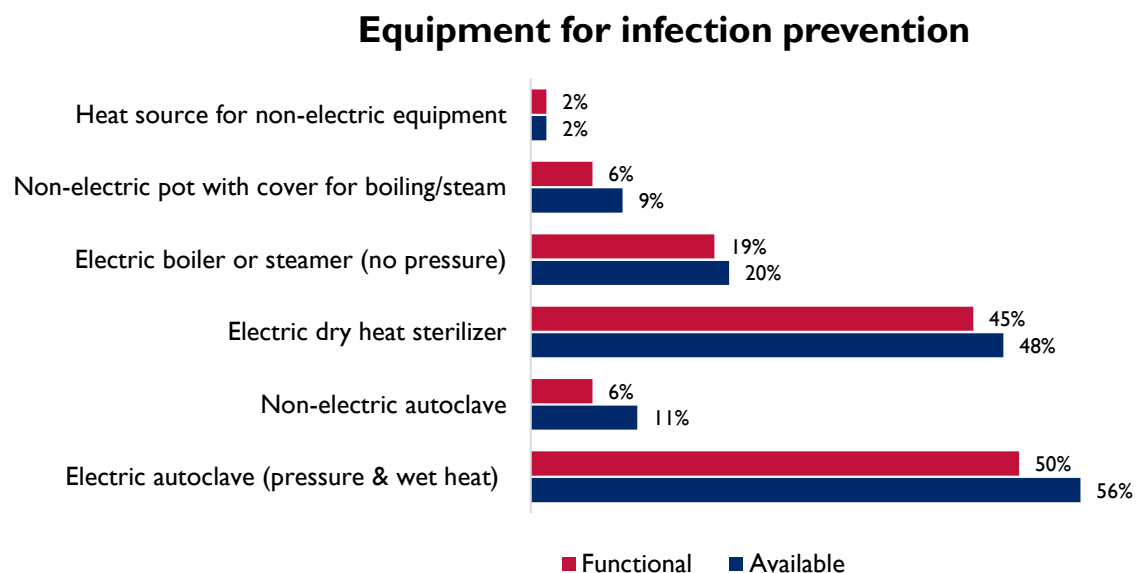
Figure 7 presents the mean domain score for infection prevention disaggregated by district. The highest score overall was for obstetric and newborn care services area with a frequency of 84% but precautions for infection prevention in the FP service areas was the lowest (45%). Regarding districts, Huye district had the lowest coverage with only 46% of health facilities having the items on average.

**Figure 7. Standard precautions for infection prevention domain score (n=64 facilities)**



The average score for tracer items regarding standard precaution for infection prevention was 68% for health centers and 69% for district hospitals, and two services had a score below the average: FP service areas with a score of 38% in health centers and GBV screening service areas with a score of 58% in district hospitals. Figure 8 shows the availability of other equipment needed for infection prevention. Some of the equipment for infection prevention was not functional during the assessment visit.

**Figure 8. Equipment for infection prevention**

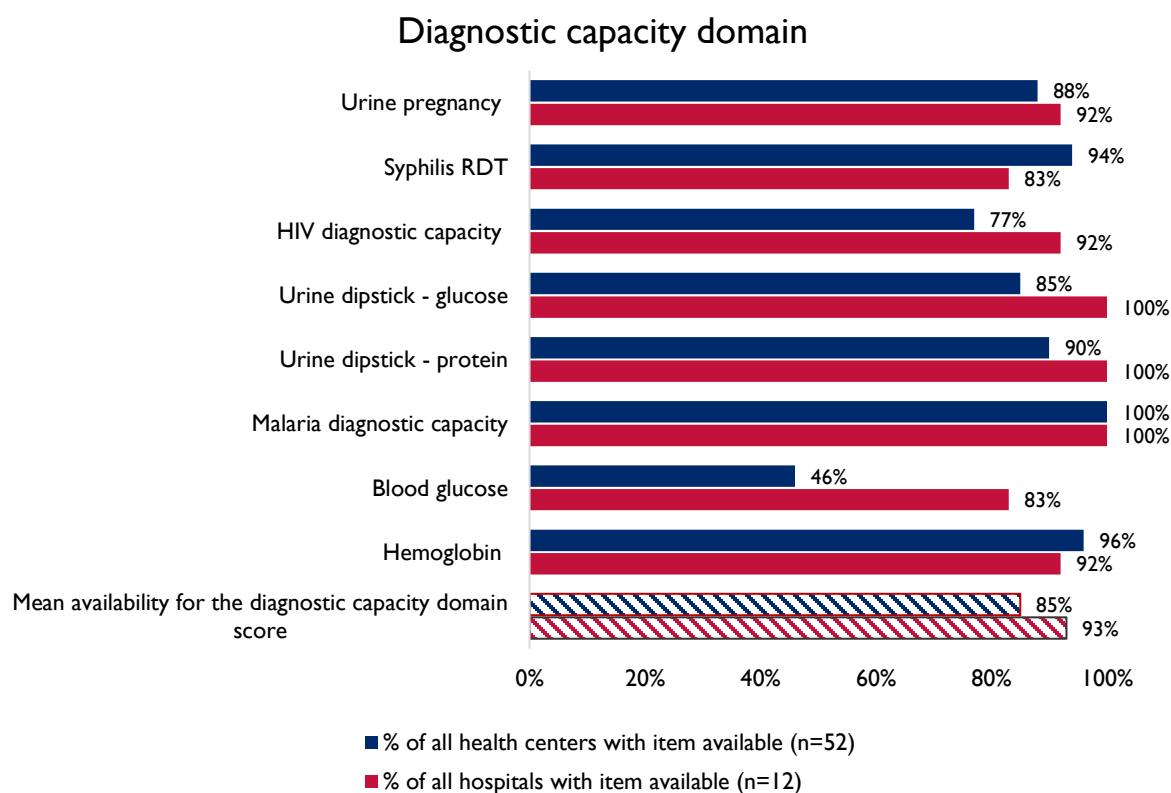


### *Diagnostic Capacity Domain*

Diagnostic tests that were selected for diagnostic capacity assessment were: hemoglobin, blood glucose, malaria diagnostic, urine dipstick for protein, urine dipstick for glucose, HIV diagnostic, syphilis rapid diagnostic test, and urine pregnancy test. The scores were calculated in a similar method that was used for the basic amenities and basic equipment score (see **Annex 4** for diagnostic capacity score by district).

Apart from two districts, Huye with a score of 69% and Nyagatare with a score of 75%, all eight remaining districts had a mean diagnostic capacity of more than 85%. Analysis of diagnostic items showed the overall capacity for testing blood glucose was only 53% due to low (46%) availability of diagnosis for blood glucose in health centers. This situation should be addressed because it is important to identify patients with diabetes early to start preventive treatment, especially for diabetes type II.

**Figure 9. Diagnostic capacity domain score, by level of service (n=64)**



The diagnostic capacity had an average score of 85% for health centers and 93% for district hospitals. One tracer item of the eight items had a score below 75%.

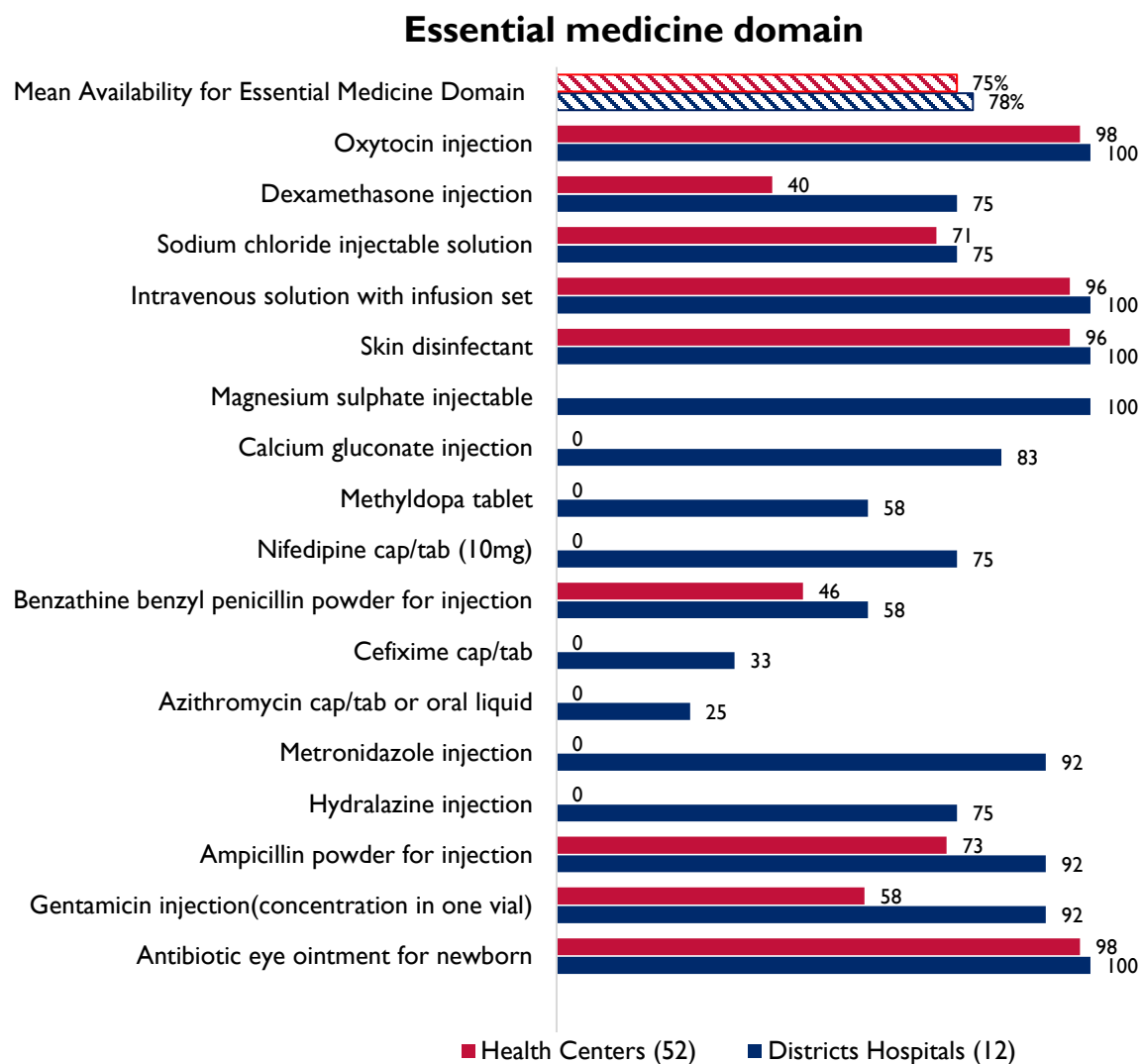
### Essential Medicine Domain

The medicines that were assessed as essential were: amlodipine tablet or alternative calcium channel blocker, amoxicillin (syrup/suspension or dispersible tablets), amoxicillin tablet, ampicillin powder for injection, aspirin (capsules/tablets), beclometasone inhaler, beta blocker (e.g., bisoprolol, metoprolol, carvedilol, atenolol), carbamazepine tablet, ceftriaxone injection, diazepam injection, enalapril tablet or alternative ACE inhibitor (e.g., lisinopril, ramipril, perindopril), fluoxetine tablet, gentamicin injection, glibenclamide tablet, haloperidol tablet, insulin regular injection, magnesium sulfate injectable, metformin tablet, omeprazole tablet or alternative (e.g., pantoprazole, rabeprazole), oral rehydration solution, oxytocin injection, salbutamol inhaler, simvastatin tablet or other statin (e.g., atorvastatin, pravastatin, fluvastatin), thiazide (e.g., hydrochlorothiazide), and zinc sulfate (tablet or syrup). Most of these medicines were used to calculate essential medicine availability scores presented in Annex 5 Table 7.

Availability of medicines was 75% in health centers whereas in district hospitals, it was 78%. Eight drugs (hydralazine injection, metronidazole injection, azithromycin cap/tab or oral liquid, cefixime cap/tab, nifedipine cap/tab (10 mg), methyldopa tablet, calcium gluconate injection, and magnesium sulfate injectable) were not supposed to be at the health center (Figure 10).

Because betamethasone injectable was not on the list of essential drugs for Rwanda, it was removed from the analysis. Availability was low for some essential medicines that were supposed to be only at the district hospital; this was the case for (1) azithromycin cap/tab or oral liquid and (2) cefixime cap. The two antibiotics were only found in 25% and 33% of district hospitals, respectively; the two antibiotics were probably available more in referral hospitals. Dexamethasone injection was supposed to be in district hospitals, and the coverage was only 40% at the health center.

**Figure 10. Essential medicine domain score, by level of service (n=64)**



### 3.1.4 Service Specific Availability and Readiness

Specific service availability assessment focused on ANC; obstetric and newborn care; FP; child health and immunization; adolescent, sexual, and reproductive health; and GBV screening services.

#### Family Planning

Family planning is key to improving the health of women, adolescents, and families. For each of the facilities, the survey assessed whether the service was offered, availability of contraceptives and surgical methods, availability of trained staff and guidelines, and essential equipment and supplies.

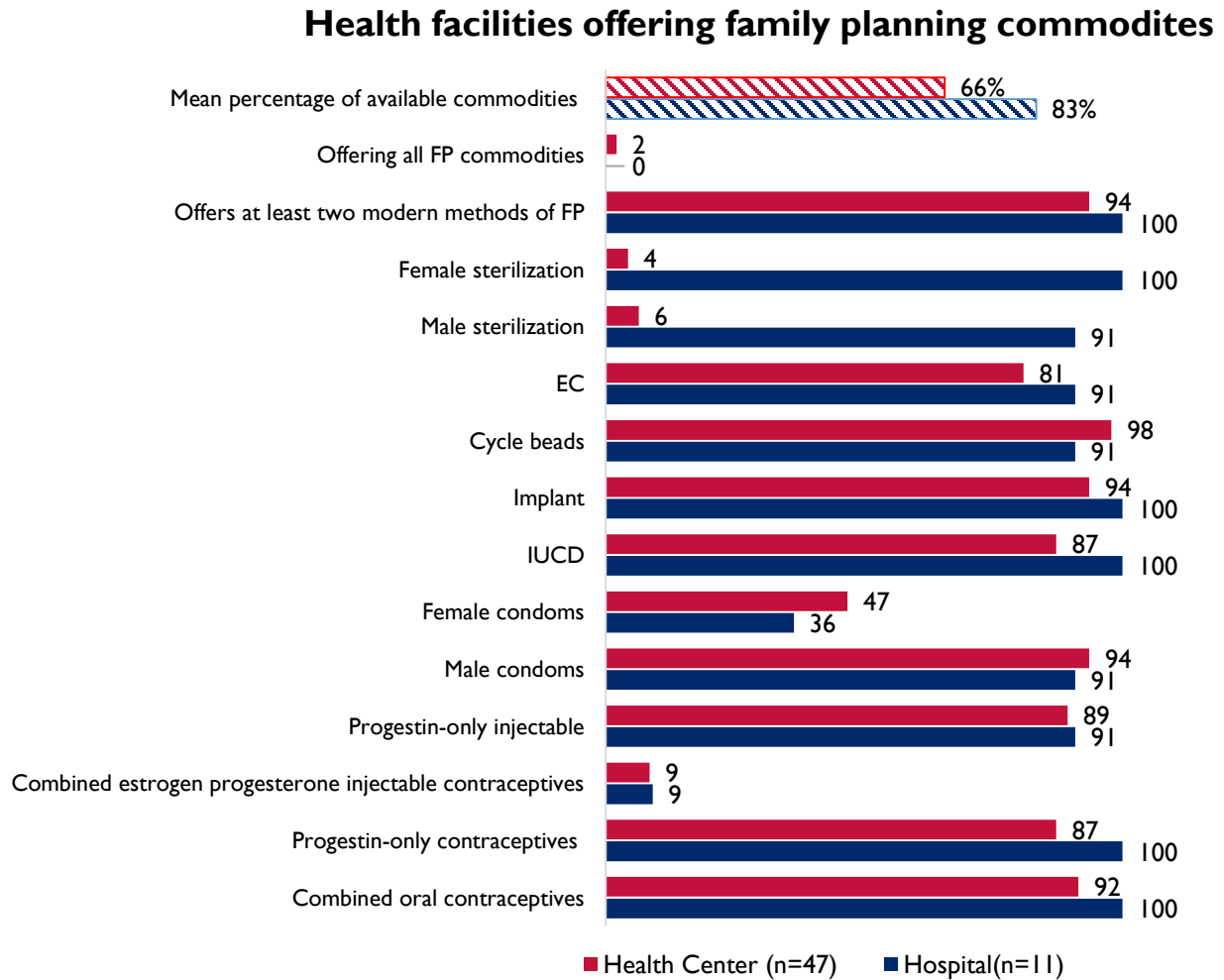
Although some facilities in Rwanda offered modern methods of contraception, some faith-based facilities focused on providing counseling and natural FP and did not offer commodities. The government of Rwanda established satellite facilities near faith-based facilities so that clients had the alternative to use modern contraceptives.

More than 90% of the facilities provided all ranges of FP services. Of the 64 facilities, 58 (90.6%) reported to offer modern methods, including 11 of 12 hospitals and 47 of 52 health centers. Combined



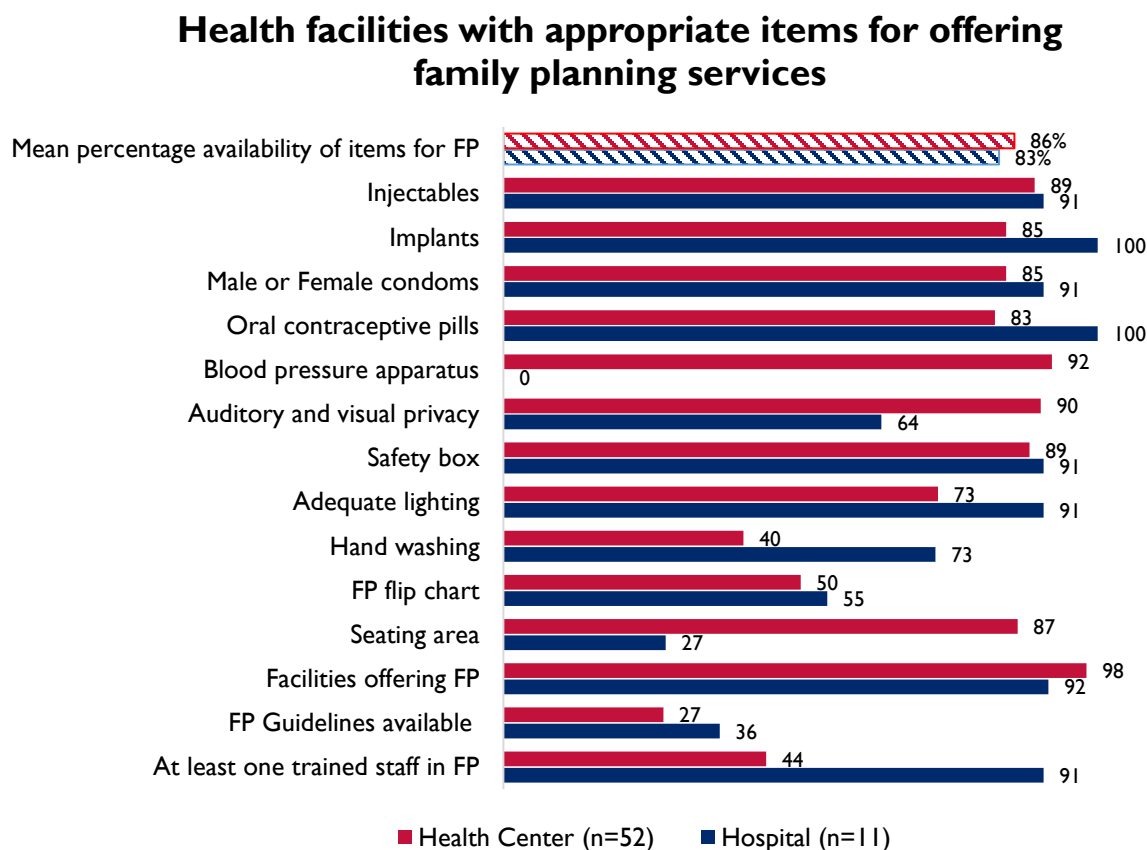
estrogen/progesterone injectable contraceptives and female condom had lower availability in both hospitals and health centers. The 2007 SPA reported that only 22% of the health facilities assessed had female condoms, and the current survey showed 36% of hospitals and 47% of health centers assessed had female condoms. In contrast, the high percentage of facilities that reported availability of implants in our survey (100% for hospitals and 94% for health centers) was far from the 2007 SPA report that showed only 27% of the facilities assessed had implants available and were providing the services. Health centers had relatively high rates of commodities as well, with 93.6% offering at least two modern methods.

**Figure 11. Of facilities that offer modern methods, % of health facilities offering family planning commodities by level of service (n=58)**



Among facilities offering any type of FP services (63), both health centers and hospitals showed some gaps in terms of elements to support the services. Although most hospitals and health centers had FP methods available, only 36.4% of hospitals and 26.9% of health centers had FP guidelines available, and 44.2% of health facilities had at least one trained staff on FP. Handwashing was available at 72.7% of hospitals and 40.4% of health centers.

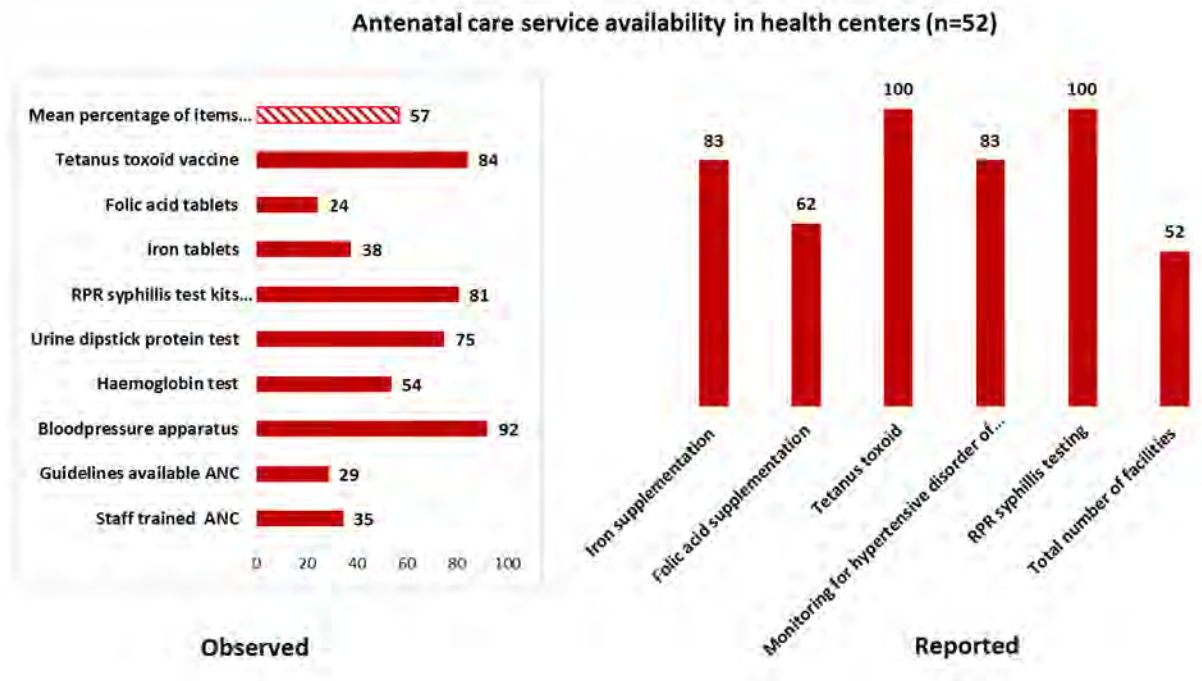
**Figure 12. Of facilities that offer any type of family planning services, percentage of health facilities with appropriate items for offering family planning services, by level of service (n=63)**



### Antenatal Care Services

In this survey, none of the hospitals reported to offer ANC services, which was to be expected. All 52 health centers reported to offer ANC services. When asked if their facility offered specific ANC elements, most health facilities said that they had iron supplements, tetanus toxoid vaccine, monitoring for hypertensive disorder in pregnancy, and rapid plasma reagin syphilis testing. ANC service assessment showed most ANC elements were available. Some supplements were reported to be routinely provided (prescribed) as part of the ANC service such as iron (83%) and folic acid (62%) supplements. However, these supplements were not found during actual observation of the ANC areas in the facilities assessed. The low percentage of iron (38%) and folic acid (24%) tablets observed in the ANC service area may be because these items typically existed in the pharmacy. Low numbers of staff recently trained in ANC may be the result of high turnover in the districts and at the health facilities. The small percentage of facilities that have ANC guidelines (35%) was similar to the 2007 SPA finding (36%), which was surprising since such guidelines were developed and produced at the national level and therefore should be available to providers.

**Figure 13. Antenatal care service availability in health centers (n=52)**

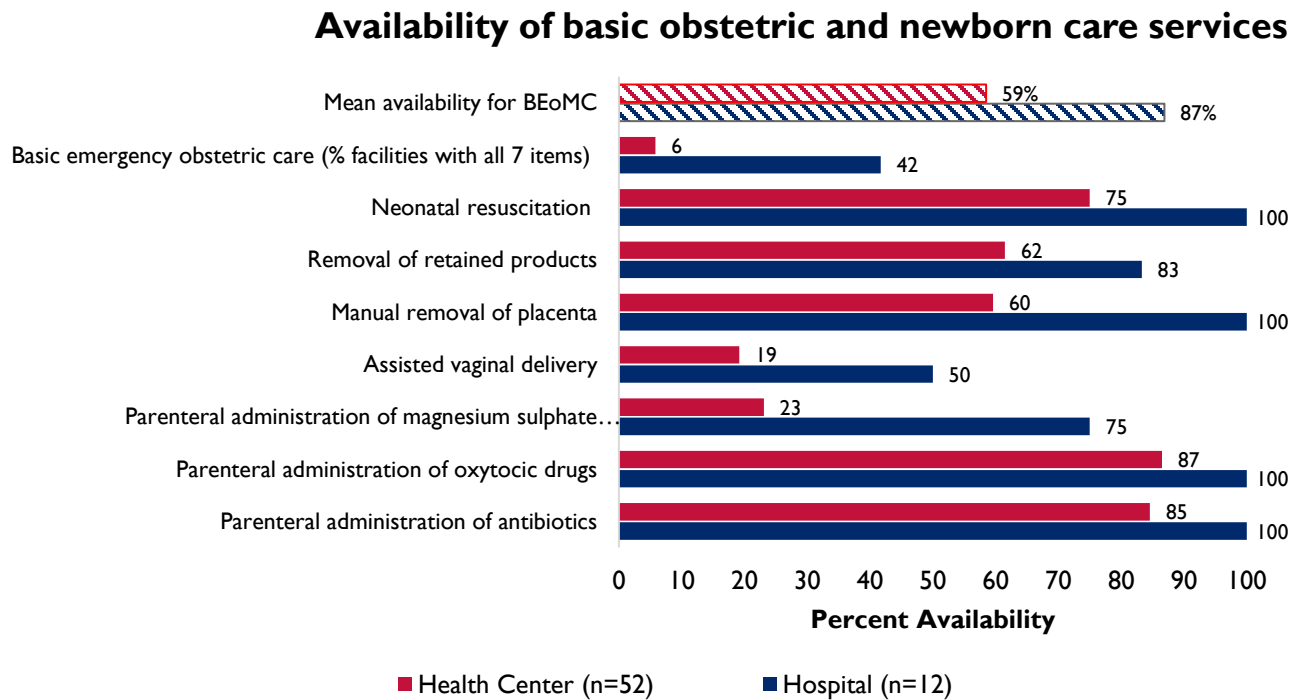


The assessment asked for the availability of certain items to deliver ANC services in the 52 health centers. Although some items were observed in most health facilities (sphygmomanometer, urine dipstick protein test, tetanus toxoid vaccine, and rapid plasma reagin syphilis test kit), some elements were present in lower numbers (staff who had been trained on ANC, available ANC guidelines, hemoglobin test, iron and folic acid tablets). The mean percent available for ANC items was 57%.

### *Obstetric and Newborn Care Services*

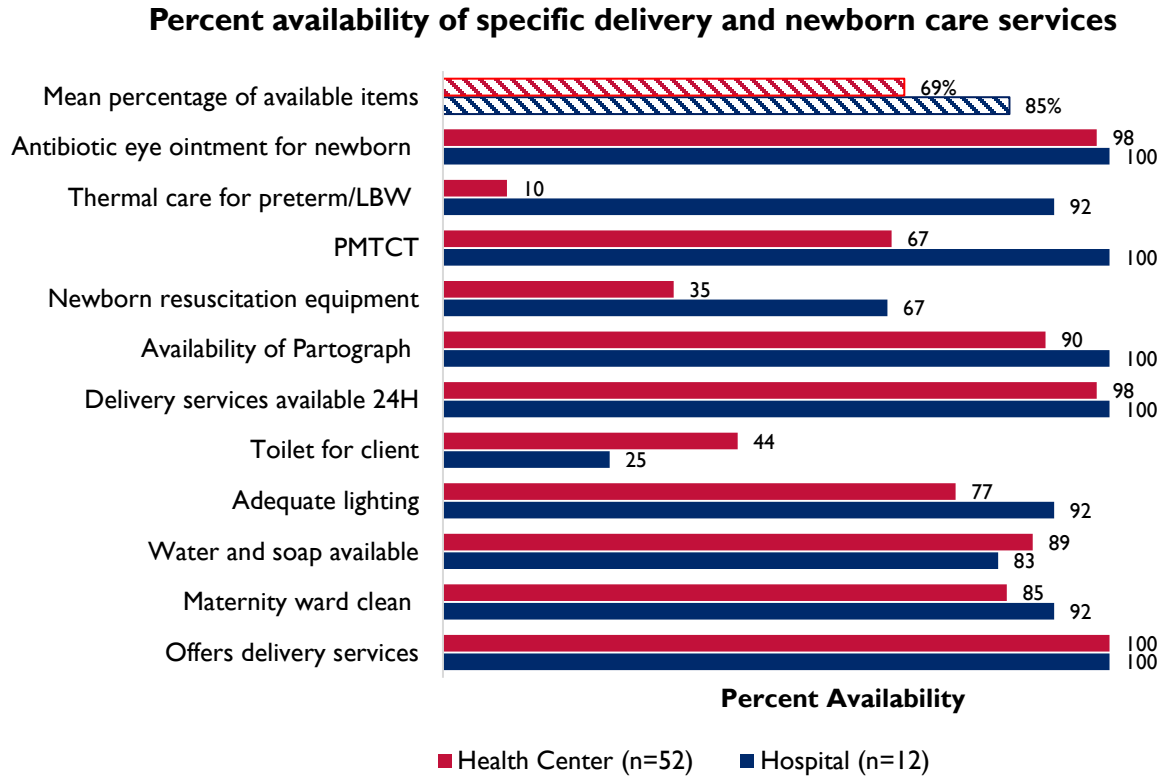
All 64 facilities purported to offer obstetric and newborn care services. Facilities were asked whether the facility offered the seven elements of basic emergency obstetric and newborn care (BEmONC) services. Although hospitals offered most BEmONC interventions, only 50% reported to offer assisted vaginal delivery and 75% reported to offer parenteral administration of magnesium sulfate for preeclampsia and eclampsia. Reports on availability of any BEmONC interventions were high. However, few health centers (6%) and hospitals (42%) had all seven BEmONC signal functions available, and only 23.1% offered parenteral administration of magnesium sulfate for pre-eclampsia and eclampsia. Moreover, some services were reported to be provided such as newborn resuscitation (75% of health centers and 100% of the hospital provide newborn resuscitation) although basic equipment needed for resuscitation were available only in few of the facilities (67% of hospitals and 35% of health centers had newborn resuscitation equipment). This finding shows that there was no major change in availability of newborn resuscitation equipment compared to the 2012 MCHIP quality of care survey that reported less than 70% of all facilities assessed had supplies needed for newborn resuscitation. Thermal care for low-birthweight babies was low at health centers (10%) due to the absence of an incubator/warmer. This finding was similar to the 2007 SPA that reported only 9% of the health centers had an external heat source for newborns. A neonatology unit for sick newborns was observed in 19% of all facilities, and a kangaroo mother care unit for preterm or low-birthweight babies was found in 17% of all facilities assessed.

**Figure 14. Percentage of facilities offering specific basic obstetric and newborn care services, by level of service (n=64)**



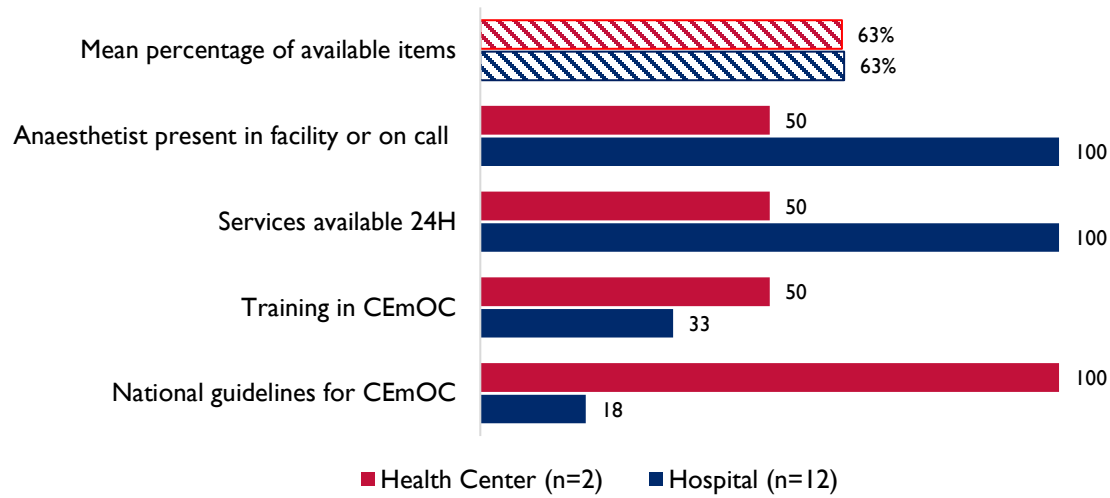
Many facilities had most of the elements to provide obstetric and newborn services, but unfortunately, they had low numbers of newborn resuscitation equipment as well as toilets for clients. Only 67% of hospitals had newborn resuscitation equipment and 35% of health centers had the same. Thermal care for preterm/low-birthweight babies (incubator/warmer care) was available in 92% of hospitals and 10% of health centers.

**Figure 15. Of those facilities that offer delivery and newborn care services, percent availability of specific services, by level of service (n=64)**



Some facilities also offered cesarean section services, including all 12 hospitals and the Bigogwe health center. Figure 16 shows the availability of services to support the administration of cesarean section. Although services were reported in all hospitals to be available 24 hours per day as well as anesthetists present in the facility or on call, only 18.2% had national guidelines for comprehensive emergency obstetric and newborn care (CEmONC) and 33.3% reported to have providers trained in CEmONC.

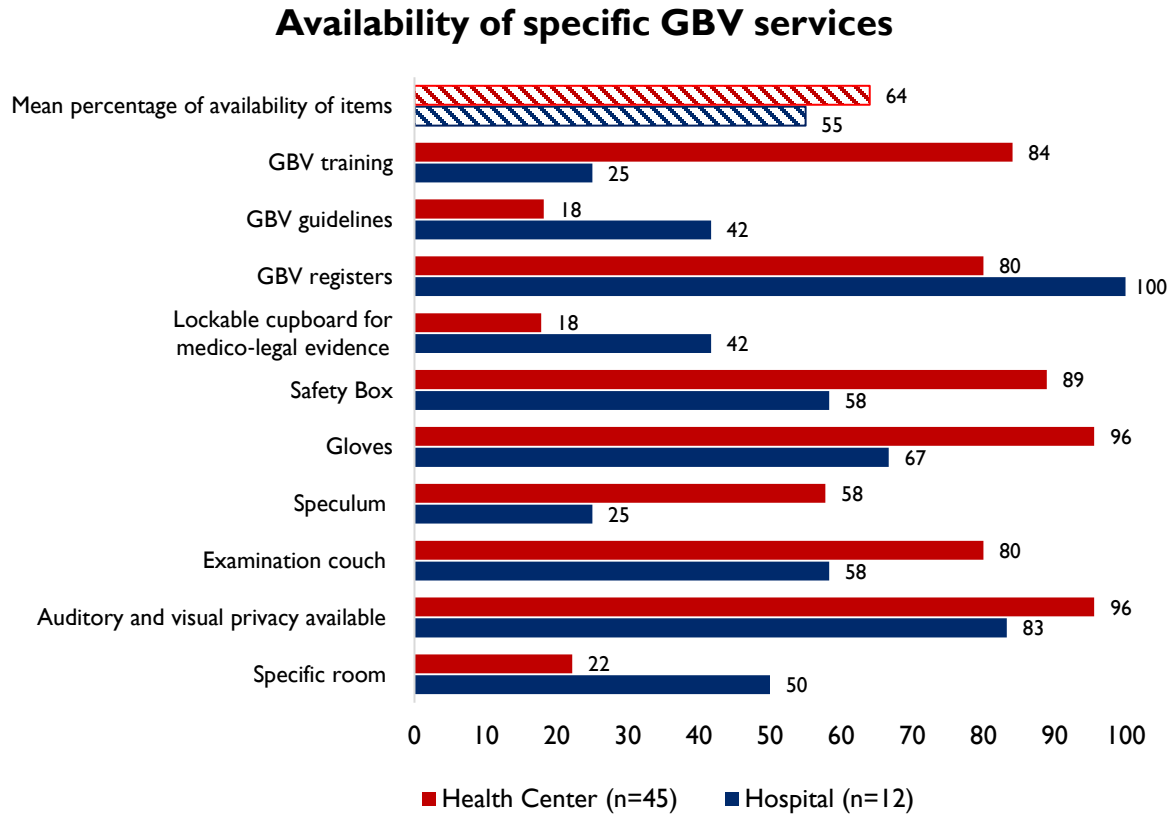
**Figure 16. Of facilities that had cesarean section services available, percent availability of specific services, by level of service (n=14)**



**Gender-Based Violence**

Of the 57 health facilities (total of 64) that reported availability of GBV services, less than half had a specific guideline and a specific area designated for this service. For many of the elements needed for GBV services, health centers were more prepared than hospitals. Some of the elements assessed were on service providers training, medico-legal evidence keeping, service privacy, and guideline availability. The result showed that 84% of facilities had staff trained in GBV, but only 25% of hospitals had trained staff. A lockable cupboard for the storage of forensic/medico-legal evidence was present in only 18% of health centers and 42% of hospitals. GBV guidelines were also not available in most facilities. Fortunately, most facilities provided services with auditory and visual privacy (see Figure 17).

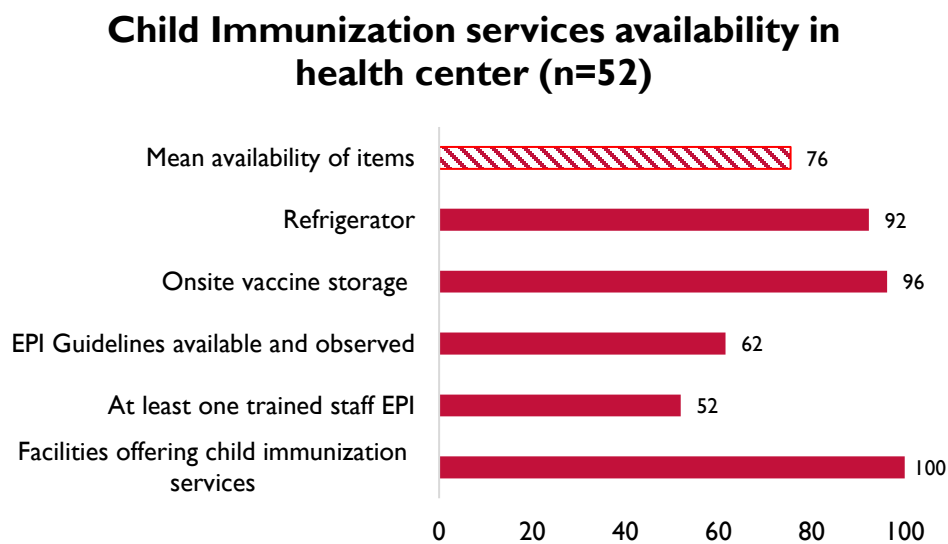
**Figure 17. Of facilities offering GBV services, percent availability of specific GBV services, by level of service (n=57)**



### *Child Health and Immunization*

Only health centers were considered for child immunization services because this was not included in the district hospital package.

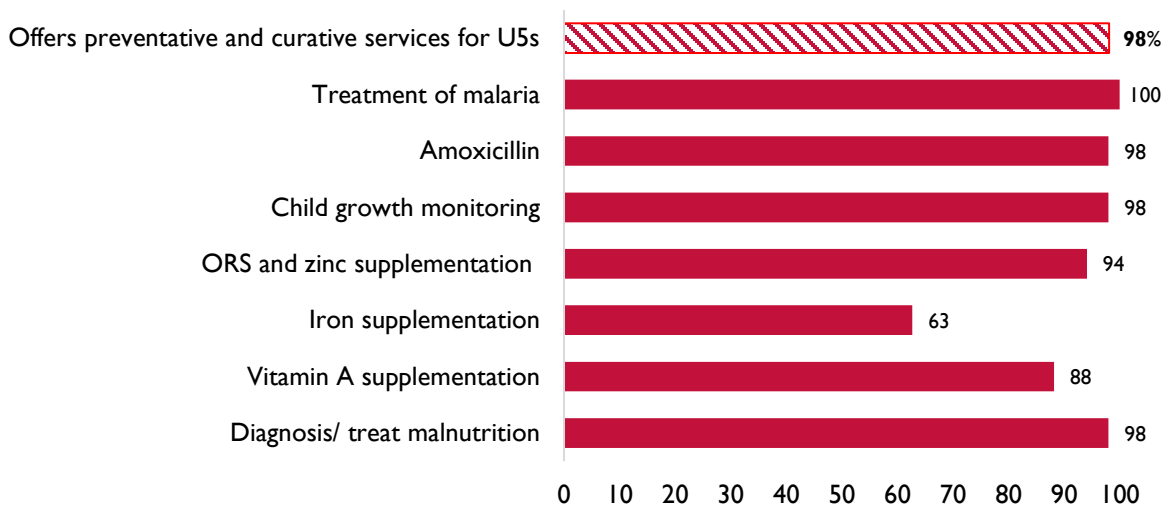
**Figure 18. Child immunization services availability**



All health centers reported that expanded program on immunization services were provided. Of all the health centers, a majority (96%) store vaccines onsite and (92%) had a functional register. Availability of expanded program on immunization guidelines (61%) and availability of at least one staff trained in the last two years prior to the survey (52%) was low.

**Figure 19. Child preventive and curative care services availability**

**Child preventive and curative care services availability in health center n=(52)**

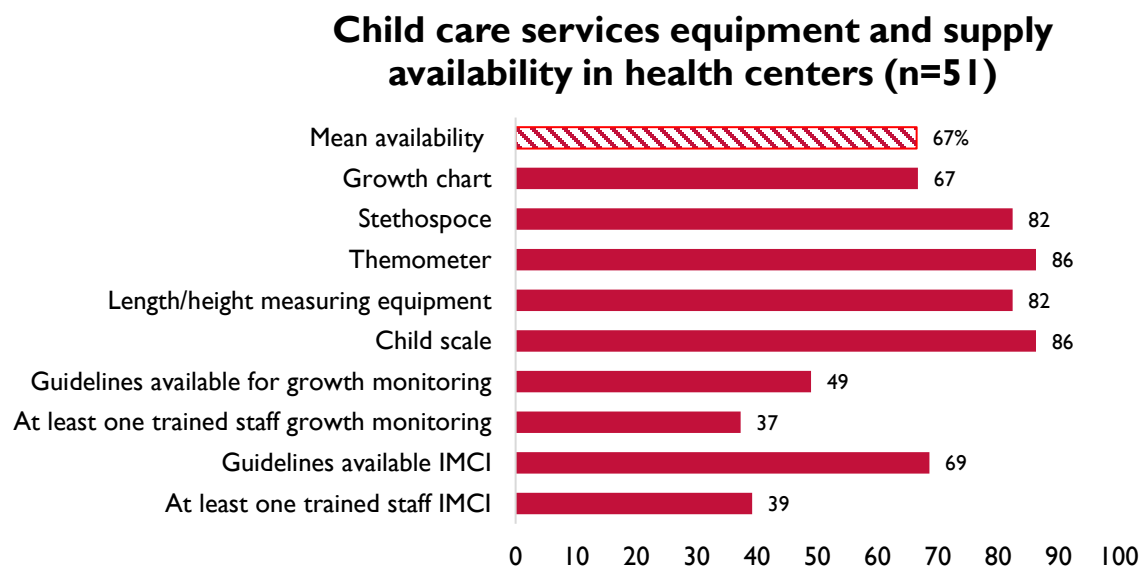


Only health centers were considered for child preventive and curative services because this was not included in the district hospital package. Availability of vitamin A in child health service area remained low (50% of the health centers) corroborating the findings of the SPA report of 42%. Similarly, availability of basic supplies, such as growth monitoring charts, treatment guidelines, and protocols, remains low.

Most of the health centers reported to offer preventative and curative services for children under five. Health centers providing iron supplementation was reported to be the lowest (63%).

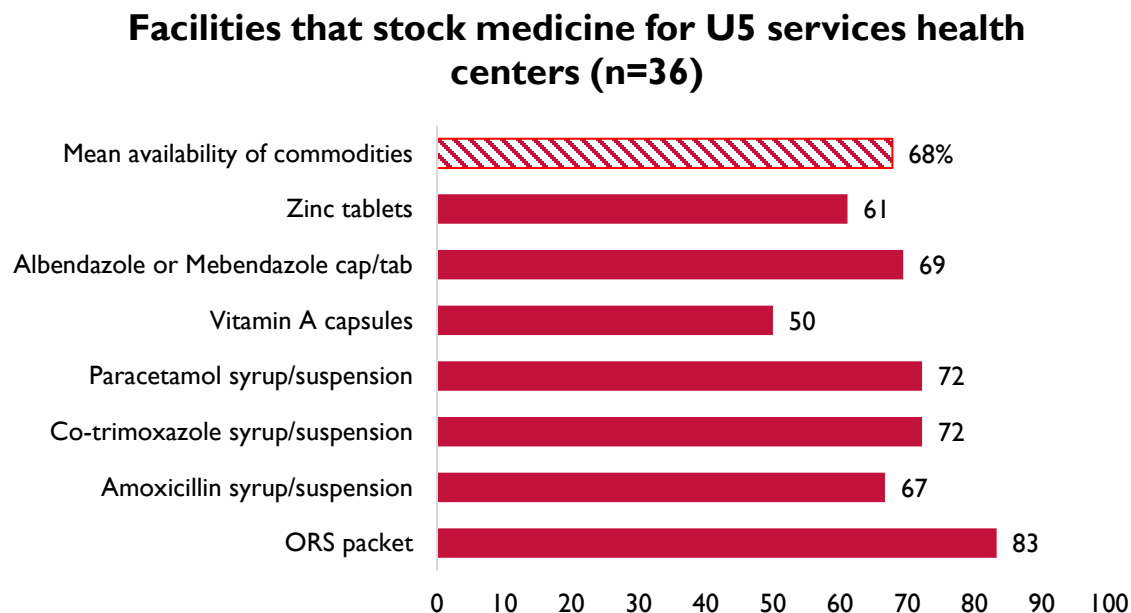


**Figure 20. Child care services equipment and supply availability in health centers**



Of the health centers with child services, more than 80% of health facilities had a functional child scale and length/height measurement equipment, and a small number (37%) had at least one IMCI trained staff available. The average number of items including availability of guidelines and functioning equipment was 67%. Training remained an issue because of the turnover of health providers as mentioned above.

**Figure 21. Facilities that stock medicine for under-five services health centers**

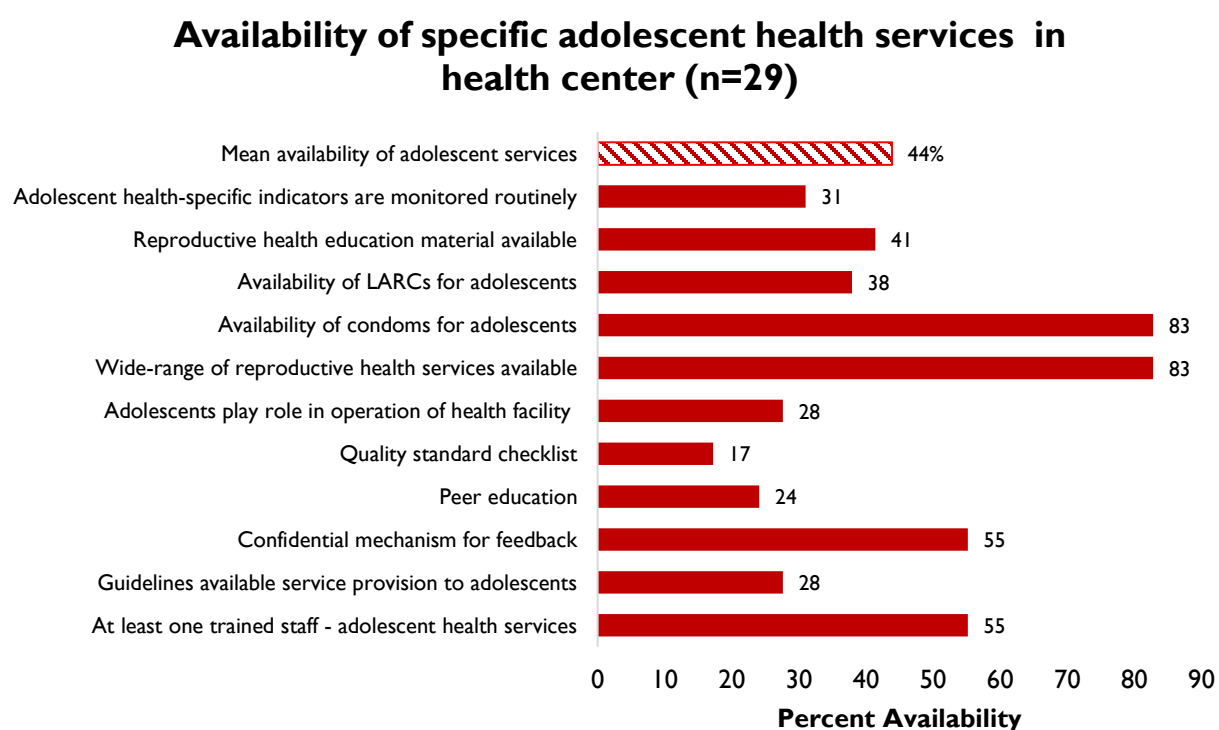


Of facilities that offer child services, approximately 80% had oral rehydration solution available and 61% had zinc tablets. Only half of the health centers had vitamin A capsules available.

## Adolescent Health

Only 29 health centers reported availability of adolescent sexual and reproductive health services, and availability of specific adolescent services were reported to be in less than half of the health facilities. Adolescent health services were available in 55.8% (29 of 52) of health centers. Adolescent services were not available at district hospitals in Rwanda because they were not included in the health package at that level. Of the facilities who reported to offer adolescent health services, most (83%) of the surveyed employees at health centers reported that a wide range of reproductive health services, as well as condoms, were available for adolescents (including FP, sexually transmitted infection treatment and prevention, HIV counseling and testing, ANC and PNC, delivery care). Roughly half reported to have trained staff or a transparent, confidential mechanism for adolescents to submit complaints or feedback about sexual and reproductive health services at the facility. Written guidelines to provide adolescent services were available in only 28% of the facilities, and long-acting reversible contraceptives were available in 38% of facilities who offered services.

**Figure 22. Of facilities that offer adolescent health services, percent availability of specific adolescent health services (n=29)**



### 3.1.5 Community Services and Mobilization

CHWs are an important component of health services in Rwanda. By bridging between the need of services delivery and social and economic development, they strengthen the health system especially in remote areas, and monitor health at the village level. Through sensitization of the local village they have improved access to care and prevented more women and children from dying.

For the purpose of the current HFA, the role of health facilities to strengthen community interventions in general, and specifically, the capacity-building and role of CHWs in the community was assessed. Hence, key indicators of RMNCH were evaluated to measure the progress of community services for each health facility. The calculated percentages represent those health facilities that had specific items available of all assessed health facilities.

More than 90% of all facilities reported to have a facility management committee, but one-third of the hospitals included a community representative in the management committee and only two hospitals reported a community group in their catchment area. Although the majority of the facilities reported having trained CHWs, it was recognized that some facilities have newly elected CHWs that have not been trained. In addition, integrated community case management training has not reached as many CHWs as other key RMNCH components. Apart from the work done by CHWs to increase the demand of RMNCH services, there was a shortage of other local organizations involved in community mobilization. The existing local non-governmental organizations (NGOs) were involved mainly in HIV and prevention of mother-to-child transmission of HIV (42% and 34%, respectively) compared to immunization of children under five (5%) and facility based deliveries (17%).

**Table 4. Health committee/community group present in community (n=64 health facilities)**

Facility Type	Facility has health management committee	Total number of facilities	Community is represented in committee	Total number of facilities	Community groups* exist in catchment area to improve MNCH	Total number of facilities	Community group have written action	Total number of facilities	Catchment area has CHWs and volunteers	Total number of facilities
Hospital	100	12	33.3	12	16.7	12	100.0	2	100.0	12
Health Center	98.1	52	92.2	51	63.5	52	100.0	33	73.1	52
<b>TOTAL</b>	<b>63</b>	<b>64</b>	<b>51</b>	<b>63</b>	<b>35</b>	<b>64</b>	<b>35</b>	<b>35</b>	<b>50</b>	<b>64</b>
<p><b>*Note- Community group includes:</b> “roundtable programs” women health groups such as umugorba w’ababyeyi or any other community groups that aims to improve maternal newborn and child health working in the facility catchment area.</p>										

Health committee and facility’s community outreach activities to the community helped to expand access to basic health services of acceptable quality at the community level.

All hospitals reported having a facility management committee but only one-third reported having community representation in those committees. The majority of the health centers assessed reported 98% had a facility management committee with 92% reporting had community representation. Community groups existed in a small number of hospital catchment areas and in 64% of health center catchment areas. All community groups reported to have written action items from meetings. All hospitals have CHWs and volunteers, but only 73% of health centers reported having CHWs and volunteers.

**Table 5. Community group services (of facilities who reported having a community group) (n=35)**

Facility Type	Activities/interventions included in action plan									Community groups regularly document meeting	Community group regularly implements action plan	Community group receives training	Community group receives supervision	Number of Facilities with community groups
	ANC	PNC	Health facility delivery	Quality improvement	Immunization	FP	Newborn care	Birth preparedness	Emergency transportation					
Hospital	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	100.0	50.0	2
Health Center	97.0	97.0	90.9	84.8	87.9	90.9	87.9	84.8	63.6	97.0	90.9	51.5	72.7	33

Of the various hospitals and health centers assessed with action plans from the community group, none of the hospitals reported having ANC, PNC, QI, immunization, FP services included in action plans for community groups. This was, however, reported to be included in a majority of community groups in the health center catchment area. Almost half of the community groups in the health center catchment area received training and most (72%) reported to be supervised.

**Table 6. Community health workers activities/services (of those who have CHWs/volunteers, n=50)**

Facility Type	Health service CHWs offer									CHW register to capture and report activities	CHW training	CHW supervision tools available	Regular supply to CHWs	Number of Facilities with CHWs
	Integrated community case management	ANC	PNC	Health facility delivery	Immunization	FP	Newborn care	HIV/AIDS	Community Mobilization					
Hospital	100.0	16.7	58.3	16.7	0.0	100.0	16.7	8.3	100.0	100.0	66.7	100.0	100.0	12
Health Center	97.4	63.2	57.9	39.5	36.8	97.4	52.6	42.1	89.5	100.0	84.2	100.0	92.1	38

A total of 50 facilities (12 hospitals and 38 health centers) reported to have CHW/volunteers in their respective catchment areas. A small number of CHWs/volunteers in the health center catchment areas reported to be providing immunization (37%), health facility delivery (40%), and HIV/AIDS services (42%). All health facilities reported to have supervision tools related to CHWs, and the majority had regular supplies related to CHWs.

**Table 7. Community health worker training topics (n=40)**

Facility Type	Training topics									Total number of facilities
	Integrated community case	ANC	PNC	Health facility delivery	Immunization	FP	Newborn care	HIV/AIDS	Community Mobilization	
Hospital	50.0	50.0	37.5	12.5	12.5	75.0	12.5	0.0	50.0	8
Health Center	68.8	62.5	43.8	34.4	15.6	62.5	40.6	9.4	50.0	32

Some health facilities had newly elected CHWs but had not trained them. Also, training in integrated community case management, ANC, PNC, health facility delivery, immunizations, newborn care, and HIV/AIDS had not reached as many CHWs as other key RMNCH components.

**Table 8. Demand creation (n=52)**

Facilities where there was a community-based organization that links the community to the health facility to improve community health and increase demand for the following topics:	
HIV testing	32.7%
Prevention of mother-to-child transmission of HIV	34.6%
ANC	21.2%
Facility-based deliveries	21.2%
Newborn care	17.3%
FP	23.1%
GBV	1.9%
Male involvement in maternal and neonatal health	15.4%
Identification and management of sick newborns, care of very small babies	23.1%
Sick child care	23.1%
Well baby care/immunization for under-fives	23.1%

### 3.1.6 Health Facility Level Use of Data

Health facility data are critical to assessing facility, subnational, and national progress and performance, enlightening achievements, weaknesses and strengths of the health sector at all levels. Health facility service statistics are key to results-oriented planning for specific interventions implemented in the catchment area of any health facility. This report explores to what extent service data were utilized at each health facility level. For this assessment, key markers of data use were composed to track progress and included the existence of a monitoring plan (data compilation channels) of key RMNCH indicators, utilization of data in decision-making at the health facility level involving reporting to a superior and community supportive institutions, and joint exploration of data and planning.

For the purpose of this assessment, guided interviews were conducted with health facility data managers. To calculate the level of availability, different items were assessed at each health facility and a percentage of accessibility was computed based on the availability in a certain number of health facilities of the total number of health facilities considered during the assessment.

Data visualization and use for specific clinical decisions was low. Although most of the health facilities (60% of health centers and 75% of hospitals) displayed data on assisted deliveries, few facilities (less than 10% of the health centers and less than 60% of hospitals) displayed mortality data for maternal and very early newborn deaths. Moreover, the influence of data in decision-making at the health facility level was low, and the main reason for this was reported to be lack of resources.

**Figure 23. Data visualization and use (n=64)**

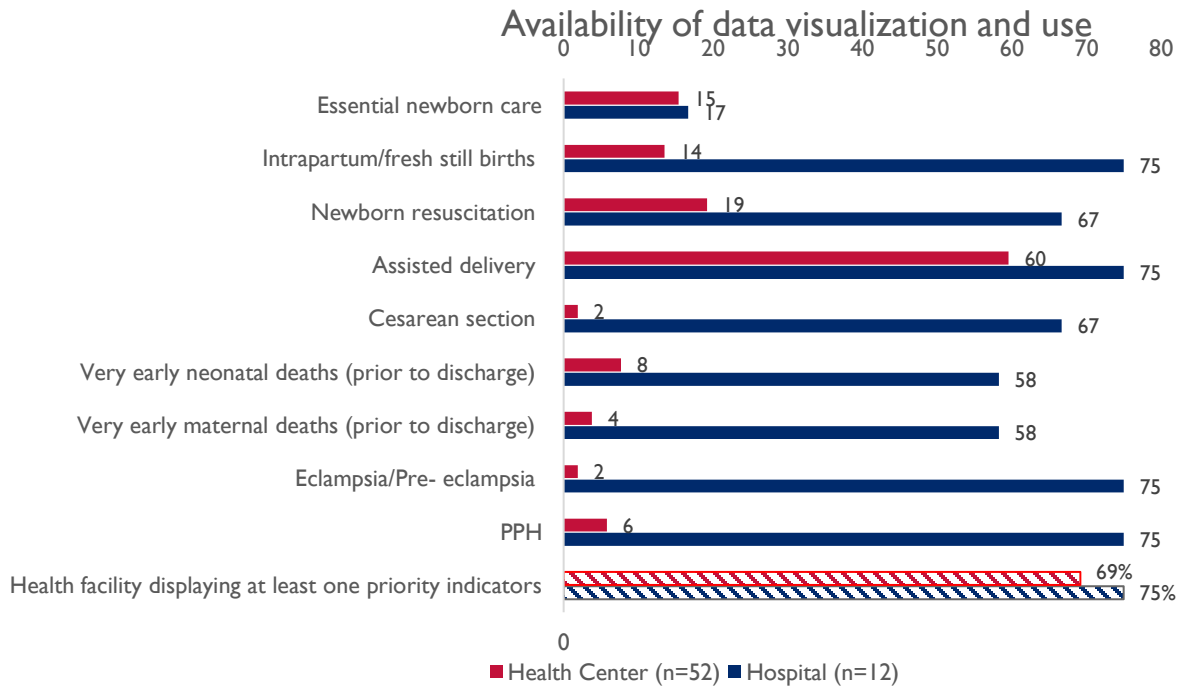
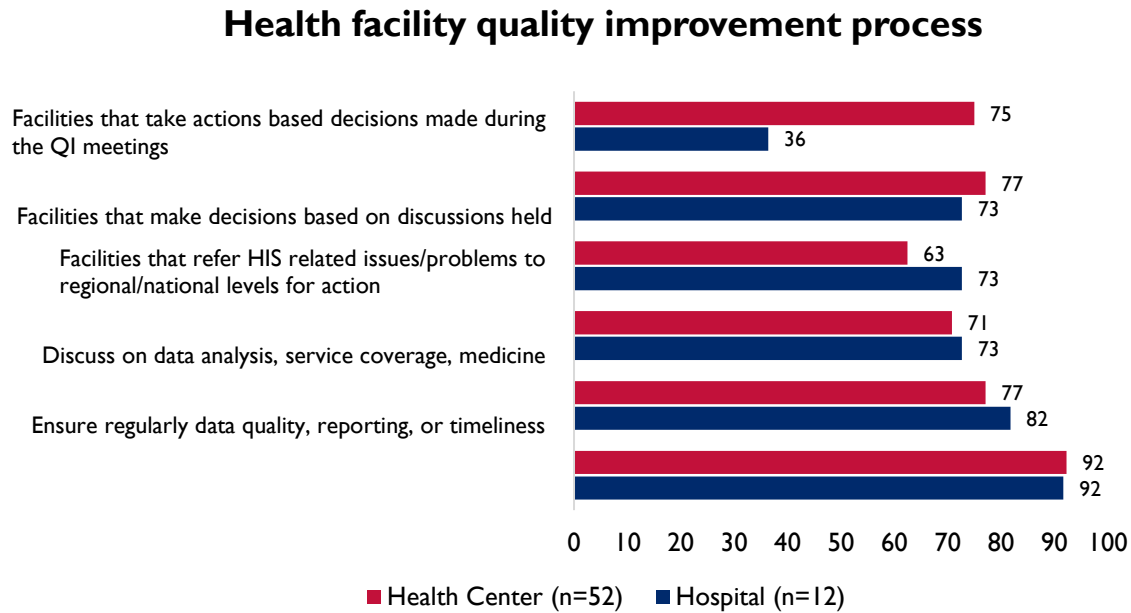


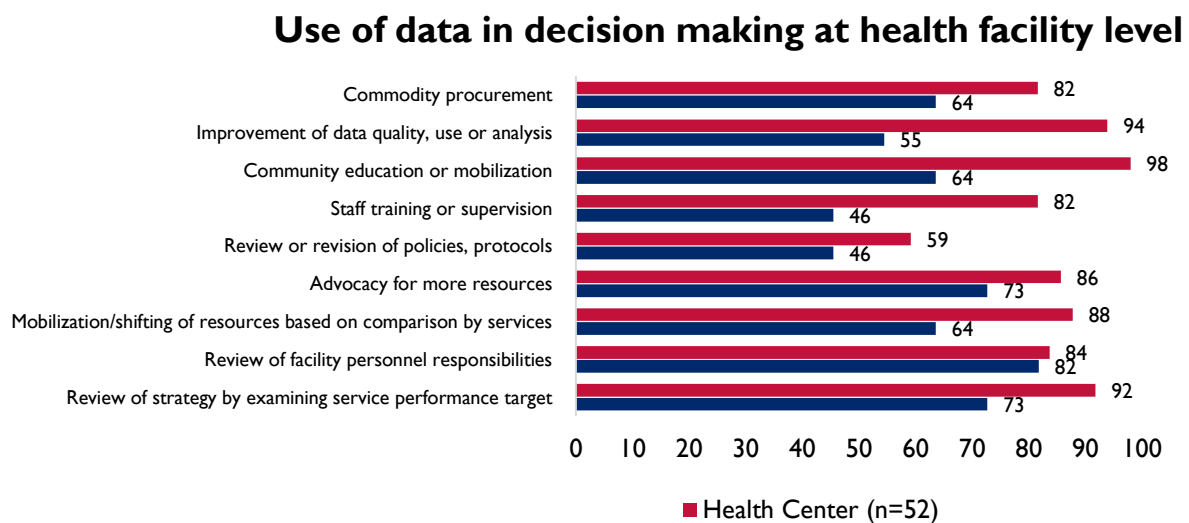
Figure 23 shows the status of display of data at the health facility level. Most of the district hospitals (63%) displayed data related on key RMNCH indicators. The most common indicators displayed in the district hospitals were postpartum hemorrhage, eclampsia/pre-eclampsia, assisted deliveries, and intrapartum/fresh still births. Most district hospitals (75%) and health centers (69%) had at least one of the indicators displayed, and assisted delivery was the most common indicator.

**Figure 24. Health facility QI process (n=64)**



To understand the process of QI at the health facility level, the assessment asked if health facilities had a functioning “quality committee.” Staff at health facilities were asked about key topics that were discussed in the quality committee meeting including issues around ensuring regular data quality, reporting, or timeliness; discussion on data analysis, service coverage, and medicine; facilities that refer health information survey (HIS)-related issues/problems to regional/national levels for action; facilities that make decisions based on discussions held; and facilities that take actions based on decisions made during the QI meetings. Most of the facilities reported having a functioning quality committee. Among district hospitals, actions based on decisions made during the QI meetings was reported being lowest (36%), and among health centers, referring HIS related issues/problems to regional/national levels for action was reported lowest (62%).

**Figure 25. Use of data in decision-making at the health facility level (n=64)**



To understand decision-making at the health facility level, the assessment asked the type of decisions that were made in the past three months based on the analysis of RMNCH data. The types of decisions related to review of the strategy by examining service performance targets; review of facility personnel responsibilities; mobilization/shifting of resources based on comparison by services; advocacy for more resources; review or revision of policies, protocols, staff training or supervision; community education or mobilization; improvement of data quality, use or analysis; and commodity procurement. At the district hospital level, review of personnel responsibilities was the highest (82%) followed by advocacy for more resources (73%). At the health center level, community education or mobilization was the highest action (98%) followed by review of strategy by examining service performance targets (92%).

**Figure 26. District-level support (n=64)**

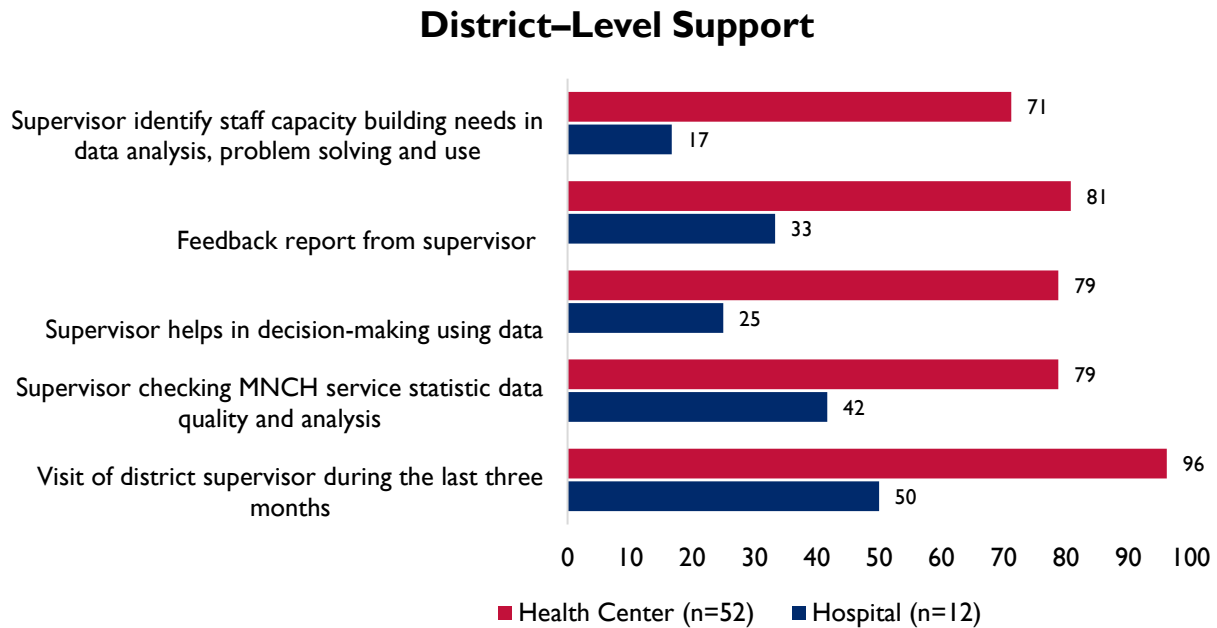
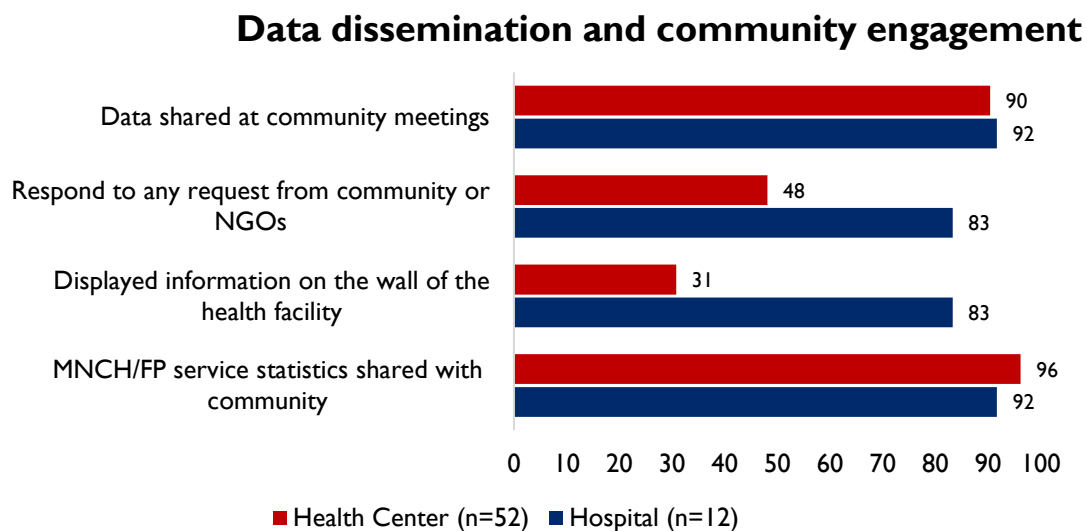


Figure 26 shows district-level support during supportive supervision. The assessment captured if there was a supervision visit within the last three months, if they checked for service statistic data quality and analysis, decision-making, feedback and capacity-building on data analysis, and problem-solving. Among district hospitals, supervisors’ identification of capacity-building needs was the lowest (17%). At the health center level, most functions were reported high (more than 75%), however, identification of capacity-building was the lowest.

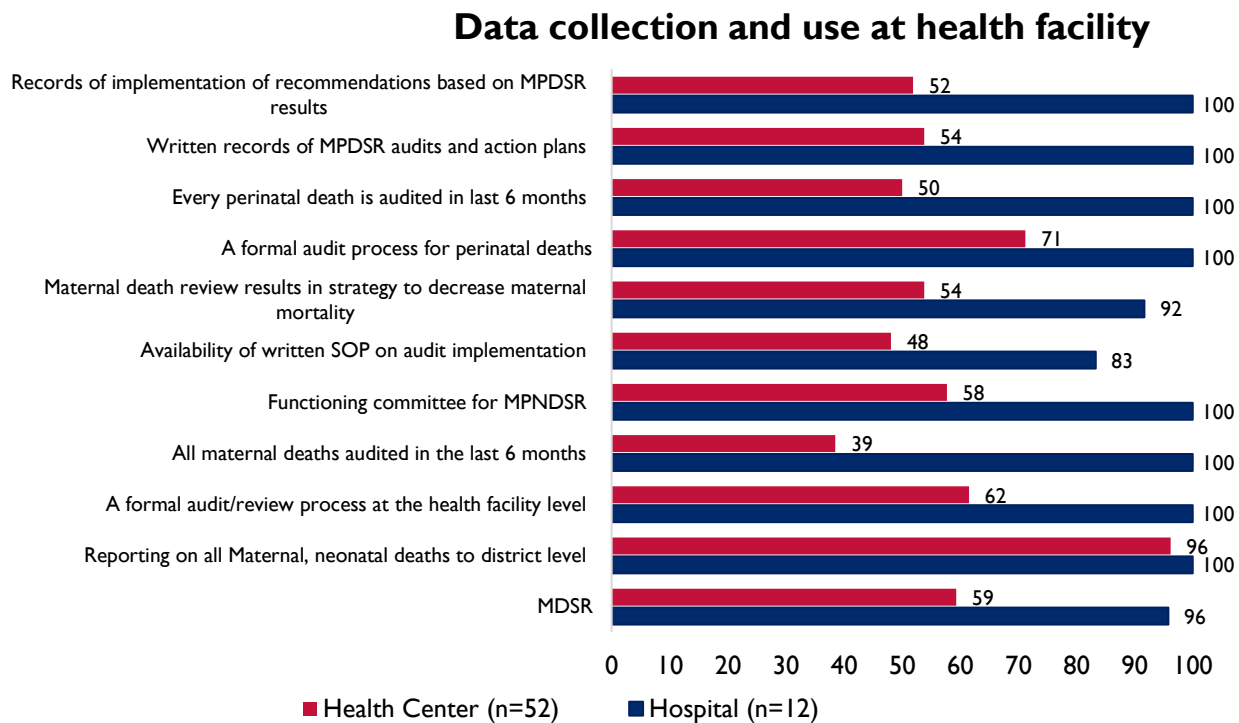


**Figure 27. Data dissemination and community engagement (n=64)**



The assessment captured data dissemination and community engagement. Dissemination of RMNCH information to the community was found to be high at district hospitals and health centers. Display of information at the health facility level (31%) and responding to any requests from a community of NGOs (48%) was low at the health center level.

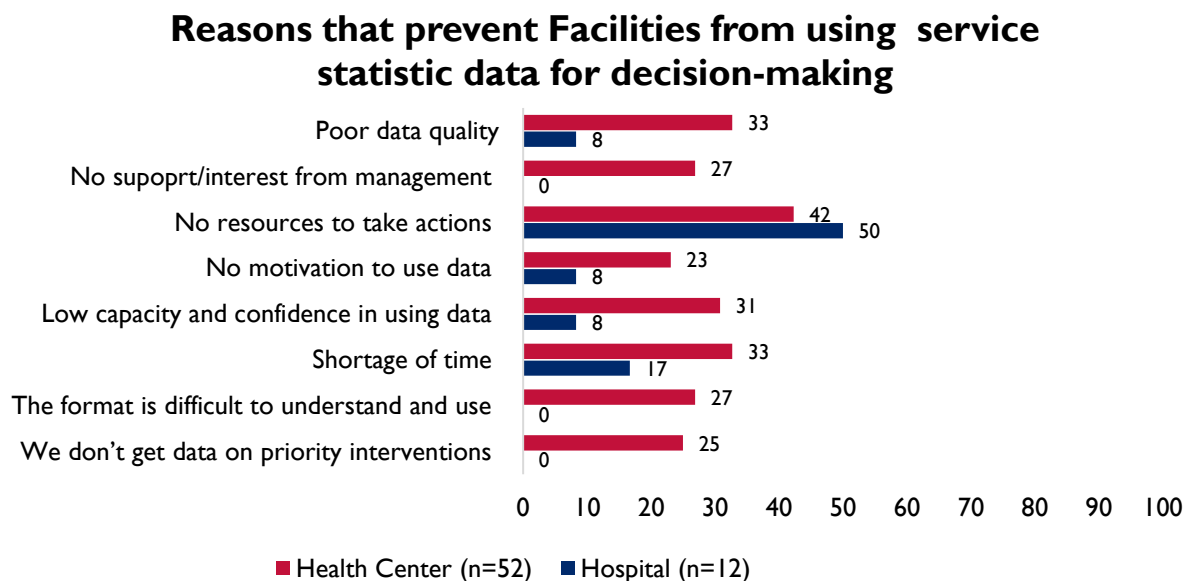
**Figure 28. Data collection and use at health facility (n=64)**



The assessment captured data availability, review, and response on maternal and perinatal deaths. At the district hospital level, most facilities stated to be reporting on all or most maternal and perinatal deaths and

had a process at the health facility level to review and take action and records of taking actions. At the health center level, reporting of deaths was high (96%), but maternal death audits (39%), availability of a written SOP (48%), and record or action plans (54%) were found to be areas for further improvement.

**Figure 29. Reasons that prevent facilities from using MNCH/FP service statistic data for decision-making (n=64)**



The assessment captured information on the factors that prevented the facility from using RMNCH service statistics. Half of the respondents at the district hospital level and a high number of health center respondents (42%) reported that a lack of resources to take action as their major factor that prevented them from making any decisions.

**Table 9. Perceptions on influences on how facilities make decisions (n=64)**

Items	Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Disagree Strongly
Decisions-makers' personal preferences	35.9%	29.7%	7.8%	9.4%	17.2%
Superiors' directives	48.4%	42.2%	3.1%	4.7%	1.6%
Health needs identified based on service statistics	60.9%	32.8%	4.7%	0.0%	1.6%
Community input/suggestions	34.4%	46.9%	14.1%	1.6%	3.1%
Health facility staff input	46.9%	50.0%	0.0%	1.6%	1.6%
Funds/resources available	56.3%	34.4%	7.8%	1.6%	0.0%

When asked about the factors that influence decision-making at the health facility level, a majority of the respondents agreed that decisions were based on the health needs identified based on the service statistics. More than half of the facilities reported availability of funds as a factor that influenced decision-making followed by input from health facility staff and input from the community.

**Table 10. Data on the referral system (n=64)**

Indicator	%
Facilities for which the current HIS captures referral of patients from the community level	100%
Facilities for which current HIS captures referral of patients to a higher level health facility	98%

Data capturing on referral from the community to the health facility and from a lower level facility to a higher level facility was reported to be almost universal with only one facility reporting not capturing referrals from the lower level health facilities to higher levels.

**Table 11. Staff competence on data management (n=64)**

Items	With No Difficulty	With a Little Help	With a Lot of Help	Not at all
Check data accuracy	40.6%	50.0%	9.4%	0.0%
Calculate percentages and rates correctly	56.3%	26.6%	12.5%	4.7%
Plot data on graph by months or years	45.3%	34.4%	17.2%	3.1%
Explain findings and their implications	43.8%	42.2%	14.1%	0.0%
Use data for identifying gaps and setting targets	35.9%	45.3%	14.1%	4.7%
Use data for making various types of decisions and providing feedback	32.8%	53.1%	10.9%	3.1%

Health facility staff were asked about skills on data analysis and management. Overall capacity in checking data quality, calculating percentages, plotting graphs, explaining findings, identifying gaps, and using data were all reported to be high. A small number of facilities reported challenges in this area with low skills in plotting graphs (17%), explaining findings (14%), and using data in identifying gaps (14%) as areas for further improvement.

## 3.2 Qualitative Findings

### 3.2.1 Information Systems/Use of Data for Decision-Making

The information system in Rwanda relies on several databases, including: the Reproductive Health Management Information System that captures service delivery data at the health center and hospital levels, *Système d'information Sanitaire Communautaire* (Community Health Information System) that captures community level data, and Electronic Logistics Management Information System that tracks medicine and medical consumable stock in pharmacy (Government of Rwanda Ministry of Health, 2015, pp. 33-34). Rwanda's information system is extremely strong among its peers. There are effective incentives in place that are encouraging timely submission of data; information technology hardware at lower levels of the system is reducing transmission errors; and the quality of the data is high. These contextual factors position Rwanda for strong, ongoing use of data for decision-makers among national level policymakers, district level mayors and administrators, and clinicians at the facility level.

However, the quantitative results revealed clear opportunities to increase the use of data for decision-making. Although a high number of facilities (93.8%) reported that their management committees used data to assess progress and identify gaps, only 40.6% of facilities actually displayed this information on a facility wall. Displaying visuals of key MNCH/FP indicators would make this information more accessible to both patients and health workers. The quantitative results also showed that only 54.7% of facilities made RMNCH

information available to community and partners by responding to their requests, indicating that there was room for improvement in strengthening the link between facility and community levels.

Keeping these results in mind, the RHSA probed about the process for using data within facilities, how these data were analyzed and shared with health center staff, and how these data fed into QI processes. In addition, the RHSA probed for data feedback processes that were cascaded across different levels of the system.

### *Findings on Information System*

- **Data verification and review at community level could be strengthened.** CHW supervisors noted that data verification was one of their roles, but their ability to carry out these visits frequently was limited. In addition to the data verification step, CHWs and cell coordinators described the process for aggregating their data and submitting a compiled report. Although CHWs attended the monthly meetings at the health center level to review data, informants noted these meetings could be organized better to be more effective. Additionally, there may be an opportunity to encourage a more systematic review of data before the monthly meeting, when CHWs meet as a cell to compile their report.
- **Although the data manager had the capacity to manipulate data, other staff members could benefit from additional training to create or interpret data.** At the health center level, the data manager was the primary individual to interact with the data. When probed, staff noted that not all staff had the capacity to create data visualization/charts. There may be opportunities for staff members to improve these capacities because the quantitative results found that 64.1% of facilities were providing quarterly opportunities to update skills in data analysis, problem-solving, and use of data.
- **Opportunities for other staff to use data visualizations are limited.** Although most facilities noted that charts should be posted throughout the facility, they were not routinely observed except in the data manager's office. For other staff, this meant the only opportunity they had to review and discuss the data was during the regular staff meeting. Their use could be enhanced if they could regularly refer to the data and internalize progress over time. Data managers also reported logistical difficulties in printing new charts, such as lack of ink for the printers or an inability to print in color.
- **District Health Information System (DHIS) 2.0 system could be leveraged more effectively to generate useful graphs/visuals for data managers, rather than manually generating graphs.** Some data managers noted that they created charts by downloading data from the HMIS and then developed them in Excel because they found it easier to use. There may be opportunities to either automate the generation of some of these charts in the DHIS 2.0 system or to address the difficulties that managers had in using the DHIS 2.0 system.
- **Analysis of data was generally restricted to performance against the IMIHIGO targets that had been set for each facility level; but there was a lack of more advanced or comparative analyses.** The data manager tracked and created charts for key indicators and compared them against IMIHIGO targets. However, there was little cross-analysis to compare how one indicator affected another or how community mobilization activities, QI activities, etc. were impacting performance. There may be opportunities to suggest additional analyses that could inform health system operations (e.g., efficiency).

### **3.2.2 Service Delivery**

Based on the topic areas identified as priorities by the MCSP Rwanda country team, service delivery was an area that was particularly emphasized throughout the RHSA interviews, including the sub-themes of accreditation and QI, supervision, and referral systems.

### **3.2.3 Accreditation/Quality**

In the last few years, there had been a huge push toward accreditation of health facilities as a conduit for QI in Rwanda, and currently the two concepts are linked. Efforts toward accreditation began in 2006 with King Faisal Hospital in Kigali. In 2012, accreditation was officially launched in Rwanda as a national program with the support of the international nonprofit organization, Management Sciences for Health. To date, the

accreditation process has been initiated in all district hospitals, and official hospital level accreditation standards were published in 2014 (Government of Rwanda Ministry of Health, 2014). Significant progress has been made, especially in those hospitals that first underwent accreditation (the Rwandan MOH chose one hospital from each of Rwanda's five provinces to be pioneers for the accreditation process: Rwamagana, Kibungo, Musanze, Ruhango and Bushenge hospitals) (USAID, 2014). However, as of 2015, only King Faisal had achieved full accreditation (level 3), and accreditation had not yet been extended to the health centers or to all private health facilities (Government of Rwanda Ministry of Health, 2015).

As it seems likely that accreditation efforts will continue to be a driving force for QI in the near future, the RHSA attempted to understand current challenges that facilities were facing throughout this process, what specific factors have enabled certain facilities to be more successful and whether the introduction of accreditation has had a perceived impact on quality and utilization of RMNCH health services. Understanding the experience thus far at the district and provincial/referral hospital level will help MCSP to better support district hospitals to meet the quality standards required for full accreditation, one of the key activities planned (MCSP Rwanda PY1-2 Work Plan).

### *Findings on Accreditation and Quality*

- **Accreditation was valued by facility leadership as a way to improve quality, standardization, and documentation of processes and procedures, but may have diverted attention from clinical process improvement.** Respondents seemed proud as they shared accounts of their accomplishments to date regarding accreditation. They noted that the increased standardization and documentation of practices was one of the most valued things about the accreditation process thus far. In some cases, they had worked hard, outside of work hours, to draft new processes and manuals to support the accreditation process. Though laudable, the initial attention on the documentation of policies and procedures may have needed to be balanced against the need to maintain focus on clinical QI. Some respondents remarked that “implementation improvements” were part of later stage accreditation work—Levels 2 and 3.
- **Accreditation was not yet viewed as part of one’s regular responsibilities and could have been perceived as time-consuming and burdensome, leading to some staff resistance early on.** In some cases, staff were actually working during nights and weekends to research policies and develop new documents to achieve the accreditation status. Hospital leadership recognized that the only individual for whom accreditation was part of their official daily work was the accreditation officer. Over time, respondents noted that this perception improved, and the different committees that were established to address areas of improvement were more successfully viewed as integrated with regular duties.
- **Respondents were generally supportive of the accreditation standards being used, with a few exceptions. The standards had been recently revised, and stakeholders noted that they seemed well designed for the purpose of helping facilities to make progress.** Two exceptions to this statement were noted. The first was that several standards regarding facility infrastructure were difficult, if not impossible, for some facilities to achieve. For example, the standard may have required redesigning the dimensions of a room or other capital improvements. The achievement of these standards would have required major investments that respondents felt were not practical. In addition to this, it was noted that there were aspirations to cascade the accreditation process down to health center level, but there were no plans yet in place for how to do this and what the standards should be. This may be an area for further exploration for MCSP.
- **The composition of the QI teams may have benefited from varied participation as the focus of work changes.** Currently, the head of each service delivery department participated in the QI meetings, but the rest of the staff did not. Staff were called on to provide input when the focus area was relevant to his/her department. Although there was a need for consistency in participation in the committee, the implementation and follow through of various action plans may have benefited from the inclusion of additional staff in the process. This could have led to greater ownership and motivation to carry out and monitor the effect of interventions.
- **Quality improvement teams could have benefited from the use of additional tools, such as process flow diagrams, “5 Whys,” and fishbone to support the systematic identification of root**

**causes.** One of the first steps a QI committee takes is to try to unearth the root cause of a problem. Committees were relying on discussion among committee members with inputs from other staff members as necessary. This process likely yielded some good ideas, but there may have been additional possibilities that could have been identified through more systematic methods. There may be opportunities to use various QI tools to more systematically identify possible root causes to explore.

- **Quality improvement teams monitored progress by reviewing performance of relevant indicators in the data review meetings, but little monitoring occurred between those meetings.** One of the foundational questions asked in QI work is whether a change led to an improvement. To answer this question, it's important to develop a system to measure whether an intervention is resulting in a positive or negative change, or whether an external factor is the cause of the change. For example, if a committee identified that long waiting times were a barrier for women to attend ANC visits, the committee may decide to change the patient intake procedures to lessen wait times, but if they only track progress by monitoring ANC rates, they won't know if the waiting time has been improved and/or if a change to the waiting time is in fact resulting in higher ANC rates.
- **Structures for shared decision-making were in place, but more could have been done to improve quality of management processes to better support clinical care.** Some respondents noted that there were structures in place for shared decision-making between clinicians and administrators. At the hospital level, the steering committee provided this structure. At the health center level, the COGE (comite de gestion) also allowed for this kind of decision-making. Facilities could have benefited from increased focus on management or organizational processes to support better clinical care, for example, things like the organization of supplies around a delivery table. Thus, there may be significant room to improve the application of shared decision-making between clinicians and managers.

### 3.2.4 Supervision

Supervision was also prioritized as an area of focus for the RHSA because MCSP has several activities surrounding supportive supervision, improving formative supervision, and increasing mentorship (MCSP Rwanda PY1-2 Work Plan). Supervision should occur at every level of the health system, both to evaluate skills and review data entered, but also to respond to the needs of lower level staff and provide opportunities to practice new and old skills. According to national policy, the central level should provide supervisory visits to each district hospital on a quarterly basis, district hospitals receive per diems to provide monthly supervision visits to health centers, and both the in-charge of CHWs at the health centers and the cell coordinators (also CHWs themselves) should provide monthly supervision visits to the CHWs. The RHSA looked at this current supervision approach across different levels of the health system to determine how well it was working in practice, identify current challenges, and highlight areas where improvements could be made to better support health personnel and improve quality of care.

#### *Findings on Supervision*

- **Health workers find supervision visits especially motivational. Many health workers from the CHW level upward through district administration noted that supervisory visits were motivational.** On the whole, most respondents noted that supervision could be more frequent to reinforce skills and to generate motivation for action. This kind of non-financial incentive may become increasingly important for Rwanda to consider as financial resources to support incentives become limited.
- **Formative supervision did not happen as frequently as it should have.** The frequency of supervision visits across districts observed was extremely variable, from no visits at all in some facilities, to regular, monthly visits in others. On the whole, most supervisors noted difficulty carrying out supervision visits according to policy because of limited time to reach all supervisees and insufficient resources. Some respondents noted that they tried to create a schedule for visiting supervisees so that the visit would at least happen regularly, if not as frequently. Others created a systematic approach to select health workers and/or facilities to visit each month. One DHMT, for example, used a ranking and scoring system to identify the five weakest health centers and choose these facilities to visit each month.



- **Despite difficulties maintaining regular formative supervision visits, health facilities reported that evaluative supervision happened regularly.** Evaluative visits were linked mostly to accreditation at the hospital level and PBF review at all facilities. The system for conducting evaluative supervision was different than the system used for formative supervision, and there could be lessons to learn from this system. There may be ways to either a) make the formative supervision process resemble the process used for evaluative supervision or b) leverage the evaluative visits to include some component of formative supervision.
- **The movement toward an integrated supportive supervision approach was more efficient for both supervisors and facilities.** At the hospital level, respondents indicated that they found this approach to be more efficient for both them and the supervisees. At health center level, the supervision visits they received from hospitals were still verticalized – a lab tech would come to review rapid tests, the community supervisor from the hospital would meet with the in-charge of CHWs at the health center level, etc. There may be opportunities to reinforce the notion of integration through more integrated supervisory visits from hospitals to health centers.
- **There was limited analysis of the data collected during supervision visits to identify common challenges and assess whether there was improvement happening.** The data collected during supervision visits provided supervisors with a record of the interaction with a supervisee. When supervision visits were conducted by MOH staff, these records flowed upward. However, development partners had not consistently shared the information they collected when they performed supervision visits. The information recorded during supervision visits may go unanalyzed, resulting in limited knowledge about the issues faced, the solutions identified, and progress made over the course of supervision visits.

### 3.2.5 Referral System

MCSP plans to work with counterparts to improve the referral system at all levels, in particular advocating in the community for early referral to facilities and encouraging using the data in referrals for decision-making. In light of this planned program activity, the RHSA probed on how well the RapidSMS system was working in practice, whether there were any bottlenecks or gaps in information in either the referral or counter-referral process, and ways in which the referral system could be improved to engender consistent and timely quality care.

#### *Findings on Referral System*

- **Women faced numerous barriers to seeking care including cultural, financial, and geographic reasons.** Health workers noted that women often hid their pregnancy during the first trimester for cultural reasons, which caused difficulty in convincing women to go to the health center to seek ANC. These findings validated the results of the RHSA desk review, which found that the main barriers to women receiving ANC included lack of knowledge, experience with previous births, issues with male partner participation, poverty/problems with health insurance, and the culture of ANC (Hagery, Rulisa, & Perez-Escamilla, 2013). In Rwanda, the overall level of four ANC standard visits was low compared to other countries. In 2014, ANC coverage for four visits was 43.9% (UNICEF Data, 2014), and more than three-fifths of pregnant women presented late for the first ANC visit, which may have contributed to this (Manzi et al. 2014).
- **In addition, financial barriers were a constraint faced particularly by the very poor.** Even though the Mutuelle de santé system is highly regarded as enabling access for the poor, CHWs noted that there were still households who were exceptionally poor and may not have sought care for fear of cost, despite being eligible for free coverage. For those in emergency situations, the ambulance service was another barrier because the full cost of the ambulance was not covered by the Mutuelle de santé (a 10% co-payment was required for all but those in the poorest socioeconomic category) (Binagwaho et al. 2012). Even if an ambulance was used, most of the ambulances were old and may have been deployed to other health centers when they are called.

- **Single women faced additional barriers due to requirements for male participation.** Health workers at the health center level confirmed that there was a strong recommendation to have men accompany pregnant women to the first ANC visit, and several respondents stated that the male partners were “required” to come to these visits. This supported the findings from a 2015 study which showed that women and men in Rwanda interpreted the recommendation to attend the first ANC visit with the male partner as an obligation, adding pressure that may have prevented women pregnant out of wedlock or without a supportive partner from seeking care. (Pafs et al. 2015)
- **CHWs did not always know if a woman had gone into labor.** CHWs shared some frustration that they didn’t always know if the woman had gone into labor because it was up to the woman to reach out to the CHW. If a woman was having a normal delivery without complications, she may not have alerted the CHW, which meant that the CHW could not record this into RapidSMS and could not alert the health center. If labor was at night, CHWs had difficulty navigating to the woman’s household and then to the health center if the CHW accompanied the woman. Almost all CHWs noted a need for flashlights, rain jackets, and rain boots.
- **At the facility level, the concept of emergency drills was not well understood.** Health workers were aware of common danger signs and often had this list posted in the health center. However, the concept of practicing what to do in the event that a danger sign was recognized was not well understood. There may be opportunity to encourage this kind of practice.
- **Referral communication upward throughout the system was described positively, but counter-referrals to community level did not occur directly between facility and community.** Women who delivered at the hospital were given a counter-referral slip to take back to their community health worker. This process relied on the woman carrying this paper home and it also relied on the CHW knowing that the woman delivered. If the CHW did not know the woman went into labor, she may not have followed up as quickly. Because one of the CHWs roles was to encourage woman to seek timely PNC, this may have resulted in avoidable delays in presentation. The CHWs also noted they occasionally had difficulty if referral information was not written in Kinyarwanda.
- **The use of the RapidSMS alert system could be improved.** At some facilities visited, the in-charges of CHWs no longer received RapidSMS messages on their phones because their inboxes were filled to capacity with data entered by the CHWs. They decided to switch the system so that all messages went to the computer. However, as observed, the computer connection was quite slow and would sometimes go down. This limited the health center’s ability to act on the alerts in the RapidSMS system. Instead, they relied on phone call communication with the CHWs.
- **The value and ease of use of the RapidSMS system was described variably.** Given that CHWs recorded data into RapidSMS as well as onto paper registers, there may have been opportunities to reduce duplication if some data were going unused. In addition, there were discrepancies reported regarding whether CHWs found the RapidSMS system easy to use or not. Some CHWs reported that they would borrow a friend’s smartphone to send the SMS messages because it was easier to manipulate. They also noted that they sometimes had trouble due to lack of power.

### 3.2.6 Leadership and Governance

The leadership and governance health systems building block was centered on the strategic policy frameworks that make up the health system (WHO 2015). Since 2001, the Government of Rwanda has undergone a period of decentralization. This was carried out in three phases, with the third and final phase beginning in 2011 (Government of Rwanda Ministry of Health 2011). One of the key health management decentralization reforms was the introduction of the DHMT in 2011.

The addition of the DHMT was considered a coordination mechanism and not a new district structure, as it incorporated membership from already existing district-level health managers and leaders. Therefore, it did not require any official ministerial policy action to be established. The DHMT sat under the Vice mayor in charge of social affairs, who also served as the chair of the DHMT. Other membership included the district director of health, district monitoring and evaluation officer, district planning and coordination officer,



district health promotion and prevention officer (these were the four members comprising the district health unit, which played an operational management role), hospital director, director of pharmacy, director of *Mutuelle de santé*, a representative from the titulaires (health center heads) in the district, and a representative from the CHWs (Government of Rwanda Ministry of Health 2015).

The DHMT was intended to act as a board whose role was centered on planning and management, supervision, coordination, financial and resource oversight, regulation, and encouraging increased participation of the local community in the delivery and management of health services (Government of Rwanda Ministry of Health 2015). The RHSA looked at the role of the DHMT and other strategic policy frameworks in practice to determine whether roles and responsibilities were clear, whether there was effect oversight and management, and whether actors were accountable across health systems levels.

### Findings on Role of DHMT

- **The strength of the DHMTs observed was extremely variable across districts.** There was significant variability regarding the DHMT positions that had been filled, as well as the capacity of existing staff to carry out their responsibilities. Several vacant staff positions were observed within the DHMT, including leadership positions. DHMTs also recognized the benefits of the Rwanda Family Health Program and requested similar support.
- **DHMT representatives reported the need for additional support from central level to carry out its responsibilities.** Informants reported some confusion about who should be providing support to the DHMT: the MOH or the Ministry of Local Affairs.
- **DHMT representatives reported different views on the development of a district action plan.** Some DHMTs developed robust district action plans that included input from the district facilities they interacted with in their district. In other cases, DHMT representatives noted that they had taken a decision not to create a district action plan and instead to focus on coordination among the existing action plans of the health facilities within the district. In other cases, the District had in fact created an action plan.
- **Some DHMTs were innovating to address constraints.** For example, in one district, they had the capacity to visit only five health centers per month. To select the five health centers to visit, they developed a ranking system. During the monthly DHMT meetings, they came to a consensus on a set of indicators to track across the health centers. Performance on the indicators was categorized into a point system (e.g., health centers with four ANC visits more than 60% received 2 points, four ANC visits 60% or less, or more than 40% received 1 point, etc.). Health centers were then scored according to this point system, and the five health centers with the lowest scores were visited by the DHMT. This was just one example, but identifying these best practices and finding ways to share these across districts may enable other districts to innovate within limited capacity to carry out their duties.
- **There was clarity and a shared understanding of how the DHMT could advocate on behalf of health facilities.** There seemed to be a clear chain of command for how recommendations from the DHMT were decided on by the steering committee and vice mayor. This understanding was shared by DHMT and health facility respondents, and they noted that the DHMT could be an advocate for things, such as additional human resources, to the steering committee and vice mayor for social affairs.

### 3.2.7 Financing

Health financing was not flagged as a priority for the RHSA because there are no direct activities planned in the MCSP work plan. But recognizing the impact that health financing can have on motivation, availability of supplies, and system incentives, some questions on health financing were included. The major sources of funding for facilities in Rwanda were derived from 1) internally generated fund from *Mutuelle de santé* payments, 2) MOH disbursement to support salary and operational costs, 3) external aid from development partners. A small percentage of funding also comes from private insurance (WHO 2009). However, the 2015

Rwanda Health Financing Sustainability Policy cited the unpredictability and sharp decrease of external assistance to health programs as a serious challenge that will require the establishment of cost-effective priorities (Government of Rwanda Ministry of Health 2015).

The RHSA included questions on the sustainability of current funding sources for health facilities, especially in light of a planned rapid decline in funding from the Global Fund (one of Rwanda's biggest development partners) beginning in 2016 (Namata 2015); questions on the PBF system, which impacts staff motivation; and questions on the community-based health insurance system (*Mutuelle de santé*). Understanding these financial frameworks is important because they will both directly and indirectly impact MCSP programming in Rwanda.

## Findings on Financing

- **Facilities reported delayed payments from PBF system and Mutuelle de santé.** Health centers relied on the Mutuelle de santé reimbursements and PBF funds they regularly earned. The Mutuelle de santé payments were due monthly and the PBF funds quarterly, but facilities reported delays in these payments. Many noted the most recent Mutuelle de santé payment they had received was in November 2015 for services rendered in August 2015 (indicating a delay of at least 3 months). In some cases, facilities reported an inability to purchase drugs from the district pharmacy, which resulted in the need to request that the DHMT advocate to the vice mayor to use their own operational fund to help fill the gap.
- **A large unpaid debt existed in the system from the transfer of Mutuelle de santé management from MOH to Ministry of Finance.** The result of this management transfer was a large unpaid debt from the old Mutuelle de santé system and a lack of clarity at the facility level as to whether this would be paid. This debt was reflected in the financial section of the monthly report that was submitted to MOH.
- **Decline in funding from major development partners, such as Global Fund, meant that there was a funding cliff for many staff positions beginning as soon as January 1, 2016.** At the facility level, there was a lack of clarity as to how this would affect staffing going forward. With the decline of funding from the Global Fund, there were anticipated shortages for salary payments that would begin as soon as January 1, 2016. These changes would need to be taken into consideration as facilities develop management plans.
- **There was an insufficient budget for existing operational budgets and incentive payments.** There were a few examples mentioned that pointed to an insufficient budget to pay according to policy. In some cases, CHWs were owed a certain amount according to their PBF calculation, but the budget allocated to the CHW cooperative was insufficient to cover this. In addition, the recent policy which required that all A2 nurses become A1 nurses was leading to increased training (and turnover in some cases), but A1 nurses were not yet being paid the salary deserved. Money was earmarked for the different community cooperatives based on performance indicators. The money for the cooperatives was channeled through the district health unit, but there were times when the budget allocated was not sufficient to pay according to the level of performance. They had to explain this to the CHWs, who found it demotivating, but continued nonetheless.
- **PBF indicators helped focus attention.** The PBF indicators received a lot of focus in the hospitals. Because the PBF amount was calculated according to patient volume, services available, and staff, some facilities that had lower utilization received less funding. Facilities conducted regular review of performance on PBF indicators, so indicators had the ability to focus attention.
- **There was a shared view that Mutuelle de santé had enabled access across population.** The indigent were fully covered by the government and the respondents indicated that they thought this ensured their access to facilities. Coverage rates remained above 80% across the country, though this reflected a decline from 2010, when rates were above 90% (Government of Rwanda Ministry of Finance and Economic Planning 2012). Copayment was quite low with Mutuelle de santé coverage (200 francs), and 500 francs without coverage. The Mutuelle de santé card protected individuals' privacy by not displaying whether they were indigent. This may have varied across districts, but this could be verified on a separate list when an individual paid.

- **Despite the success of the Mutuelle de santé, individuals would still face gaps in coverage.** Some individuals reported that sometimes patients had no coverage. Health center workers cited the 30-day registration period that was required for coverage to become active, and the annual registration deadline as potential causes of missing coverage. Both of these potential explanations were also highlighted in the 2008 Health Financing Systems review conducted by the WHO, which recommended that waiting periods be limited to inpatient care, with waivers for pregnant women and sick children (WHO 2008).

### 3.2.8 Equity and Gender

In addition to the health systems building blocks and the priority sub-themes identified by MCSP, the RHSA incorporated questions on the current status of equity and gender in Rwanda. Rwanda ranked high on the health equity index and ranked seventh in the 2014 Global Gender Gap Report. Despite this, the recent DHS 2015 preliminary results revealed there were still issues related to the percentage of women delivering in the health center and receiving PNC, the treatment of childhood illnesses at the facility level, and childhood growth and nutrition. For example, only 84.1% of women in the lowest socioeconomic wealth quintile delivered at the health facility in 2014-2015, which was low compared to the 97.1% of women in the highest socioeconomic quintile. Delivering in the health center was also highly correlated with the educational level of the mother, with 82.1% of women with no education vs. 97% of women with a secondary education or greater delivering at the health center. Families in the highest wealth quintile were more likely to seek treatment at the health facility/provider level when their children showed symptoms of acute respiratory infection, fever, or diarrhea than families in the lowest wealth quintile, meaning that poorer children were less likely to receive quality care for these diseases (44.8% vs. 64.7%; 38.8% vs. 62.4%; and 35.4% vs. 53% across quintiles 1-5, respectively). Finally, stunting affects more boys (43%) than girls (33%) in Rwanda and was more likely to affect children in rural areas (41%) than urban (24%) (National Institute of Statistics of Rwanda and MOH 2015).

The RHSA sought to learn more about the following main themes related to equity and gender: a) how key stakeholders and health providers were defining and thinking about equity and gender, b) what inequities existed in terms of access to services (which groups were underserved?), c) how was Rwanda addressing these inequities (e.g., what strategies were being employed to reach the underserved?), and d) how did the experience of health workers differ according to gender (e.g., in terms of opportunities for training, availability of supervision and mentorship, etc.). The RHSA also probed on the ability of facilities to offer comprehensive GBV services, whether this affected other services such as ANC, whether there were policies or practices in place to ensure respectful maternal care, and the types of groups that still required additional support to access services, such as adolescents seeking FP or reproductive health services, despite potential social or cultural barriers.

#### *Findings on Equity and Gender*

- **There was a perception among most health providers that equity was not a major issue as a result of the financial protection offered to the poor by the Mutuelle de santé system.** Those who were classified as “indigent” according to the ubudehe system were eligible for health services free of charge. Health workers cited this benefit.
- **When probed further, many stakeholders reported that there were issues for households who were very poor in the communities.** For this population, there may have been lack of information or misinformation about the Mutuelle de santé system, which prevented them from using services. This finding fit with the information highlighted in the desk review, such as the 2015 DHS results, which found that women in the lowest socioeconomic level and with the least amount of education were the least likely to deliver in a health facility (National Institute of Statistics of Rwanda and MOH 2015).
- **Several CHWs reported that there were several vulnerable groups that they believed needed additional support, including:**
  - Very poor

- HIV positive
- Unmarried women
- Elderly
- Adolescents
- TB patients
- Malnourished kids
  - CHWs reported that they spent extra time working with these families, visiting them more frequently and trying to educate them. They may also play a role in helping to advocate for additional resources for these families by approaching nearby households to contribute clothing or other supplies for the infant.
- **There was an awareness that adolescents may need additional support in accessing sexual and reproductive health services, and in response, youth-friendly centers and youth-friendly “corners” had been introduced (and seemed to be initially well-received and successful).** Each district had a youth-friendly center, where adolescents could go to be treated. However, as these were geographically far from some patients, some facilities had begun to introduce “corners” of the facility that were dedicated to serving adolescents away from the prying eyes of their community. These areas provided a measure of privacy, and were typically staffed by younger personnel who were more likely to connect with and be trusted by adolescents. Health center staff reported that these “corners” had so far been very well received and were popular among adolescents in the communities. The desk review indicated that these youth corners were established in 2014 by the recently completed Rwanda Family Health Project (USAID 2014).
- **There remained a social stigma for young, unmarried women, which may have acted as a barrier for them to seek ANC care or go to the health center for delivery.** Many CHWs reported that unmarried women initially hid their pregnancies for cultural reasons, delaying their first ANC visit, and may not have notified the CHW when they went into labor.
- **Many hospitals had instituted one-stop GBV centers.** Any patient who came in showing signs of GBV was sent to a special part of the facility (often a separate building) where there was a specially trained nurse, a judicial psychologist, and a social worker. This center was open around the clock and provided a safe space for patients to stay overnight if necessary. If a patient with signs of GBV came into a health center, he/she was given counseling and first aid, and was referred to the one-stop GBV center at the hospital level. The one-stop centers were introduced by the Rwanda Family Health Project in 2013, and the infrastructure was still being strengthened, but overall showed signs of great progress for supporting GBV needs in Rwanda (USAID 2014).
- **Informants noted that turnover rates for CHWs were higher for men compared to women, as men often had competing responsibilities in their villages or opportunities for employment in town.** Some men may have entered the CHW role thinking that compensation was higher than it was in reality and were dissatisfied after entering the role.

## 4. Conclusion and Recommendations

The assessment targeted hospitals and health centers in the 10 districts where MCSP is implementing RMNCH interventions and included key informant interviews with three national, 16 district hospital and administrative, and 20 health center and community stakeholders, while focusing on the key areas of service readiness and availability, data analysis and information use, community health services, accreditation and quality, the referral system, equity, and gender. Its findings and recommendations will have a positive impact on the quality of health service delivery and are as follows.

### 4.1 Information Systems/Use of Data for Decision-Making

- **Work with health facilities to understand information needs, then co-develop tools and templates that can support improved data analytics.** Work with the data manager and QI teams to understand what types of analysis could better support their needs, then develop tools and processes to support the ongoing monitoring and testing of new interventions in between monthly performance reviews.
- **Work with facility leadership to identify low-tech opportunities to introduce more data visualizations into practice.** Staff across the facility should be conversant in their current performance and understand their contributions to the achievement of the facility's performance. Consider whether there are opportunities to include the posting of data charts as part of supervision visits or evaluative checklists. If there are technology issues regarding printers, highlight these to district mayors and DHMTs so they can advocate for the resources.
- **Support capacity development of staff within health facilities to improve ability to create and interpret basic data visualizations.** Though some specific training on use of data may be warranted, consider other opportunities to embed and reinforce skills into already planned training. This could include low-dose, high-frequency trainings, supervision visits, and capacity-building at district and national levels.
- **Support facilities in better organizing their monthly meetings with CHWs and cell coordinators to ensure that a substantive conversation takes place on their performance and contributions toward high-level goals.** Health centers may need basic guidance for organizing clear and efficient agendas, communicating logistics, and hosting the meeting.

### 4.2 Service Delivery

#### 4.2.1 Accreditation/Quality

- **As facilities work on early stage accreditation levels, support continued focus on clinical and process improvements beyond requirements for Level 1.** Work with hospitals who are undergoing the accreditation process to better understand the demands placed on them regarding time and resources to achieve accreditation status. Work with national level stakeholders to develop a strategy that supports integrated focus on clinical and organizational process improvements.
- **Equip and empower QI committees with tools to support systematic identification of root causes (e.g., process maps, fishbone analysis, 5 whys, etc.).** Work with facilities to test whether different QI tools (5 whys, fishbone, etc.) could be effective ways of understanding the root causes of problems they are facing. Consider the right composition of the committees to undertake a root cause analysis and ensure that there is ownership and commitment to action. Work with facility leadership to empower committees to take even more direct action where possible, rather than waiting for approval from the COGE.
- **Encourage ongoing monitoring of interventions to track progress in between QI committee meetings.** Work with the committees and the data managers to consider how they will monitor the



effect of any interventions that are tested. These could be small opportunities to build the skills of facility staff in the ongoing use of data for decision-making.

- **Consider whether MCSP can play a role in helping to research and identify design options for a system of accreditation that is catered to lower level facilities.** MCSP could work with Management Sciences for Health and other partners who have been involved in the accreditation work to date to develop an options document for the design of an efficient and effective system of accreditation at lower level facilities. This work could also look at different health system levers that could be linked to accreditation to support its effectiveness (e.g., incentives, contracting).

## 4.2.2 Supervision

- **Consider innovative ways to achieve the goals of supervision, while recognizing the constraints faced by supervisors.** MCSP, as it designs its activities, will need to take into account that supervision does not always happen as regularly as it should, according to policy. MCSP could help address this challenge by testing different approaches to make supervision more efficient. This could include tactics such as peer supervision or mobile interaction in-between face-to-face visits. MCSP could also help to support supervisors in using more systematic methods to design their supervision schedule. The example used by the DHMT to identify the worst performing health centers was one of likely many existing examples that may be worth replicating.
- **Develop a process to analyze and share the results of supervision visits.** To share information with leadership and local and national levels, MCSP should design a process to synthesize and share the results of its supervision visits to identify trends and patterns regarding challenges and solutions. One of the major questions to monitor over time is whether supervision is truly responding to the needs of supervisees and whether being able to monitor the system's effectiveness over time could be an important contribution.

## 4.2.3 Referral System

- **Work with national level and health facilities to explore whether counter-referral communication could be delivered directly back to community level when a woman returns after delivery.** The biggest gap occurs when women return to their home after delivering at the hospital. MCSP could experiment with different approaches to communicating directly with CHWs. Potential ideas include utilizing direct SMS communication to CHWs or asking the in-charge of CHWs to communicate with the CHWs. There may also be other ideas from CHWs themselves.
- **Introduce the concept of emergency drills at facility level to identify danger signs and practice procedures for intervening or referring.** Work with the maternal and child health technical team to leverage existing materials and consider how emergency drills could be integrated into the low-dose, high-frequency training plans.
- **Work with national level and other partners to review the RapidSMS system and identify possible areas for improvement, including the use of alerts.** In addition, consider the processes currently being utilized around the use of the data that are collected through the RapidSMS system and how those data could be leveraged even more.

## 4.2.4 Leadership and Governance

- **MCSP can work with national level MOH to develop a plan for supporting and building the capacity of DHMTs.** This could include strategies for supporting DHMTs in developing integrated district action plans, developing supervision schedules, and working with DHMTs and other district administrators to support financial management across the district and facilities.

- **MCSP may want to review the products developed by the Rwanda Family Health Project and consider which could be leveraged for continued work.** District administrators pointed to tools and guides they had developed with the Rwanda Family Health Project as useful inputs.
- **Given the variability of DHMT strength across districts, MCSP may want to plan further visits to identify strong examples of DHMT** and discern the success factors and best practices that could be translated elsewhere.

### 4.3 Financing

- **Consider how MCSP can support the national level in identifying the cost-effectiveness of interventions** so that it can build this into a longer-term sustainability plan. For MCSP activities, carefully tracking costs will be a critical input to thinking about scale and sustainability both during MCSP's time frame and beyond. MCSP is considering this already for some of the scale-up work, but it may want to integrate costing more broadly across its activities.
- **MCSP may consider working with the national level to develop financial management tools that could be used by district and facility administration.** Developing careful budget tracking both at the facility and district levels could be an area for MCSP to support.
- **Keep an awareness of the financial context.** Having a good understanding of the financial context is important when considering supply availability, health worker incentives and motivation, and access for the population. Although MCSP's mandate is not to focus on health financing, it will affect service delivery outcomes. MCSP may want to consider how it could take into account the health financing context when designing activities, whether by building on the incentive system or recognizing and designing around some of the limitations. MCSP should keep an ongoing awareness of the context in Rwanda regarding health financing.

### 4.4 Equity and Gender

- **MCSP could help to develop a method for tracking equity of health service utilization within Rwanda.** The financial record keeping system denotes whether an individual is categorized as "indigent." If this is the case, MCSP could use the accounting records to analyze utilization patterns of the indigent compared to the rest of the population. In addition, the health service utilization records include a household registration number, which, if that number could be cross-referenced against an ubudehe listing, could illuminate health service utilization patterns. This could allow a way to track equity of utilization (and non-utilization) that could allow for ongoing monitoring in between DHS surveys.

### 4.5 Improving Health Facility Readiness

- Increase the availability of health services to the population, paying special attention to certain gaps including: availability of guidelines at the facility level, availability of trained staff in all service delivery areas, and the availability of key commodities to provide services.
- Improve ANC services to include availability of trained staff, presence of guidelines, and commodities/materials needed to provide ANC.
- Expand the availability of adolescent sexual and reproductive health services to include guidelines, a quality standard checklist, peer educators, educational materials, and indicators to monitor adolescent sexual and reproductive health services.
- Improve basic amenities, especially adequate sanitation by putting in place functional toilets in the L&D room for clients.
- Although the availability of basic equipment is generally good across facilities, key items including stethoscopes and thermometers were missing in some cases. Both products are inexpensive, therefore,

the health facility should check their availability during internal supervisions and report missing items to the head of services so that they can plan to provide those items as needed.

- Because handwashing is central to prevention of infection from pathogenic microorganisms, it is important that health facilities make available handwashing stands, water and soap, decontamination solution, and disposable latex and sterile gloves.
- Gaps were found in IMCI and growth monitoring trainings for health providers at the health center level. Facilities should provide further training in this domain.
- Staff turnover is an identified issue that health facilities are facing currently, a phenomenon that diminishes the quality of services provided to clients. Facilities should establish a staff retention plan by motivating staff and offering on job trainings and continuous mentorship. This may help health facility administration to maintain providers and improve their capacities.
- Build further capacity in data collection, analysis, interpretation, and data use for planning.

It is important to annually monitor changes in the availability and readiness of health facilities to provide health services. The findings in this report will guide the setting of priorities for implementation of high impact interventions. The specific service readiness results will be of particular interest to the MOH, MCSP program managers and other stakeholders to identify particular deficits in service provision and should serve as a baseline for MCSP against which future progress may be measured.



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## Tables for Service Readiness

# Annex I. Basic Amenities Availability

**Table 12. Basic amenities domain: mean availability of items by district**

Districts	# of health facilities	Power	Improved water source	Communication equipment	Adequate sanitation	Emergency transportation	Access to computer with Internet	Total availability of items (# of items)	Domain Score: Mean availability of items by district
Gatsibo	8	8	7	8	1	7	8	39	81%
Huye	6	6	4	6	5	3	4	28	78%
Kamonyi	5	5	4	4	3	3	4	23	77%
Musanze	6	6	6	6	3	5	6	32	89%
Ngoma	5	5	5	4	2	3	5	24	80%
Nyabihu	6	5	5	6	3	5	4	28	78%
Nyagatare	8	8	4	4	0	8	8	32	67%
Nyamagabe	8	8	7	8	4	6	8	41	85%
Nyaruguru	6	6	6	5	2	6	5	30	83%
Rwamagana	6	6	6	6	3	4	5	30	83%
Number of facilities with item (sum)		63	54	57	26	50	57		
% of facilities with item		98%	84%	89%	41%	78%	89%		

## Annex 2. Basic Equipment Availability

Table 13. Basic equipment domain: mean availability of items (n=64)

Districts	# of health facility	Child scale	Thermometer	Stethoscope	Sphygmomanometer	Light Source	Total availability of items for/District	Mean availability of items for/District
Gatsibo	8	6	7	6	6	6	31	82%
Huye	6	3	5	5	4	6	23	79%
Kamonyi	5	4	5	4	3	3	19	79%
Musanze	6	5	6	5	5	5	26	90%
Ngoma	5	3	3	3	4	5	18	75%
Nyabihu	6	5	4	4	5	5	23	79%
Nyagatare	8	8	7	7	6	5	33	85%
Nyamagabe	8	7	4	5	6	7	29	76%
Nyaruguru	6	4	5	5	5	5	24	83%
Rwamagana	6	6	6	6	4	4	26	90%
Total number of health facilities with item (Sum)		51	52	50	48	51		
% (mean × 100)		80%	81%	78%	92%	80%		

## Annex 3. Infection Prevention Item Availability

Table 14. Standard precautions for infection prevention domain: mean availability of items

Districts	# of health facility	FP services area	GBV services area	Obstetric and newborn care area services	Child Preventative and Curative Care Services area	Total availability of items	Mean availability of items
Gatsibo	8	2	7	4	5	18	56%
Huye	6	2	2	4	3	11	46%
Kamonyi	5	2	4	4	3	13	65%
Musanze	6	4	4	5	5	18	75%
Ngoma	5	4	4	5	2	15	75%
Nyabihu	6	4	4	6	4	18	75%
Nyagatare	8	3	5	6	7	21	66%
Nyamagabe	8	4	6	8	6	24	75%
Nyaruguru	6	1	5	6	4	16	67%
Rwamagana	6	3	6	6	6	21	88%
Sum		29	47	54	45		
Mean (sum / total)		0.45	0.73	0.84	0.70		
% (mean × 100)		45%	73%	84%	70%		

## Annex 4. Diagnostic Capacity Item Availability

Table 15. Diagnostic capacity domain: mean availability of items

Districts	# of health facility	Hemoglobin	Blood glucose	Malaria diagnostic capacity	Urine dipstick - protein	Urine dipstick - glucose	HIV diagnostic capacity	Syphilis Rapid Diagnostic Test	Urine pregnancy test	Total availability of items	Mean availability of items
Gatsibo	8	8	7	8	8	8	8	7	6	60	94%
Huye	6	6	3	6	3	3	3	4	5	33	69%
Kamonyi	5	5	2	5	5	5	5	5	5	37	93%
Musanze	6	6	2	6	6	5	4	6	6	41	85%
Ngoma	5	5	3	5	5	5	4	5	5	37	93%
Nyabihu	6	6	3	6	6	6	4	6	6	43	90%
Nyagatare	8	6	4	8	7	6	5	7	5	48	75%
Nyamagabe	8	8	3	8	7	7	7	8	7	55	86%
Nyaruguru	6	6	3	6	6	6	5	6	6	44	92%
Rwamagana	6	5	4	6	6	5	6	5	6	43	90%
Sum		61	34	64	59	56	51	59	57		
Mean (sum / total		0.95	0.53	1.00	0.92	0.88	0.80	0.92	0.89		
% (mean × 100)		95%	53%	100%	92%	88%	80%	92%	89%		

# Annex 5. Essential Medicines Availability

Table 16. Essential medicines domain: mean availability of items, by district

Districts/ Districts Hospitals	# of health facility	Antibiotic eye ointment for newborn	Gentamicin injection (concentration in one vial)	Ampicillin powder for injection	Hydralazine injection	Metronidazole injection	Azithromycin cap/tab or oral liquid	Cefixime cap/tab	Benzathine benzyl penicillin powder for injection	Nifedipine cap/tab (10mg)	Methyldopa tablet	Calcium gluconate injection	Magnesium sulfate injectable	Skin disinfectant	Intravenous solution with infusion set	Sodium chloride injectable solution	Dexamethasone injection	Oxytocin injection	Total availability of items for/ District	Mean availability of items for/ District
Gatsibo	8	8	8	8	1	2	1	1	4	2	1	2	2	8	8	7	6	8	77	88%
Huye	6	6	4	4	1	1	0	0	2	1	0	1	1	6	5	3	2	6	43	69%
Kamonyi	5	5	5	3	1	1	0	0	2	1	1	1	1	4	5	5	1	5	41	77%
Musanze	6	6	3	5	1	1	1	1	4	1	1	1	1	6	6	4	2	5	49	79%
Ngoma	5	5	3	3	1	0	0	0	2	0	0	1	1	5	5	3	3	5	37	70%
Nyabihu	6	6	4	5	1	1	0	1	4	1	1	1	1	6	6	3	3	6	50	81%
Nyagatare	8	7	1	6	1	1	0	0	1	1	1	1	1	7	8	6	4	8	54	68%
Nyamagabe	8	8	6	7	2	2	1	1	3	1	1	1	2	8	7	5	2	8	65	74%
Nyaruguru	6	6	3	2	0	1	0	0	4	0	0	0	1	6	6	5	1	6	41	66%
Rwamagana	6	6	4	6	0	1	0	0	5	1	1	1	1	6	6	5	6	6	55	85%
Sum		63	41	49	9	11	3	4	31	9	7	10	12	62	62	46	30	34		
% (mean × 100)%		98%	64%	77%	75%	92%	25%	33%	48%	75%	58%	83%	100%	97%	97%	72%	47%	53%		

## Tables for Service Availability and Readiness

### Annex 6. Of Facilities That Offer Modern Methods, Percentage of Health Facilities Offering Family Planning Commodities, by District (n=58)

Background Characteristics	Combined oral contraceptives	Progestin-only contraceptives	Combined injectable	Progestin-only injectable	Male condoms	Female condoms	IUCD	Implant	Cycle beads	EC	Male sterilization	Female sterilization	Offers at least two modern methods of FP	Offering all FP commodities	Mean number of available commodities	Mean percentage of available commodities	Number of facilities offering modern contraceptives
<b>District</b>																	
Gatsibo	7	7	0	7	7	1	7	7	7	6	1	1	7	0	8	4.8	7
Huye	5	5	3	3	5	2	5	5	4	4	1	1	5	0	9	3.6	5
Kamonyi	5	5	0	5	5	2	5	5	5	5	2	2	5	0	9	3.8	5
Musanze	4	4	0	4	4	2	4	4	4	4	1	1	4	0	9	3.0	4
Ngoma	3	3	0	3	3	1	3	3	4	3	1	1	3	0	6	2.3	5
Nyabihu	6	6	1	6	6	3	5	6	6	6	2	2	6	1	9	4.6	6
Nyagatare	7	7	0	8	8	5	7	8	8	5	1	1	8	0	8	5.4	8
Nyamagabe	6	6	0	6	6	4	5	6	6	5	1	2	6	0	9	4.4	6
Nyaruguru	5	3	1	4	4	3	5	5	6	5	1	1	5	0	7	3.6	6
Rwamagana	6	6	0	6	6	3	6	6	6	5	2	1	6	0	9	4.4	6
<b>Total facilities with item (%)</b>	<b>93.1</b>	<b>89.7</b>	<b>8.6</b>	<b>89.7</b>	<b>93.1</b>	<b>44.8</b>	<b>89.7</b>	<b>94.8</b>	<b>96.6</b>	<b>82.8</b>	<b>22.4</b>	<b>22.4</b>	<b>94.8</b>	<b>1.7</b>	<b>-</b>	<b>-</b>	<b>90.6</b>



## Annex 7. Of Facilities That Offer FP Services, Percentage of Health Facilities with Appropriate Items for Offering Family Planning Services, by District (n=63)

District	At least one trained staff in FP	FP Guidelines available	Facilities offering FP	Seating area	FP flip chart	Hand washing	Adequate lighting	Safety box	Auditory and visual privacy	Sphygmomanometer	Oral contraceptive pills	Male or Female condoms	Implants	Injectable	Mean percentage availability of items for FP	Percentage of facilities with all items	Number of facilities offering FP services
Gatsibo	4	4	6	3	3	2	5	7	6	6	7	7	7	7	6.2	0.0	7
Huye	2	1	5	4	5	2	5	5	4	4	5	5	5	4	4.7	0.0	6
Kamonyi	3	2	5	4	2	2	3	5	4	3	5	5	5	5	4.4	0.0	5
Musanze	4	2	6	5	3	4	5	6	5	5	4	4	4	6	5.3	0.0	6
Ngoma	2	1	5	5	3	4	5	3	5	4	3	3	3	3	4.1	40.0	5
Nyabihu	3	1	6	4	4	4	4	6	4	5	6	6	6	6	5.4	16.7	6
Nyagatare	4	3	8	7	5	3	6	8	8	6	7	8	8	8	7.4	0.0	8
Nyamagabe	2	1	8	7	1	4	6	6	6	6	6	6	6	8	6.1	0.0	8
Nyaruguru	4	0	6	4	2	1	4	4	6	5	5	4	5	4	4.5	16.7	6
Rwamagana	5	3	6	5	4	3	5	6	6	4	6	6	6	6	5.9	33.3	6
Total facilities with item (%)	52.4	28.6	96.9	76.2	50.8	46.0	76.2	88.9	85.7	92.3	85.7	85.7	87.3	89.7	-	-	63

## Annex 8. Antenatal Care Service Availability in Health Centers, by District (n=52)

Background Characteristics	Iron supplementation	Folic acid supplementation	Tetanus toxoid	Monitoring for hypertensive disorder of pregnancy	RPR syphilis testing	Total number of facilities
<b>District (n)</b>						
Gatsibo	4	4	6	5	6	6
Huye	5	3	5	4	5	5
Kamonyi	4	4	4	3	4	4
Musanze	4	2	5	4	5	5
Ngoma	2	2	4	4	4	4
Nyabihu	4	2	5	4	5	5
Nyagatare	6	3	7	6	7	7
Nyamagabe	6	5	6	5	6	6
Nyaruguru	4	4	5	4	5	5
Rwamagana	4	3	5	4	5	5
<b>Total facilities with item (%)</b>	<b>82.7</b>	<b>61.5</b>	<b>100</b>	<b>82.7</b>	<b>100</b>	<b>100</b>

## Annex 9. Percentage of Health Centers with Specific ANC Services Including Trained Staff, Guidelines, Equipment, Diagnostics, Medicines and Commodities, by District (n=52)

District	At least one trained staff ANC	Guidelines available ANC	Sphygmomanometer	Hemoglobin test	Urine dipstick protein test	RPR syphilis test kits available	Iron tablets	Folic acid tablets	Tetanus toxoid vaccine	Mean percentage of items available for ANC	Total number of health centers offering ANC
Gatsibo	4	2	6	5	6	5	1	2	6	4	6
Huye	1	2	4	0	4	5	4	1	4	3	5
Kamonyi	1	0	3	2	4	4	0	0	1	2	4
Musanze	3	2	5	3	4	4	4	0	4	3	5
Ngoma	4	3	4	3	1	3	0	1	3	2	4
Nyabihu	1	1	5	2	4	4	2	1	4	3	5
Nyagatare	1	2	6	3	5	4	1	1	6	3	7
Nyamagabe	2	1	6	1	4	4	3	3	4	3	6
Nyaruguru	0	1	5	5	4	4	2	2	1	3	5
Rwamagana	1	1	4	4	3	5	0	0	5	3	5
<b>Total facilities with item (%)</b>	<b>34.6</b>	<b>28.8</b>	<b>92.3</b>	<b>53.8</b>	<b>75.0</b>	<b>80.8</b>	<b>32.7</b>	<b>21.2</b>	<b>73.1</b>	<b>-</b>	<b>100.0</b>

## Annex 10. Percentage of Facilities Offering Specific Basic Obstetric and Newborn Care Services, by District (n=64)

District (n)	Parenteral administration of antibiotics	Parenteral administration of oxytocic drugs	Parenteral administration of magnesium sulfate pre-eclampsia and eclampsia	Assisted vaginal delivery	Manual removal of placenta	Removal of retained products	Neonatal resuscitation	BEmONC (% facilities with all 7 items)	Mean availability for BEmONC	Offers delivery services	Total number of facilities
Gatsibo	7	7	6	3	6	5	6	3	5	8	8
Huye	5	4	2	2	5	3	4	1	4	6	6
Kamonyi	5	4	2	1	3	5	3	0	5	5	5
Musanze	6	6	2	2	5	4	4	1	5	6	6
Ngoma	5	5	2	3	3	4	5	1	5	5	5
Nyabihu	5	6	1	2	2	1	5	0	4	6	6
Nyagatare	8	7	2	2	7	7	7	2	5	8	8
Nyamagabe	6	8	2	1	7	3	6	0	4	8	8
Nyaruguru	4	6	1	0	3	5	6	0	4	6	6
Rwamagana	5	4	1	0	2	5	5	0	4	6	6
<b>Total facilities with item (%)</b>	<b>87.5</b>	<b>89.1</b>	<b>32.8</b>	<b>25.0</b>	<b>67.2</b>	<b>65.6</b>	<b>79.7</b>	<b>12.5</b>	<b>-</b>	<b>100.0</b>	<b>100.0</b>

## Annex II. Of Those Facilities That Offer Delivery and Newborn Care Services, Percent Availability of Specific Services, by District (n=64)

District	Offers delivery services	Maternity ward clean	Water and soap available	Adequate lighting	Toilet for client	Delivery services available 24H	Availability of Partograph	Availability of newborn resuscitation equipment	prevention of mother-to-child transmission of HIV	Thermal care for preterm/low-birthweight babies	Antibiotic eye ointment for newborn	Mean percentage of available items	Total number of facilities
Gatsibo	8	6	4	6	1	8	6	1	5	8	8	5	8
Huye	6	6	5	6	5	6	6	3	4	6	6	5	6
Kamonyi	5	4	4	3	3	4	4	2	4	5	5	4	5
Musanze	6	6	5	5	3	6	5	1	4	5	6	5	6
Ngoma	5	5	5	5	2	5	5	4	5	5	5	5	5
Nyabihu	6	6	6	5	3	6	6	4	5	5	6	5	6
Nyagatare	8	3	7	5	0	8	7	3	7	5	7	5	8
Nyamagabe	8	8	8	7	4	8	8	4	5	7	8	7	8
Nyaruguru	6	5	6	5	2	6	6	2	3	5	6	5	6
Rwamagana	6	6	6	4	3	6	6	2	5	5	6	5	6
<b>Total facilities with item (%)</b>	<b>100.0</b>	<b>85.9</b>	<b>87.5</b>	<b>79.7</b>	<b>40.6</b>	<b>98.4</b>	<b>92.2</b>	<b>40.6</b>	<b>73.4</b>	<b>87.5</b>	<b>98.4</b>	<b>-</b>	<b>100.0</b>

## Annex 12. Of Facilities That Had Cesarean Section Services Available, Percent Availability of Specific Services, by District (n=14)

District	Cesarean Section Availability (n=14)						
	Percentage of facilities performing cesarean	National guidelines for CEMONC	Training in CEMONC	Services available 24H	Anesthetist present in facility or on call	Mean percentage of available items	Total number of facilities
Gatsibo	2	0	0	2	2	1.0	2
Huye	1	0	1	1	1	0.8	1
Kamonyi	1	1	1	1	1	1.0	1
Musanze	1	1	1	1	1	1.0	1
Ngoma	1	0	0	1	1	0.5	1
Nyabihu	2	0	1	2	2	1.3	2
Nyagatare	2	1	1	1	1	1.0	2
Nyamagabe	2	0	0	2	2	1.0	2
Nyaruguru	1	0	0	1	1	0.5	1
Rwamagana	1	0	0	1	1	0.5	1
<b>Total facilities with item (%)</b>	<b>100.0</b>	<b>21.4</b>	<b>35.7</b>	<b>92.9</b>	<b>92.9</b>	<b>-</b>	<b>21.9</b>

## Annex 13. Of Facilities Offering GBV Services, Percent Availability of Specific GBV Services, by District (n=57)

District (n)	Facilities offering GBV services	Specific room	Auditory and visual privacy available	Examination couch	Speculum	Gloves	Safety Box	Lockable cupboard for medico-legal evidence	GBV registers	GBV guidelines	GBV training	Mean percentage of availability of items	Total number of facilities
Gatsibo	8	4	7	7	3	7	7	2	6	2	5	5	8
Huye	3	1	2	2	1	2	2	0	2	1	2	2	3
Kamonyi	5	0	5	3	4	4	4	0	5	1	3	3	5
Musanze	5	1	5	5	4	5	4	2	5	1	4	4	5
Ngoma	5	1	4	2	4	5	4	1	5	2	3	3	5
Nyabihu	4	1	3	3	1	4	4	0	3	0	3	2	4
Nyagatare	8	2	8	5	2	6	5	1	6	3	6	4	8
Nyamagabe	8	2	8	6	3	7	6	3	7	3	6	5	8
Nyaruguru	5	2	5	5	3	5	5	2	4	0	4	4	5
Rwamagana	6	2	6	5	4	6	6	2	5	0	4	4	6
<b>Total facilities with item (%)</b>	<b>89.1</b>	<b>28.1</b>	<b>93.0</b>	<b>75.4</b>	<b>50.9</b>	<b>89.5</b>	<b>82.5</b>	<b>22.8</b>	<b>84.2</b>	<b>22.8</b>	<b>70.2</b>	<b>-</b>	<b>100.0</b>

## Annex 14. Of facilities That Offer Adolescent Health Services, Percent Availability of Specific Adolescent Health Services, by District (n=29)

District	At least one trained staff - adolescent health services	Guidelines available service provision to adolescents	Confidential mechanism for feedback	Peer education	Quality standard checklist	Adolescents play role in operation of health facility	Wide-range of reproductive health services available	Availability of condoms for adolescents	Availability of LARCs for adolescents	Reproductive health education material available	Adolescent health-specific indicators are monitored routinely	Mean availability of adolescent services	Total number of facilities offering adolescent health services	Total number of facilities
Gatsibo	2	1	1	2	1	0	4	5	4	1	1	2.0	5	8
Huye	2	1	2	1	0	0	2	1	1	2	0	1.1	3	6
Kamonyi	4	1	3	1	0	1	3	4	0	2	1	1.8	4	5
Musanze	0	0	0	0	0	1	1	1	1	0	0	0.4	1	6
Ngoma	0	0	0	0	0	0	0	0	0	0	0	0.0	0	5
Nyabihu	1	0	2	1	0	1	2	2	0	1	0	0.9	2	6
Nyagatare	0	0	1	0	0	0	3	2	1	1	0	0.7	3	8
Nyamagabe	3	4	3	1	2	1	4	3	2	2	3	2.5	4	8
Nyaruguru	3	1	3	1	2	4	4	4	2	3	4	2.8	5	6
Rwamagana	1	0	1	0	0	0	1	2	0	0	0	0.5	2	6
<b>Total facilities with item (%)</b>	<b>55.2</b>	<b>27.6</b>	<b>55.2</b>	<b>24.1</b>	<b>17.2</b>	<b>27.6</b>	<b>82.8</b>	<b>82.8</b>	<b>37.9</b>	<b>41.4</b>	<b>31.0</b>	<b>-</b>	<b>45.3</b>	<b>100.0</b>

LARC: Long-acting reversible contraceptive.



## Annex 15. Data Use Tables

Table 17. Data visualization and use

District	Health facility displaying at least one of the priority indicators	PPH	Eclampsia/ Pre-eclampsia	Very early Maternal deaths (prior to discharge)	Very early Neonatal deaths (prior to discharge)	C-section	Assisted delivery	Newborn resuscitation	Intra-partum/ fresh still births	Essential newborn care, such as drying, skin to skin care and/or immediate breastfeeding
Gatsibo	4	2	2	1	1	1	3	3	2	
Huye	5	1	1	2	3	1	4	2	2	1
Kamonyi	2						2			1
Musanze	5	2	1	1	1	1	5	2	2	2
Ngoma	5	2	1	1	1	1	4	2	1	1
Nyabihu	5	1	1		1	1	5	2	3	1
Nyagatare	7	1	1	1	1	1	5	2	2	1
Nyamagabe	5	2	2	2	2	2	5	4	3	2
Nyaruguru	4	1	1	1	1	1	4	1	1	1
Rwamagana	3						3			
<b>Total</b>	<b>45</b>	<b>12</b>	<b>10</b>	<b>9</b>	<b>11</b>	<b>9</b>	<b>40</b>	<b>18</b>	<b>16</b>	<b>10</b>

**Table 18. Health facility QI process**

Districts	Health facilities that have a “quality committee »	Topics discussed in last three meetings of the quality committee				
		Ensure regularly data quality, reporting, or timeliness	Discuss on data analysis, service coverage, medicine	Facilities that refer HIS related issues/problems to regional/national levels for action	Facilities that make decisions based on discussions held	Facilities that take actions based decisions made during the QI meetings
Gatsibo	8	5	4	5	6	6
Huye	6	6	4	5	6	4
Kamonyi	5	3	5	2	3	3
Musanze	5	4	3	3	4	3
Ngoma	5	4	3	3	4	3
Nyabihu	6	3	2	3	3	4
Nyagatare	8	7	7	6	7	6
Nyamagabe	6	6	6	5	6	6
Nyaruguru	4	2	2	1	1	1
Rwamagana	6	6	6	5	5	4
<b>Total</b>	<b>52</b>	<b>46</b>	<b>42</b>	<b>38</b>	<b>45</b>	<b>40</b>

**Table 19. Use of data in decision-making at health facility level**

District	Review of strategy by examining service performance target	Review of facility personnel responsibilities	Mobilization/shifting of resources based on comparison by services	Advocacy for more resources	Review or revision of policies, protocols	Staff training or supervision	Community education or mobilization	Improvement of data quality, use or analysis	Commodity procurement
Gatsibo	6	8	8	6	3	6	7	6	6
Huye	4	4	4	4	4	4	4	4	4
Kamonyi	5	4	4	5	3	5	5	5	5
Musanze	5	4	3	4	4	3	5	5	3
Ngoma	5	4	5	5	4	5	5	5	4
Nyabihu	6	4	6	4	3	4	5	5	5
Nyagatare	7	8	8	8	6	6	8	8	8
Nyamagabe	8	7	6	8	4	6	8	8	6
Nyaruguru	4	4	4	4	3	3	5	4	4
Rwamagana	3	3	2	2		3	3	2	2
<b>Total</b>	<b>53</b>	<b>50</b>	<b>50</b>	<b>50</b>	<b>34</b>	<b>45</b>	<b>55</b>	<b>52</b>	<b>47</b>

**Table 20. District-level support**

District	Visit of district supervisor during the last three months	Supervisor checking MNCH service statistic data quality and analysis	Supervisor helps in decision-making using data	Feedback report from supervisor	Supervisor identify staff capacity-building needs in data analysis, problem-solving and use
Gatsibo	8	7	5	8	4
Huye	6	5	5	3	4
Kamonyi	5	4	3	3	3
Musanze	4	4	4	4	4
Ngoma	5	5	5	5	4
Nyabihu	5	4	4	4	3
Nyagatare	7	7	6	6	5
Nyamagabe	6	4	5	6	6
Nyaruguru	5	2	3	2	2
Rwamagana	5	4	4	5	4
<b>Total</b>	<b>56</b>	<b>46</b>	<b>44</b>	<b>46</b>	<b>39</b>

**Table 21. Data dissemination and community engagement**

District	MNCH/FP service statistics shared with community (r647)	Displayed information on the wall of the health facility	Respond to any request from community or NGOs	Data shared at community meetings
Gatsibo	7	3	6	7
Huye	6	4	3	5
Kamonyi	5	3	3	5
Musanze	6	3	3	5
Ngoma	5	1	3	5
Nyabihu	6	2	4	6
Nyagatare	8	3	3	8
Nyamagabe	8	4	4	7
Nyaruguru	4		3	5
Rwamagana	6	3	3	5
<b>Total</b>	<b>61</b>	<b>26</b>	<b>35</b>	<b>58</b>

**Table 22. Maternal and perinatal death surveillance and verbal autopsies at health facility level**

District	Reporting on all maternal, neonatal deaths to district level	A formal audit/review process at the health facility level	All maternal deaths audited in the last 6 months	Functioning committee for MPDSR	Availability of written SOP on audit implementation	Maternal death review results in strategy to decrease maternal mortality	A formal audit process for perinatal deaths	Every perinatal death is audited in last 6 months	Written records of MPDSR audits and action plans	Records of implementation of recommendations based on MPDSR results
Gatsibo	8	3	3	4	2	5	5	3	5	4
Huye	6	5	4	4	2	4	4	4	3	3
Kamonyi	5	5	3	4	4	2	5	4	3	3
Musanze	5	3	2	3	3	2	4	4	3	3
Ngoma	5	5	3	2	2	3	4	4	3	3
Nyabihu	6	4	3	5	3	3	4	4	4	5
Nyagatare	7	5	5	6	4	7	7	5	7	6
Nyamagabe	8	7	4	7	6	6	6	5	5	5
Nyaruguru	6	3	1	3	3	2	4	1	2	2
Rwamagana	6	4	4	4	6	5	6	4	5	5
<b>Total</b>	<b>62</b>	<b>44</b>	<b>32</b>	<b>42</b>	<b>35</b>	<b>39</b>	<b>49</b>	<b>38</b>	<b>40</b>	<b>39</b>

MPDSR: Maternal and perinatal death surveillance and verbal autopsies.

**Table 23. Reasons that prevent facilities from using MNCH/FP service statistic data for decision-making**

District	Do not get data on priority interventions	The format is difficult to understand and use	Shortage of time	Low capacity and confidence in using data (r680)	No motivation to use data	No resources to take actions	No support /interest from management	Poor data quality
Gatsibo	3	2	1	2	3	2	2	3
Huye	2	2	2		1	2	1	1
Kamonyi	1	1	1	2	1	4	1	1
Musanze	1	2	3	2	1	2	1	1
Ngoma		1	1	1	1	2	1	2
Nyabihu		2	4	3	2	4	2	2
Nyagatare	1	1	2	2	1	3	1	2
Nyamagabe	2	1	1	2	1	4	2	3
Nyaruguru	2	2	3	2	2	3	2	2
Rwamagana	1		1	1		2	1	1
<b>Total</b>	<b>13</b>	<b>14</b>	<b>19</b>	<b>17</b>	<b>13</b>	<b>28</b>	<b>14</b>	<b>18</b>

**Table 24. Staff competence on data management (with no difficulty only)**

District	Check data accuracy.	Calculate percentages and rates correctly.	Plot data on graph by months or years.	Explain findings and their implications.	Use data for identifying gaps and setting targets.	Use data for making various types of decisions and providing feedback.
Gatsibo	3	4	3	2	2	2
Huye	3	2	1	3	1	2
Kamonyi	1	3	1	1	2	2
Musanze	3	4	3	3	2	2
Ngoma	3	4	4	4	2	3
Nyabihu	1	2	3	2	2	2
Nyagatare	4	5	4	5	4	3
Nyamagabe	3	5	4	3	3	1
Nyaruguru	2	4	3	2	1	1
Rwamagana	3	3	3	3	4	3
<b>Total</b>	<b>26</b>	<b>36</b>	<b>29</b>	<b>28</b>	<b>23</b>	<b>21</b>



# Annex 16. Questionnaire

Rwanda Health Facility Assessment Core Questionnaire Adapted from SARA and SPA tools

Available at: <http://www.mcsprogram.org/resources/rwanda-health-facility-assessment-core-questionnaire-adapted-sara-spa-tools/>

# Annex 17. Supervisor Checklist

## Checklist for supervisors

Supervisor's name: \_\_\_\_\_

No.	Preparation before data collection		Done		Remark
	Materials needed	Quantity	Yes	No	
	List of each sampled health facility	All health facilities			
	Contact information of each health facility- phone number and name				
	Letter of endorsement and introduction from MOH	All health facilities			
	Survey tool copies: 1 for supervisor, 2 for two data collectors, 1 French version	4			
	PDA- check both data collectors PDA are fully charged and working	2			
	GPS- check the GPS has replacement battery and is configured	1			
	Contact/phone number of data collectors	2			
	Accessories: folder, pen, note books	1 pack			
	An ID and/or a badge	All team members			
	Mobile phone with team members contacts	List of all members			
	<b>During data collection</b>		<b>Yes</b>	<b>No</b>	
	Complete the cover page of the questionnaire				
	Take GPS coordinate				
	Ensure that all service areas are contacted in advance and assessed				
	<b>After data collection</b>		<b>Yes</b>	<b>No</b>	
	Check for:	Skip pattern			
		Making sure information is complete and legible			
		Single/multiple responses			
		Verifying missing or suspicious information			
		Number of pages			
	Sign the last page of each questionnaire to record that it has been checked, but only once you are sure that data are complete, legible, and there are no obvious mistakes				

Preparation before data collection		Done		Remark	
No.	Materials needed	Quantity	Yes	No	
	Transfer the data for completed module into a computer				
	Keep record of health facilities	Surveyed			
		Replaced			
		Completed			
After leaving the health facility			Yes	No	
	Arrange a meeting with the data collectors at the end of each day				
	Provide feedback				
	Ensure that team members attend the evening meeting with research coordinators				

# Annex 18. Supervisor Reporting Form

Supervisor's Name: \_\_\_\_\_

Team Members' Names: \_\_\_\_\_

Date completed: \_\_\_\_\_

District	Facility code/ name	Facility status	Data collector's ID	Data collection (day/month/year)		Data for all modules checked	Remarks: Include here any anecdotal information, reasons why any modules are incomplete, etc.
				Start Date	End Date		
		Complete/ Incomplete	Replacement			Yes/No	

## Annex 19. List of Health Facilities for the MCSP Baseline Assessment

Monday, Oct. 5.15	Tuesday, Oct. 6.15	Wednesday, Oct. 7.15	Thursday, Oct. 8.15	Monday, Oct. 12.15
<b>Huye District</b>	<b>Nyaruguru District</b>	<b>Nyamagabe District</b>	<b>Nyamagabe District</b>	<b>Rwamagana District</b>
Busoro-gishamvu Health Center (HC)	Cyahinda HC	Kigeme HC	Kaduha HC	Rwamagana PH
Kabutare District Hospital (DH)	Kabilizi HC	Kigeme DH	Kaduha DH	Rwamagana HC
Karama (huye) HC	Munini DH	Kitabi HC	<b>Kamonyi</b>	Karenge HC
Maraba (huye) HC	Ngoma HC	Mbuga HC	Kamonyi HC	Nyagasambu HC
Ruhashya HC	Ruheru HC	Musebeya HC	Kayenzi HC	Rubona HC
Rusatira-kinazi HC	Runyombyi HC	Mushubi HC	Mugina HC	Ruhunda HC
Monday, Oct.12.15	Tuesday, Oct.13.15	Wednesday, Oct. 14.15	Thursday, Oct.15.15	Friday, Oct. 16.15
<b>Ngoma District</b>	<b>Gatsibo District</b>	<b>Nyagatare District</b>	<b>Nyabihu District</b>	<b>Musanze District</b>
Kibungo HC	Gituza HC	Nyagatare DH	Bigogwe HC	Busogo HC
Remera HC	Kabarore HC	Bugaragara HC	Jomba HC	Gataraga HC
Rukoma Sake HC	Kibondo HC	Karangazi HC	Kabatwa HC	Kinigi HC
Zaza HC	Kiziguro DH	Tabagwe HC	Kora HC	Muhoza HC
	Ngarama HC	Ndama (nyagatare) HC	Rwankeri HC	Nyakinama HC
	Ngarama DH	Ntoma HC	Shyira DH	Ruhengeri PH
	Rwembogo HC	Rukomo HC		
	Rwimitereri HC	Cyabayaga HC		

## Annex 20. List of Data Collectors

CODE	CODES	NAMES	PHONES
<b>TEAM 1</b>			
	001	Dr. NTIZIMIRA Christian	07 88 41 52 25
	002	MUNYIHOREZE Janvière	07 88 75 78 50
	003	INGABIRE Mary	07 88 65 96 84
<b>TEAM 2</b>			
	004	MUKARUSINE Cecile	07 88 60 89 12
	005	NAKURE Claire	07 88 51 58 15
	006	IGIRANEZA Clément	07 88 52 69 38
<b>TEAM 3</b>			
	007	BUREGE Christiane	07 88 30 42 52
	008	HABIYAREMYE F.Xavier	07 88 52 10 95
	009	UMURERWA Vennah	07 85 64 53 55
<b>TEAM 4</b>			
	010	NYINAWABEGA Jeanine	07 83 42 83 71
	011	MUSAFIRI Baptiste	07 88 74 50 22
	012	MUGABEKAZI Emma	07 88 30 97 78
<b>TEAM 5</b>			
	<b>013</b>	<b>HATEGKIMANA Sylvestre</b>	<b>07 88 30 32 98</b>
	014	KABATSI Dative	07 88 74 01 52
	015	MUKANDEKEZI Dorotheé	07 88 75 37 98
	015	KANKINDI Amini	07 87 92 36 29
<b>TEAM 6</b>			
	017	UWERA M. Clarisse	07 88 62 20 86
	018	MUJAWAMARIYA Therese	07 88 43 86 77
	019	RURANGWA Amanda	07 83 17 81 12
<b>CVI Contacts</b>			
1		Dr. Bosco AHORANAYEZU	07 88 30 55 29
2		Dr. Diane MUTAMBA	07 88 75 18 01
<b>MCSP Contacts</b>			
1		Mr. Marcel MANARIYO	07 88 74 47 31
2		Dr. Jacqueline UMUNYANA	07 88 35 59 78

# Annex 2I. Letter of Introduction



A Healthy People. A Wealthy Nation

Maternal Child and Community Health Division

Kigali, 25/09/2015  
N° 20/391/MCCH/2015

To the Director of the District Hospital.....

**SUBJECT: Baseline Health Facility Assessment in MCSP supported districts**

**Dear Director;**

The Ministry of Health through the MCCH Division/RBC is organizing the Baseline Health Facility Assessment on some key maternal and child health aspects in the 10 districts to be supported by MCSP project on Maternal and Child Health Programs.

The Rapid Assessment of the existing health facility situation is deemed important to guide planning and implementation of Rwanda MCSP work plan activities in collaboration with the MOH. MCSP will strengthen the minimum package of RMNCH services at facilities and in communities through capacity building, social and behavioral change communications, rigorous monitoring and evaluation, and by facilitating integrated RMNCH service delivery.

This assessment will focus primarily on health facility based care, and also investigates aspects of community involvement related to demand creation and the community-facility service linkage.

The assessment will be conducted by the data collectors selected by the Ministry of Health from **28 September to 20 October 2015** and we request your facilitation to work with the selected health facilities in your catchment area (details attached).

For more information, please contact, **Dr Anicet Nzabonimpa** from MoH(Tel :0788561015) or **Marcel Manariyo** from MCSP(Tel:0788744731).

Sincerely,

**Dr NGABO Fidèle**  
**Ag Head of MCCH.**

**CC:**

- Mayor of district
- Jhpiego/MCSP Country Director

## Annex 22. Health Care Provider's Training

Table 25. Total number of health care providers by category

Districts	Male	Female	Generalist (non-specialist) <small>Medical Doctor</small>	Youth Service Provider	Registered Nurse	Registered Midwife	Community Health Worker in Charge	Specialist in Obstetrics and Gynecology	Specialist in Pediatrics	Specialist in Anesthesia	Anesthetist, Non-Doctor	Pharmacist	Pharmacist Assistant	Laboratory Technician	Radiologist	Radiologist Assistant
Gatsibo	125	128	20	2	143	17	8	0	0	0	6	2	0	32	2	0
Huye	69	210	33	1	90	44	4	3	0	0	4	1	0	13	9	0
Kamonyi	56	120	7	7	122	3	5	0	0	0	3	1	0	17	2	0
Musanze	89	175	12	0	164	19	5	2	1	1	7	1	0	27	4	0
Ngoma	85	121	12	1	112	20	4	1	1	1	4	2	2	20	2	0
Nyabihu	81	92	12	0	102	9	6	0	0	0	4	1	0	17	1	0
Nyagatare	129	117	12	0	136	24	7	0	0	0	4	1	3	25	2	0
Nyamagabe	80	134	15	3	113	15	7	0	0	0	5	1	0	23	3	1
Nyaruguru	66	61	7	3	78	5	6	0	0	0	2	1	0	15	1	0
Rwamagana	69	148	6	4	130	24	5	1	1	0	3	1	0	17	4	0



**Table 26. Health care staff that provide antenatal care**

Districts	Male	Female	Generalist (non-specialist) Medical Doctor	Youth Service Provider	Registered Nurse	Registered Midwife	Community Health Worker in Charge	Specialist in Obstetrics and Gynecology	Specialist in Pediatrics	Specialist in Anesthesia	Anesthetist, Non-Doctor	Pharmacist	Pharmacist Assistant	Laboratory Technician	Radiologist	Radiologist Assistant
Gatsibo	21	32	0	1	51	1	0	0	0	0	0	0	0	0	0	0
Huye	8	17	9	0	3	12	1	0	0	0	0	0	0	0	0	0
Kamonyi	4	25	0	1	28	0	0	0	0	0	0	0	0	0	0	0
Musanze	13	37	0	0	47	3	0	0	0	0	0	0	0	0	0	0
Ngoma	6	18	0	0	22	1	1	0	0	0	0	0	0	0	0	0
Nyabihu	14	35	0	0	47	2	0	0	0	0	0	0	0	0	0	0
Nyagatare	12	10	0	0	22	0	0	0	0	0	0	0	0	0	0	0
Nyamagabe	6	19	0	0	24	1	0	0	0	0	0	0	0	0	0	0
Nyaruguru	16	14	0	1	27	0	0	0	0	0	2	0	0	0	0	0
Rwamagana	17	20	6	0	26	4	0	1	0	0	0	0	0	0	0	0

**Table 27. Health care providers who attend to normal deliveries**

Districts	Male	Female	Generalist (non-specialist) Medical Doctor	Youth Service Provider	Registered Nurse	Registered Midwife	Community Health Worker in Charge	Specialist in Obstetrics and Gynecology	Specialist in Pediatrics	Specialist in Anesthesia	Anesthetist, Non-Doctor	Pharmacist	Pharmacist Assistant	Laboratory Technician	Radiologist	Radiologist Assistant
Gatsibo	33	49	10	1	64	7	0	0	0	0	0	0	0	0	0	0
Huye	28	39	16	0	19	31	1	0	0	0	0	0	0	0	0	0
Kamonyi	29	60	6	2	78	3	0	0	0	0	0	0	0	0	0	0
Musanze	23	76	5	0	75	19	0	0	0	0	0	0	0	0	0	0
Ngoma	12	24	0	0	34	1	1	0	0	0	0	0	0	0	0	0
Nyabihu	27	43	10	0	51	9	0	0	0	0	0	0	0	0	0	0
Nyagatare	37	41	12	0	45	21	0	0	0	0	0	0	0	0	0	0
Nyamagabe	16	35	9	0	29	13	0	0	0	0	0	0	0	0	0	0
Nyaruguru	29	16	7	1	33	4	0	0	0	0	0	0	0	0	0	0
Rwamagana	16	36	6	0	25	21	0	0	0	0	0	0	0	0	0	0

**Table 28. Health care providers that are trained in BEmONC**

Districts	Male	Female	Generalist (non-specialist) Medical Doctor	Youth Service Provider	Registered Nurse	Registered Midwife	Community Health Worker in Charge	Specialist in Obstetrics and Gynecology	Specialist in Pediatrics	Specialist in Anesthesia	Anesthetist, Non- Doctor	Pharmacist	Pharmacist Assistant	Laboratory Technician	Radiologist	Radiologist Assistant
Gatsibo	2	6	1	1	6	0	0	0	0	0	0	0	0	0	0	0
Huye	7	11	5	0	5	7	1	0	0	0	0	0	0	0	0	0
Kamonyi	1	11	0	0	11	1	0	0	0	0	0	0	0	0	0	0
Musanze	6	24	1	0	22	2	0	0	0	0	5	0	0	0	0	0
Ngoma	3	10	2	0	8	2	0	0	0	0	1	0	0	0	0	0
Nyabihu	4	17	0	0	18	3	0	0	0	0	0	0	0	0	0	0
Nyagatare	7	9	0	0	13	3	0	0	0	0	0	0	0	0	0	0
Nyamagabe	2	12	0	0	10	4	0	0	0	0	0	0	0	0	0	0
Nyaruguru	16	15	1	0	27	2	0	0	0	0	1	0	0	0	0	0
Rwamagana	3	13	2	0	13	1	0	0	0	0	0	0	0	0	0	0

**Table 29. Health care providers working in kangaroo mother care ward unit**

Districts	Male	Female	Generalist (non-specialist) Medical Doctor	Youth Service Provider	Registered Nurse	Registered Midwife	Community Health Worker in Charge	Specialist in Obstetrics and Gynecology	Specialist in Pediatrics	Specialist in Anesthesia	Anesthetist, Non- Doctor	Pharmacist	Pharmacist Assistant	Laboratory Technician	Radiologist	Radiologist Assistant
Gatsibo	9	8	11	0	4	2	0	0	0	0	0	0	0	0	0	0
Huye	5	8	6	0	6	1	0	0	0	0	0	0	0	0	0	0
Kamonyi	6	5	6	1	4	0	0	0	0	0	0	0	0	0	0	0
Musanze	0	10	1	0	9	0	0	0	0	0	0	0	0	0	0	0
Ngoma	3	7	1	0	8	0	0	0	1	0	0	0	0	0	0	0
Nyabihu	11	3	10	0	4	0	0	0	0	0	0	0	0	0	0	0
Nyagatare	1	7	1	0	6	1	0	0	0	0	0	0	0	0	0	0
Nyamagabe	1	2	1	0	1	1	0	0	0	0	0	0	0	0	0	0
Nyaruguru	15	5	7	0	13	0	0	0	0	0	0	0	0	0	0	0
Rwamagana	0	9	1	0	7	0	0	0	1	0	0	0	0	0	0	0

**Table 30. Health care providers that provide essential newborn care**

Districts	Male	Female	Generalist (non-specialist) Medical Doctor	Youth Service Provider	Registered Nurse	Registered Midwife	Community Health Worker in Charge	Specialist in Obstetrics and Gynecology	Specialist in Pediatrics	Specialist in Anesthesia	Anesthetist, Non-Doctor	Pharmacist	Pharmacist Assistant	Laboratory Technician	Radiologist	Radiologist Assistant
Gatsibo	35	47	10	1	64	7	0	0	0	0	0	0	0	0	0	0
Huye	24	32	12	0	19	21	0	0	0	0	4	0	0	0	0	0
Kamonyi	28	52	6	2	72	0	0	0	0	0	0	0	0	0	0	0
Musanze	23	75	5	0	74	19	0	0	0	0	0	0	0	0	0	0
Ngoma	13	26	0	0	37	2	0	0	0	0	0	0	0	0	0	0
Nyabihu	26	41	10	0	49	8	0	0	0	0	0	0	0	0	0	0
Nyagatare	34	48	12	0	49	21	0	0	0	0	0	0	0	0	0	0
Nyamagabe	25	46	10	0	47	11	0	0	0	0	3	0	0	0	0	0
Nyaruguru	31	19	7	0	37	4	0	0	0	0	2	0	0	0	0	0
Rwamagana	20	49	6	0	40	21	0	1	1	0	0	0	0	0	0	0

**Table 31. Health care providers trained to manage preterm and low-birthweight babies**

Districts	Male	Female	Generalist (non-specialist) Medical Doctor	Youth Service Provider	Registered Nurse	Registered Midwife	Community Health Worker in Charge	Specialist in Obstetrics and Gynecology	Specialist in Pediatrics	Specialist in Anesthesia	Anesthetist, Non-Doctor	Pharmacist	Pharmacist Assistant	Laboratory Technician	Radiologist	Radiologist Assistant
Gatsibo	0	3	1	0	1	1	0	0	0	0	0	0	0	0	0	0
Huye	0	3	1	0	2	0	0	0	0	0	0	0	0	0	0	0
Kamonyi	1	3	2	0	2	0	0	0	0	0	0	0	0	0	0	0
Musanze	3	8	1	0	8	1	0	0	1	0	0	0	0	0	0	0
Ngoma	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nyabihu	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0
Nyagatare	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nyamagabe	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nyaruguru	2	2	1	0	3	0	0	0	0	0	0	0	0	0	0	0
Rwamagana	0	10	1	0	6	2	0	0	1	0	0	0	0	0	0	0

**Table 32. Health care providers trained on kangaroo mother care**

Districts	Male	Female	Generalist (non-specialist) Medical Doctor	Youth Service Provider	Registered Nurse	Registered Midwife	Community Health Worker in Charge	Specialist in Obstetrics and Gynecology	Specialist in Pediatrics	Specialist in Anesthesia	Anesthetist, Non- Doctor	Pharmacist	Pharmacist Assistant	Laboratory Technician	Radiologist	Radiologist Assistant
Gatsibo	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Huye	0	7	2	0	1	4	0	0	0	0	0	0	0	0	0	0
Kamonyi	1	3	2	0	2	0	0	0	0	0	0	0	0	0	0	0
Musanze	3	16	1	0	15	2	0	0	1	0	0	0	0	0	0	0
Ngoma	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Nyabihu	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Nyagatare	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0
Nyamagabe	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Nyaruguru	1	2	1	0	2	0	0	0	0	0	0	0	0	0	0	0
Rwamagana	0	5	1	0	2	1	0	0	1	0	0	0	0	0	0	0

**Table 33. Health care providers trained to provide nursery care, including care of babies in incubators, radiant heaters, ventilators or continuous positive airway pressure**

Districts	Male	Female	Generalist (non-specialist) Medical Doctor	Youth Service Provider	Registered Nurse	Registered Midwife	Community Health Worker in Charge	Specialist in Obstetrics and Gynecology	Specialist in Pediatrics	Specialist in Anesthesia	Anesthetist, Non-Doctor	Pharmacist	Pharmacist Assistant	Laboratory Technician	Radiologist	Radiologist Assistant
Gatsibo	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Huye	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Kamonyi	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Musanze	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ngoma	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Nyabihu	3	4	2	0	5	0	0	0	0	0	0	0	0	0	0	0
Nyagatare	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0
Nyamagabe	3	5	1	0	6	1	0	0	0	0	0	0	0	0	0	0
Nyaruguru	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rwamagana	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



**Table 34. Health care providers trained in asphyxia management/helping babies breathe**

Districts	Male	Female	Generalist (non-specialist) Medical Doctor	Youth Service Provider	Registered Nurse	Registered Midwife	Community Health Worker in Charge	Specialist in Obstetrics and Gynecology	Specialist in Pediatrics	Specialist in Anesthesia	Anesthetist, Non-Doctor	Pharmacist	Pharmacist Assistant	Laboratory Technician	Radiologist	Radiologist Assistant
Gatsibo	1	4	1	0	3	1	0	0	0	0	0	0	0	0	0	0
Huye	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Kamonyi	1	5	2	0	4	0	0	0	0	0	0	0	0	0	0	0
Musanze	1	15	1	0	13	1	0	0	1	0	0	0	0	0	0	0
Ngoma	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nyabihu	9	13	6	0	11	5	0	0	0	0	0	0	0	0	0	0
Nyagatare	1	3	0	0	2	2	0	0	0	0	0	0	0	0	0	0
Nyamagabe	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0
Nyaruguru	3	1	1	0	3	0	0	0	0	0	0	0	0	0	0	0
Rwamagana	3	20	1	0	8	8	1	1	2	1	1	0	0	0	0	0

**Table 35. Health care providers trained to manage sick newborns (including sepsis)**

Districts	Male	Female	Generalist (non-specialist) Medical Doctor	Youth Service Provider	Registered Nurse	Registered Midwife	Community Health Worker in Charge	Specialist in Obstetrics and Gynecology	Specialist in Pediatrics	Specialist in Anesthesia	Anesthetist, Non-Doctor	Pharmacist	Pharmacist Assistant	Laboratory Technician	Radiologist	Radiologist Assistant
Gatsibo	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Huye	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Kamonyi	1	5	2	0	4	0	0	0	0	0	0	0	0	0	0	0
Musanze	1	10	1	0	0	9	0	0	0	0	1	0	0	0	0	0
Ngoma	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nyabihu	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nyagatare	2	4	1	0	4	1	0	0	0	0	0	0	0	0	0	0
Nyamagabe	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nyaruguru	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0
Rwamagana	3	3	4	0	1	0	0	0	1	0	0	0	0	0	0	0

**Table 36. Health care providers trained in postnatal care for mothers**

Districts	Male	Female	Generalist (non-specialist) Medical Doctor	Youth Service Provider	Registered Nurse	Registered Midwife	Community Health Worker in Charge	Specialist in Obstetrics and Gynecology	Specialist in Pediatrics	Specialist in Anesthesia	Anesthetist, Non-Doctor	Pharmacist	Pharmacist Assistant	Laboratory Technician	Radiologist	Radiologist Assistant
Gatsibo	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Huye	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0
Kamonyi	1	5	0	0	5	1	0	0	0	0	0	0	0	0	0	0
Musanze	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Ngoma	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nyabihu	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0
Nyagatare	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0
Nyamagabe	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nyaruguru	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0
Rwamagana	1	3	0	0	4	0	0	0	0	0	0	0	0	0	0	0

**Table 37. Health care providers trained in postnatal care for newborns**

Districts	Male	Female	Generalist (non-specialist) Medical Doctor	Youth Service Provider	Registered Nurse	Registered Midwife	Community Health Worker in Charge	Specialist in Obstetrics and Gynecology	Specialist in Pediatrics	Specialist in Anesthesia	Anesthetist, Non-Doctor	Pharmacist	Pharmacist Assistant	Laboratory Technician	Radiologist	Radiologist Assistant
Gatsibo	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Huye	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0
Kamonyi	1	4	0	0	5	0	0	0	0	0	0	0	0	0	0	0
Musanze	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0
Ngoma	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nyabihu	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0
Nyagatare	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0
Nyamagabe	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nyaruguru	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0
Rwamagana	1	2	0	0	3	0	0	0	0	0	0	0	0	0	0	0

**Table 38. Health care providers trained in infection prevention and control**

Districts	Male	Female	Generalist (non-specialist) Medical Doctor	Youth Service Provider	Registered Nurse	Registered Midwife	Community Health Worker in Charge	Specialist in Obstetrics and Gynecology	Specialist in Pediatrics	Specialist in Anesthesia	Anesthetist, Non-Doctor	Pharmacist	Pharmacist Assistant	Laboratory Technician	Radiologist	Radiologist Assistant
Gatsibo	10	9	0	0	19	0	0	0	0	0	0	0	0	0	0	0
Huye	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Kamonyi	1	2	1	0	2	0	0	0	0	0	0	0	0	0	0	0
Musanze	7	6	1	0	5	0	0	0	0	0	7	0	0	0	0	0
Ngoma	14	14	2	0	18	2	0	0	0	0	2	2	0	2	0	0
Nyabihu	1	2	0	0	3	0	0	0	0	0	0	0	0	0	0	0
Nyagatare	2	2	0	0	4	0	0	0	0	0	0	0	0	0	0	0
Nyamagabe	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nyaruguru	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0
Rwamagana	0	2	1	0	1	0	0	0	0	0	0	0	0	0	0	0

**Table 39. Health care providers trained to provide active management of the third stage of labor**

Districts	Male	Female	Generalist (non-specialist) Medical Doctor	Youth Service Provider	Registered Nurse	Registered Midwife	Community Health Worker in Charge	Specialist in Obstetrics and Gynecology	Specialist in Pediatrics	Specialist in Anesthesia	Anesthetist, Non-Doctor	Pharmacist	Pharmacist Assistant	Laboratory Technician	Radiologist	Radiologist Assistant
Gatsibo	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Huye	4	6	5	0	0	4	1	0	0	0	0	0	0	0	0	0
Kamonyi	0	6	0	0	5	1	0	0	0	0	0	0	0	0	0	0
Musanze	3	7	1	0	2	2	0	0	0	0	5	0	0	0	0	0
Ngoma	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nyabihu	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nyagatare	3	4	0	0	4	3	0	0	0	0	0	0	0	0	0	0
Nyamagabe	3	4	0	0	4	3	0	0	0	0	0	0	0	0	0	0
Nyaruguru	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0
Rwamagana	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0

**Table 40. Health care providers trained in provision of cesarean sections?**

Districts	Male	Female	Generalist (non-specialist) Medical Doctor	Youth Service Provider	Registered Nurse	Registered Midwife	Community Health Worker in Charge	Specialist in Obstetrics and Gynecology	Specialist in Pediatrics	Specialist in Anesthesia	Anesthetist, Non-Doctor	Pharmacist	Pharmacist Assistant	Laboratory Technician	Radiologist	Radiologist Assistant
Gatsibo	2	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0
Huye	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Kamonyi	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Musanze	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ngoma	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Nyabihu	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nyagatare	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Nyamagabe	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Nyaruguru	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Rwamagana	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0

**Table 41. Health care providers trained to assist during cesarean sections**

Districts	Male	Female	Generalist (non-specialist) Medical Doctor	Youth Service Provider	Registered Nurse	Registered Midwife	Community Health Worker in Charge	Specialist in Obstetrics and Gynecology	Specialist in Pediatrics	Specialist in Anesthesia	Anesthetist, Non-Doctor	Pharmacist	Pharmacist Assistant	Laboratory Technician	Radiologist	Radiologist Assistant
Gatsibo	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Huye	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Kamonyi	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Musanze	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ngoma	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nyabihu	8	10	0	0	18	0	0	0	0	0	0	0	0	0	0	0
Nyagatare	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nyamagabe	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nyaruguru	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rwamagana	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



**Table 42. Health care providers trained in focused antenatal care?**

Districts	Male	Female	Generalist (non-specialist) Medical Doctor	Youth Service Provider	Registered Nurse	Registered Midwife	Community Health Worker in Charge	Specialist in Obstetrics and Gynecology	Specialist in Pediatrics	Specialist in Anesthesia	Anesthetist, Non-Doctor	Pharmacist	Pharmacist Assistant	Laboratory Technician	Radiologist	Radiologist Assistant
Gatsibo	1	6	0	0	6	1	0	0	0	0	0	0	0	0	0	0
Huye	1	3	2	0	1	1	0	0	0	0	0	0	0	0	0	0
Kamonyi	2	7	0	0	8	1	0	0	0	0	0	0	0	0	0	0
Musanze	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	0
Ngoma	1	7	0	0	6	2	0	0	0	0	0	0	0	0	0	0
Nyabihu	1	8	0	0	9	0	0	0	0	0	0	0	0	0	0	0
Nyagatare	4	6	0	0	8	2	0	0	0	0	0	0	0	0	0	0
Nyamagabe	6	23	0	0	27	2	0	0	0	0	0	0	0	0	0	0
Nyaruguru	3	1	0	0	4	0	0	0	0	0	0	0	0	0	0	0
Rwamagana	3	4	0	0	6	1	0	0	0	0	0	0	0	0	0	0

**Table 43. Health care providers trained on integrated family planning, including intrauterine device?**

Districts	Male	Female	Generalist (non-specialist) Medical Doctor	Youth Service Provider	Registered Nurse	Registered Midwife	Community Health Worker in Charge	Specialist in Obstetrics and Gynecology	Specialist in Pediatrics	Specialist in Anesthesia	Anesthetist, Non-Doctor	Pharmacist	Pharmacist Assistant	Laboratory Technician	Radiologist	Radiologist Assistant
Gatsibo	1	5	0	0	5	1	0	0	0	0	0	0	0	0	0	0
Huye	3	10	3	0	6	4	0	0	0	0	0	0	0	0	0	0
Kamonyi	5	17	1	0	21	0	0	0	0	0	0	0	0	0	0	0
Musanze	0	9	0	0	9	0	0	0	0	0	0	0	0	0	0	0
Ngoma	12	17	0	1	28	0	0	0	0	0	0	0	0	0	0	0
Nyabihu	0	6	0	0	6	0	0	0	0	0	0	0	0	0	0	0
Nyagatare	4	6	0	0	10	0	0	0	0	0	0	0	0	0	0	0
Nyamagabe	8	16	1	0	19	3	1	0	0	0	0	0	0	0	0	0
Nyaruguru	4	6	0	0	10	0	0	0	0	0	0	0	0	0	0	0
Rwamagana	9	11	0	0	16	2	1	1	0	0	0	0	0	0	0	0

**Table 44. Health care providers trained in emergency triage and treatment**

Districts	Male	Female	Generalist (non-specialist) Medical Doctor	Youth Service Provider	Registered Nurse	Registered Midwife	Community Health Worker in Charge	Specialist in Obstetrics and Gynecology	Specialist in Pediatrics	Specialist in Anesthesia	Anesthetist, Non-Doctor	Pharmacist	Pharmacist Assistant	Laboratory Technician	Radiologist	Radiologist Assistant
Gatsibo	1	3	1	0	3	0	0	0	0	0	0	0	0	0	0	0
Huye	2	5	0	0	6	1	0	0	0	0	0	0	0	0	0	0
Kamonyi	1	3	0	0	4	0	0	0	0	0	0	0	0	0	0	0
Musanze	1	6	0	0	6	0	0	0	1	0	0	0	0	0	0	0
Ngoma	7	1	3	0	4	1	0	0	0	0	0	0	0	0	0	0
Nyabihu	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nyagatare	5	6	2	0	7	2	0	0	0	0	0	0	0	0	0	0
Nyamagabe	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Nyaruguru	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rwamagana	8	17	4	0	13	5	0	0	1	0	2	0	0	0	0	0

**Table 45. Health care providers trained on integrated family planning, including implant services**

Districts	Male	Female	Generalist (non-specialist) Medical Doctor	Youth Service Provider	Registered Nurse	Registered Midwife	Community Health Worker in Charge	Specialist in Obstetrics and Gynecology	Specialist in Pediatrics	Specialist in Anesthesia	Anesthetist, Non-Doctor	Pharmacist	Pharmacist Assistant	Laboratory Technician	Radiologist	Radiologist Assistant
Gatsibo	2	4	0	0	5	1	0	0	0	0	0	0	0	0	0	0
Huye	4	14	3	0	6	5	1	0	0	0	2	0	0	1	0	0
Kamonyi	2	14	0	0	16	0	0	0	0	0	0	0	0	0	0	0
Musanze	0	10	0	0	10	0	0	0	0	0	0	0	0	0	0	0
Ngoma	12	18	0	1	29	0	0	0	0	0	0	0	0	0	0	0
Nyabihu	1	9	0	0	9	1	0	0	0	0	0	0	0	0	0	0
Nyagatare	8	9	0	0	14	3	0	0	0	0	0	0	0	0	0	0
Nyamagabe	4	13	1	0	14	2	0	0	0	0	0	0	0	0	0	0
Nyaruguru	5	10	1	0	14	0	0	0	0	0	0	0	0	0	0	0
Rwamagana	10	8	0	0	16	1	1	0	0	0	0	0	0	0	0	0

**Table 46. Health care providers that are trained in tubal ligation**

Districts	Male	Female	Generalist (non-specialist) Medical Doctor	Youth Service Provider	Registered Nurse	Registered Midwife	Community Health Worker in Charge	Specialist in Obstetrics and Gynecology	Specialist in Pediatrics	Specialist in Anesthesia	Anesthetist, Non-Doctor	Pharmacist	Pharmacist Assistant	Laboratory Technician	Radiologist	Radiologist Assistant
Gatsibo	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Huye	1	4	0	0	1	0	1	0	0	0	2	0	0	1	0	0
Kamonyi	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Musanze	1	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0
Ngoma	2	1	1	0	0	1	0	0	0	0	1	0	0	0	0	0
Nyabihu	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0
Nyagatare	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nyamagabe	3	1	2	0	2	0	0	0	0	0	0	0	0	0	0	0
Nyaruguru	2	1	1	0	1	0	0	0	0	0	1	0	0	0	0	0
Rwamagana	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0

**Table 47. Health care providers trained in no-scalpel vasectomy**

Districts	Male	Female	Generalist (non-specialist) Medical Doctor	Youth Service Provider	Registered Nurse	Registered Midwife	Community Health Worker in Charge	Specialist in Obstetrics and Gynecology	Specialist in Pediatrics	Specialist in Anesthesia	Anesthetist, Non-Doctor	Pharmacist	Pharmacist Assistant	Laboratory Technician	Radiologist	Radiologist Assistant
Gatsibo	2	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0
Huye	1	3	1	0	2	0	0	0	0	0	0	0	0	1	0	0
Kamonyi	4	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0
Musanze	1	3	2	0	0	2	0	0	0	0	0	0	0	0	0	0
Ngoma	2	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0
Nyabihu	3	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0
Nyagatare	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0
Nyamagabe	6	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0
Nyaruguru	3	7	1	0	8	1	0	0	0	0	0	0	0	0	0	0
Rwamagana	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0

**Table 48. Health care providers trained on postpartum family planning, including lactational amenorrhea method, postpartum IUD and postpartum tubal ligation**

Districts	Male	Female	Generalist (non-specialist) Medical Doctor	Youth Service Provider	Registered Nurse	Registered Midwife	Community Health Worker in Charge	Specialist in Obstetrics and Gynecology	Specialist in Pediatrics	Specialist in Anesthesia	Anesthetist, Non-Doctor	Pharmacist	Pharmacist Assistant	Laboratory Technician	Radiologist	Radiologist Assistant
Gatsibo	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Huye	0	8	0	0	4	2	0	0	0	0	2	0	0	0	0	0
Kamonyi	1	4	1	0	2	1	0	0	0	0	1	0	0	0	0	0
Musanze	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ngoma	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nyabihu	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nyagatare	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Nyamagabe	2	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0
Nyaruguru	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0
Rwamagana	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0

**Table 49. Health care providers trained on youth-friendly services**

Districts	Male	Female	Generalist (non-specialist) Medical Doctor	Youth Service Provider	Registered Nurse	Registered Midwife	Community Health Worker in Charge	Specialist in Obstetrics and Gynecology	Specialist in Pediatrics	Specialist in Anesthesia	Anesthetist, Non-Doctor	Pharmacist	Pharmacist Assistant	Laboratory Technician	Radiologist	Radiologist Assistant
Gatsibo	2	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0
Huye	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Kamonyi	3	6	0	3	6	0	0	0	0	0	0	0	0	0	0	0
Musanze	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ngoma	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nyabihu	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nyagatare	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Nyamagabe	3	3	1	1	4	0	0	0	0	0	0	0	0	0	0	0
Nyaruguru	3	5	0	1	5	2	0	0	0	0	0	0	0	0	0	0
Rwamagana	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



**Table 50. Health care providers trained on integrated management of neonatal and childhood illnesses services**

Districts	Male	Female	Generalist (non-specialist) Medical Doctor	Youth Service Provider	Registered Nurse	Registered Midwife	Community Health Worker in Charge	Specialist in Obstetrics and Gynecology	Specialist in Pediatrics	Specialist in Anesthesia	Anesthetist, Non-Doctor	Pharmacist	Pharmacist Assistant	Laboratory Technician	Radiologist	Radiologist Assistant
Gatsibo	1	6	0	0	7	0	0	0	0	0	0	0	0	0	0	0
Huye	4	16	2	1	10	4	1	0	0	0	2	0	0	0	0	0
Kamonyi	4	4	1	0	7	0	0	0	0	0	0	0	0	0	0	0
Musanze	8	16	0	0	24	0	0	0	0	0	0	0	0	0	0	0
Ngoma	2	7	0	0	8	1	0	0	0	0	0	0	0	0	0	0
Nyabihu	8	5	0	0	13	0	0	0	0	0	0	0	0	0	0	0
Nyagatare	6	6	0	0	12	0	0	0	0	0	0	0	0	0	0	0
Nyamagabe	5	10	0	0	15	0	0	0	0	0	0	0	0	0	0	0
Nyaruguru	13	10	0	0	22	1	0	0	0	0	0	0	0	0	0	0
Rwamagana	2	8	0	0	10	0	0	0	0	0	0	0	0	0	0	0

**Table 51. Health care providers trained on gender-related matters**

Districts	Male	Female	Generalist (non-specialist) Medical Doctor	Youth Service Provider	Registered Nurse	Registered Midwife	Community Health Worker in Charge	Specialist in Obstetrics and Gynecology	Specialist in Pediatrics	Specialist in Anesthesia	Anesthetist, Non-Doctor	Pharmacist	Pharmacist Assistant	Laboratory Technician	Radiologist	Radiologist Assistant
Gatsibo	3	2	0	1	3	0	0	0	0	0	0	0	0	1	0	0
Huye	1	5	2	0	1	3	0	0	0	0	0	0	0	0	0	0
Kamonyi	1	11	1	1	10	0	0	0	0	0	0	0	0	0	0	0
Musanze	1	9	1	0	8	0	1	0	0	0	0	0	0	0	0	0
Ngoma	6	16	4	0	12	2	1	0	0	0	0	0	0	3	0	0
Nyabihu	1	2	0	0	3	0	0	0	0	0	0	0	0	0	0	0
Nyagatare	14	18	1	0	26	1	2	0	0	0	0	0	0	2	0	0
Nyamagabe	7	9	4	1	10	0	0	0	0	0	0	0	0	1	0	0
Nyaruguru	8	6	2	0	11	0	0	0	0	0	0	0	0	1	0	0
Rwamagana	3	2	0	0	5	0	0	0	0	0	0	0	0	0	0	0

**Table 52. Health care providers trained/oriented on maternal death audits**

Districts	Male	Female	Generalist (non-specialist) Medical Doctor	Youth Service Provider	Registered Nurse	Registered Midwife	Community Health Worker in Charge	Specialist in Obstetrics and Gynecology	Specialist in Pediatrics	Specialist in Anesthesia	Anesthetist, Non- Doctor	Pharmacist	Pharmacist Assistant	Laboratory Technician	Radiologist	Radiologist Assistant
Gatsibo	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0
Huye	1	5	2	0	2	1	0	1	0	0	0	0	0	0	0	0
Kamonyi	1	5	1	0	3	1	1	0	0	0	0	0	0	0	0	0
Musanze	2	7	0	0	4	1	3	1	0	0	0	0	0	0	0	0
Ngoma	1	5	2	0	2	1	1	0	0	0	0	0	0	0	0	0
Nyabihu	4	3	1	0	5	1	0	0	0	0	0	0	0	0	0	0
Nyagatare	4	4	1	0	4	2	1	0	0	0	0	0	0	0	0	0
Nyamagabe	5	16	2	0	11	1	2	0	0	0	1	0	0	0	0	4
Nyaruguru	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0
Rwamagana	2	6	0	0	4	2	2	0	0	0	0	0	0	0	0	0

**Table 53. Health care providers trained/oriented on newborn and perinatal death audits**

Districts	Male	Female	Generalist (non-specialist) Medical Doctor	Youth Service Provider	Registered Nurse	Registered Midwife	Community Health Worker in Charge	Specialist in Obstetrics and Gynecology	Specialist in Pediatrics	Specialist in Anesthesia	Anesthetist, Non-Doctor	Pharmacist	Pharmacist Assistant	Laboratory Technician	Radiologist	Radiologist Assistant
Gatsibo	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	0
Huye	0	5	1	0	2	2	0	0	0	0	0	0	0	0	0	0
Kamonyi	1	5	1	0	3	1	1	0	0	0	0	0	0	0	0	0
Musanze	1	5	0	0	3	0	3	0	0	0	0	0	0	0	0	0
Ngoma	1	4	1	0	4	0	0	0	0	0	0	0	0	0	0	0
Nyabihu	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Nyagatare	3	5	1	0	5	2	0	0	0	0	0	0	0	0	0	0
Nyamagabe	7	11	2	1	11	1	3	0	0	0	0	0	0	0	0	0
Nyaruguru	2	2	1	0	2	1	0	0	0	0	0	0	0	0	0	0
Rwamagana	2	6	0	0	4	2	2	0	0	0	0	0	0	0	0	0

**Table 54. Health care providers trained on malaria diagnosis and treatment**

Districts	Male	Female	Generalist (non-specialist) Medical Doctor	Youth Service Provider	Registered Nurse	Registered Midwife	Community Health Worker in Charge	Specialist in Obstetrics and Gynecology	Specialist in Pediatrics	Specialist in Anesthesia	Anesthetist, Non-Doctor	Pharmacist	Pharmacist Assistant	Laboratory Technician	Radiologist	Radiologist Assistant
Gatsibo	19	35	0	1	51	0	1	0	0	0	0	0	0	1	0	0
Huye	4	7	2	2	3	3	1	0	0	0	0	0	0	0	0	0
Kamonyi	6	13	1	1	16	0	1	0	0	0	0	0	0	0	0	0
Musanze	9	19	3	0	22	0	2	0	0	0	0	0	0	1	0	0
Ngoma	9	15	1	0	12	9	0	0	0	0	0	0	0	2	0	0
Nyabihu	10	8	0	0	18	0	0	0	0	0	0	0	0	0	0	0
Nyagatare	19	10	0	0	26	1	0	0	0	0	0	0	0	2	0	0
Nyamagabe	20	22	1	0	40	1	0	0	0	0	0	0	0	0	0	0
Nyaruguru	16	12	1	9	18	0	0	0	0	0	0	0	0	0	0	0
Rwamagana	1	8	0	0	9	0	0	0	0	0	0	0	0	0	0	0

**Table 55. Health care providers trained on anemia diagnosis and management**

Districts	Male	Female	Generalist (non-specialist) Medical Doctor	Youth Service Provider	Registered Nurse	Registered Midwife	Community Health Worker in Charge	Specialist in Obstetrics and Gynecology	Specialist in Pediatrics	Specialist in Anesthesia	Anesthetist, Non-Doctor	Pharmacist	Pharmacist Assistant	Laboratory Technician	Radiologist	Radiologist Assistant
Gatsibo	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Huye	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Kamonyi	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Musanze	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ngoma	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nyabihu	3	1	0	0	1	0	0	0	0	0	0	0	0	3	0	0
Nyagatare	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Nyamagabe	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Nyaruguru	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rwamagana	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

**Table 56. Number of health facilities with at least one person on duty and physically present 24 hours a day**

Districts	Male	Female	Generalist (non-specialist) Medical Doctor	Youth Service Provider	Registered Nurse	Registered Midwife	Community Health Worker in Charge	Specialist in Obstetrics and Gynecology	Specialist in Pediatrics	Specialist in Anesthesia	Anesthetist, Non-Doctor	Pharmacist	Pharmacist Assistant	Laboratory Technician	Radiologist	Radiologist Assistant
Gatsibo	9	7	2	0	8	2	0	0	0	0	2	0	0	2	0	0
Huye	7	4	1	2	3	2	0	0	0	0	1	0	0	2	0	0
Kamonyi	5	5	1	0	5	1	0	0	0	0	1	0	0	2	0	0
Musanze	6	5	2	1	4	1	0	0	0	0	1	0	0	1	1	0
Ngoma	5	4	1	1	3	1	0	0	0	0	1	0	0	1	1	0
Nyabihu	7	6	2	0	6	1	0	0	0	0	2	0	0	2	0	0
Nyagatare	7	5	1	0	8	1	0	0	0	0	1	0	0	1	0	0
Nyamagabe	10	7	2	1	7	3	0	0	0	1	1	0	1	1	0	0
Nyaruguru	5	5	1	0	6	1	0	0	0	0	1	0	0	1	0	0
Rwamagana	6	7	1	0	6	3	0	0	0	0	1	0	0	1	1	0

**Table 57. Number of Health care providers on morning shift**

Districts	Male	Female	Generalist (non-specialist) Medical Doctor	Youth Service Provider	Registered Nurse	Registered Midwife	Community Health Worker in Charge	Specialist in Obstetrics and Gynecology	Specialist in Pediatrics	Specialist in Anesthesia	Anesthetist, Non-Doctor	Pharmacist	Pharmacist Assistant	Laboratory Technician	Radiologist	Radiologist Assistant
Gatsibo	73	82	13	11	79	12	7	0	0	0	4	2	0	25	2	0
Huye	36	68	4	0	77	10	2	1	0	0	1	1	0	6	2	0
Kamonyi	31	52	4	5	53	1	5	0	0	0	1	1	0	11	2	0
Musanze	66	86	8	0	99	7	4	2	1	1	4	1	0	21	4	0
Ngoma	61	68	10	1	76	14	5	1	1	1	2	2	3	12	1	0
Nyabihu	50	45	9	1	60	3	6	0	0	0	2	1	0	12	1	0
Nyagatare	62	44	7	6	60	7	4	0	0	0	2	1	0	17	2	0
Nyamagabe	62	70	13	2	77	10	7	0	0	0	3	1	0	18	1	0
Nyaruguru	38	31	4	3	43	2	5	0	0	0	1	1	0	9	1	0
Rwamagana	37	58	1	4	59	10	4	1	1	0	0	1	0	12	2	0



**Table 58. Number of Health care providers on afternoon shift**

Districts	Male	Female	Generalist (non-specialist) Medical Doctor	Youth Service Provider	Registered Nurse	Registered Midwife	Community Health Worker in Charge	Specialist in Obstetrics and Gynecology	Specialist in Pediatrics	Specialist in Anesthesia	Anesthetist, Non-Doctor	Pharmacist	Pharmacist Assistant	Laboratory Technician	Radiologist	Radiologist Assistant
Gatsibo	39	49	6	11	40	5	4	0	0	0	2	1	4	14	1	0
Huye	28	57	4	0	61	7	2	0	0	0	1	1	0	7	2	0
Kamonyi	25	38	4	4	37	1	4	0	0	0	1	1	0	9	2	0
Musanze	51	75	8	0	81	6	2	2	1	1	4	1	0	16	4	0
Ngoma	7	0	0	0	3	0	1	0	0	0	0	0	0	3	0	0
Nyabihu	37	31	9	1	41	2	3	0	0	0	2	1	0	8	1	0
Nyagatare	36	33	7	0	36	6	3	0	0	0	2	1	0	12	2	0
Nyamagabe	34	43	8	1	45	6	3	0	0	0	2	1	0	10	1	0
Nyaruguru	23	17	4	1	23	2	3	0	0	0	1	1	0	4	1	0
Rwamagana	31	46	1	4	45	9	3	1	1	0	0	1	0	10	2	0

**Table 59. Number of Health care providers on night shift**

Districts	Male	Female	Generalist (non-specialist) Medical Doctor	Youth Service Provider	Registered Nurse	Registered Midwife	Community Health Worker in Charge	Specialist in Obstetrics and Gynecology	Specialist in Pediatrics	Specialist in Anesthesia	Anesthetist, Non-Doctor	Pharmacist	Pharmacist Assistant	Laboratory Technician	Radiologist	Radiologist Assistant
Gatsibo	22	23	5	2	30	4	0	0	0	0	2	0	0	2	0	0
Huye	7	12	1	0	13	3	0	0	0	0	1	0	0	1	0	0
Kamonyi	11	12	1	1	18	1	0	0	0	0	1	0	0	1	0	0
Musanze	33	29	2	0	49	5	0	0	0	0	2	0	0	4	0	0
Ngoma	11	10	2	0	8	6	0	0	0	0	2	0	0	2	1	0
Nyabihu	10	15	3	0	16	2	0	0	0	0	2	0	0	2	0	0
Nyagatare	14	15	2	0	20	5	0	0	0	0	1	0	0	1	0	0
Nyamagabe	18	18	2	0	25	5	0	0	0	0	2	0	0	2	0	0
Nyaruguru	11	6	2	0	12	1	0	0	0	0	1	0	0	1	0	0
Rwamagana	11	18	2	0	19	6	0	0	0	0	0	0	0	1	1	0

**Table 60. Number of part-time employees**

Districts	Male	Female	Generalist (non-specialist) Medical Doctor	Youth Service Provider	Registered Nurse	Registered Midwife	Community Health Worker in Charge	Specialist in Obstetrics and Gynecology	Specialist in Pediatrics	Specialist in Anesthesia	Anesthetist, Non-Doctor	Pharmacist	Pharmacist Assistant	Laboratory Technician	Radiologist	Radiologist Assistant
Gatsibo	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Huye	4	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0
Kamonyi	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Musanze	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Ngoma	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Nyabihu	1	4	0	0	5	0	0	0	0	0	0	0	0	0	0	0
Nyagatare	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nyamagabe	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0
Nyaruguru	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rwamagana	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0


**Table 61. Number of employees that are seconded staff\***

Districts	Male	Female	Generalist (non-specialist) Medical Doctor	Youth Service Provider	Registered Nurse	Registered Midwife	Community Health Worker in Charge	Specialist in Obstetrics and Gynecology	Specialist in Pediatrics	Specialist in Anesthesia	Anesthetist, Non-Doctor	Pharmacist	Pharmacist Assistant	Laboratory Technician	Radiologist	Radiologist Assistant
Gatsibo	2	3	0	0	2	0	2	0	0	0	0	0	0	1	0	0
Huye	2	3	0	0	4	1	0	0	0	0	0	0	0	0	0	0
Kamonyi	1	6	0	0	5	0	1	0	0	0	0	0	0	1	0	0
Musanze	6	6	0	0	9	0	2	0	0	0	0	0	0	1	0	0
Ngoma	5	8	0	1	9	0	1	0	0	0	0	0	0	2	0	0
Nyabihu	11	5	0	0	9	0	2	0	0	0	0	0	0	5	0	0
Nyagatare	14	12	0	0	18	0	3	0	0	0	0	0	0	5	0	0
Nyamagabe	5	13	2	1	8	1	3	0	0	0	0	0	0	3	0	0
Nyaruguru	3	2	0	0	2	0	2	0	0	0	0	0	0	1	0	0
Rwamagana	3	4	0	0	5	0	1	0	0	0	0	0	0	1	0	0

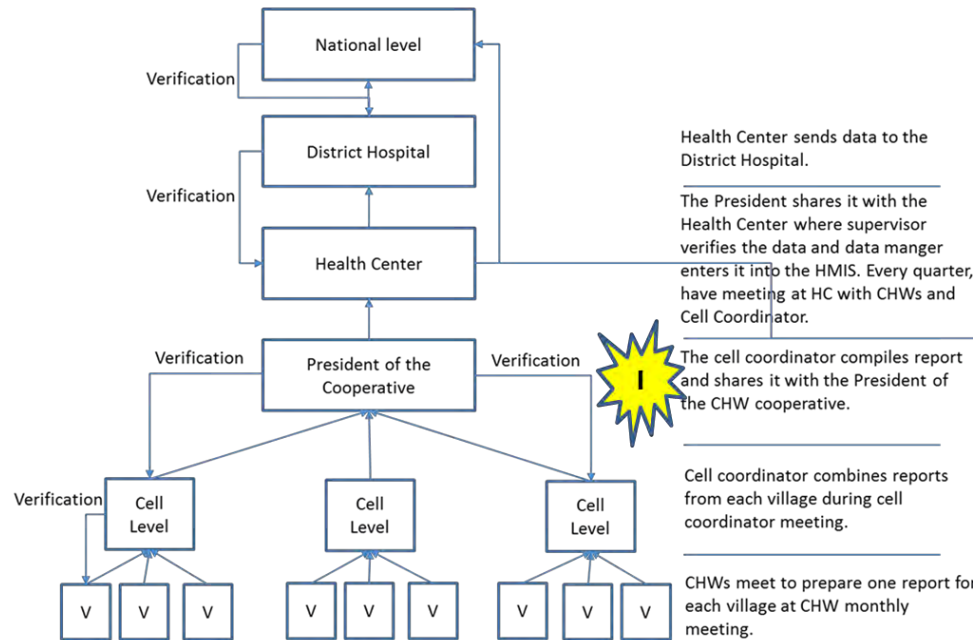
\* Seconded staff are hired and paid by a nongovernmental organization but seconded to the health facility to provide health services to the people.

# Annex 23. Process Maps

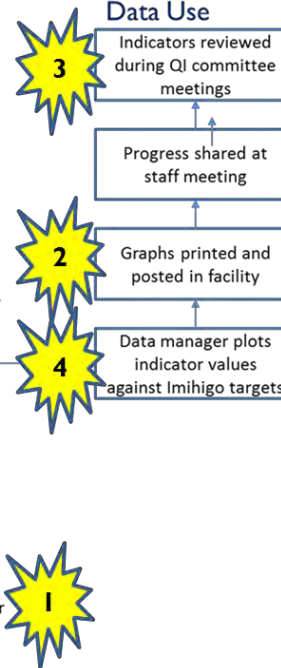
## Data Reporting and Use

 = a challenge or bottleneck in the system/process  
Numbers correspond with challenges listed below

### Data Reporting



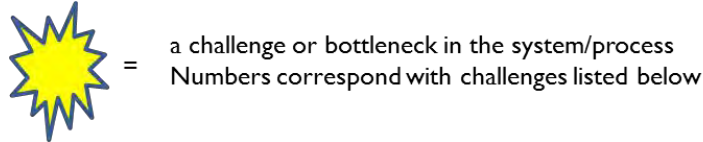
### Data Use



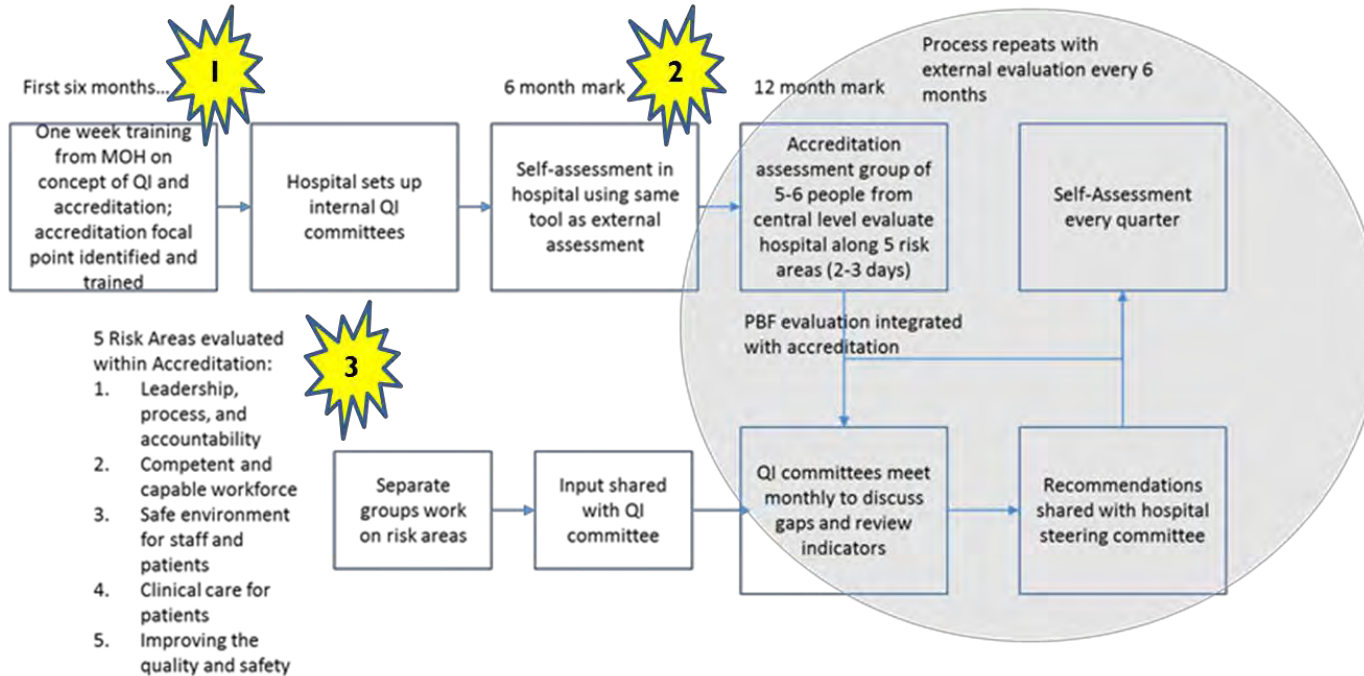
### Bottlenecks/Challenges:

1. Data verification and analysis is limited
2. Graphs are not regularly printed/posted at the health center or district hospital level
3. Quality improvement interventions are not monitored with data
4. Data analysis is often limited to comparison with Imihigo targets
5. Variable staff capacity to interpret and use data

## Accreditation Process




## Accreditation process

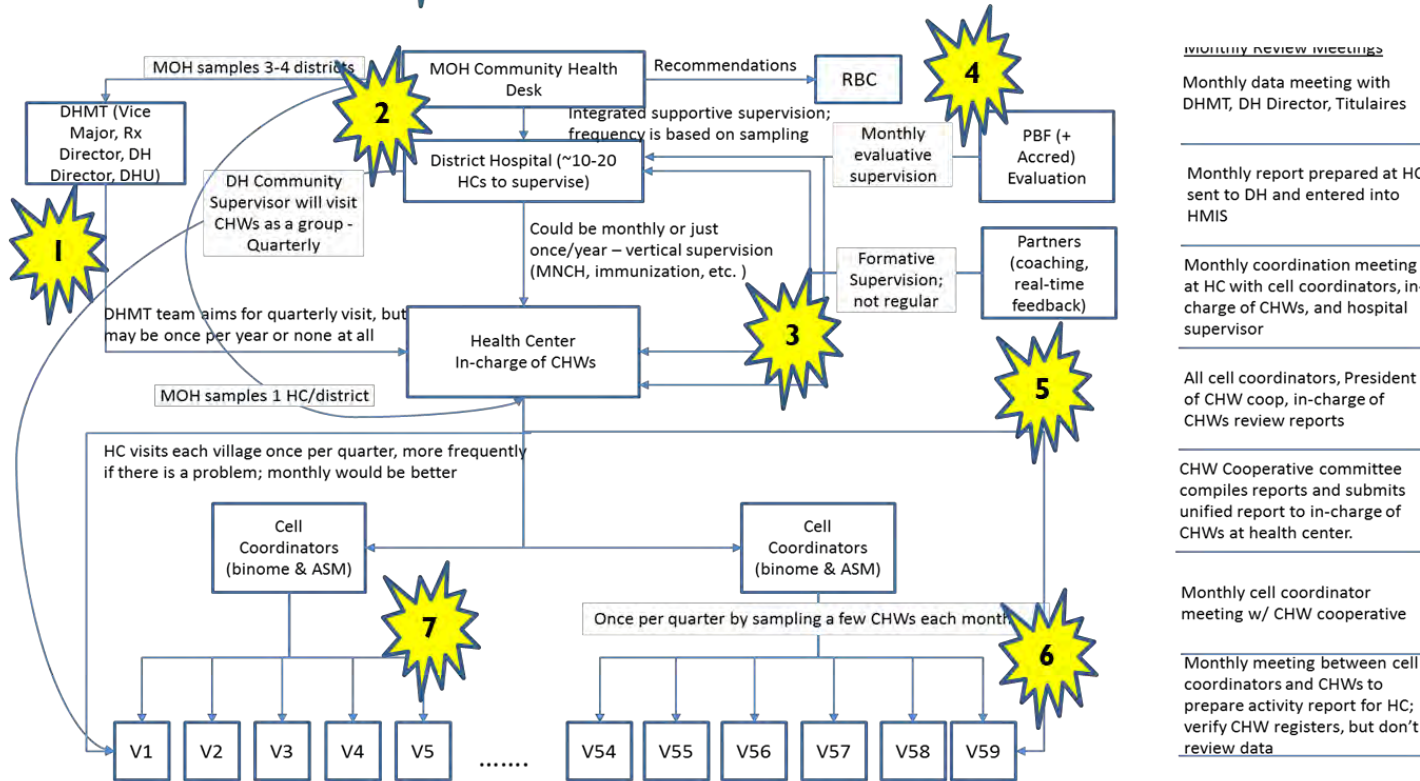


### Challenges/Bottlenecks:

1. Accreditation can initially be viewed as burdensome as the work is in addition to daily activities
2. Though laudable, the initial attention on the documentation of policies and procedures may need to be balanced against the need to maintain focus on clinical quality improvement
3. Certain standards – particularly infrastructural standards – are difficult for facilities to meet without significant resource investment

## Supervision System

 = a challenge or bottleneck in the system/process  
Numbers correspond with challenges listed below



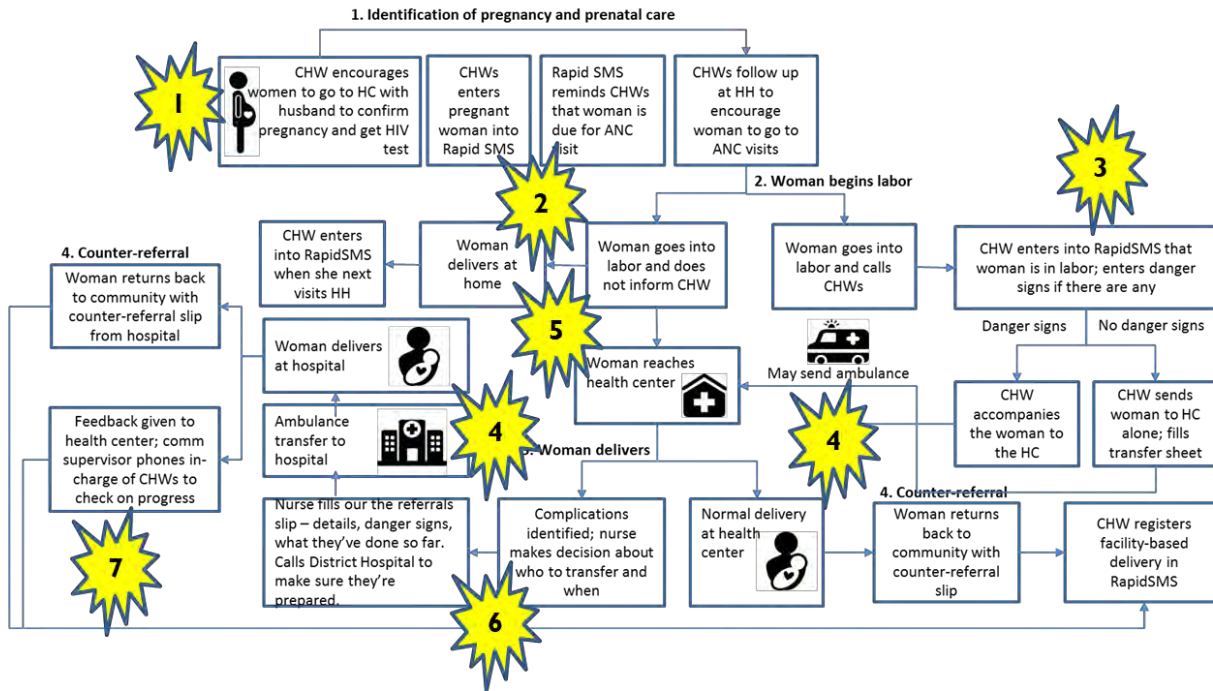
### Challenges/Bottlenecks

1. Weak DHMT's in some districts may not do any supervision
2. DHMT's report lack of support and confusion about which Ministry should provide support
3. Huge variation in the amount of supervision provided by district hospitals to health centers, not yet integrated supervision
4. Lengthy PBF evaluation process due to integration with accreditation
5. Partner turnover leaves major gaps in formative supervision
6. Weak data validation by the cell coordinators; no analysis completed
7. Cell coordinators have a very high volume of CHWs to visit in addition to their own CHW responsibilities

## Rapid SMS Referral System—Pregnancy/Delivery



= a challenge or bottleneck in the system/process  
Numbers correspond with challenges listed below

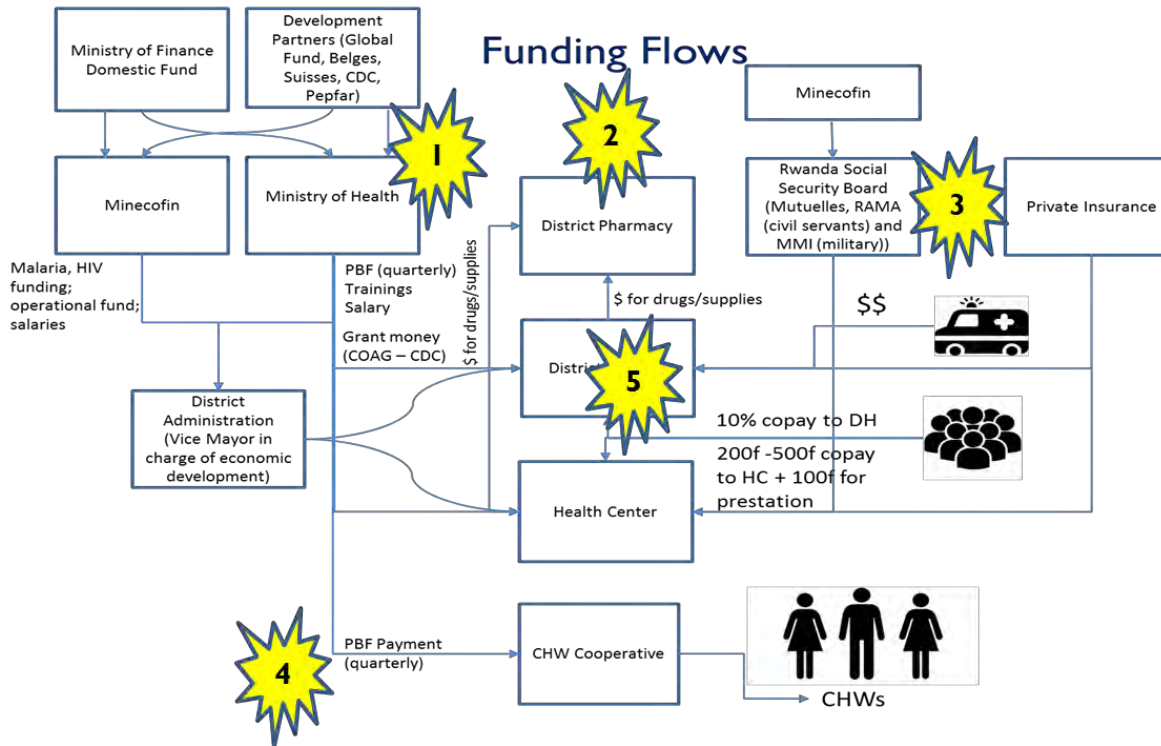
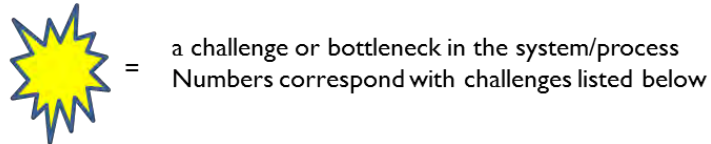


### Challenges/Bottlenecks:

1. Women may hide their pregnancy from community health workers
2. CHWs may have difficulty entering RapidSMS due to lack of power
3. If a woman goes into labour at night, it may be difficult for the CHW to reach the woman (lack of flashlights)
4. Transportation may be difficult due to lack of ambulances/old vehicles in need of repairs
5. Some women may resist delivering at the health center
6. If there are complications, emergency drills are not commonly practices
7. CHWs may not receive feedback from health center when the patient is discharged
8. Information on the counter-referral slip may be in French (instead of Kinyarwanda)



## Funding Flows



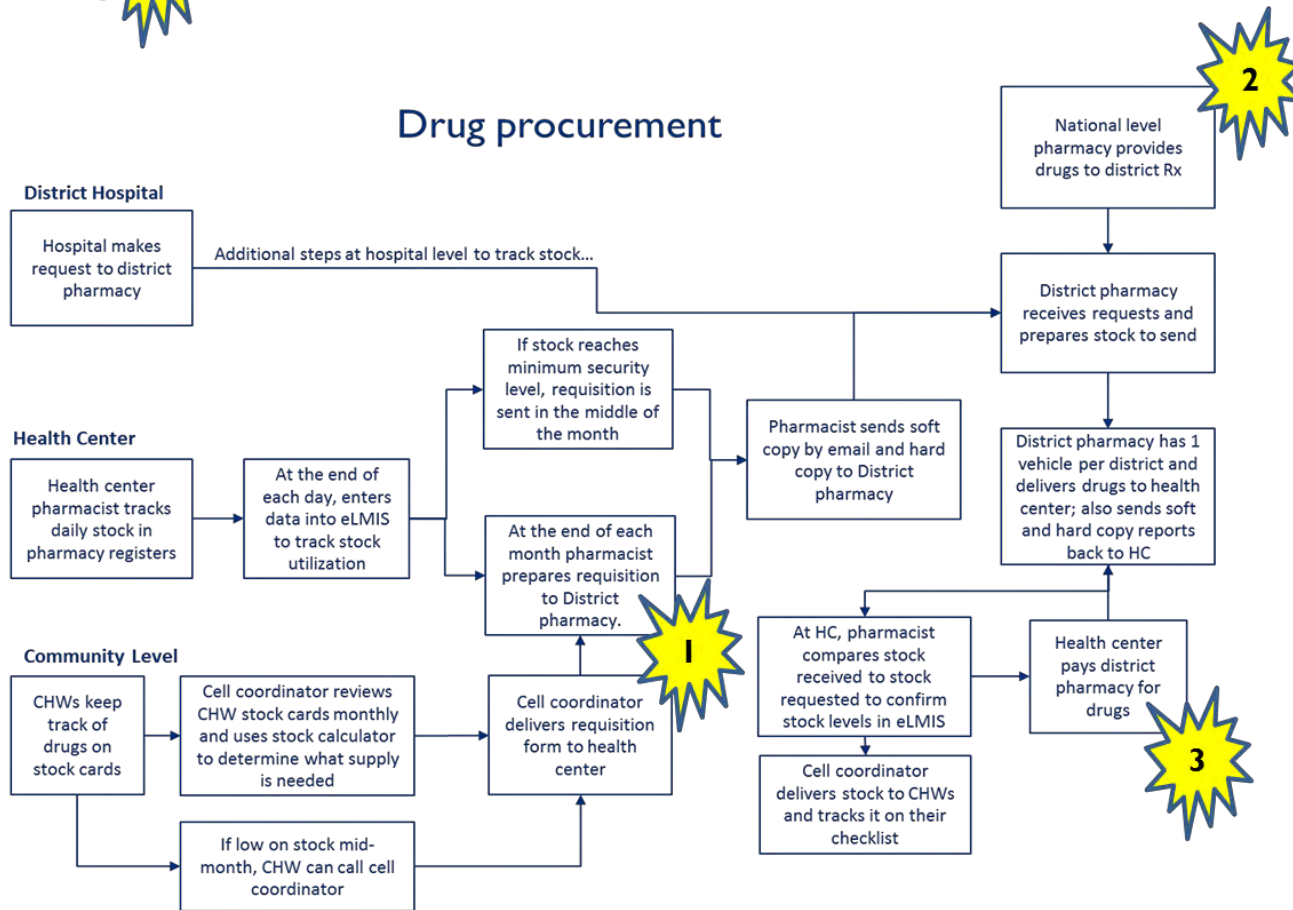
### Challenges/Bottlenecks :

1. Challenges/Bottlenecks:
2. Decline in development partner funding will affect staff salaries
3. Facilities don't always have the money to pay pharmacies
4. There is a 2-3 month delay in Mutuelle de santé payments
5. Delays in PBF payments diminish incentives
6. There is a large unpaid debt left over from the old system of Mutuelle de santé

## Drug Procurement



= a challenge or bottleneck in the system/process  
Numbers correspond with challenges listed below



### Challenges/Bottlenecks:

1. Seasonality of drugs needs is not considered (e.g. more Malaria drugs will be needed during rainy seasons)
2. Currently national stockouts of amoxicillin and zinc
3. Health Centers may not have sufficient funds for drug