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Maternal and Child  
Survival Program

# Enhanced Human Capacity for Health Care Service Delivery in Liberia

## MCSP/RHS Liberia Case Study

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[www.mcspprogram.org](http://www.mcspprogram.org)

### Introduction

The United States Agency for International Development's (USAID) Maternal and Child Survival Program (MCSP) aims to prevent child and maternal deaths in high-priority countries. This case study is part of a larger case study series documenting MCSP's approaches to human capacity development (HCD). 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. 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 Liberia to help restore the essential package of health services (EPHS), including a unique approach to integrated reproductive, maternal, newborn, child, and adolescent health (RMNCAH) training and follow-up supervision and mentoring for health workers.

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

### Background

Since the end of Liberia's civil war in 2003, the country has faced enormous challenges to rebuild the crippled health system and provide adequate health services. The 2014–2016 Ebola epidemic exacerbated Liberia's shortage of skilled health workers. At the beginning of the MCSP Restoration of Health Services Program (MCSP/RHS) in 2015, only 58% of health facilities assessed were open with required staffing. Health facilities were closed primarily due to the health workforce shortage and lack of support for proper infection prevention and control (IPC) practices for the provision of safe health services. By the end of the project, MCSP supported the Ministry of Health (MOH) to increase the number of functional health facilities with staff from 58% to 100% of the 77 target facilities in Grand Bassa, Lofa, and Nimba counties.



Figure 1. Supervisor reviewing immunization coverage charts with a provider at a facility in Grand Bassa (Photo: MCSP/Liberia RHS)

## Rationale

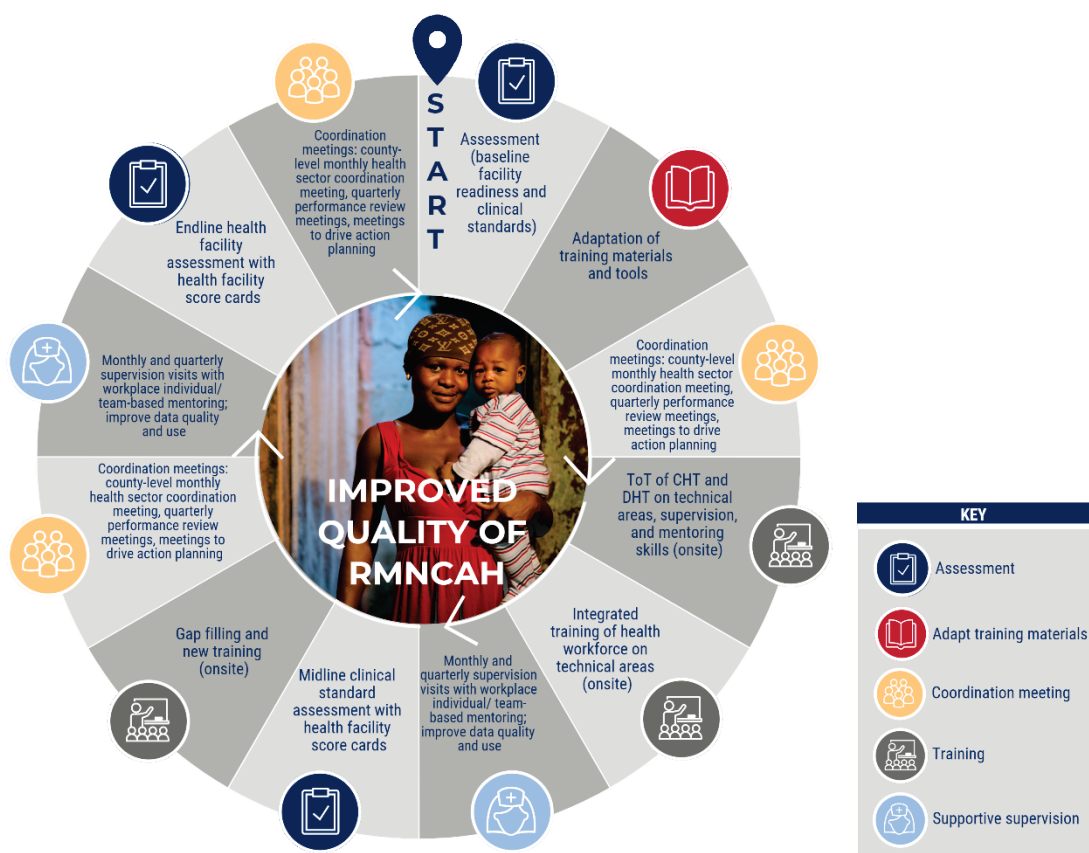
In Liberia, the traditional approach to capacity building is focused on one-time, extended, offsite, group-based classroom training. This approach has had limited effectiveness in improving and maintaining provider skills after training.<sup>1</sup> Evidence suggests that a fresh approach to training that uses interactive techniques and simulated practice and delivers learning opportunities at an appropriate dose and frequency to teams within their own health facilities helps providers transfer new knowledge and skills into practice.<sup>2</sup>

## Implementation Approach

MCSP provided comprehensive support that included capacity building (the focus of this case study) as well as payment of salaries for health facility staff, equipment distribution, and infrastructure upgrades to restore service delivery and improve quality of care in target health facilities.

Figure 2 illustrates the MCSP’s Liberia/RHS HCD approach, which included a combination of specific and integrated skills-based in-service trainings, followed by integrated quality improvement processes such as strengthened supportive supervision and workplace, individual, and team-based mentoring. The trainings were implemented and led by local managers from district health teams (DHTs) and county health teams (CHTs). MCSP, in close collaboration with MOH counterparts, built upon and strengthened the existing in-service training and national supervisory system to close the gap between desired performance and practice in a sustainable way.

**Figure 2. MCSP Liberia/RHS Human Capacity Development Approach**



<sup>1</sup> Rowe AK, Rowe SY, Vujicic M, et al. 2009. Review of strategies to improve health care provider performance. In: Peters DH et al., eds. *Improving Health Service Delivery in Developing Countries: From Evidence to Action*. Washington, DC: The World Bank; 101–126.

<sup>2</sup> 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.

## Integrated In-Service Training

MCSP conducted integrated RMNCAH in-service training for health facility staff to ensure that they have the skills and knowledge to provide the MOH's EPHS. The training began with a training of trainers with participants from the three MCSP-supported counties and included officers from the MOH county and district health teams. MCSP and the MOH then facilitated roll-out trainings for facility staff to ensure that each facility had at least one health worker who was able to transfer their skills and knowledge to other facility staff. The transferring of skills was monitored through monthly and quarterly supervision visits.

The training was designed in two four-day sessions using a hands-on, competency-based approach. Both sessions included short segments focused on the different technical areas to troubleshoot the commonly-identified skill and knowledge gaps among providers; methods of instruction included interactive presentations, demonstrations, and role playing.

The first session focused on IPC and RMNCAH and was for midwives and staff working in maternal and child health units in health facilities. The second session was for screeners and officers-in-charge (OICs) and covered the following technical areas: IPC; child health; integrated management of neonatal and child health illnesses (IMNCI); immunization; and communicable disease control for malaria, HIV, and other diseases. Objective structured clinical exams were used during the second session before training to assess and identify specific skills gaps in order to tailor training, and again at completion of the training to assess skill competency.

## Follow-Up Monthly and Quarterly Supportive Supervision and Mentoring

MCSP worked closely with the MOH to review and strengthen the national supportive supervision system, including its processes and tools. MCSP worked with the MOH's Quality Management Unit and other partners to integrate IPC into the MOH Quality Improvement Clinical Standards and provided technical assistance in the revision of the national Joint Integrated Supportive Supervision (JISS) tool. The JISS tool is used by supervisors during supportive supervision visits to review the quality of care provided by health workers, including skills they learned in the trainings. The JISS tool will continue to be used by the MOH after the end of MCSP to ensure maintenance of quality health services in facilities. MCSP trained CHT and DHT staff on supervision, coaching, and team-based mentoring skills so that they can provide onsite, team-based and individual mentoring and coaching during supportive supervision visits.

MCSP collaborated with the CHTs and DHTs to implement mentoring and supportive supervision visits on a monthly basis, with quarterly backstopping from MCSP staff based in Monrovia starting in March 2016 and ending in February 2018.

Each facility supportive supervision visit lasted one day, beginning with an entry meeting with facility management to review previous action items and ending with a feedback meeting with facility staff. During the visits, supervisors observed the care being provided (if there were no cases during the visit they used simulation cases) and addressed issues on the spot, such as incorrect handwashing, improper partograph plotting, and essential newborn care.

Along with the OIC, supervisors reviewed data quality and facility performance against key indicators and targets. MCSP staff provided support to help facilities improve the organization and inventory of the drug storage rooms, the quality of data reported to the health management information system (HMIS), and health worker capacity to create wall charts and review data at the facility level.

*"All these years, I focused primarily on making sure all children were given an injection or a drop of polio vaccine. I did not concentrate on what I learned in this workshop—that the vaccinator needs support to maintain the cold chain system and records to record the vaccines given. I always said to them 'Have you given the children their vaccines? Make sure that all the children are vaccinated.' But I had never asked the vaccinator what support they need to do the work. I am sure that I will be a better supervisor from this workshop, and so I promise."*

- Rev. Dr. Sodey Lake, the Director of Nurses at the Jackson F. Doe Memorial Hospital in Nimba County

During the feedback session at the end of each supervision visit, supervisors and facility staff discussed key findings and identified action items and recommendations. To enhance continuity and monitor supportive supervision findings, MCSP developed and implemented a supportive supervision summary tool that shows the status of all action items identified during each visit with copies of summaries kept at health facility and county levels.

MCSP county-based staff used CommCare application software to collect and analyze IPC and family planning (FP)-immunization integration data from monthly supportive supervision visits in real time. Collecting data this way made it possible to use the data to inform the focus of supportive supervision visits and to target team-based mentoring and coaching provided during subsequent visits. For IPC, the analyzed data from CommCare was compared to previous scores; if the scores were not improving in a particular area, the team focused mentoring on those areas.

MCSP also developed health facility scorecards to measure facility performance on clinical standards, which were assessed at baseline, midline, and endline to monitor progress through the life of the project. Supervisors reviewed scorecards with facility staff and focused on areas that needed more attention.

## **Integrated Quarterly Performance Review Meetings and with Learning Sessions**

During the first year of the project, MCSP helped CHTs and DHTs organize and facilitate standalone coordination meetings with learning sessions as needed, including IPC review meetings with health facility OICs and Reproductive Health Technical Committee meetings with district and county reproductive health supervisors and partners.

During the final year of the project, MCSP instituted county-level quarterly integrated review meetings to review performance, challenges, and lessons learned on key RMNCAH and IPC indicators and develop action plans based on findings. These meetings included learning sessions on topics suggested by the CHTs and DHTs, enhancing their capacity and ownership to lead these performance reviews and interpret and use data. MCSP also developed a guide for these meetings to enable the DHTs and CHTs to conduct them after the end of MCSP.

## **Assessments: Design, Data Collection and Analysis**

MCSP conducted baseline, midline, and endline health facility assessments at target health facilities with a focus on: 1) facility readiness (health workforce, service availability, equipment, supplies, essential drugs, water, and electricity); and 2) quality of care using clinical standards for monitoring progress and tailoring support. All MCSP-supported facilities were assessed at baseline and midline. At endline, 39 (50%) of MCSP-supported facilities were selected using a stratified random sampling approach complemented with key informant interviews from the CHT and DHT selected conveniently and purposively. The assessments used a quasi-experimental design that allowed a consistent analysis of pre-intervention facility readiness and quality of care in MCSP-supported facilities.

MCSP used its own staff at baseline and midline whereas at endline, 21 external data collectors who were experienced nurses, midwives, and physician assistants were hired and trained in the use of the MOH clinical standards and Jhpiego health facility readiness tools. Assessors conducted direct observation in most cases, and in cases where there were no patients to be observed by the data assessors or it was a sensitive technical area (e.g., sexual and gender-based violence), service providers were asked to narrate the procedures on the particular clinician area to simulate cases.

MCSP also triangulated and used data from the services statistics in the HMIS reports from the supported health facilities to link the comprehensive support impact on the uptake of quality of health services. Thus, MCSP did a trend analysis of the service statistics from the supported health facilities during the project period.

## Results

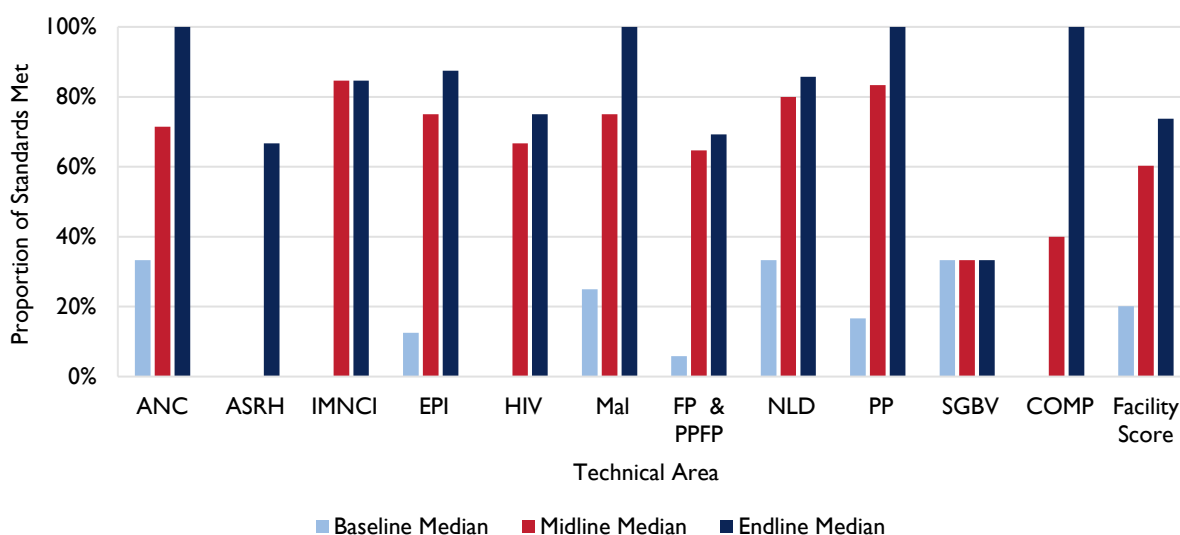
### Service Provision

As illustrated in Figure 2, at the center of MCSP’s approach to HCD is improved provision of quality services; strengthened provider competencies are a key factor that impacts improved service provision.

At the start of the project, only 58% of assessed facilities were open and providing essential RMNCAH services. As of December 2017, all 77 MCSP-supported facilities were providing these services and had adequate staffing, supplies, and equipment. At baseline and midline 100% of facilities were assessed while at endline, 50% of the facilities were assessed.

MCSP found significant improvements in key RMNCAH service delivery areas with increased utilization of services as demonstrated in routine HMIS indicators and improved quality of clinical practice as demonstrated by the clinical standards assessment (see Figure 3). For example, improved technical and communication skills of vaccinators and motivation and strategy for outreach services has improved numbers of total immunized children.

**Figure 3. Clinical Standard Assessment Scores in 37 Sampled MCSP-Supported Facilities in Grand Bassa, Lofa, and Nimba**



Note: ANC: antenatal care, ASRH: adolescent sexual and reproductive health, EPI: Expanded Programme on Immunization, Mal: malaria, PFP: postpartum family planning, NLD: normal labor and delivery, PP: postpartum, SGBV: sexual and gender-based violence, COMP: obstetric complications

### Maternal and Newborn Health

Starting at a peak of 401 maternal deaths per 100,000 deliveries at health facilities in the quarter before MCSP initiated activities in health facilities, the institutional maternal mortality ratio (iMMR) in MCSP-supported sites continually declined over the life of project. From October–December 2017, the iMMR was 221 deaths/100,000 deliveries (see Figure 4). MCSP cannot claim causality, but noted the decreasing trend.

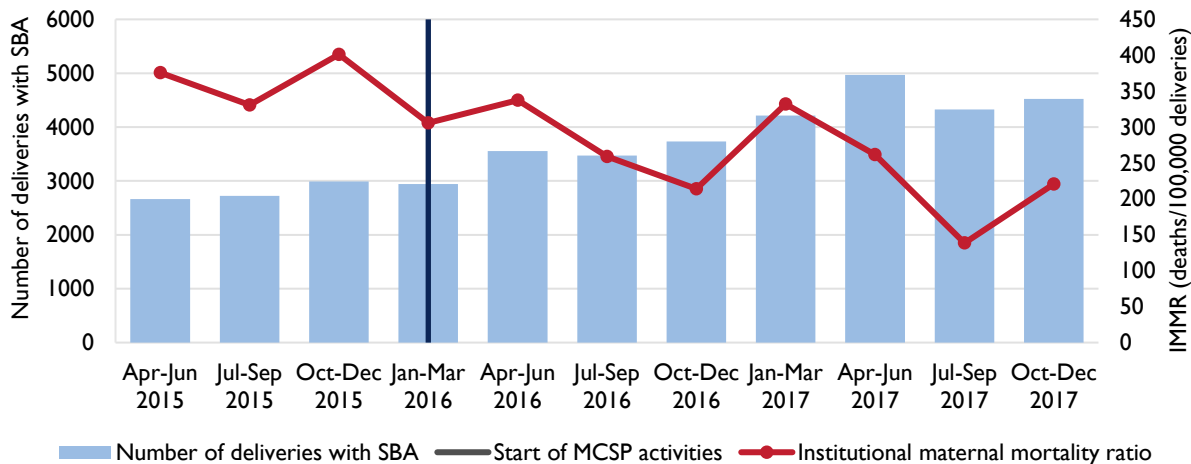
The number of women delivering with skilled personnel in MCSP-supported health facilities more than doubled between baseline and endline, with 2,439 delivering in April–June 2015 (baseline), compared to 4,526 in October–December 2017 (endline).

MCSP-supported facilities also demonstrated a high quality of care for labor and delivery and management of obstetric complications at endline, with a median standard achievement of 86% and 100%, respectively, compared to 33% and 0%, in the same facilities at baseline. At endline, there were marked improvements in the proportion of facilities correctly monitoring and recording labor (46% at baseline compared to 70% at endline) and actively managing the third stage of labor according to national guidelines (49% at baseline compared to 78% at endline).

Care for newborns also improved. At endline, most facilities (86%) were rapidly assessing newborns and providing resuscitation, if necessary, compared to only half (51%) at baseline. At endline, 84% of facilities were also providing advice on kangaroo mother care and other newborn care to mothers with low birthweight babies.

Most facilities (89%) managed pregnant women with bleeding complications and pre-eclampsia or eclampsia according to protocol. Less than 10% achieved this standard at baseline. Three-quarters (76%) properly performed the general management of postpartum hemorrhage, and 84% managed shock appropriately (hospital and health centers only).

**Figure 4. Trends in Deliveries with a Skilled Birth Attendant and Institutional Maternal Mortality in MCSP-Supported Health Facilities**

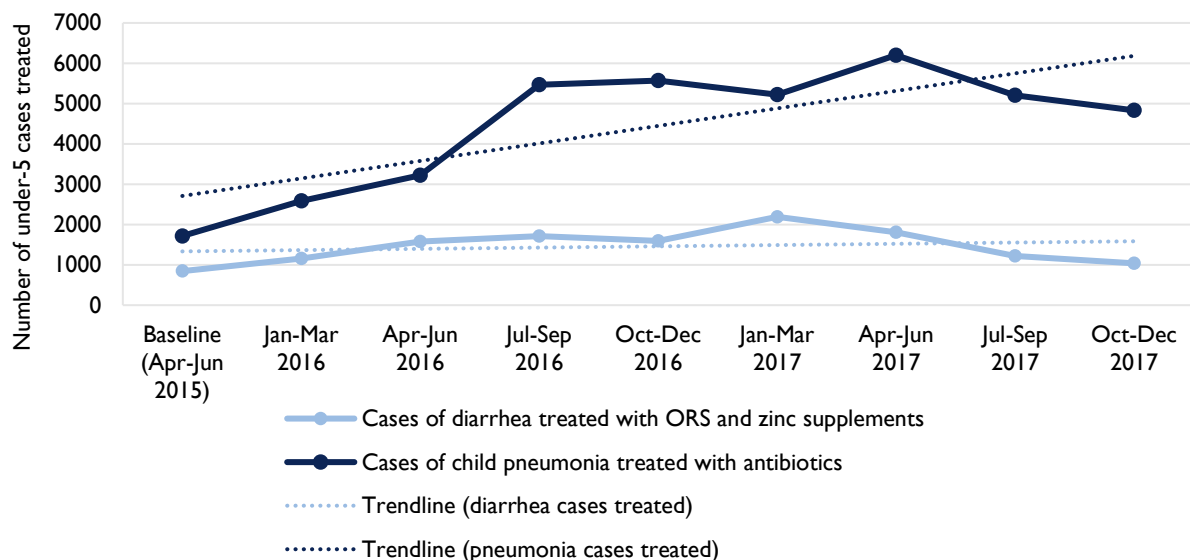


## Immunization and Child Health

At baseline, IMNCI was largely an unknown concept. Most providers did not know how to assess children for common illnesses according to IMNCI protocol. Of the 37 facilities sampled at endline, 21 of these scored 0% on IMNCI standards at baseline (baseline median score, 0%). Following IMNCI training, provision of IMNCI charts and job aids, and intensive onsite mentoring in IMNCI, facilities met 85% of IMNCI standards at midline. This was maintained at endline (endline median score, 85%). Most facilities missed only a few verification criteria among the 13 IMNCI clinical standards.

The improved assessment, diagnosis, and treatment indicated by the clinical standards assessment corresponds with increased numbers of children diagnosed and treated across all MCSP-supported health facilities. At baseline (April–June 2015), 844 children under five years old with dehydration were treated with oral rehydration solution and zinc. The number of children treated increased to 1,034 in October–December 2017. Identification of and treatment for pneumonia in children under five improved dramatically (see Figure 5). Whereas at baseline 1,716 children with pneumonia were identified and treated with antibiotics, at endline this number increased to 4,832. All (100%) of those identified with pneumonia were treated with antibiotics.

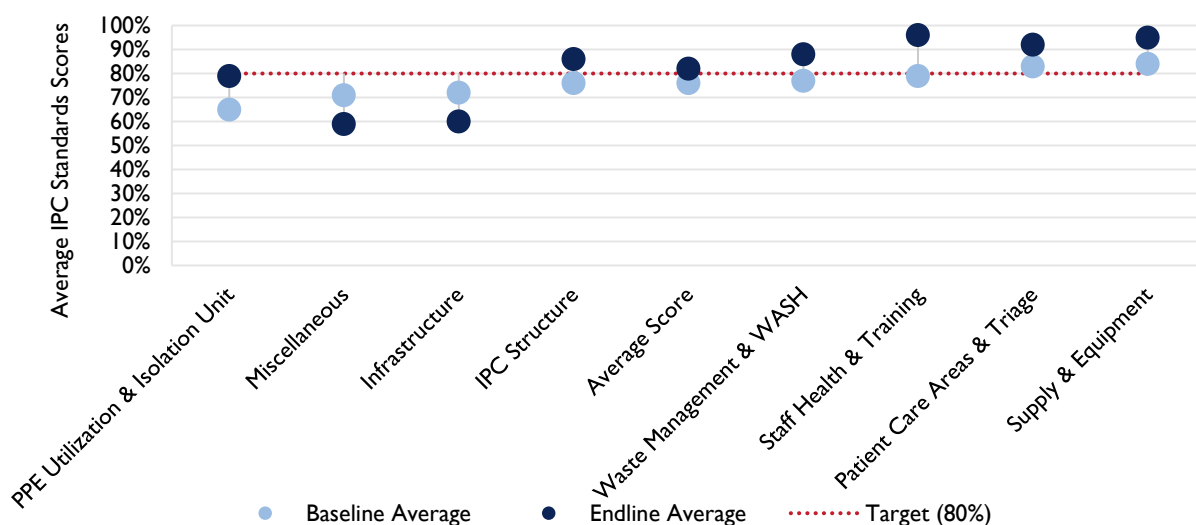
**Figure 5. Identification and Treatment of Pneumonia and Diarrhea Cases in Children under Five in MCSP-Supported Facilities**



## Infection Prevention and Control

Paramount and foundational to the provision of safe, high-quality health services is adherence to IPC procedures. MCSP-supported health facilities continue to show improvement in adherence to IPC practices. At baseline, the facilities’ average score on the IPC standards was 76%. Approximately half of the facilities (52%) met the national target of 80% of IPC standards. The minimum score was 17% (one facility) and the maximum was 100% (one facility). These baseline scores are for the 31 sampled health facilities for which baseline assessments were available (out of the 37 facilities sampled at endline). At endline the median score on the skill qualification score for facilities assessed increased to 82%, thus achieving the national target of 80%. The range of scores was 53% to 100% (see Figure 6). These findings reflect the skills and competencies that health workers have both learned and maintained over the past two years. The two indicators which saw a decrease from baseline to endline were affected by services that were only provided in the emergency context post-Ebola outbreak. The baseline infrastructure score counted temporary isolation structures that were no longer functional at endline (permanent replacement structures in one county were still under construction at endline and were also counted as “non-functional”). Similarly, the miscellaneous indicator score dropped because audits of infectious disease cases ended after the outbreak was contained.

**Figure 6. IPC Standards Adherence in MCSP-Supported Facilities**

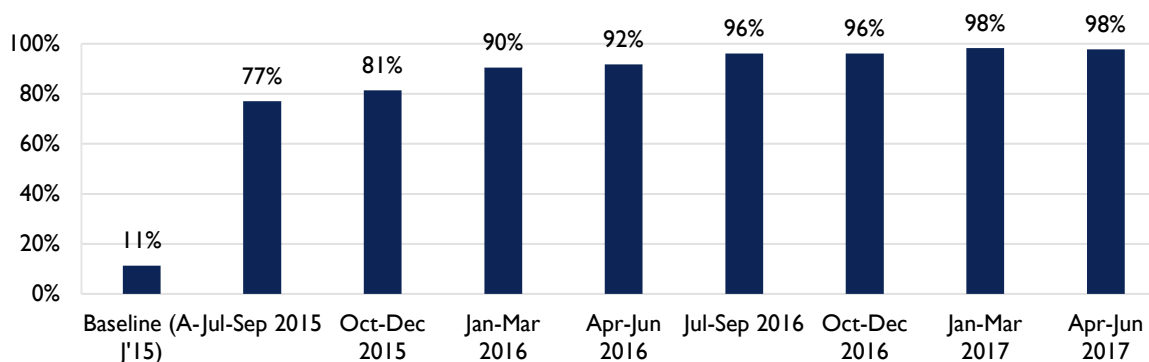


## Data Use

Nearly 100% of MCSP-supported facilities reported complete HMIS data by June 2017, compared to only 11% completeness at baseline (see Figure 7). Furthermore, MCSP's assessment shows an increase in use of these data for decision-making: 92% of facilities reported reviewing performance based on HMIS data with a district or county supervisor during recent supervision visits, compared to 61% at baseline, and 78% of facilities reported making a decision along with the supervisor based on the RMNCAH data, compared to only 53% at baseline.

An example of data use for decision-making is seen at Boeglay clinic in Grand Bassa, where the OIC uses the monthly wall chart to organize community outreach based on the trend of infectious disease reported in the facility.

**Figure 7 Completeness of HMIS Data from MCSP-Supported Facilities**



## Challenges

One challenge was the fact that removing health workers from their workplaces for the initial integrated trainings disrupted services in health facilities; therefore, MCSP recommends that future programs provide integrated in-service trainings as part of structured on-the-job trainings or as orientations for new staff, consistent with the MOH Human Resources Policy and the Civil Service Agency Human Resources Policy.

While MCSP found the supportive supervision and mentoring visits very effective, costs are considerable. MCSP recommends an increased focus on the role of the facility in-charge to provide supervision and quality assurance, and supervisors should use supervision tools as guides, rather than rigidly adhering to their use. Training and preparation of both facility-based and district supervisors should reinforce quality principles over the strict adherence only to a tool.

## Lessons Learned

At the beginning of the MCSP Liberia RHS Program in 2015, only 58% of 77 health facilities assessed were open with required staffing. MCSP provided comprehensive support that included a capacity-building approach involving a combination of specific and integrated skills-based in-service trainings, strengthened supportive supervision and mentoring, and coordination meetings with learning sessions. As of December 2017, all 77 MCSP-supported facilities were providing essential RMNCAH services and had adequate staffing, supplies, and equipment. To sustain the gains made on developing health workers' capacity in Liberia, the MOH and partners must continue to prioritize capacity-building activities and mobilize resources so that health facilities may continue to provide quality health services.



## Recommendations

The HCD approach and other health system support that MCSP provided led to the following and recommendations:

- Involve MOH staff at all levels from the very beginning of the program throughout implementation to ensure proper development and adaptation of tools, and a process aligned with the national supervisory system and priorities. MOH involvement will also help ensure that MCSP's interventions are institutionalized.
- Use CHT and DHT staff as facilitators of onsite and offsite trainings to enhance health work force capacity facilitated institutionalization of the approach within the health system.
- To maximize the efficient use of supportive supervision, include individual and team-based mentoring in the approach. This allows facility staff and supervisors to solve problems quickly and makes good use of resources invested in supportive supervision systems.
- Continue to use data to inform decision-making at the facility, district, county, and national levels, including maintaining the facility scorecard on quality standards and wall charts to monitor key indicators. The scorecard and charts allow for data-driven decisions and targeted, workplace-based quality improvement and mentoring as part of routine activities at the health facility and during supportive supervision visits.
- To sustain the gains made on HCD in Liberia, the MOH and partners must continue to prioritize activities and mobilize resources to motivate staff in health facilities to continue to provide quality services. Specifically, effective and efficient methods of enhancing health worker competency and proficiency such as mentoring should be prioritized, and mobilizing resources to create an enabling workplace environment in terms of equipment, supplies, and other health facility inputs. Health workers will be motivated if they feel competent in their job and work in a well-equipped health facility.

Finally, it is important to note that provider capacity is just one component of a functioning local health system. In addition to HCD, quality improvement policies need to be in place, commodities need to be available, and there must be adequate infrastructure. These issues need to be addressed simultaneously to see significant improvements in health outcomes.

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