An Alternative to Classroom-Based Health Worker Training in Rwanda

MCSP Rwanda Case Study

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Introduction

The United States Agency for International Development's (USAID) flagship Maternal and Child Survival Program (MCSP) aims to prevent maternal and child deaths in high-priority countries. This case study is part of a case study series documenting MCSP's approaches to human capacity development (HCD) for reproductive, maternal, newborn, child, and adolescent health (RMNCAH). From the diverse portfolio of HCD work across MCSP's 52 country programs in 32 countries, case studies from specific countries were selected to illustrate innovative approaches that go beyond traditional clinical training.

Figure 1. Ambulance staff at Nyagatare District Hospital during a simulation-based, onsite BEmONC training (photo credit: MCSP/Rwanda)

Each of these case studies highlights alternative combinations of approaches to strengthen and sustain health worker skills and competencies.

This case study describes a combination of HCD approaches used in 10 districts of Rwanda, with support from MCSP, to strengthen service delivery for high-impact interventions that include: Helping Babies Breathe (HBB)/essential newborn care (ENC), basic emergency obstetric and newborn care (BEmONC), and integrated management of childhood illnesses (IMCI). MCSP Rwanda is also using an alternative HCD approach to improve family planning (FP) services, but that approach is not described in this case study.

Additional information on MCSP's global work in HCD is available online: Strengthening Human Capacity Development to Improve RMNCH Outcomes.

Background

Less than a generation after the genocide claimed more than one million lives and left two million displaced, Rwanda today is recognized for its revitalizing health system and improved health outcomes.[1] Significant reductions in maternal and child mortality rates have been achieved in the past 15 years but challenges persist. In 2015, of the nearly 362,600 babies born in Rwanda, 5,900 were stillborn and 6,300

[1] Worley H. 2015. *Rwanda's Success in Improving Maternal Health*. Washington, DC: Population Reference Bureau.

died within their first month of life.[2,3] Newborn asphyxia and its complications, and delays in seeking care remain significant risk factors for newborn and child health. In the same period, 1,100 women died during pregnancy or from childbirth-related causes.[4] Insufficient human resource capacity and systemic inequity in access and quality of service delivery inhibit progress towards improved survival rates and better health for mothers and children.

The goal of MCSP Rwanda is to contribute to reductions in preventable child, neonatal, and maternal mortality in 10 target districts in Rwanda by 2018. Strengthening the capacity of Rwanda's Ministry of Health (MOH) at all levels to manage and scale up high-impact interventions is an overarching strategy.

Rationale

Traditional training methods—including one-time, offsite, didactic lessons in a classroom setting—are proven to have limited effectiveness in improving and sustaining health worker competencies.[5] Evidence suggests that fresh approaches to capacity building that use alternative techniques like simulation and case-based practice, and learning opportunities at an appropriate dose and frequency at the point of care can help providers transfer new knowledge and skills into practice.[6] The literature also shows that to improve the quality of clinical services, training alone is not sufficient. To be most effective, training must be embedded in a broader quality improvement (QI) plan.[7] In addition to knowledge and skills, providers need supplies, human resource support, motivation, and the ability to use data for decision-making. Service delivery must be supported with ongoing monitoring and problem-solving.

With this evidence in mind, the government of Rwanda, with support from MCSP, shifted its approach to health worker capacity building to focus on clinical simulation, hands-on practice with anatomic models, and opportunities for immediate performance feedback and ongoing learning. The Rwandan Health Sector Plan identified mentorship as a high-priority alternative to traditional capacity-building approaches. There is limited evidence of the effectiveness of mentorship at scale. MCSP supported the Rwandan MOH to test mentorship models, including implementation at multiple levels of the health system.

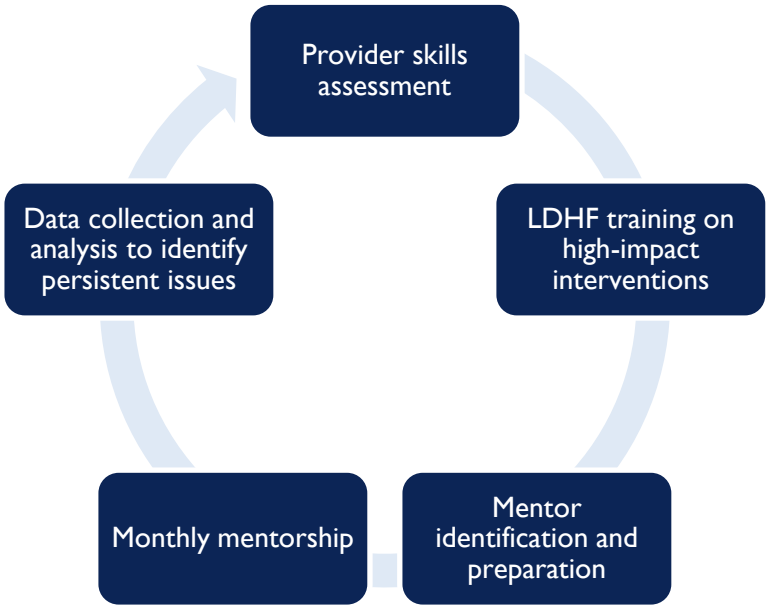
Implementation Approach

In 2016, MCSP introduced an integrated low-dose, high-frequency (LDHF) in-service training and mentorship model for HCD in Rwanda. MCSP targeted all the 172 facilities in the 10 target districts supported by MCSP, reaching four districts in Phase 1 (starting in Quarter 4 2015) and six districts in Phase 2 (starting in Quarter 2 2017).

MCSP Rwanda's HCD approach focused on competency-based, in-service trainings for high-impact interventions (HBB, BEmONC, and IMCI) and QI-driven, facility-based mentoring for post-training follow-up. As described in Figure 2, this multi-step process began with an assessment of provider competencies in interventions aimed at addressing the leading causes of maternal and child health complications and death. Training materials and approaches were developed based on the available data about risk factors, provider skills, and areas of greatest need.

[2] Blencowe H, Cousens S, Jassir FP, et al. 2016. National, regional, and worldwide estimates of stillbirth rates in 2015, with rends from 2000: a systematic analysis. *The Lancet Global Health.* 4(2): e98-e108.
[3] UNICEF. 2016. *State of the World's Children.* New York: UNICEF.
[4] Alkema L, Chou D, Hogan D, et al. 2016. Global, regional, and national levels and trends in maternal mortality between 1990 and 2015, with scenario-based projections to 2013: a systematic analysis by the UN Maternal Mortality Estimation Inter-Agency Group. *Lancet.* 387(10017):462-74.
[5] Rowe AK, et al. 2009. Review of strategies to improve health care provider performance. In: Peters DH, ed. *Improving Health Service Delivery in Developing Countries: from Evidence to Action*. Washington, DC: World Bank.; 101–126.
[6] Bluestone J, Johnson P, Fullerton J, et al. 2013. Effective in-service training design and delivery: evidence from an integrative literature review. *Hum Res Health.* 11:51.
[7] Rowe AK, et al.

Figure 2 MCSP Rwanda Human Capacity Development Approach



Provider Skills Assessment

To gauge provider proficiency in RMNCAH services, a multi-disciplinary evaluation team led by MCSP assessed the theoretical knowledge and clinical skills of 502 service providers across hospitals and select health centers in the 10 MCSP-supported districts. The assessed providers were identified from a pool of hospital and health center staff previously trained by other projects prior to MCSP. The assessment exclusively focused on emergency obstetric and newborn care (EmONC), focused antenatal care (FANC), ENC, neonatal protocols package, IMCI, and FP.

The assessment results discovered knowledge and skills gaps across all assessed services and highlighted large discrepancies of provider proficiency across the districts. During analysis, provider proficiency was based on benchmark scores: 85% for EmONC, 90% for newborn care, 85% for FP, and 75% for IMCI. MCSP leveraged findings from the assessment to determine training needs and design LDHF training packages.

LDHF Training

MCSP conducted LDHF training on three high-impact interventions—HBB/ENC, BEmONC, and IMCI—to strengthen provider capacity to address persistent RMNCAH challenges.

The LDHF training approach, pioneered by Jhpiego, provides in-service, needs-based learning updates during short, structured, onsite, interactive learning activities. LDHF is typically team-oriented, competency-focused, facility-based, and spaced over time to optimize learning. Optimal LDHF includes brief, ongoing activities (e.g., skills practice, drills, and games) at the job site to sustain learning and support decision-making. As in Rwanda, LDHF uses facility-based peer staff to coach or mentor others as they practice and engage in learning sessions.

What is the LDHF Approach?

- In-service learning updates to deliver information to health care providers based on local needs during short, structured, onsite, interactive learning activities that involve the entire team and are spaced over time to optimize learning.
- Brief, ongoing activities (e.g., skills practice, team drills, games, and QI activities) at the job site to sustain learning and support clinical decision-making.

Source: "Breaking Tradition: A Fresh Approach to Improving Provider Skills and Saving Lives," Jhpiego, 2017.

In collaboration with the MOH, MCSP identified proficient providers and trained them as trainers in HBB/ENC, BEmONC, and IMCI to build their capacity to train other providers in their districts using the LDHF approach. The training of trainers was carried out using case simulations, real case management, and

interactive teaching approaches. Once the trainers demonstrated competency in the three packages and training methodology, they led LDHF trainings at district hospitals and health centers.

All three training packages were designed for three, two-day sessions (or six total days) of hands-on, competency-based instruction using simulation, case management, and team-oriented learning. As outlined in Table 1, each training package was led by a different, content-specific trainer and targeted a specific set of providers.

Table 1. MCSP Rwanda LDHF Training Summary

Training Package	Trainer	Provider Trained	Frequency	Training Location
HBB/ENC	MOH district-based ENC trainer	Nurses, midwives	Two days per week for three weeks	Hospitals
IMCI	MOH district-based IMCI trainer	Nurses	Two days per week for three weeks	Hospital
BEmONC	MOH district-based BEmONC trainer	Nurses, midwives, medical doctors	Two days per week for three weeks	Health Center

MCSP assessed the providers' skills, knowledge, and competencies in each intervention before and after the LDHF training. For each high-impact intervention, MCSP tested the pre-training knowledge of relevant participating providers in the implementation of that intervention. After the three-week training period, MCSP administered post-tests to assess changes in provider knowledge.

Mentor Identification and Preparation

From among the providers who participated in the LDHF training, MCSP and the MOH identified a cohort of mentors to support post-training follow-up at multiple levels of the health system. Mentors were selected based on the assessment of their knowledge and skills against established benchmarks. In addition, they had to be: experienced and trained providers working in key technical areas, knowledgeable in adult learning methods, willing to help and support peers, highly organized, and possessing of effective communication skills.

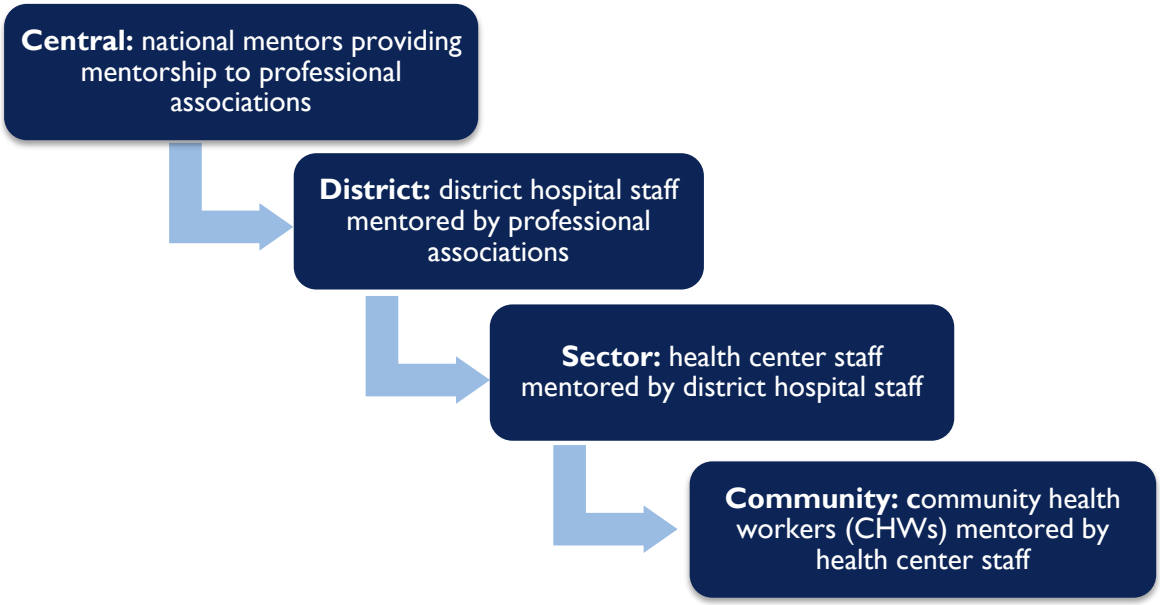
Once identified, candidates received clinical skills refresher training, instruction on mentorship principles and techniques, description of potential system barriers, and training in soft skills for effective mentorship (e.g., relationship building).

Monthly Mentorship Visits

Mentors followed up the LDHF training with mentorship visits one to two days per month in all participating health facilities, with each mentor serving one or two facilities. During mentorship visits, mentors worked with the mentees to identify gaps in skills and address them together. MCSP equipped mentors with mentorship tools, including observation checklists and skills assessment guides, to evaluate provider competencies and to identify and address issues. Mentees practiced on anatomic models until they scored above the respective benchmarks; then they were considered proficient.

MCSP supported the MOH in the rollout of a multi-level, step-down approach to mentorship. At the central level, mentors from MCSP and the MOH planned and facilitated mentorship of districts by professional associations, including the Rwanda Pediatric Association, Rwanda Society of Obstetricians and Gynecologists, and Rwanda Association of Midwives. In a step-down manner (see Figure 3), professional association staff mentored hospital staff, hospital staff mentored health center staff, and health center staff mentored community health workers (CHWs).

Figure 3. MCSP Rwanda Step-Down Mentorship Approach



Data Collection and Analysis

During each mentorship visit, mentors documented their visits in a mentorship register kept at health facilities and completed intervention-specific mentorship checklists to track mentee progress. The mentors participated in quarterly coordination meetings for debriefing and sharing of challenges and best practices. Mentors also developed a WhatsApp group with the MCSP team to share success stories and challenges, and ask questions on complicated cases.

Results

To measure the effectiveness of LDHF training combined with mentorship, MCSP analyzed changes in provider knowledge and skills, as well as implementation of key clinical practices.

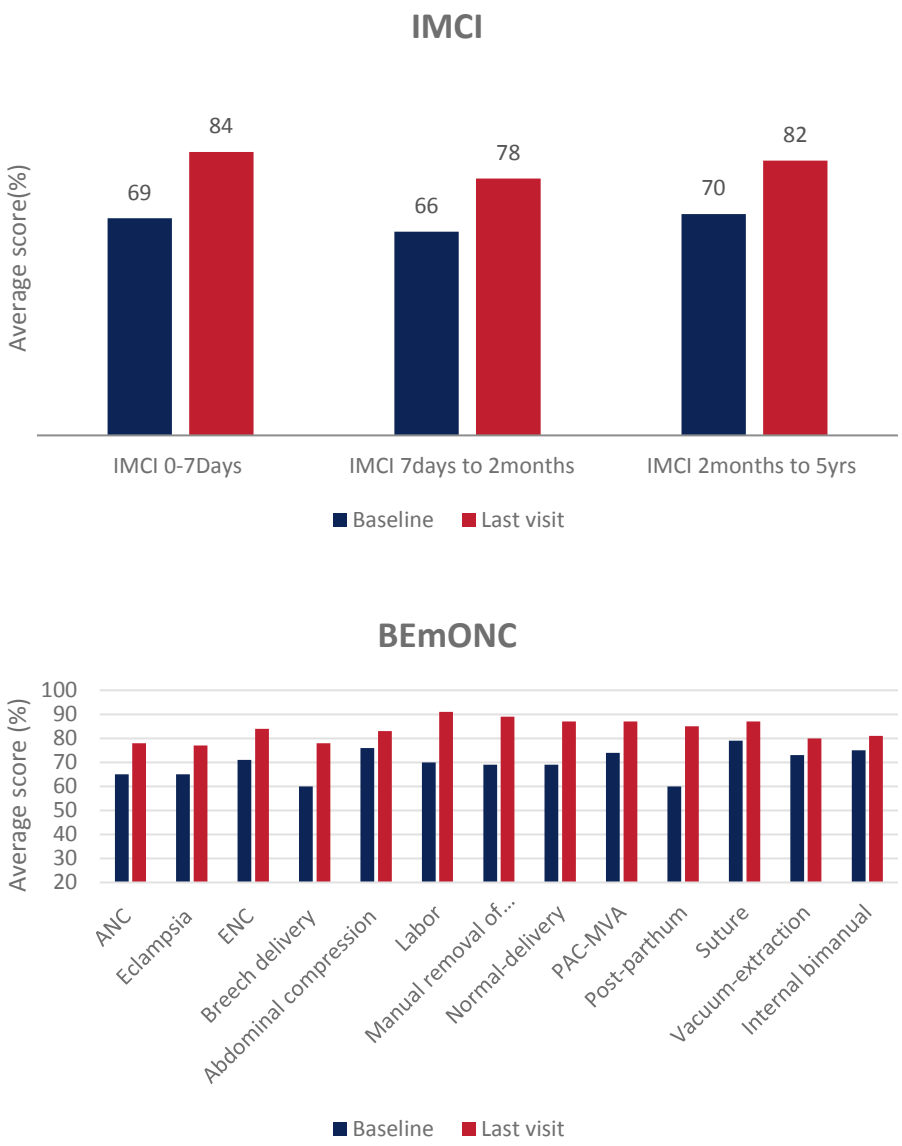
Learning Outcomes

After three years of implementing this approach, MCSP had supported the MOH to train 629 health providers on ENC, 1,016 on BEmONC, and 307 on IMCI; all health providers received follow-up through mentorship. These trainings covered the 172 health facilities (12 hospitals and 160 health centers) in the 10 MCSP-supported districts.

MCSP used pre- and post-tests to assess the relative knowledge and competencies of providers to deliver the high-impact interventions. Over the three-week LDHF training period, the average test score of the health providers improved by 40% (from 49% to 89%) in HBB/ENC, by 26% (from 62% to 88%) in BEmONC, and by 39% (from 38% to 77%) in IMCI.

MCSP used the mentorship checklists to determine changes in provider knowledge and skills in HBB/ENC, BEmONC, and IMCI during mentorship. The mentorship checklist score from the initial visit served as the baseline data that mentors could measure progress against. The checklist scores also allowed providers to identify knowledge gaps that could be addressed in subsequent visits. District-based mentors continued to support mentees from health facilities in their catchment areas and integrated mentorship in their routine activities. On average, ENC/HBB mentee scores increased from 70% to 85%. More detailed breakdowns of IMCI and BEmONC scores are provided below.

Figure 4. Mentorship Checklist Scores



Implementation of Clinical Practices

During quarterly coordination meetings to the 172 MCSP-supported facilities, MCSP reviewed progress of implementation of HBB, IMCI, and BEmONC in December 2017 and noted the following preliminary findings:

Newborn care

- In all facilities, birth preparedness is part of antenatal care routines. Health care providers prepare neonatal resuscitation equipment and identify a helper before delivery.
- Prevention of hypothermia and skin-to-skin contact for at least one hour after delivery is implemented in all facilities. Kangaroo mother care is now the preferred method for newborn care from health centers to district hospitals.
- Early breastfeeding within one hour increased from 89% to 94% and is done in all facilities.
- Postnatal care is now done in all facilities, and has increased from 62% to 81% coverage.
- Prevention of infection is improving (utilization of chlorine solution for materials and surfaces), as is hand washing and use of "alcohol with glycerin" for hand rub.

IMCI

- All health facilities have access to and use the most up-to-date IMCI tools including the chart-booklet and the register.
- All facilities provide IMCI services 24 hours a day, seven days a week.
- The percentage of IMCI-trained nurses increased from 22% to 78%.
- The percentage of children under five years old who receive IMCI services increased from a baseline of 53.4% to 82.2%.

BEmONC

- There is increased competency and confidence of health care providers in all facilities regarding diagnosis and timely management or referral of childbirth-related complications such us postpartum hemorrhage, pre-eclampsia/eclampsia, newborn asphyxia, breech delivery, shoulder dystocia, and umbilical cord prolapse.
- There is improvement in availability and use of lifesaving commodities in the delivery room such as oxytocin for active management of third stage of labor and postpartum hemorrhage prevention, and magnesium sulfate for cases of severe pre-eclampsia/eclampsia.
- There is better team work and rapid response to maternal emergencies in all facilities.

Although it is still too early to make assumptions about the direct impact of this training and mentorship approach, MCSP continues to observe improved clinical practices for maternal, newborn, and child health. Related to IMCI specifically, MCSP has observed a declining rate of children who receive antibiotics for the treatment of pneumonia. Correct diagnosis and treatment, including prescription of antibiotics only when necessary, is a key component of IMCI. Preliminary evidence shows that health care providers trained and mentored in IMCI may be moving in the right direction for accurate diagnosis and treatment of pneumonia and other childhood illnesses.

Health provider and facility manager perceptions of LDHF training and mentoring also positively improved over the duration of implementation. Many participating providers not only perceived this model as a step in the right direction to address human resource issues in the Rwandan health system; they also observed improvements in provider confidence. Mentors became a trusted resource for peers in facilities and the mentorship approach contributed to collaboration and team work.

MCSP also observed positive changes in communication and referrals between hospitals and health centers because of the mentorship program. Previously, district hospitals struggled to absorb the number of referrals from health centers but with district hospital staff regularly visiting health centers in their respective catchment area, they strengthened provider competence to manage cases at the health center and ensure clients receive appropriate pre-referral treatment before reaching district hospitals.

Lessons Learned

MCSP Rwanda partnered with the MOH to develop and institutionalize a training and mentoring approach designed to address human resource gaps related to key RMNCAH issues in the country. Over a three-year period, MCSP and MOH developed a scalable model to strengthen health provider capacity in high-impact interventions, including HBB/ENC, BEmONC, and IMCI. Preliminary results show that the implementation and clinical practices associated with these interventions is improving. The approach appears to positively impact provider knowledge and skills in these areas, and improve collaboration and information sharing across multiple levels of the health system. Based on the results, there is a need to identify efficiencies such as integrated mentorship by professional association mentors, joint mentorship supervision tools, and an effective tracking system that links to national information systems when health workers are deployed or transfer to other facilities or districts.

Recommendations

The MCSP Rwanda HCD approach generated numerous recommendations for how to sustain and scale up health worker capacity development, including:

- MOH and health sector leadership motivation to test new methods of HCD is essential to determine the approach that best suits the needs of a specific context. In Rwanda, the MOH and MCSP identified a combined LDHF training and mentorship approach that the MOH has institutionalized through policies and protocols, ensuring continuity even after MCSP concludes.
- Using a step-down approach to mentorship enabled respected staff from higher levels of the health system to transfer knowledge and build relationships. This improved cross-level collaboration and information sharing.
- Because of the mentorship program, providers now understand barriers and challenges at lower level facilities and work to address issues to reduce unnecessary referrals and ensure proper first-line treatment given before transfers.
- Integrated mentorship visits by professional association mentors reinforce integration messages and team approaches to maternal, reproductive, and newborn care and can be more cost effective.
- Trainings at the hospital versus the health center may be more cost-effective for programs. Providers get the opportunity to observe how the intervention is conducted in a higher-resourced setting and understand what their referrals result in.

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