


# Liberia Enhancing Malaria Services

## EOP Summary & Results

	<b>Geographic Implementation Areas</b> <i>Counties</i> <ul style="list-style-type: none"> <li>11/15 (73%)—Bomi, Gbarpolu, Grand Bassa, Grand Cape Mount, Grand Gedeh, Grand Kru, Margibi, Maryland, Montserrado, River Gee, and Sinoe</li> </ul> <i>Districts</i> <ul style="list-style-type: none"> <li>33/96 (69%)</li> </ul> <i>Facilities</i> <ul style="list-style-type: none"> <li>270/493 (55%)</li> </ul>	<b>Population</b> <i>Country</i> <ul style="list-style-type: none"> <li>4.73 million</li> </ul> <i>MCSP-supported areas</i> <ul style="list-style-type: none"> <li>4,433,329 (89%)</li> </ul>
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### Technical Areas



#### Program Dates

October 1, 2017–September 30, 2019

#### Total Funding through Life of Project

\$3,469,791

#### Demographic and Health Indicators

Indicator	# or %
Children ages 6–59 months who tested positive for malaria by rapid diagnostic tests	45%
Households with at least one ITN	62%
Children under 5 and pregnant women ages 15–49 who slept under an ITN the night before the survey	<5: 44% Pregnant women: 40%
Pregnant women receiving IPTp	IPTp2: 55% IPTp3+: 22%

Source: 2016 Liberia Malaria Indicator Survey

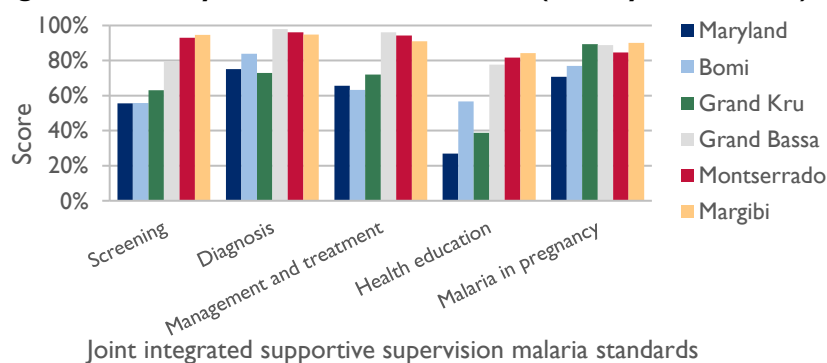
#### Strategic Objectives through the Life of Project

- Provide national level support to aid the MOH, NMCP, and Family Health Division to improve uptake of malaria case management and malaria in pregnancy services (October 2017-September 2018)
- Strengthen five county health teams' ability to implement, manage, and monitor malaria programming (October 2017-September 2018)
- Provide technical assistance to a Fixed Amount Reimbursement Agreement to implement, manage, and monitor health programs in six counties (Bong, Nimba, Lofa, River Gee, Grand Gedeh, and Grand Cape Mount, October 2018-September 2019)
- Strengthen two county health teams' ability to implement, manage, and monitor malaria programming in Margibi and Grand Bassa counties (October 2018-September 2019)
- Strengthen four county health teams' ability to implement, manage, and monitor malaria programming in Bomi, Montserrado, Grand Kru, and Maryland counties (October 2018-September 2019)
- Strengthen needed national level support for counties to optimize their delivery of critical health services (October 2018-September 2019)

#### Highlights through the Life of Project

- Trained 575 clinicians (facility staff and county supervisors) on proper screening, testing, diagnosis, management, and treatment of malaria using the MOH-revised MiP and case management technical guidelines.
- Built capacity of 20 national-level supervisors on the NMCP onsite mentoring and coaching tool that will be used for NMCP biannual supportive supervision.
- Reached 100% (359) of facilities through joint integrated supportive supervision, with each facility receiving at least one visit per quarter.

**Figure 1. Country malaria standards scores (January–March 2019)**



# Liberia—Expansion of Malaria Services

## Background

In Liberia, PMI has supported the NMCP since 2008 to implement high-impact, proven malaria interventions at the central, county, and district levels through several implementing partners. Traditionally, USAID/PMI in Liberia has provided county- and district-level support in three USAID focus counties: Bong, Lofa, and Nimba. In 2016, USAID added three new counties: Grand Bassa, Margibi, and rural Montserrado. The agency contributes to the NMCP's vision of achieving a healthier Liberia with universal access to high-quality malaria interventions and no malaria deaths.

Beginning in 2017, PMI expanded program management assistance in Liberia to five of the nine remaining counties, to eventually cover all 15 counties in Liberia. From October 2017 to December 2018, MCSP's Expansion of Malaria Service program in Liberia focused on county-level activities in the three southeastern counties (Grand Gedeh, River Gee, and Sinoe) with the highest malaria burden and in two northwestern counties (Gbarpolu and Grand Cape Mount) where the program had partner support. PMI also asked MCSP to work alongside the NMCP to fill in gaps and strengthen national-level planning and activity implementation in counties through effective and timely supportive supervision, onsite mentoring and coaching, training facility staff and county and district supervisors, regularly updating protocols, providing job aids, and providing technical assistance to county health teams to effectively manage malaria interventions.

In September 2018, MCSP transitioned Gbarpolu and Sinoe counties to the World Bank. In October 2018, MCSP expanded to Grand Bassa and Margibi counties, and on December 31, 2018, it transitioned River Gee, Grand Gedeh, and Grand Cape Mount counties to USAID's Fixed-Amount Reimbursement Agreement mechanism. Beginning in January 2019, MCSP's support expanded to four additional counties: Bomi, Grand Kru, Maryland, and Montserrado.

## Key Accomplishments

### *Built Capacity of Health Workers*

In Liberia, the MOH, county and district health teams, and implementing partners utilize the joint integrated supportive supervision tool, which supervisors use during supportive supervision visits to review quality of care provided by health workers, including skills they learned in trainings. Using the MOH-revised joint integrated supportive supervision tool, MCSP, in collaboration with county and district health team staff, strengthened the regular, 1-day mentoring and monthly supportive supervision visits in 359 facilities. During these visits, MCSP and the county/district health teams conducted on-the-job mentoring and coaching on MiP and case management skills, and mentored facility and county/district health team staff on data validation to strengthen data quality and timely reporting. These supervision visits included direct observation, simulation, and records review. Each supervision focused on areas of malaria program quality at health facilities, including screening, diagnosis, treatment, stock management, prevention, and data quality. After assessing the core areas, MCSP and the county/district health teams supervised health workers to ensure services adhered to revised national guidelines and received mentoring from MCSP based on the gaps identified. At the end of each visit, staff held feedback sessions to discuss the key findings, improvements made, action items, and recommendations. The involvement of the county and district health teams during supportive supervision and mentoring visits encourages ownership and skills transfer from MCSP staff to the local stakeholders, thereby increasing institutionalization of skills and practices at the facilities.

Findings from the supportive supervision visits revealed that facilities were adhering to confirmatory diagnosis requirements before treating clients. Supervisors assessed the following: staff knowledge on malaria interventions, availability of standard protocols at the facilities, availability of antimalarial commodities, and adherence to national guidelines and protocols. Additionally, supervisors worked with facility staff to identify gaps, provide mentoring and coaching, and develop action points to mitigate the identified gaps. By conducting these visits jointly with the county and district health teams, MCSP built their capacity to provide supportive supervision after the program closes.

## ***Tested Facility-Based Performance Tracking Wall Chart***

MCSP collaborated and coordinated with the NMCP and MEASURE Evaluation to review and finalize the facility-based indicator performance tracking wall chart for malaria interventions. Following finalization of the chart, MCSP, with NMCP supervisors, conducted a pre-pilot field test of the chart at two health facilities. The team conducting this field test observed that all data elements on the wall chart could be collected from health facilities' routine registers. Using the field test's findings and stakeholders' inputs, MCSP finalized the wall chart and printed copies in a reusable, poster-size format. MCSP also developed standard operating procedures on how facility staff will use the wall charts and supported a pilot of the charts at 50% of health facilities in Bomi, Grand Bassa, and Margibi counties. Findings from the pilot test indicate that future programs and the NMCP should roll out the chart to additional counties and facilities.

## ***Developed Human Capacity to Improve Malaria Services***

MCSP trained 575 health team staff from 11 MCSP-supported counties on integrated MiP and case management, and all 270 county and district supervisors who work in malaria on the revised joint integrated supportive supervision tool and process. The training focused on updates to the revised MOH MiP and case management guidelines, supervision, coaching, and team-based mentoring skills to enable supervisors to provide onsite team and individual mentoring and coaching during supportive supervision visits and to allow them to act on gaps observed during these visits. In addition to staff training, MCSP worked with the county health teams to identify malaria focal people in each county to strengthen planning, coordination, and supervision of malaria interventions. Supported clinicians and supervisors are now empowered and feel confident to deliver quality malaria services. (See the [MiP country profile for Liberia](#) for more information.)

## ***Supported County Health Teams and Coordination with Partners***

MCSP supported the county health teams in the project-supported counties to successfully conduct regular health-sector coordination committee meetings. During these monthly meetings, MCSP discussed updates on project activities implemented in collaboration with county health teams; gaps in staff performance identified during supportive supervision; data quality issues; and coordination with county health teams, district health teams, and partners. MCSP and the county health teams also reviewed action plans developed to mitigate or resolve gaps. As a result of these meetings, plans (with defined responsibilities and timelines) for the following months were developed and reviewed by all stakeholders. This work ensured that duplication of efforts was avoided by partners and that time and resources were maximized.

MCSP worked with the MOH and county health teams to organize and reactivate quarterly performance review meetings in the supported counties. Participants included district health officers, district supervisors, county health officers, county M&E focal points, and county supervisors. MCSP, in collaboration with the county health teams, conducted these meetings to discuss activities in the previous quarter relating to MiP, case management, data use, IPC, and RMNCAH. These meetings provide districts with a forum in which to share best practices and work collaboratively to set realistic and achievable targets for the upcoming quarters.

MCSP provided further quarterly needs-based support to the county health teams to help with malaria services implementation, including logistics support, provision of generator fuel, and delivery of MiP and case management treatment guides, for all 270 intervention facilities. In addition, MCSP provided financial and technical support for the successful hosting of World Malaria Day celebrations in the six supported counties and participated in the national-level celebration. Finally, MCSP collaborated with county health teams to strengthen the link among the county health teams, Chemonics/procurement supply management, and the National Drug Service (supply chain unit of the MOH) to ensure adequate quantification, procurement, distribution, and supply of necessary commodities, supplies, and essential drugs at the MCSP-supported health facilities in the five counties.

## ***Supported the Malaria Control Program***

MCSP supported the NMCP to conduct the midterm review of the national malaria strategic plan (2017–2021), enabling the NMCP to make necessary updates and corrections. MCSP also supported coordination of

national-level malaria programming through the revision of the MiP and case management TWGs' terms of reference. Additionally, MCSP supported the merger of the two groups, making it one malaria case management TWG for effective coordination of all malaria implementing partners at the national level.

## Recommendations for the Future

MCSP built county health teams' capacity to implement, manage, and monitor malaria programming, which will support their move to self-reliance. MCSP recommends that future implementers continue to conduct coordinated supervision and monitoring, and further strengthen malaria programming capacity through the following:


- **Roll out guidelines revised at the national level.** The revised guidelines should be shared with facilities in a timely fashion to achieve improved outcomes.
- **Provide financial and logistical support to enable timely supportive supervision, feedback, and follow-up.** Without this additional support, counties are currently unable to carry out timely interventions.
- **Maintain the malaria focal people within each county health team.** This was a major contributing factor to MCSP's achievements in the counties.
- **Prioritize and strengthen district leadership needs, and link facilities with the county health team.**
- **Ensure that transitions between implementers and/or the MOH are discussed from the beginning of each project to promote ownership and sustainability.**

Selected Performance Indicators	
Global or Country Performance Monitoring Plan Indicators	Achievement (Target)
Number of health care workers who successfully completed an in-service training program within the reporting period	286 (target: 300; 95% achieved)
Insecticide-treated net coverage for pregnant women	74% (target: 95%; 78% achieved)
Percentage of people presenting with fever tested for malaria with rapid diagnostic test or microscopy at supported health facilities (< 5 years)	84% (target: 76%; target exceeded)
Number of county health team supervision visits conducted using the joint integrated supportive supervision tool /form	189 (target: 68; target exceeded)

For a list of technical products developed by MCSP related to this country, please click [here](#).

# Liberia Human Resources for Health

## EOP Summary & Results

	<b>Geographic Implementation Areas</b> <i>Regions</i> <ul style="list-style-type: none"> <li>• 4/15 (27%)—Bong, Grand Gedeh, Lofa, and Montserrado</li> </ul> <i>Districts</i> <ul style="list-style-type: none"> <li>• 20/88 (23%)</li> </ul> <i>Facilities</i> <ul style="list-style-type: none"> <li>• 20/829 (2%)</li> </ul>	<b>Population</b> <i>Country</i> <ul style="list-style-type: none"> <li>• 4.73 million</li> </ul> <i>MCSP-supported areas</i> <ul style="list-style-type: none"> <li>• 2.24 million</li> </ul>
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**Technical Areas**   

**Program Dates**  
April 1, 2016–January 31, 2019

**Total Funding through Life of Project**  
\$10,589,600 (Ebola funds—Pillar II)

**Demographic and Health Indicators**

Indicator	# or %
Total health workforce density (per 1,000 population) <sup>1</sup>	0.86
Estimated workforce affected by EVD <sup>1</sup>	4%
Workforce who contracted EVD <sup>1</sup>	372
Workforce who died by EVD <sup>1</sup>	180
Number of midwives deployed and working in the health system <sup>2</sup>	927

Source: [1] Liberian MOH Report 2015; [2] MOH Human Resources Information System.

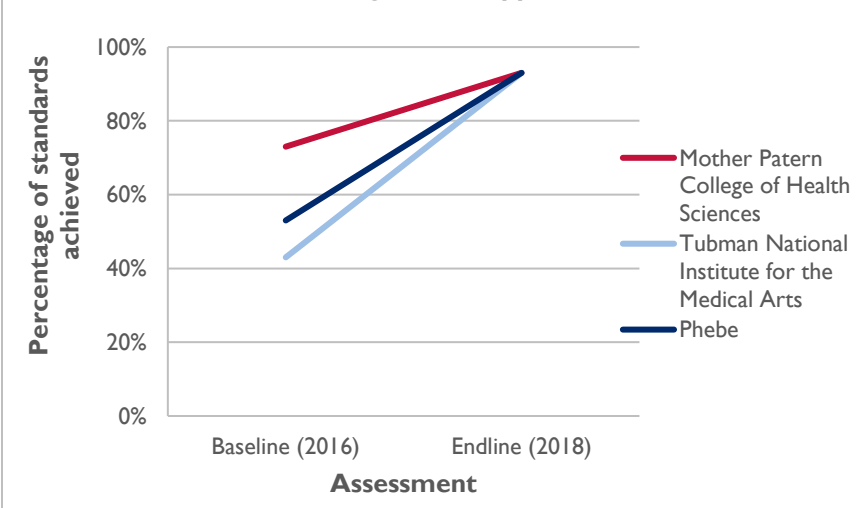
**Strategic Objectives through the Life of Project**

- Increase the quality of instruction at targeted pre-service training institutions by upgrading the technical competencies and teaching skills of faculty, including clinical preceptors, and strengthening curricula, course materials, and delivery of both didactic and clinical training.
- Strengthen the learning environment at targeted pre-service training institutions and clinical teaching sites comprehensively through improved access to high-quality instructional resources, equipment, and technology.

**Highlights through the Life of Project**

- Improved the quality of learning, student performance, and institutional standards across all three medical laboratory technician and five midwifery programs.
- Established effective working relationships with clinical practice sites and equipped them with functional frameworks and minisimulation centers, which increased students' competency and confidence and resulted in improvements in performance from 18% at baseline to 82% at endline.
- Improved management and leadership capacities of institution deans and directors in resource mobilization; creation of asset inventories; data for decision-making and documentation; budgeting; enabling sustainable, high-quality, competency-based programs; and establishing professional human resources management practices through the Leadership and Management Development Program.

**Figure 1. All three medical laboratory programs achieved 93% of standards at endline following MCSP support**



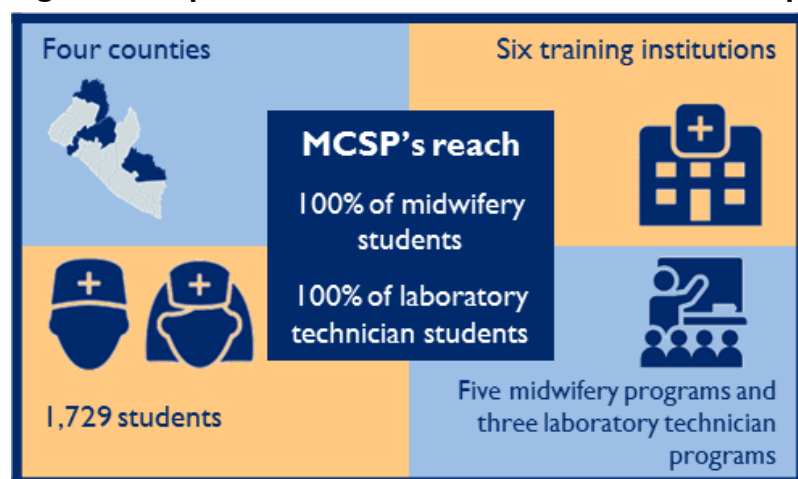
## Liberia—Human Resources for Health

### Background

In light of the Ebola crisis, USAID Washington and the Mission in Liberia asked MCSP to support its commitment to strengthening Liberia’s health workforce through MCSP’s [Liberia Human Resources for Health project](#). MCSP’s goal was to strengthen the capability and resilience of Liberia’s frontline health workforce to address second-order impacts from the Ebola crisis by strengthening pre-service training of midwives and laboratory personnel, two critical cadres whose shortage and lack of adequate training contribute to Liberia’s vulnerability to public health crises.

MCSP envisioned that at the end of the program, Liberia would have proficient midwifery and laboratory educators, prepared clinical teaching sites, a larger and better-prepared graduating class of midwives and laboratory personnel with the required practical skills, and better-equipped and -managed pre-service training institutions (see Figure 2). In collaboration with the Liberia MOH, MCSP enabled Liberia to have a more resilient health and laboratory workforce to improve provision of quality health services and prevent future outbreaks of Ebola and other infectious diseases.

**Figure 2. Scope of MCSP’s Human Resources for Health programmatic reach in Liberia\***



\* Some institutions had both a midwifery and a laboratory technician program, while others only had one program or the other.

MCSP focused on improving access to high-quality instructional resources, equipment, and technology, and strengthened curricula, course materials, and didactic and clinical training. MCSP also strengthened the learning environment at six targeted pre-service training institutions in total, some of which had both a medical laboratory technician programs and a midwifery program (each with an associated clinical practice site), while others had one program.

### Key Accomplishments

#### *Improved Leadership and Management in Schools*

MCSP’s rapid assessments at the start of the program showed that school directors did not feel fully empowered or enabled to lead and manage their academic institutions. Many lacked key management skills and practices, and had limited capacity to access data on budget, student intake, attrition, or graduation rates. This gap in leadership and management led to limited retention of staff, inability to perform basic financial management tasks, poor teaching quality, insufficient student-to-teacher ratios, poor learning environment quality, and inadequate management of clinical and other critical issues.

MCSP developed the Leadership and Management Development Program to build the capacity of school directors to perform skills that follow the LEADER acronym: learning environment management, effective communication, assertive negotiation, data utilization and management, engaged problem-solving, and resource mobilization and management. MCSP led four 2- to 3-day training sessions, totaling 9 days, from

May 2017 to March 2018. The Leadership and Management Development Program resulted in improved budgeting (a new topic for most deans and directors), management, and human resource practices. By the end of the training, all directors and deans were developing budgets. In one example, a school director reported that skills he learned through the Leadership and Management Development Program enabled him to create a resource mobilization strategy to successfully fill a chronic gap in funding for student clinical practice internships.

MCSP also created an academic management information system database and online interface called the PSE Information System, which allows schools to properly manage all students' personal, academic, enrollment, admission, and graduation records, enabling accurate reporting for decision-making that promotes improved educational quality. The PSE Information System helps meet MOH HMIS goals and priorities to gather information on student records, performance, and graduation rates from the PSE institutions, and allows deans and directors to easily access data for use in planning and budgeting.



Students work with an MCSP staff member in one of the new simulation centers. Photo by Erica Chin, MCSP.

### *Improved the Quality of Faculty and Preceptors*

In July 2016, MCSP conducted a rapid needs assessment of the country's five midwifery and three medical laboratory technician schools and their related clinical settings. One of the key gaps that emerged was a lack of teaching skills among faculty in the schools and preceptors who observe and teach students in clinical settings. Some were competent health workers, but many had never received any training on how to be effective faculty.

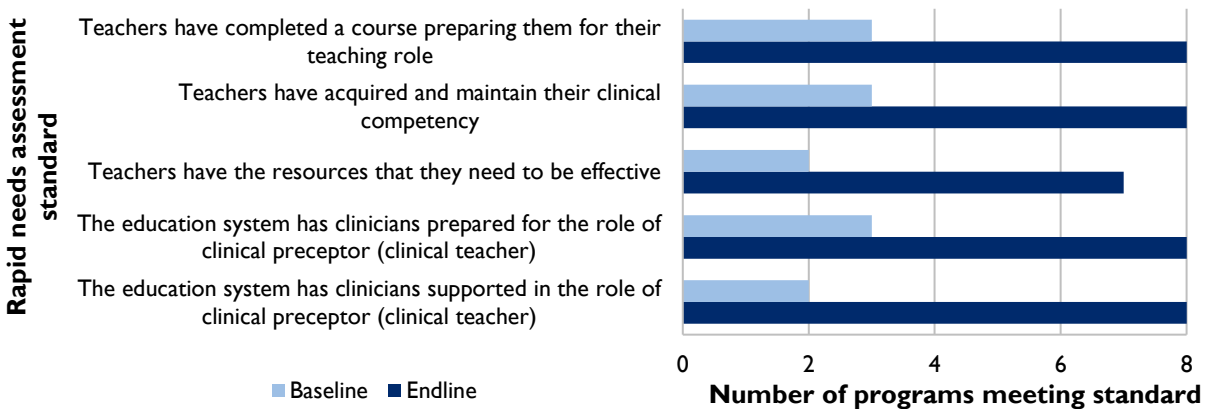
To address this need, MCSP delivered a series of 3- to 5-day workshops to build teaching and student assessment capacity. MCSP combined the workshops into a blended learning Faculty Development Program that provides comprehensive training to both faculty and preceptors. The first cohort of 18 participants graduated in March 2018. In late 2018, MCSP transferred management of the program to a local university so it will continue after MCSP's closeout. The Liberia Board of Nursing and Midwifery approved the Faculty Development Program as a certificate course for continuing education credits, and schools can use the program to meet educational institution accreditation requirements.

MCSP also delivered clinical skills trainings to provide technical updates to faculty and preceptors. To provide normal and EmONC trainings for midwifery faculty and preceptors, and key skills trainings for medical laboratory technician faculty and preceptors, the project followed an evidence-based training approach involving brief workshops; short, facility-based practice sessions repeated over time; and mMentoring through regular text message reminders.

To further strengthen faculty and preceptor capacity, MCSP embedded PSE mentors in each school to support participants in training their peers. These mentors also engaged with faculty and preceptors through supportive supervision and mentorship visits intended to reinforce their learning, aid in applying new skills, and support continuous improvement.

MCSP's evaluations of faculty and preceptors showed steady improvements in performance quality. At baseline (conducted in March/April 2017), faculty and preceptors met an average of 48% of criteria on presentation checklists to evaluate the quality of their teaching; this increased to an average of 94% at endline (conducted in March 2018). At baseline, faculty and preceptors met an average of 77% of pre-established standards for their qualifications and performance, whereas at endline, they met an average of 97% of the standards. Figure 3 shows the number of programs meeting standards at baseline and endline.

**Figure 3. Number of programs meeting standards on a rapid needs assessment to evaluate faculty and preceptor performance in five midwifery and three medical laboratory technician programs**



### Improved Infrastructure

Sufficient infrastructure for practice in simulation and integration of technology are essential for improving PSE. MCSP found that simulation centers and practicum laboratories in schools, which allow students to practice new skills and increase their competencies, did not exist or were poorly resourced and managed, preventing students from using them. Starting in September 2016, MCSP PSE mentors and other staff worked with each school to identify and invest its own funds to establish a space for a simulation center and/or practicum laboratory. MCSP also worked with the schools to ensure that trained, full-time simulation center/practicum laboratory clinical instructors were assigned at each school. MCSP then procured all equipment and supplies for the centers and laboratories. In total, MCSP established or upgraded five simulation centers and three practicum laboratories.

In addition, MCSP set up computer labs in each school. The program hired personnel to support and train existing information technology staff in each school and to support delivery of an introductory computer technology course for faculty, staff, and students. MCSP coordinated with the schools, the MOH, and other partners and donors on these interventions; thus, the schools have been able to retain Internet connectivity and, in some cases, information technology staff. These infrastructure improvements will contribute to continued educational quality beyond the life of the project.

### Improved Clinical Practice

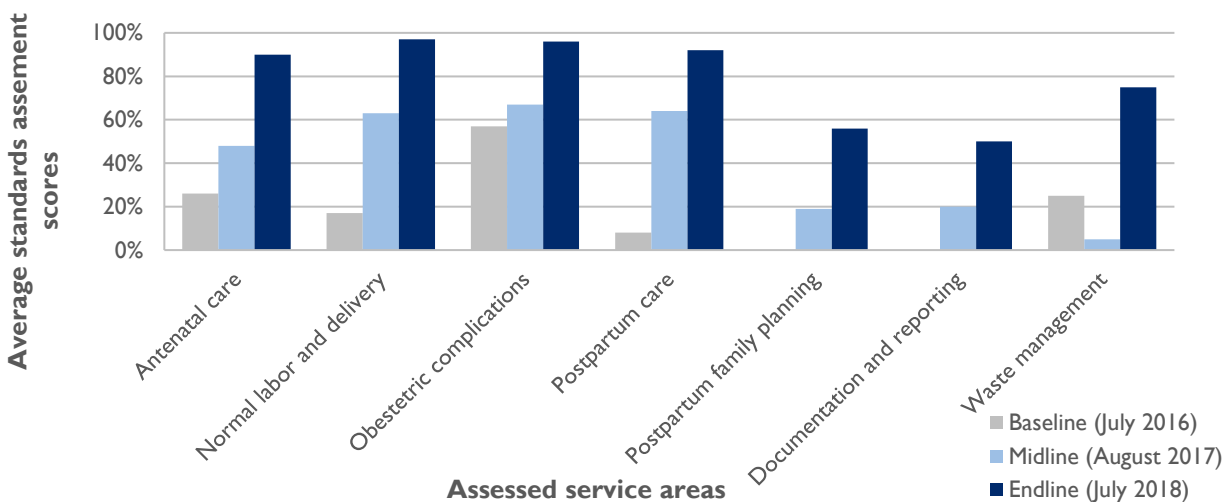
Before MCSP's interventions, schools did not have effective working relationships with clinical practice sites. MOUs previously in place were not observed, and no frameworks, schedules, or communication mechanisms were established to ensure that students could practice the skills they were taught in school. In addition, preceptors were not oriented or prepared to supervise students in practical rotations or assess their clinical skills. To address these issues, MCSP facilitated key stakeholder meetings to bring staff from schools and clinical settings together to develop a structured framework for coordination. Following the meetings, MCSP's PSE mentors continued to work with schools and clinical settings to follow up on their action plans and continue coordination.

MCSP also established minisimulation centers called preceptor corners at the associated clinical sites to provide a safe and appropriate space for preceptors to practice certain skills before demonstrating them for students and to train students on models before performing procedures on patients. MCSP developed mobile preceptor corner kits, which included simulation equipment that was easy to move when space limitations were an issue or equipment could not be securely stored in the facility. Facility staff credited preceptor corners and repeated practice opportunities for the significant improvements in services.

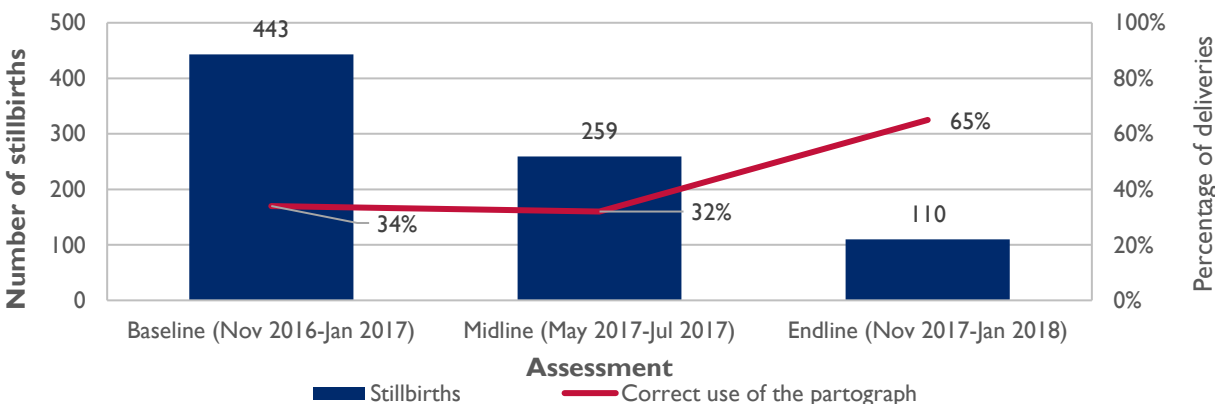


As Figure 4 shows, clinical practice sites reported dramatic improvements in performance on standards related to ANC (meeting an average of 26% at baseline in July 2016 compared to 90% at endline in July 2018), normal labor and delivery (17% to 97%), obstetric complications (57% to 96%), and postpartum care (8% to 92%). Figure 5 shows the increase in the correct use of the partograph and reduction in stillbirths at the practice sites. (For more information on improvements to clinical practice and the sections above, see MCSP’s case study “[Strengthening Pre-Service Education in Liberia: A Systems Approach](#)”.)

**Figure 4. Changes in clinical standards results by service area in MCSP-supported clinical practice sites**



**Figure 5. Percentage of deliveries for which a partograph was correctly used versus number of stillbirths, November 2016–January 2018**



### Supported Student Success

MCSP conducted the first gender analysis ever conducted in Liberia PSE institutions. Based on the findings from this analysis, MCSP supported the regulatory bodies to integrate gender standards into the PSE standards for prevention of sexual harassment and support to pregnant students. MCSP supported the implementation of [gender-responsive pedagogy](#), adding gender-responsive standards to the educational accreditation standards. This has included initiating an FP community-based distribution peer provider program in PSE institutions based on an adapted version of the MOH’s community-based distribution training program, establishing sexual harassment prevention policies, and reversing policies requiring schools to expel pregnant students. All six MCSP-supported PSE institutions in Liberia are now operating with these updated policies, and hundreds of students, especially female, have been positively affected. Within 3 months of initiation, 219 students received counseling on FP methods, 198 were given a modern contraceptive at their request, and 150 learned how to better prevent and report sexual harassment. These changes respond directly to global evidence on causes of higher female student attrition and will have long-term impacts on

reducing this trend. MCSP also worked closely with professional associations to advocate for increasing efforts to recruit new students.

MCSP supported two medical laboratory technician career days in Montserrado and Bong counties on May 1 and 5, 2017, respectively. The events brought together 150 participants, the majority of whom were senior high school students (120) from nine of the top schools in Montserrado and Bong counties. The career day focused on demand generation and awareness for more laboratory technicians, especially females, to enter into Liberia's health sector. Two institutions reported record numbers of students taking the entrance exams (400). At the closeout events, administrators reported that for the first time, they had students at the institutions who were choosing to become medical laboratory technicians not because there was not space in other programs, but because medical laboratory technician was their chosen career path. At the end of the program, the percentage of female students enrolled in medical laboratory technician institutions increased from 28% to 35% in 2 years, providing additional economic empowerment opportunities for women and promoting equity in the medical laboratory technician health cadre. MCSP also worked closely with professional associations emphasizing gender inclusion to advocate for increasing recruitment efforts for new student enrollment.

## Recommendations for the Future

MCSP supported the MOH to build a fit-for-purpose, productive, and motivated health workforce. It is important that a sustained and intentional effort is in place to ensure PSE is robust and will have a long-lasting impact on the quality of health care, especially for the women and children of Liberia. Therefore, MCSP developed the following recommendations for the PSE institutions, regulatory bodies, professional associations, MOH, and donors to sustain and build on the gains made toward an increased number of students entering and graduating from PSE programs, and producing a stronger and more qualified health workforce:

- **Develop clear MOH policies to support and monitor PSE.** These should be used to ensure that interventions now in place are maintained and continuously updated.
- **Foster collaboration among regulatory bodies, PSE institutions, the MOH, and other stakeholders.** MCSP's work with the regulatory bodies led to the establishment of national best practice standards in PSE, ensuring quality service delivery and care. MCSP recommends that the regulatory bodies work with the PSE institutions, the MOH, and other stakeholders to revise, update, and implement policies and interventions to promote enrollment and deployment of students to serve in underserved populations to achieve equitable distribution of health workers, even from onset of training. Regulatory bodies should clearly assert their authority over PSE institutions and use the newly established systems, putting emphasis on faculty and preceptors, curriculum, students, clinical sites, leadership/management, and infrastructure to ensure that the quality of staff employed by training institutions and of students graduating from these institutions continues to improve.
- **Establish permanent staff as PSE mentors embedded in each school.** MCSP's PSE mentors in each school were critical to the project's success. These clinicians had four major roles: school leadership support, faculty capacity-building follow-up, clinical setting improvement support, and liaison support between MCSP and the schools. The mentors were embedded at the school and therefore able to ensure quick and efficient follow-up for completion of activities according to the action plan. Embedded project mentors enabled the PSE institutions to expedite the process of identifying program gaps and taking action to address. MCSP recommends that for sustainability of this intervention, this role is allocated to a permanent member of staff and embedded in the PSE institutions. PSE institutions should continue activities at their level, including conducting faculty and preceptor trainings each semester, performing supportive supervision and mentoring using checklists, and continuing to use the PSE information system to support better use of data for decision-making and advocacy.
- **Maintain clinical learning to provide a competency-based environment for skills improvement.** PSE institutions should maintain program activities, including conducting faculty and preceptor trainings each semester, performing supportive supervision and mentoring with checklists, and using the pre-service information system for better use of data for decision-making and advocacy. Partners should

build upon existing work and materials, such as LDHF approaches, curricula, objective structured clinical examination implementation, and use of job aids, and continue to prioritize clinical practice strengthening to ensure competence of students at graduation.

- **Scale the use of the LDHF approach to improve MNH service quality.** MCSP introduced the LDHF approach for QI of maternal and newborn care in five teaching hospitals affiliated with midwifery PSE institutions. The hospitals showed an average improvement of 40% in meeting MOH QI in reproductive, maternal, and newborn health clinical standards, and subsequently doubled the number of facility deliveries in 1 year at these facilities. As the LDHF approach has been proven as a process for ensuring quality care, it is important to scale it up to continue to improve MNH services.
- **Provide health care workers with necessary updates in midwifery and medical laboratory technology.** MCSP provided technical updates in midwifery and medical laboratory technology to ensure that providers were working according to global best practices. MCSP recommends that regulatory bodies continue to include similar technical updates as part of the continuing professional development program to ensure that updated, evidence-based procedures and skills are performed with confidence.
- **Prioritize improvements to academic leadership and management in PSE institutions.** Leadership and governance are key to ensuring sustainability of best practices for PSE. Addressing academic leadership and management, not just faculty and clinicians, via the Leadership and Management Development Program resulted in important improvements in school management, budgeting, resource mobilization, and use of data for decision-making that is being sustained. MCSP recommends that these activities be conducted earlier in a PSE program, before the Faculty Development Program coursework.
- **Promote gender equity in PSE through policy development and monitoring of PSE institutions.** Addressing inequities will help create an essential supportive environment for increased student enrollment and retention. MCSP recommends that the MOH develop clear policies to support and monitor PSE to ensure that interventions now in place are maintained and continuously updated. The MOH, regulatory bodies, and PSE institutions need to continue to prioritize gender equity if learning environments are to improve, especially for women.

Selected Performance Indicators	
Global or Country Performance Monitoring Plan Indicators	Achievement (Target)
Number of new health care workers who graduated from a pre-service training institution supported by MCSP during the reporting period	355 (target: 282; target exceeded)
Number of schools that are recognized or accredited by credible, relevant regulatory bodies in their country	6 (target: 5; target exceeded)
Number of programs where preceptors/clinical instructors have the necessary resources to effectively guide students in clinical practice	8 (target: 8; target achieved)
Number of people trained in priority technical areas with MCSP support	537 (target: 250; target exceeded)
Percentage of people trained and proficient in key technical areas	80% (target: 80%; target achieved)

For a list of technical products developed by MCSP related to this country, please click [here](#).

# Liberia Restoration of Health Services

## EOP Summary & Results



### Geographic Implementation Areas

#### Counties

- 3/15 (20%)—Grand Bassa, Lofa, and Nimba

#### Districts

- 18/88 (20%)

#### Facilities

- 77/158 (49%)

### Population

#### Country

- 4.73 million

#### MCSP-supported areas

- 1.23 million

### Technical Areas



### Program Dates

August 1, 2015–August 31, 2018

### Total Funding through Life of Project

\$15,257,000 (Ebola funds—Pillar II)

### Demographic and Health Indicators

Indicator	# or %
MMR (per 100,000 live births) <sup>[1]</sup>	1,072
NMR (per 1,000 live births) <sup>[1]</sup>	26
U5MR (per 1,000 live births) <sup>[1]</sup>	94
ANC 4+ <sup>[2]</sup>	79%
SBA <sup>[2]</sup>	76%
CPR <sup>[2]</sup>	31%
IPTp2+ <sup>[2]</sup>	55%
Antimalarial treatments given to children under 5 which were ACT-based <sup>[2]</sup>	81%
Penta3 <sup>[2]</sup>	68%
Fully immunized coverage <sup>[2]</sup>	45%

Sources: [1] Liberia DHS 2013; [2] Liberia Malaria Indicator Survey.

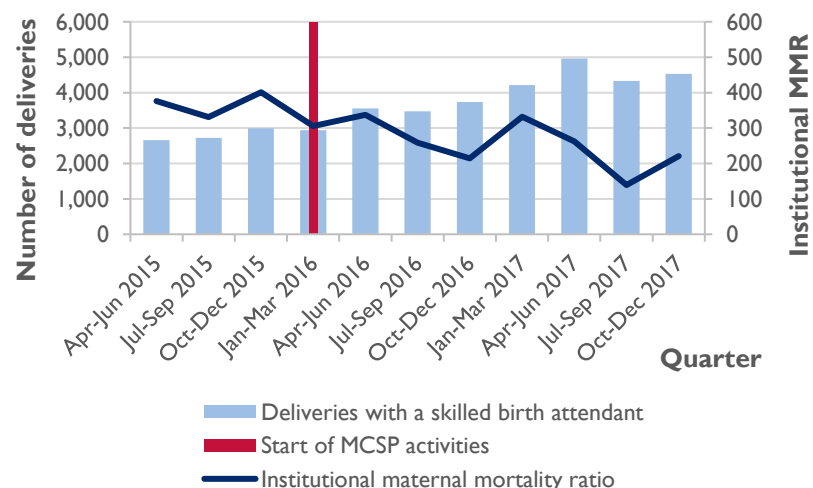
### Strategic Objectives through the Life of Project

- Strengthen IPC practices at 77 health facilities through training, intensive supportive supervision, triage, improvement of waste management, and planning and management of essential IPC commodities and supplies.
- Generate demand and restore delivery of quality primary health care services through the implementation of RMNCAH as part of the Essential Package of Health Services in 77 facilities.

### Highlights through the Life of Project

- Supported health facilities, leading to improved scores of clinical standards by at least 50% from the baseline score.
- Completed infrastructure work at 48 facilities, including renovation and addition of various waste, water, and triage features based on the needs determined at a baseline assessment.
- Helped to restore health services and improve IPC in MCSP-supported facilities, resulting in the number of health facility deliveries nearly doubling from 2,439 to 4,526 and the immunization coverage for children 0–12 months more than doubling from 2,439 to 6,325 from April 2015 to June 2017.
- Supported significant improvements in IPC practices: the median score on Safe Quality Services at endline increased to 82% compared to 76% post-Ebola, indicating more robust and resilient facilities prepared to control and prevent emerging infections.

**Figure 1. Skilled deliveries and maternal mortality in MCSP-supported facilities**



# Liberia—Restoration of Health Services

## Background

In light of the Ebola crisis, USAID headquarters and the Mission in Liberia asked MCSP to support their commitment to restoring service delivery at primary health care facilities and their nationwide rollout of IPC training and protocols through MCSP's Restoration of Health Services program in three counties in Liberia. Through MCSP, the USAID Mission in Liberia and the Government of Liberia aimed to renew confidence in the country's health system by improving the quality and accessibility of RMNCAH services. MCSP's [Restoration of Health Services program](#) was an over 3-year project with a geographic focus on 77 health facilities in Grand Bassa, Lofa, and Nimba counties.

MCSP's overarching goal in Liberia was to restore confidence in the health care system by upgrading IPC practices that are critical for fighting Ebola and other infectious diseases, and ensuring restoration of MCH services in target facilities. At the end of the project, there were great improvements seen at MCSP-supported facilities in the key technical areas: availability of health workers, equipment, and supplies; basic infrastructure (e.g., wells, incinerators, triage, isolation units, and latrines); service provision for essential RMNCAH interventions; and adherence to clinical standards to ensure quality of care. MCSP restored access to and utilization of health services, and rebuilt confidence in the health systems at the facility and county levels, thereby contributing to improvements in RMNCAH outcomes in Liberia following the catastrophic impact Ebola had on utilization of and confidence in the health system. The restoration of the system is evident from the combination of programmatic improvements in health service delivery in MCSP-supported facilities and the positive performance on key outcome indicators over the life of the project.

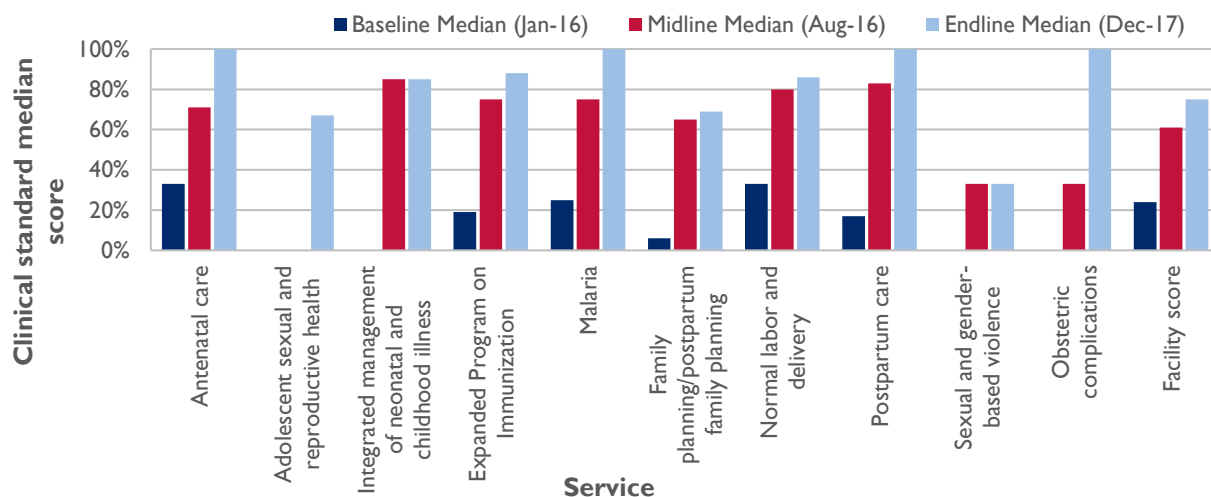
## Key Accomplishments

To restore and improve the delivery of primary health care services, MCSP interventions included integrated, skills-based, in-service trainings for health facility staff in RMNCAH, with provision of job aids and tools, followed by QI and systems-strengthening measures, such as improved supportive supervision and mentoring, payment of salaries for health facility staff, procurement and distribution of MCH-specific equipment, infrastructure upgrades to restore service delivery and improve quality of care, support of the use of data for decision-making, and coordination with the MOH at all levels of the health system.

### *Developed Human Capacity*

MCSP's [human capacity development](#) approach included a combination of specific and integrated skills-based in-service trainings, followed by integrated QI processes, such as strengthened supportive supervision and workplace, individual, and team-based mentoring. Local managers from district and county health teams implemented and led the trainings. 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. MCSP provided in-service trainings in different technical areas in the supported counties and health facilities for the provision of quality MNCH services. A total 1,581 health care workers were trained by the project on the different technical areas, thereby improving the skill levels of staff and the quality of services they provided. Through the trainings and ongoing supportive supervision/mentoring visits, the health workforce's competence for providing quality services improved further. This is evidenced by improved scores in MOH clinical standards. 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. 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 2).

**Figure 2. Clinical standards scores in MCSP-supported facilities**



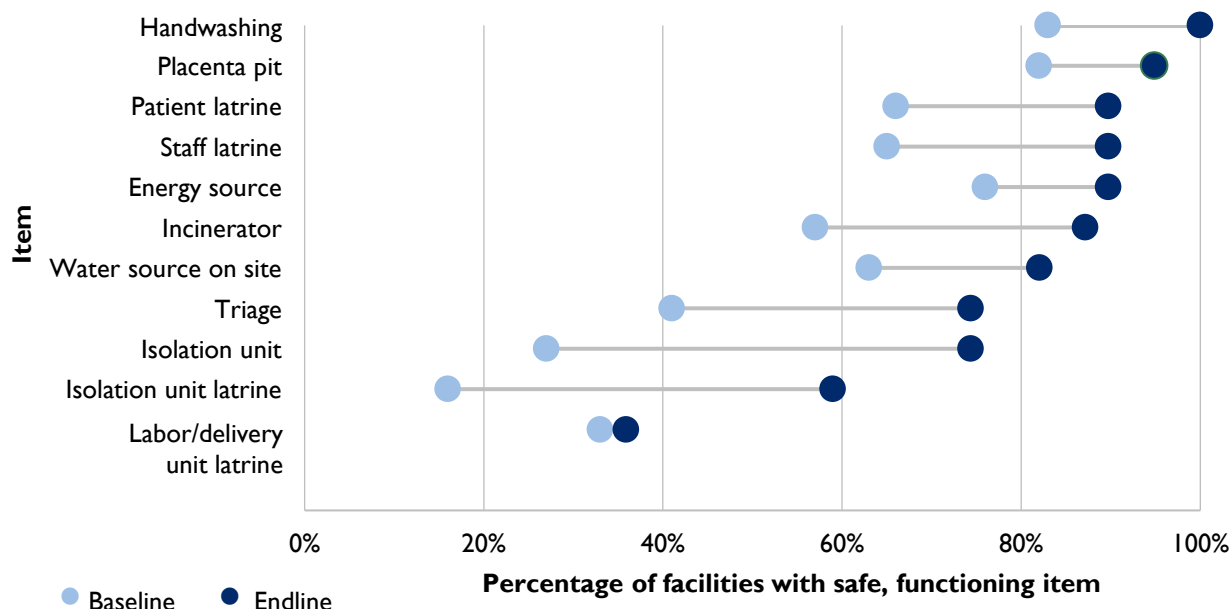
### Improved IPC Adherence and Practice

Adherence to IPC is paramount to the provision of safe, high-quality health services. MCSP implemented [IPC interventions](#) in its supported facilities in collaboration with the MOH (Family Health Division, Quality Management Unit, national IPC Task Force, County Health Services Division, National Health Promotion Division, infrastructure unit, and environmental health division), county and district health teams, and facility IPC focal people and committees. MCSP’s interventions included providing IPC/Safe Quality Services trainings; providing supportive supervision and mentoring; establishing and strengthening IPC committees in health facilities; providing IPC supplies; upgrading waste, water, and triage infrastructure; adapting and distributing job aids; and providing technical and logistical support at the national level, including updating guidelines, protocols, and standards. At the close of the program, MCSP-supported health facilities showed great improvements in adherence to IPC practices and Safe Quality Services standards. At baseline, the facilities’ median score on the IPC standards was 76%. Approximately half of the facilities (52%) met the national target of 80% of IPC standards. At endline, the median score on the Safe Quality Services for facilities assessed increased to 82%, with 60 out of 77 (78%) facilities meeting the national target. The high Safe Quality Services scores are evidence of sustained and improved IPC adherence, which ensures that IPC practices have been, to a great degree, institutionalized by all staff at facilities.

### Upgraded Waste, Water, and Triage Features

MCSP took on infrastructure improvements at health care facilities across the three supported counties to improve access to onsite waste, water, and triage facilities. MCSP, in coordination with USAID, the MOH, and county health teams in Grand Bassa, Lofa, and Nimba, identified critical gaps and prioritized 48 rural facilities for infrastructure improvements. A total of 139 waste, water, and triage features were constructed by the project in the three supported counties: 18 triages, 25 incinerators, 19 hand-dug wells, 16 placental pits, 28 ash pits, and 33 sharps pits. Additional improvements in WASH infrastructure between baseline and endline can be seen in Figure 3. MCSP worked closely with the MOH and the county health teams to ensure that local stakeholders had an opportunity to collaborate in the renovation process. MCSP staff engineers worked alongside representatives of the county health teams, providing opportunities for mutual learning and capacity-building between the two organizations and ensuring county health teams’ familiarity with each new feature built under MCSP. This knowledge puts the county health teams in a good position to conduct future maintenance of these facilities and to coordinate similar work in the future. To ensure continued and sustained use of these features, MCSP, in collaboration with the MOH, organized a 1-day orientation for health facility staff, including cleaners, on the use of these features. Additionally, facilities were provided with start-up kits for hand pump wells, shovels, tools, and standard operating procedure manuals on use and maintenance of these features. MCSP also shared a list of county-based WASH entrepreneurs trained by the Global Communities project with the three supported county health teams to address any future maintenance and repair of the features of hand pump wells.

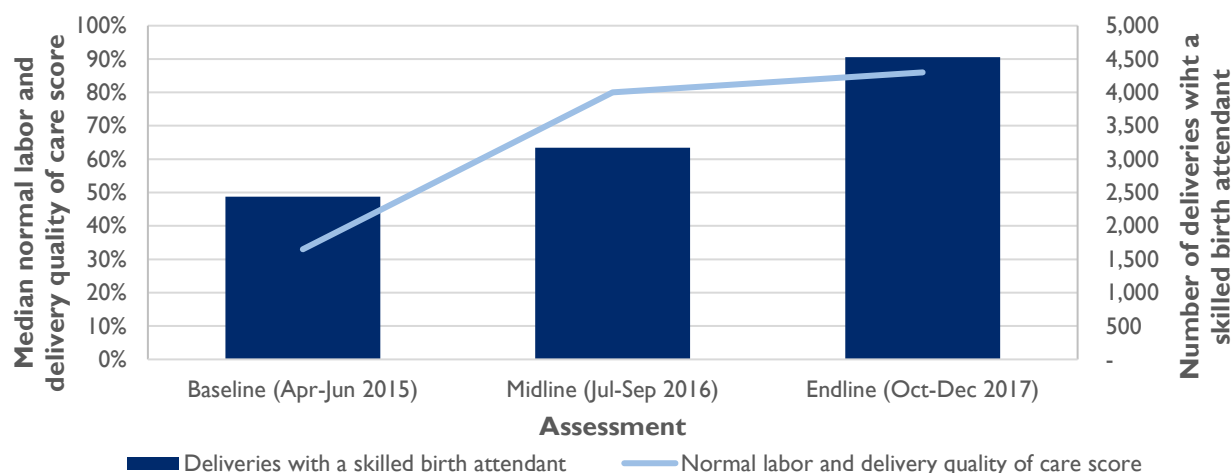
**Figure 3. Improvements in the percentage of facilities with safe, functioning infrastructure and facilities between baseline and endline**



### *Improved Reproductive, Maternal, and Newborn Health Care Services*

To improve maternal health and increase facility deliveries, MCSP conducted a number of targeted activities, including increased community outreach and engagement to encourage women to deliver at facilities, improved connection and referrals to trained traditional midwives through meetings held at the health facilities, increased availability of skilled personnel, and improved quality of care, all of which have restored the communities’ confidence in the services available at their primary health care facilities. MCSP also conducted comprehensive obstetric and newborn care training conducted at tertiary-level facilities with a focus on improving provider competencies to address the primary causes of maternal mortality. MCSP provided technical support to the MOH Family Health Division for the development of MPDSR implementation guidelines, tools, and training materials, and cascaded its implementation in the supported counties through training and orientation of county/district health team and health facility staff, as well as the coordination and management of the initiative. Because of MCSP’s joint efforts with the MOH to improve the quality of ANC, labor, delivery, and postpartum care, the number of women delivering with skilled personnel in MCSP-supported health facilities nearly doubled between baseline and endline, with 2,439 delivering in April–June 2015 (baseline), compared to 4,526 in October–December 2017 (endline; see Figure 4). Since the start of MCSP activities at the facility level in November 2015, the institutional MMR declined in MCSP-supported facilities, starting at a peak of 401 deaths per 100,000 deliveries in the quarter before MCSP initiated activities to 221 deaths per 100,000 deliveries during the October to December 2017 period (Figure 1).

**Figure 4. As quality of normal labor and delivery care improvement in sampled facilities, the number of facility-based deliveries also increased**



To improve the delivery of quality child health services, MCSP supported a large-scale [IMNCI](#) training. To sustain the gains from and reduce the dependence on large-scale training efforts, MCSP worked with the MOH to develop a guide to institutionalize IMNCI at the health facility level. The guide provides assistance with delegating IMNCI tasks to the most appropriate service delivery area of the health facility and ensures that the service providers working in these areas have access to appropriate job aids, training resources, and mentoring and supervision tailored to the specific delegated IMNCI task. MCSP worked with the MOH to ensure that updated IMNCI job aids, training resources, and checklists for internal supportive supervision were included in this innovative guide. MCSP’s success in delivering quality child health services was evidenced by the substantial increase in frontline health care provider adherence to MOH IMNCI clinical standards from a median of 0% at baseline to 85% at endline.

To strengthen RI services in MCSP-supported counties, MCSP, in collaboration with the MOH/EPI and county health teams, mentored the county and health facility staff and improved their capacity to map their facility catchment areas and develop microplans. MCSP also supported integrated outreach services in hard-to-reach areas, ensured the maintenance of the cold chain and management of the vaccine supply, and analyzed data for decision-making. MCSP procured and distributed 12 motorbikes to selected facilities in hard-to-reach communities, which was critical to linking vaccinators with the facility catchment areas they serve. MCSP also supported outreach by transporting vaccines and vaccine-related materials to facilities and providing staff incentives and fuel. As a result of this support, the third dose of pentavalent (Penta3) coverage in the 77 facilities receiving integrated support from MCSP improved from an overall average of 67% in 2015 to over 93% in 2017. By identifying gaps in immunization services and approaching them holistically through a number of targeted interventions, MCSP strengthened RI in Lofa, Grand Bassa, and Nimba counties.

### *Coordinated and Collaborated with the MOH, County and District Health Teams, and Partners*

MCSP worked alongside the MOH, county and district health teams, and partners in all of its activity implementation. MCSP continuously provided technical support to the MOH and county health teams in the formulation of guidelines, strategies, protocols, and tools. MCSP provided technical and financial support to organize one MNH conference in each supported county that brought all stakeholders together to make collective efforts to halt maternal and newborn deaths and mortalities. Each conference concluded with resolutions that emphasized the commitment of all stakeholders for improved MNH outcomes that included discouraging home deliveries. MCSP supported and enhanced the capacity of the county health teams to implement integrated quarterly performance review meetings that created a platform to share achievements, challenges, and lessons learned across technical areas and counties, and to jointly plan for the next quarter. At the national and county levels, MCSP drove the agenda of different RMNCAH TWGs, leading to the completion of key policy documents and guidelines, such as the MPDSR guidelines and training materials, BEmONC package for training, sexual and GBV training materials, and the chlorhexidine (CHX) scale-up plan. Additionally, MCSP provided technical assistance for the completion of MPDSR tools and rollout of



joint integrated supportive supervision to the counties. MCSP also played a pivotal role in the revitalization of the Newborn and Child Health Subcommittee of the Reproductive Health Technical Committee at the central level.

## Recommendations for the Future

MCSP helped restore access to and utilization of health services, and rebuilt confidence in the health system at the facility and county levels, thereby contributing to improvements in RMNCAH outcomes in Liberia following the catastrophic impact of Ebola. The restoration of the health system is evidenced by a combination of programmatic improvements in health service delivery in MCSP-supported facilities and the positive performance outcome indicators over the life of the project. To sustain the gains of the program, MCSP has the following recommendations:

- **Train and orient staff on use and maintenance of WASH features.** When a program includes an infrastructure component, particularly the installation of waste, water, and triage features (e.g., incinerators and waste pits) at health facilities, it is crucial to provide training and orientation to health facility staff on the proper use and maintenance of these features to ensure sustainability.
- **Establish and improve WASH infrastructure at all MCH units.** MCSP made improvements in waste, water, and triage features in the 28 health facilities; however, some facilities still lack adequate waste, water, and triage features. The MOH and all stakeholders should prioritize and mobilize resources to ensure that all health facilities have triage, latrines, waste pits, and reliable water sources. The project, due to limited funding, was not able to renovate MCH units at facilities. Future infrastructure upgrades should consider prioritizing MCH unit improvements for the provision of quality labor, delivery, and postnatal services.
- **Prioritize measures to prevent stock-outs.** RMNCAH service provision was greatly impacted by stock-outs of essential medicines and commodities. MCSP recommends several steps be taken to improve the functionality of the supply chain:
  - Fewer rounds of distribution (three rounds instead of four) should be conducted, with a larger volume of products per distribution round, due not only to the internal challenges outlined but also to some external challenges, such as bad roads during the height of the rainy season when certain parts of the country become very hard or impossible to reach by vehicle.
  - The Central Medicine Store should supply the full quantity of drugs approved following quantification for the county/facility for a particular period (quarter) to ensure that the facilities have enough drugs to last until the next distribution.
  - Projects should advocate for the management of the last mile distribution in future projects requiring supply chain intervention, as it demands high-level coordination to achieve regular availability of drugs at the facilities.
- **Create an enabling work environment to motivate and enhance the capacity of health care workers.** To sustain the gains made on human capacity development in Liberia, the MOH and partners must continue to prioritize activities and mobilize resources to motivate staff in health facilities to provide high-quality services. Specifically, effective and efficient methods of enhancing health worker competency, such as mentoring, coaching, and supportive supervision, should be prioritized. The MOH should also mobilize resources to create an enabling workplace environment in terms of salary, 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.
- **Continue to improve immunization service provision through technical support, enhanced collaboration, etc.** In Liberia, the MOH EPI still requires technical support to strengthen immunization systems in low-performing counties. Collaboration and coordination at national, county, and district levels, and inclusion of the private sector into immunization activities are cardinal to improved quality services. MCSP recommends that the MOH and partners work to build capacity of county and district teams in scaling up the RED/REC approach; strengthen cold chain and supply chain system; link with the community, demand generation, and utilization of services; and improve data quality and use.

Selected Performance Indicators	
Global or Country Performance Monitoring Plan Indicators	Achievement (Target)
Number of deliveries with an SBA in program-supported health facilities 8,960 (no target)	32,464 (no target defined)
Percentage of MCSP-supported facilities that received at least one integrated supportive supervision visit in last quarter	95% (target: 100%; target exceeded)
Percentage of supported facilities with IPC/Safe Quality Services focal point identified and trained	99% (target: 100%; target exceeded)
Percentage of MCSP-supported facilities open and providing basic primary health care, including RMNCH, communicable disease (malaria, TB, and HIV/AIDS), and emergency services	100% (target: 100%; target achieved)
Number of people screened at MCSP-supported health facilities	1,309,910 (no target defined)

For a list of technical products developed by MCSP related to this country, please click [here](#).