

Assessing Key Health Services for Mothers and Children in Rwanda

The readiness and availability of reproductive, maternal, newborn, and child health services



A woman feeds her malnourished child at a therapeutic Feeding Centre Nemba Hospital, Nemba, Rwanda photo by Kate Holt, MCSP

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The Maternal and Child Survival Program (MCSP) is a global, USAID Cooperative Agreement to introduce and support high-impact health interventions. MCSP focuses on 25 high-priority countries with the ultimate goal of ending preventable child and maternal deaths within a generation.

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In October 2015, the Rwanda Biomedical Center (RBC), in collaboration with the Maternal and Child Survival Program (MCSP), conducted a cross-sectional baseline assessment of public and faith-based health facilities in 10 districts of Rwanda to guide work planning for strengthening reproductive, maternal, newborn, and child health (RMNCH) services. This assessment included two components: a quantitative health facility assessment (HFA), which is the focus of this brief, followed by a smaller-scale qualitative rapid health systems assessment.


The HFA targeted a sample of 64 health facilities in 10 districts in Rwanda where MCSP implements RMNCH interventions. This assessment builds upon earlier HFAs conducted in Rwanda, including the 2007 Service Provision Assessment (SPA) (NIS et al. 2008) and the 2011 Maternal and Child Health Integrated Program (MCHIP) maternal and newborn health quality of care HFA (Ngabo et al. 2012).

Among RBC/MCSP's objectives for conducting the HFA were examining service readiness and availability for RMNCH services, methods of data recording and reporting, and integration of interventions focused on the community-facility health services linkage. An endline assessment is planned for 2018.

Background

Over the last 15 years, Rwanda has made remarkable progress in expanding coverage and quality of RMNCH services and in reaching many of the UN Millennium Development Goals, notably #4 (reduce child mortality) and #5 (improve maternal health). An impressive 99% of all Rwandan pregnant women attended at least one antenatal care (ANC) visit in 2015, while the maternal mortality ratio has more than halved. Also in 2015, health facility deliveries reached 91%. Between 2010 and 2015, levels of postnatal care (PNC) more than doubled—from 18% to 42%—for women receiving check-ups within 48 hours of delivery (RDHS 2005, 2010, 2014–15).

Yet Rwanda also faces big challenges in RMNCH. As of 2015, unmet need for family planning was 19%, and contraceptive prevalence rose just 3% between 2010 and 2015. Only 44% of pregnant women attend the recommended four ANC visits. Although under-5



mortality has decreased, neonatal mortality remains high (20 deaths/1,000 live births), and only 19% of newborns had a postnatal check-up within the first two days after birth (RDHS 2014–15). A clearer picture of the availability and readiness of services was necessary to address these and other RMNCH service gaps.

In 2012, USAID launched the global Ending Preventable Child and Maternal Deaths (EPCMD) initiative—a sustainable financing framework—to support the Rwandan government’s efforts to improve RMNCH services. To help reach EPCMD goals, in 2015 MCSP began implementing high-impact, high-quality RMNCH interventions, using innovative approaches to help build Ministry of Health (MOH) capacity. Through its findings, MCSP’s HFA aimed to document RMNCH service availability and readiness and help determine the best way forward for RMNCH service strengthening.

Study Objectives

The MCSP health facility assessment (HFA) sought to assess:

- The readiness and availability of infrastructure, equipment, supplies, and medications needed to provide six health services: antenatal care (ANC); labor and delivery (L&D) care, including management of obstetric and newborn complications; postnatal care (PNC); family planning (FP); gender-based violence (GBV); child health services (immunization and treatment of childhood illness); and adolescent services.
- For each of these services, the availability and profile of health service providers, based on the number and type of providers available in each health facility.
- Health facility-level community health services and demand-creation activities.
- Data recording and reporting formats at the facility and district levels and monthly facility service utilization, by service type.

Methodology

The quantitative, cross-sectional HFA took place at all 12 public and faith-based hospitals in the 10 districts and at 52 public and faith-based health centers in those districts (about a third of the total of 155 health centers), which were selected by proportional sampling. RBC/MCSP recruited and trained six data collection

teams of 20 data collectors each; all team members had a medical background and data collection experience. The HFA teams conducted facility observations and interviews with the heads and RMNCH staff at the 64 facilities.

The data collection tools—available in both English and French—were adapted from the service assessment and readiness (SARA) tool (WHO 2015) and the SPA (NIS et al. 2008), and were field tested before the actual data collection. For data quality assurance, the teams used a double data collection approach using a hard copy questionnaire and a personal digital assistant device.

In addition to assessing the availability of the six health services, the HFA assessed five domains to measure general service readiness at each facility: basic amenities (e.g., power, water, and communications), basic equipment, standard precautions for infection control, diagnostic capacity, and essential medicines. This assessment took the Rwanda policy on service packages for health centers and district hospitals into consideration; therefore, services that are only provided at the health center level, such as ANC, were assessed at health centers only. Hence, the results for these services do not include hospitals. Hospital service packages were also assessed and analyzed for hospitals only.

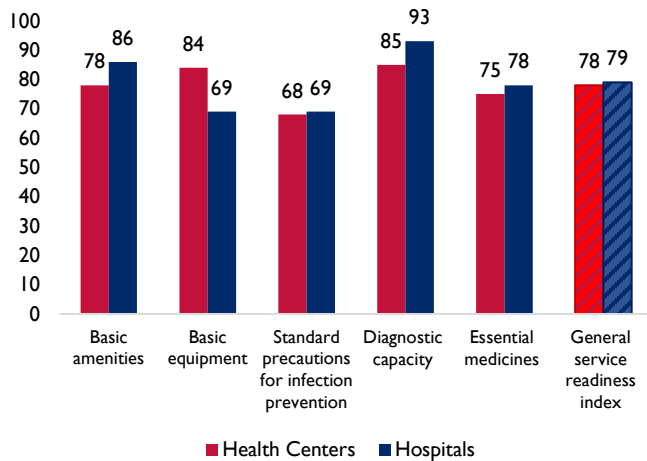
Key Findings

Readiness

Across all 10 assessed districts, the score for general service readiness—a composite measure combining results from the five domains—was relatively high and similar for both levels of the health system: 78% for health centers and 79% for hospitals (see Figure 1).

Overall, most health facilities had basic amenities and diagnostic capacity, in line with Rwanda’s 2015–2018 Health Sector Strategic Plan III national targets. However, the difference in service readiness among districts was large for some services, notably infection control and sanitation, which scored the lowest across domains in both health centers and hospitals.

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



Findings across the five service readiness domains include the following:

- **Basic amenities:** Within this domain, electrical power scored highest: 100% of district hospitals and 98% of health centers had access to a power grid. Computer and Internet availability was also high: 92% in hospitals and 87% in health centers. Most of the facilities in the study also had access to an improved water source and communication equipment. The smallest frequency within this domain was for adequate sanitation, which was defined as a functioning toilet in the L&D room for clients: 44% for health centers and 25% for hospitals. For example, only 41% of all facilities had a functioning toilet in the L&D room.
- **Basic equipment:** Between the 2007 SPA and this HFA, availability of basic equipment improved: across all 64 facilities assessed, 75% had the basics on hand, although health centers performed better than hospitals in this regard. For example, thermometers and blood pressure apparatus were available in ANC units in 81% and 92% of health centers, respectively, compared to the 44% and 88% reported in the 2007 SPA (NIS et al. 2008).
- **Infection prevention and control (IPC):** For this part of the assessment, the HFA team evaluated hand hygiene and waste management standards in the main RMNCH service areas at each facility for the presence of handwashing stands with soap (FP service

area); sterile gloves, sharps container, and disposable syringes with disposable needles (obstetric and newborn care area); disposable latex gloves, decontamination container solution, and trash bin (child health area); and examination gloves and sharps container (GBV area). Disaggregated by district, the highest mean domain score for IPC was for obstetric and newborn care services, with 87% of all key items available in health centers and 75% available in hospitals. The lowest IPC scores were for FP services, with 38% of assessed IPC items available in health centers and 67% available in hospitals.

- **Diagnostic testing:** Diagnostic capacity was determined by the availability of eight common diagnostic tests: hemoglobin, blood glucose, malaria diagnostic, urine dipstick for protein, urine dipstick for glucose, HIV diagnostic, syphilis rapid diagnostic test, and urine pregnancy test. Overall, availability of these tests has improved since the 2007 SPA (NIS et al. 2008), including greater availability of urine protein and urine glucose tests for ANC, although the frequency of blood glucose testing remains low in health centers (46%). Apart from two low-scoring districts (Huye and Nayagatare), the mean diagnostic capacity for the districts was more than 85%.
- **Essential medicines:** The results were mixed for 25 essential medicines. For example, benzathine benzyl penicillin powder was available in only 46% of health centers and 58% of hospitals. However, the availability of oxytocin to prevent postpartum hemorrhage improved: 98% of health centers and 100% of hospitals had oxytocin available in the delivery area, compared to 78% and 95%, respectively, from the 2012 data (Ngabo et al. 2012). Overall, availability of essential medicines was 75% in health centers and 78% in hospitals.

Availability

Across the six services, availability ranged widely. Although many assessed facilities reported that these services were available, a closer look by the assessment team revealed that not all services were comprehensive, and in some cases, availability hasn't improved in a decade. For example, availability of ANC guidelines, newborn resuscitation services, and thermal care for newborns have remained at

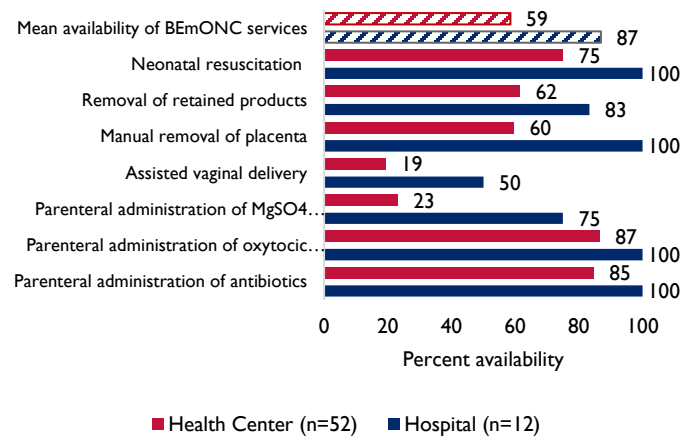
low levels since the 2007 SPA (NIS et al. 2008). However, other services showed far stronger availability overall, including many types of FP (90% of all facilities) and vaccination supplies (96% at health centers).

Findings for availability across the six services include the following:


- **Antenatal care (ANC):** All 52 health centers reported the availability of ANC services, specifically, iron supplements, tetanus vaccine, monitoring for hypertensive disorder in pregnancy, and rapid plasma reagin syphilis testing. However, although health centers reported that they routinely prescribed some important ANC supplements—including iron and folic acid—these two supplements were found in only 38% and 24% of the health centers, respectively, of the ANC areas of the facilities assessed (possibly because they were stored in the pharmacy and not the ANC areas). The percentage of facilities with ANC guidelines (35%) had not improved since the 2007 SPA (36%), even though ANC guidelines had been developed at the national level for provider use. The number of staff trained in ANC was also low (35% of the health centers).
- **Emergency obstetric and newborn care (EmONC):** All 64 facilities reported availability of signal functions of EmONC services, with hospitals at 87% and health centers at 59% (see Figure 2). All 12 hospitals and one health center offered cesarean section services on a 24-hour basis, yet only 18% had national guidelines for comprehensive EmONC (CEmONC), and only 33% reported having providers trained in CEmONC. Only 50% of hospitals offered assisted vaginal delivery (using vacuum extraction); and 75% of hospitals and 23% of health centers offered magnesium sulfate for pre-eclampsia and eclampsia. Newborn resuscitation services were reported to be available at 75% of health centers and 100% of hospitals, but basic equipment for this service was available in only 67% of hospitals and 35% of health centers, showing that in fact there was no major change in newborn resuscitation availability since the 2012 MCHIP study (Ngabo et al. 2012). For newborn care, availability of thermal care in the form of incubators and warmers for low-birthweight babies barely changed at health centers (10%), compared to

the 2007 SPA (9%). Neonatology units for sick newborns, and kangaroo mother care units were available in 92% of hospitals (see Figure 2).

Figure 2. Percentage of facilities offering specific basic obstetric and newborn care services, by service type (n = 64)



- **Family planning (FP):** For FP, the HFA looked at whether the service was offered, availability of contraceptives and surgical methods, availability of trained staff and guidelines, and essential equipment and supplies. More than 90% of the facilities provided all ranges of services, but availability of specific contraceptive methods varied widely. For example, 100% of hospitals and 94% of health centers reported the availability of implants, compared to 27% of facilities assessed in the 2007 SPA (NIS et al. 2008) and 94.8% of facilities and communities assessed in 2016 for the 2017 service delivery point (SDP) assessment report (Rwanda MOH 2017); whereas only 36% of hospitals and 47% of health centers had female condoms, compared to 22% reported in the 2007 SPA and 61.9% in the 2017 SDP. Combined estrogen/progesterone injectables were available at only 9% of facilities assessed.
- **Gender-based violence (GBV) services:** Of the 57 facilities (12 hospitals and 45 health centers) that reported availability of GBV services, 89.1% offered GBV services, 93% offered privacy for GBV victims, 84.2% had GBV registers, and 70.2% had at least one staff trained in offering GBV services. However, only 22.8%



had designated GBV service guidelines or a nearby room/office, 28.1% had rooms dedicated to GBV services, and 22.8% had a lockable cupboard for medical-legal evidence. Availability of equipment for examinations was mixed; for example, 50.9% of all health facilities had speculums for GBV services and 89.5% had gloves.

- Child preventive and curative services and child immunization (health centers only): Availability of vitamin A remained low (50% of health centers), not much higher than the 42% reported in the 2007 SPA. Basic materials such as child scales and length/height measurement equipment were available at more than 80% of health centers, but supplies of growth monitoring charts, treatment guidelines, and treatment protocols remained low. All 52 health centers reported availability of immunization services. Although most (96%) stored vaccines onsite and 92% had a functional vaccination register, availability of immunization guidelines was low (61%), and only about a half (52%) had at least one staff member trained within the two years before the survey.
- Adolescent health (health centers only): Only 29 of the 52 health centers (56%) reported availability of adolescent sexual and reproductive health services. Of those 29 health centers, 83% reported availability of a wide range of reproductive health services for adolescents, including FP, HIV counseling and testing, treatment and prevention for sexually transmitted infections (STIs), ANC, and delivery care. About half reported having staff trained in adolescent health. However, guidelines for adolescent services were available in only 28% of the facilities, and long-acting reversible contraceptives were available in only 38%.

Other key findings from the HFA include the following:

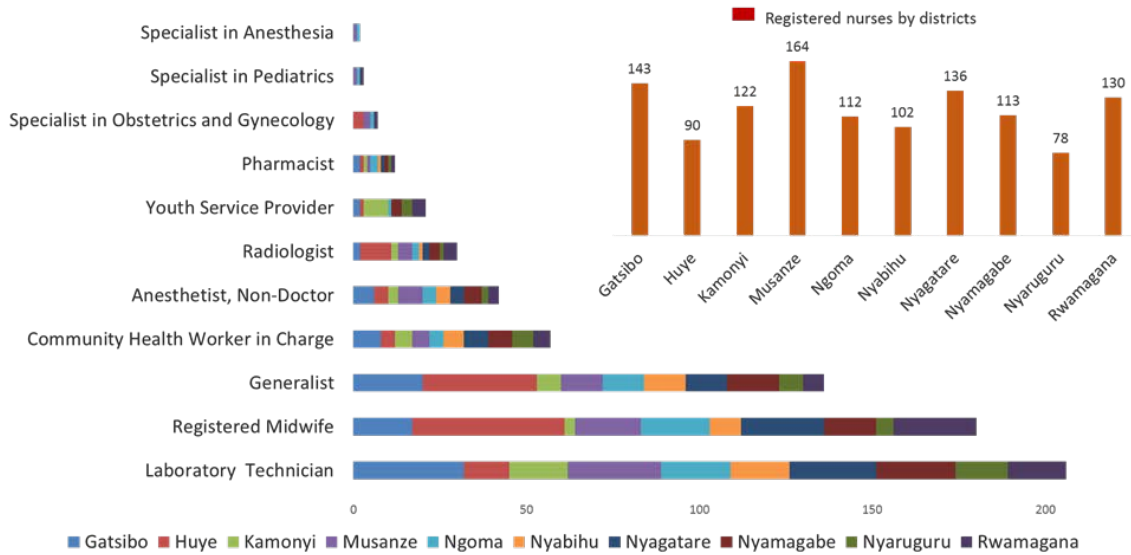
- Community services and mobilization: Community health workers (CHWs) are especially important for service provision within Rwanda's health system in remote areas and at the village level, and they play a key role in demand creation. Of the facilities assessed, 12 hospitals and 38 health centers reported having CHWs or other volunteers in their catchment areas. About one-third of the hospitals' management committees included a community representative (90% of facilities reported having such a committee); only two hospitals reported a community-based

group in their catchment areas. Most health facilities reported having trained CHWs, but at some facilities, newly recruited CHWs were waiting for training.

Other community-based groups available to support community RMNCH mobilization were in short supply. For example, local nongovernmental organizations were only marginally involved in such campaigns as immunization of children under 5 (23%) and promotion of facility-based deliveries (21%).

- Availability of providers: In the assessed facilities, registered nurses made up the majority of staff overall, followed by laboratory technicians and registered midwives. There were far fewer specialized providers such as anesthesiologists, pediatricians, and OB/GYNs (see Figure 3).
- Data visualization and use: The research teams found low levels of data visualization and use for clinical decision-making. Although most health facilities (60% of health centers and 75% of hospitals) reported displaying data on assisted deliveries, far fewer (less than 10% of health centers and 60% of hospitals) displayed mortality data for maternal and very early newborn deaths. Data had little influence on decision-making at the health facility level, reportedly due to a lack of resources. Most of the hospitals (63%) displayed data on key RMNCH indicators, including postpartum hemorrhage, eclampsia/pre-eclampsia, assisted deliveries, and stillbirths; among those, assisted delivery was the most common indicator displayed. At the health facility level, 31% displayed information. Most hospitals said they reported on all or most maternal and perinatal deaths and had a process to review cases and take action. At the health center level, reporting of deaths was high (96%), but maternal death audits (39%) and record or action plans (54%) were areas needing further improvement.
- Use of data for decision-making: Most facilities reported that decisions were based on health needs identified through service statistics. However, half of the hospitals and 42% of health centers reported that a lack of resources to take action prevented them from making decisions. Overall capacity in checking data quality, plotting graphs, calculating percentages, identifying gaps, and using data were reported as high at most facilities.

Figure 3. Availability of health providers, by category and district



Recommendations and Policy Implications

Findings from the HFA point to ways that MCSP could strengthen RMNCH services in Rwanda and advise the MOH as the country develops strategic health priorities, budgets, and strategies.

To improve RMNCH service availability, readiness, and coverage, recommendations include:

- Increase the availability of guidelines at the facility level, of trained staff in all service delivery areas, and of key commodities to provide services (especially ANC).
- Expand the availability of adolescent sexual and reproductive health services to include guidelines, a quality standard checklist, peer educators, educational materials, and monitoring indicators.
- Fill gaps in integrated management of childhood illness and growth monitoring training for health providers at the health center level.
- Improve IPC practices by making sanitation supplies—water and soap, disposable gloves, and so on—available and functional throughout facilities, and by adding toilets in the L&D room for clients.

- Have health facilities check the availability of basic equipment during internal supervision, and report missing items for restocking.
- Establish a staff retention plan to address high staff turnover.

To improve health information and communications systems and the use of data for decision-making, recommendations include:

- Work with data managers and quality improvement teams at health facilities to understand information needs, then co-develop tools and templates that can support improved data analytics.
- Develop tools to support improved data analysis to better track interventions and link the data manager’s activities even more strongly with quality improvement processes.
- Collaborate with facility leadership to identify low-tech opportunities to introduce more data visualizations into practice and create opportunities to post data charts as part of supervision visits or evaluative checklists, and support capacity development of health facility staff to improve their ability to create and interpret basic data visualizations. This could be accomplished by adding these skills to existing curricula.

Conclusions

The general service readiness index showing mean availability of items in five domains was 78% for all 64 health facilities, while health centers performed better than hospitals for most of the basic equipment availability assessments. Most health facilities had basic amenities and diagnostic capacity, but standard precautions for infection control were poor. Overall capacity in checking data quality, plotting graphs, calculating percentages, identifying gaps, and using data were reported to be high at most facilities. However, data visualization and use of data for specific clinical decisions were low. These and other findings highlight the services requiring improvements in availability and readiness to strengthen RMNCH services in Rwanda.

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