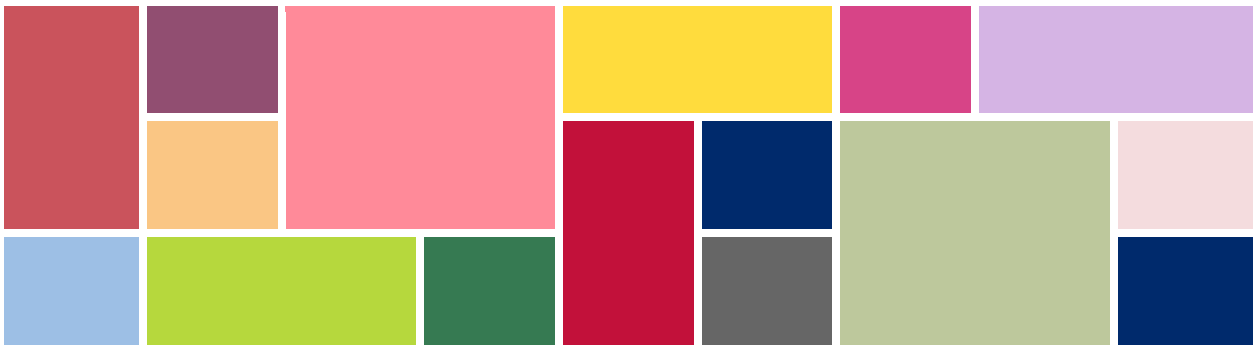
USAID
FROM THE AMERICAN PEOPLE

Maternal and Child Survival Program

Supporting Quality of Care Improvements through Water, Sanitation, and Hygiene

MCSP Implementation Experiences in Four Countries



www.mcsprogram.org

The Maternal and Child Survival Program (MCSP) is a global, $560 million, 5-year cooperative agreement funded by the United States Agency for International Development (USAID) to introduce and support scale-up of high-impact health interventions among USAID's 25 maternal and child health priority countries, as well as other countries. MCSP is focused on ensuring that all women, newborns and children most in need have equitable access to quality health care services to save lives. MCSP supports programming in maternal, newborn and child health, immunization, family planning and reproductive health, nutrition, health systems strengthening, water/sanitation/hygiene, malaria, prevention of mother-to-child transmission of HIV, and pediatric HIV care and treatment.

This report is made possible by the generous support of the American people through USAID under the terms of the Cooperative Agreement AID-OAA-A-14-00028. The contents are the responsibility of MCSP and do not necessarily reflect the views of USAID or the United States Government.

December 2019

Table of Contents

Acknowledgments

This report is a summary of the years of dedication and hard work from many MCSP staff in Haiti, Democratic Republic of the Congo, Guatemala, and Nigeria, along with the country support teams in Washington, DC. We would like to acknowledge MCSP staff Steve Sara, Jason Lopez, and Ayne Worku for consolidating MCSP experiences into this report. We would also like to thank Dr. Robert Dreibelbis, Mr. Oliver Cumming, Ms. Erin Flynn, and Ms. Tess Shiras from the London School of Hygiene and Tropical Medicine for leading the first two phases of the learning activity in Nigeria. The assistance of the national and local governments in these countries in program approval, planning, and design was invaluable. Finally, we would like to express our gratitude to staff and management from participating health facilities for generously providing requested information during the activity.

Abbreviations

CCA	Clean Clinic Approach
HAI	health care-associated infection
HCF	health care facility
IPC	infection prevention and control
JMP	Joint Monitoring Programme
MCSP	Maternal and Child Survival Program
MOH	Ministry of Health
MSPP	*Ministère de la Santé Publique et de la Population*
QoC	quality of care
SDG	Sustainable Development Goal
SSQH	*Services de Santé de Qualité pour Haiti*
USAID	United States Agency for International Development
WASH	water, sanitation, and hygiene
WHO	World Health Organization

Executive Summary

The year 2015 marked the beginning of the Sustainable Development Goals – which mandate universal access to water, sanitation, and hygiene (WASH) to improve human health and enhance the quality of health care services. Despite these goals, no global standards for WASH in health care facilities existed, little data were available, and no evidence-based strategies to improve WASH conditions and practices had been identified.

It was in this context that the USAID's global Maternal and Child Survival Program (MCSP) began. MCSP strove to make WASH a normative part of MNCH programming to prevent maternal and child deaths by supporting country programs to increase coverage and utilization of evidence-based, high-quality reproductive, maternal, newborn, and child health interventions, including WASH activities, when feasible. MCSP leveraged WASH investments to increase access to and use of WASH services at household, community, and health care facility levels using low-cost interventions. One of MCSP's strategies was to improve health care facility (HCF) WASH conditions and practices to contribute to quality of care (QoC) improvements and reductions of maternal and newborn infections through MCSP's innovative Clean Clinic Approach.

As a global project, MCSP had a variety of implementation and research experience that can be drawn on to continue advancing WASH in HCFs' policy, strategy, standards, indicators, and implementation approaches globally. This report highlights experiences from four MCSP country programs (Haiti, Democratic Republic of the Congo, Guatemala, and Nigeria) that used WASH investments as part of a QoC improvement strategy in HCFs. This report summarizes implementation and research experiences that can inform future efforts to operationalize the eight steps recommended in the 2019 Joint Monitoring Programme publication *Water, Sanitation, and Hygiene in Health Care Facilities: Practical Steps to Achieve Universal Access to Quality Care*. Links to the full and detailed MCSP WASH country case studies can be found within the document.

MCSP's cross-country implementation and research experience informed four key recommendations for future QoC and WASH initiatives to be considered. Those recommendations include:

- **Employ behavior change interventions aimed at improving motivation to practice behaviors.** Although education, training, and infrastructure improvements are important, current understanding of behavior change demonstrates the importance of increasing and sustaining motivation. Interventions should not only include awareness-raising and access interventions but also evidence-based interventions aimed at increasing motivation through persuasion, accountability, modeling, and/or incentives. Stakeholders are encouraged to design programs that incorporate WASH and infection prevention and control (IPC) from a systems perspective, with the recognition that behavior change is a critical concern in health care and requires comprehensive interventions to sustain compliance and ensure institutionalization.
- **Improve WASH monitoring and data use at HCF level.** Future data collected should be immediately shared with HCF management and staff to pursue needed action. When HCFs have access to detailed and relevant data, staff can, and do, make many incremental improvements in WASH and infection prevention, even in the absence of external funding and resourcing support.
- **Strengthen WASH and infection prevention monitoring within the health system to drive incremental improvements.** In addition to measuring outputs, stakeholders at ward, HCF, and health system level should measure outcomes (e.g., reducing contamination, reducing infections, reducing costs, or improving QoC) to support advocacy for increased investments in WASH in HCFs.
- **Incorporate WASH and IPC collectively as part of sustained quality improvement efforts.** WASH and IPC are not standalone challenges; they are fundamental to providing any safe health care service and for ensuring a positive experience of care. WASH and IPC improvement efforts should always be integrated into any quality improvement effort.

- **Monitor and strengthen supply chain prioritization and delivery systems.** Most countries lack systems for monitoring health office performance related to WASH/ IPC supply chain and maintenance support. In MCSP's experience, HCF improvements will plateau quickly unless monitoring and accountability systems are applied to district and provincial health offices to ensure the consistent supply of required resources and supplies.
- **Advocate for higher prioritization of IPC materials and supplies.** With the persistence of health care-associated infections and the emergence of antimicrobial resistance, national health systems must begin to allocate sufficient budget and resources to infection prevention. To achieve and sustain incremental improvements like those achieved under MCSP, it is essential to advocate for the prioritization of IPC supplies and materials within national supply chain systems in a similar way that essential medicines are prioritized.

Background

The availability and use of basic water, sanitation, and hygiene (WASH) services is a cornerstone to providing high-quality health care services in any context. Without access to basic WASH services and adequate infection prevention supplies, mothers and newborns are at particularly high risk of acquiring a health care-associated infection (HAI).

The establishment of clean and desirable health care facilities (HCFs) is also an essential component to achieving Sustainable Development Goals (SDGs): SDG 3: Ensure healthy lives and promote well-being for all at all ages and SDG 6: Ensure availability and sustainable management of water and sanitation for all. Improving reliable access to basic WASH services in health care environments is critical to achieving universal, high-quality health care; realizing national infection prevention and control (IPC) strategies; and preventing disease outbreaks. The global emergence of antimicrobial-resistant infections presents a new reality—health systems can no longer rely on readily available antibiotics to treat common infections. A renewed emphasis on infection prevention is required.

Despite this common understanding, hundreds of millions of people around the world risk infection by seeking care in HCFs that lack basic WASH, health care waste management, and cleaning services. Globally, it is estimated that 26% of HCFs lack basic water services and 73% lack basic hygiene services. According to a 2019 Joint Monitoring Programme (JMP) report, an estimated 43% of HCFs lack hand hygiene facilities at points of care, and in Sub-Saharan Africa, an estimated 40% of HCFs lack basic waste management services. Global and regional estimates on the availability and compliance of standard cleaning protocols are not available, but country-level and MCSP data from various countries suggest very low-quality cleaning services across low- and middle-income countries. The lack of appropriate WASH facilities and practices within HCFs results in three primary consequences:

- HCFs become unable to provide safe services (such as hygienic births and clean surgeries), especially to mothers, newborns, and children.
- Populations served by these facilities lack confidence in the institutions as clean, safe places to seek care.
- HCFs will be limited in capacity to prevent, identify, and contain disease outbreaks.

This widespread global reality has received little attention until very recently. The Ebola outbreak of 2014–2016 highlighted glaring issues that are common among national health systems in low- and middle-income countries. First, there is a lack of skills, training, and protocols for infection prevention, and coordination challenges among "water" partners and entities. Second, there was a common misperception that improving WASH infrastructure (such as building water points and bathrooms) alone improves WASH in HCFs. Fortunately, that Ebola outbreak also catalyzed a desire to rapidly learn how best to improve these conditions.

Recent Progress

The Ebola outbreak, coupled with emerging evidence on poor WASH conditions, has heightened the global focus on WASH in health care in recent years. In 2018, the UN secretary-general announced a call to action to address the global cleanliness problem that undermines the provision of high-quality health care. That same year, the JMP, an office developed collaboratively by the World Health Organization (WHO) and UNICEF to report on and monitor progress of WASH data, published the first global WASH standards in HCFs.

Box 1: The World Health Organization's Eight Practical Steps to Improve Water, Sanitation, and Hygiene in Health Care Facilities

1. Conduct a situation analysis and assessment.
2. Set targets and define a road map.
3. Establish national standards and accountability mechanisms.
4. Improve and maintain infrastructure.
5. Monitor and review data.
6. Develop health workforce.
7. Engage communities.
8. Conduct operational research and share learning.

In April 2019, the JMP published the first global baseline report on the availability of WASH services, along with a second report outlining eight suggested steps to improve WASH in HCFs (see Box 1). In May 2019, the World Health Assembly unanimously passed (with 194 votes) a resolution to improve WASH in HCFs. As the political and funding environment becomes increasingly supportive, national governments and their implementing partners are looking for proven or promising approaches that can be applied to begin making substantial and sustainable progress.

An Overview of MCSP and Its WASH Program

The Maternal and Child Survival Program (MCSP) is a global, $560 million, 5-year cooperative agreement funded by the United States Agency for International Development (USAID) to introduce and support scale-up of high-impact health interventions among USAID's 25 maternal and child health priority countries, as well as other countries. MCSP is focused on ensuring that all women, newborns and children most in need have equitable access to quality health care services to save lives. MCSP supports programming in maternal, newborn and child health, immunization, family planning and reproductive health, nutrition, health systems strengthening, water/sanitation/hygiene, malaria, prevention of mother-to-child transmission of HIV, and pediatric HIV care and treatment.

WASH in HCFs began to emerge as a global priority because it is a prerequisite to achieving high-quality health services and delivering positive experience of care for patients and families. WHO defines high-quality health care as "health care that is safe, effective, timely, efficient, equitable, and people-centered." As an integrated health program working across countries, MCSP recognized that it was uniquely placed to develop and test WASH solutions in support of the broader quality of care (QoC) improvement efforts. Therefore, MCSP strove to make WASH a normative part of maternal, newborn, and child health programming to prevent maternal and child deaths by supporting country programs in increasing coverage and utilization of evidence-based, high-quality reproductive, maternal, newborn, and child health interventions, including WASH. One of MCSP's strategies was to improve HCFs' WASH conditions and practices to contribute to QoC improvements and reductions in maternal and newborn infections through MCSP's innovative Clean Clinic Approach (CCA).

Box 2: WASH and Quality of Care

"Clean and safe health-care facilities increase trust in and demand for services, improve the experience of care, strengthen staff morale and performance, and reinforce the role of staff in setting societal hygiene norms. Such services also strengthen the resilience of health systems to prevent disease outbreaks, allow effective responses to emergencies (including natural disasters and outbreaks) and bring emergencies under control when they occur." – QED network, 2017

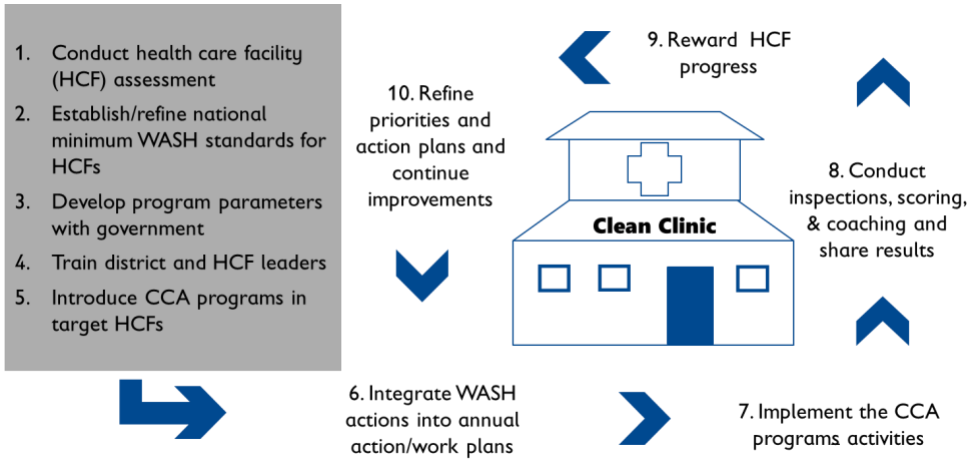
This report summarizes implementation and research experiences that can inform future efforts to operationalize the eight steps recommended in the 2019 JMP publication *Water, Sanitation, and Hygiene in Health Care Facilities: Practical Steps to Achieve Universal Access to Quality Care*. Links to the full and detailed MCSP WASH country case studies can be found within the document.

MCSP's WASH Approach

To strengthen the positioning of WASH as a normative part of maternal and newborn health service delivery, MCSP designed a programmatic approach, contributed to global learning, and advocated for investments in WASH in HCFs. Through its programs, MCSP worked with national and local governments and their development partners to empower HCFs to make incremental WASH improvements and provide better QoC for patients, especially mothers, newborns, and children.

At country level, MCSP designed, implemented, and refined a new process approach to improving WASH in HCFs, called the CCA. The CCA supports HCFs to make incremental and effective cleanliness and infection prevention improvements without relying on external investments. While WHO's "eight practical steps" clarify **what** should be done at country level, the CCA offers a field-tested continuous improvement process on **how** to accomplish and maintain the WHO recommendations at country and HCF levels.
Through the CCA's 10-step annual process (Figure 1), MCSP worked with ministries of health (MOHs) to define criteria and to institutionalize performance recognition and accountability systems.

Figure 1: The Clean Clinic Approach process



Achieving and sustaining ideal WASH conditions at an HCF can demand significant funding, adequately trained staff, and supportive policy. However, the CCA recognizes that some of the most common and impactful barriers to improving WASH conditions at facilities are behavior, management, and/or motivation. After assessing and prioritizing WASH needs at clinics in MCSP implementation areas, MCSP worked with governments to establish Clean Clinic criteria and with clinics to develop action plans to meet those criteria.

The CCA institutionalizes a performance-based certification and monitoring system that produces routine, facility-level cleanliness data to aid in making informed decisions at each level of the health system. It improves cleanliness and hygiene behaviors that reduce intra-/postpartum and neonatal infections in HCFs. The CCA was designed through MCSP's Haiti program and was subsequently introduced in Democratic Republic of the Congo (DRC) and Guatemala. The first five steps of the process were also implemented in two states in Nigeria (Ebonyi and Kogi states). Through these country program experiences, MCSP identified certain factors of success that can be used in future initiatives aiming to implement the WHO's eight practical steps.

MCSP Country Highlights

Haiti: Including Community Engagement Strategies in Program Design and Implementation

The MCSP-managed *Services de Santé de Qualité pour Haiti* (SSQH) program collaborated with the MOH in Haiti (*Ministère de la Santé Publique et de la Population*, or MSPP) to facilitate a sustainable health system and improve the QoC. To support this effort, SSQH and the MSPP designed and used the CCA to improve WASH services in 69 Haitian HCFs and to empower HCF staff to identify needs through an observational assessment, developing action plans, and making incremental improvements in HCFs and surrounding communities. Halfway through this program, Haiti was struck by Hurricane Matthew, which inflicted considerable damage on many MCSP-supported HCFs but also rallied the health care system to prioritize incremental improvements. Implementation of the CCA was conducted in two annual cohorts of HCFs. A pilot cohort of 20 HCFs started the process in 2016. The second cohort of 49 HCFs began the process in 2017 and participated in the program for 1 year before MCSP activities ended. Community participation and accountability were integral to the design and implementation of the CCA in Haiti and manifested in three ways:

1. **Including community outreach in the monitoring and evaluation framework:** The first step in the CCA process was developing a national monitoring, certification, and reward system (aligned with global standards) to monitor progress and stimulate individual and collective action within the health system. The established system included four certification levels based on an HCF's cleanliness score. Sites with scores of 80% or above are considered Clean Clinics. Silver Clinics are those with scores over 85%, and Gold are those with over 95%. Facilities need to have scores of 100% to reach Diamond status. To achieve the two highest certification levels, HCFs were required to conduct biweekly community promotion activities to improve community compliance with critical WASH behaviors.

2. **Engaging communities:** During the development of HCF action plans, communities were involved in establishing improvement priorities. Some communities also supported action plan progress through labor, funding, and/or donations. In 2017, MCSP funded a qualitative assessment of the CCA activities in Haiti, conducted by WASH for Life. The assessment team visited five HCFs in three departments and met with key informants at all levels—national, district, and HCF. Focus group discussions were conducted with clients at four MCSP-supported HCFs, and the team met with and interviewed WASH (or HCF management) committees or committee members.

Photo by Karen Kasmauski, MCSP

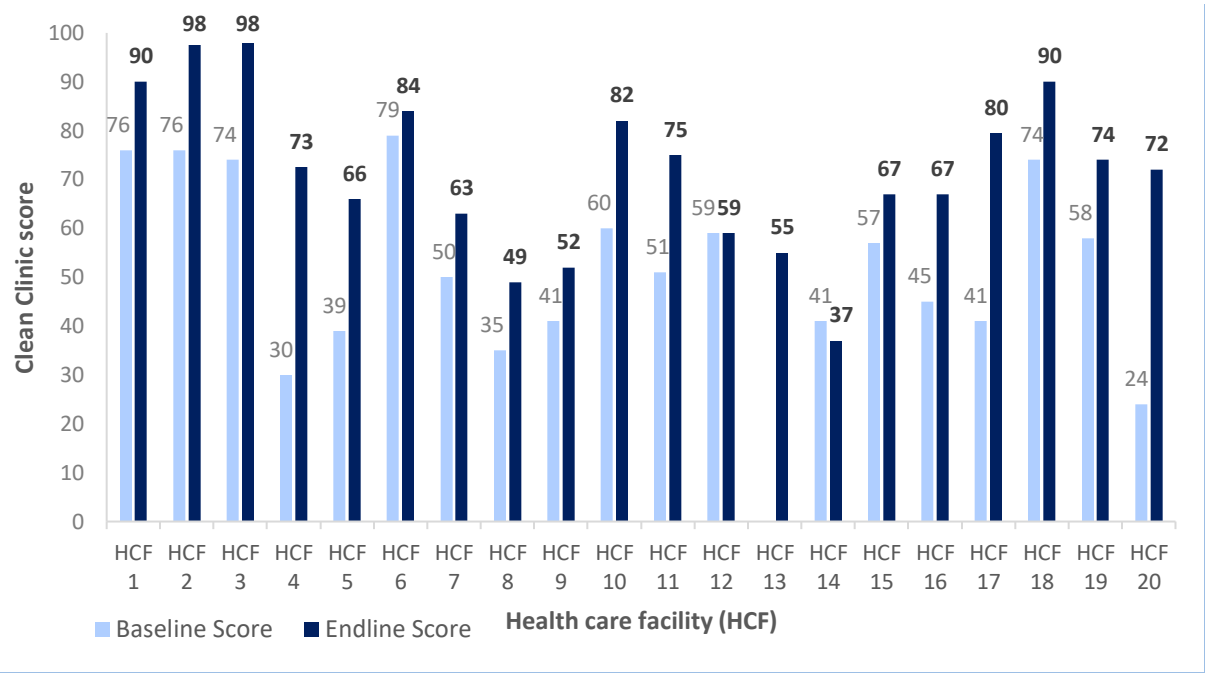
   The assessment team concluded that through the CCA, community outreach, and education generally increased community understanding of WASH best practices. Some clients also reported improved recognition of WASH standards in HCFs and changes in patients' perceptions of risk at HCFs. During focus group discussions, patients reported feeling safer in cleaner HCFs. While HAIs were not referenced by name, many focus group discussion participants understood that they could avoid infection risks at cleaner HCFs. Participants explained that sometimes people could get sicker at HCFs by contracting something new because the facility was unclean. Clients expressed that now, under the CCA, they can avoid these risks.

3. **Publicly sharing annual results:** The CCA monitoring and certification system publicized results among serviced communities. Annual results and certifications were announced over radio programs and in newspapers to inform the public of HCF improvements, apply public pressure to HCFs that were not making or maintaining improvements, and encourage communities to seek care. Official visits by the MSPP to congratulate stakeholders were also publicized through media outlets to reward HCF progress.

Results

By the end of the 2-year CCA program, all 69 participating HCFs demonstrated progress, improving their Clean Clinic scores by an average of 22 points from baseline to endline (100-point scale). Immediately after the baseline assessment of the second cohort of HCFs was completed, Haiti was struck by Hurricane Matthew, which inflicted considerable structural damage to many MCSP-supported HCFs from both implementation cohorts. Twenty-two HCFs (primarily from the year 1 cohort) had achieved Clean Clinic status as defined by the MSPP (a score of at least 80 points). Figure 2 shows the changes in CCA score among the first 20 pilot facilities. MSPP is drawing on MCSP's CCA model to inform the development of a WASH in HCF road map, a task that all member states agreed to at the 2019 World Health Assembly.

Figure 2: Changes in Clean Clinic scores across cohort 1 facilities in Haiti after 18 months of implementation (n = 20)



Implications from Designing and Piloting the CCA

The design and piloting of the CCA in Haiti helped health facilities and governments understand that improving WASH in facilities involves much more than infrastructure. Significant WASH improvements can be made through incremental management steps that integrate best practices into existing systems without major infrastructure changes. Even when infrastructure upgrades are available, behavior change efforts with facility staff are necessary to ensure that new equipment and materials are used effectively. In addition to this important evolution in understanding, MCSP's experience in Haiti resulted in the following important findings and recommendations:

- **Recognition of cleaners is key to WASH success.** Cleaners in HCFs often go unrecognized and do not feel part of the facility team. The CCA approach offers these staff an opportunity to be recognized and receive accolades and motivation for their contributions.
- **The CCA created networks that have strengthened the local capacity for responsiveness to emergencies.** Building on the existing health care extension networks, the SSQH WASH team was able start serving and distributing supplies to the most vulnerable populations just 3 weeks after Hurricane Matthew. Likewise, SSQH has been able to quickly integrate Zika prevention and awareness into WASH training and outreach activities.

- **Future programs should provide additional opportunities for linking successful facilities with WASH activities in the community.** HCFs should serve as models in the communities, and future programs can use successful facilities to expand community WASH programs. Community inclusion in HCF management is also important, as it can increase accountability of the facility to the community and help to ensure sustainability of facility improvements.
- **Sustainability of HCF WASH improvements under the CCA depends on incentivizing active participation from all stakeholders.** The CCA's success in Haiti relies on government inspections and community engagement that are currently motivated by SSQH. Ensuring that these activities continue after MCSP ends will depend on ensuring sustained incentive structures for continued participation.

References

More information on the CCA in Haiti is available here. Further details on the WASH in HCF programming under USAID's MCSP is available here.

DRC: Demonstrating Improvements in Care Seeking and Perceived QoC

Building off the implementation experiences in Haiti, MCSP implemented the CCA in DRC. In DRC, MCSP worked in partnership with the MOH from 2015–2018 to improve the quality of health services and outcomes in two provinces in northwestern DRC: Bas-Uélé and Tshopo. MCSP's WASH activities aimed to ensure that HCFs met WASH standards set by WHO and subsequently adapted by the MOH to the DRC context. MCSP held stakeholder workshops to develop and validate policies, design a monitoring framework and assessment tool, and roll out routine monitoring and coaching activities. MCSP's pilot program began in 10 HCFs in August 2016, and after demonstrating positive results, it scaled up to include an additional 25 HCFs starting in October 2017. Four technical domains were monitored, including:

- Water (28 points): criteria related to access, quantity, and quality
- Hygiene (68 points): criteria related to hand hygiene, cleaning/disinfection, and sterilization
- Sanitation (52 points): criteria related to excreta disposal and medical waste management
- HCF management (32 points): criteria related to leadership, accountability, resource management, and community satisfaction

Photo by Jean Robert Tshimanga, MCSP

At HCFs in Bas-Uélé and Tshopo, QoC improvements were reported by clients, especially among pregnant women who had been previously afraid to deliver in unclean HCFs that lacked water. Increases in attendance by patients and other care seekers for preventive and promotional care were also reported.

At the Lilanda HCF in Tshopo, the number of births reportedly quadrupled over 5 months, with HCF clients citing improved WASH services a reason for choosing to deliver at the health center.

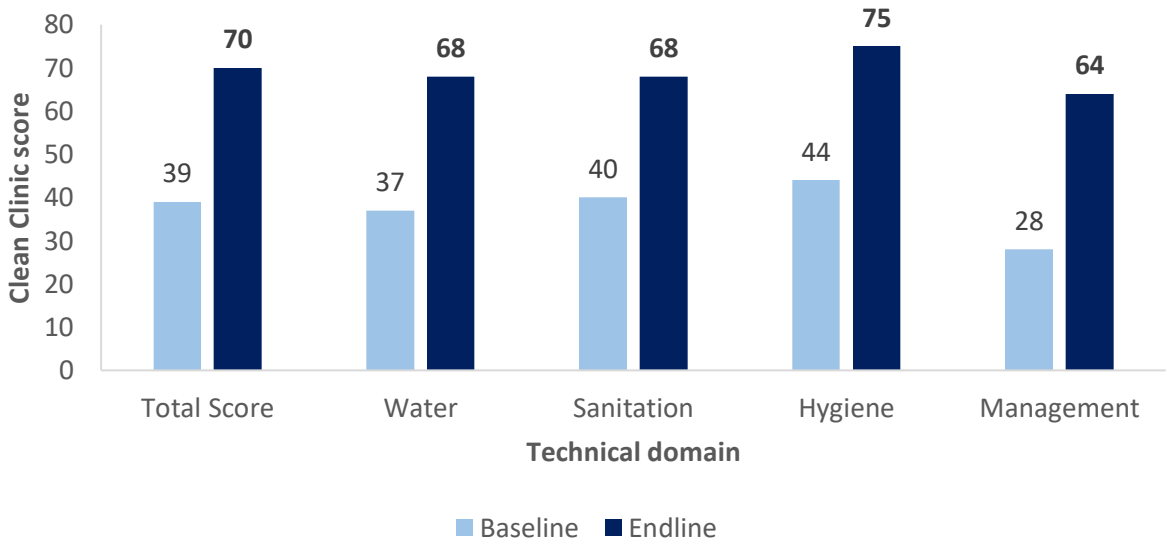
"I and my husband decided that I would give birth in this facility because the maternity has become very clean. The providers maintain it with products, we easily access water in the rooms, and … the environment is good and safe. I and other women of our village have decided not to take the risk of crossing the river to give birth. Here at home [the local clinic], conditions are finally met, and for that, we thank USAID through this project MCSP."

- Kaenga Bakoanga, Lilanda resident who delivered twins at the Lilanda HCF

Results

By the end of MCSP activities, 35 HCFs had an average CCA score increase from 39% to 70% between the first and last assessments. Among the assessed technical domains, hygiene scored the highest, with an average of 75%, and management domain scored the lowest, with an average of 65%. However, the management domain also saw the steepest improvement, increasing its average score from 28% to 65% (Figure 3). These changes in management scores reflect improvements in trained staff and in supply chain and financial management. The management scores also reflect the establishment of standardized operating protocols and associated accountability mechanisms. These management systems are vital in creating and sustaining collective ownership of WASH conditions and practices within HCFs.

Figure 3: Average Clean Clinic baseline and endline scores among participating health care facilities in Bas-Uélé and Tshopo provinces, by technical domain (n = 35)



The CCA activities took place over a period of 18 months, with individual HCF participation undergoing staggered startup. The increase in patient use of the facilities' delivery services increased revenue among the HCFs that participated in the CCA, allowing for reinvestment in health care services. In Tshopo, five of the HCFs that reached Clean Clinic status cumulatively saw their patient intake double (from 166 to 333), as did the number of deliveries (12 to 26) within the implementation period. The income from provided services almost tripled, from CDF 262,000 to 738,000 (approximately USD 157 to 443) across these five HCFs, providing extra operating funds to be applied to other HCF improvement priorities. These results led the national MOH to begin convening a series

Photo by Kate Holt, MCSP

of stakeholder meetings to inform a national WASH in HCF strategy. The MOH used learnings from a separate UNICEF-funded WASH activity to refine the CCA. The MOH adopted the CCA along with national WASH in HCF standards in 2018, and is currently expanding the approach to other regions.

> "Before the project, we didn't have enough knowledge on how to manage and to deal with waste management, water provision, and hygiene—we were doing some things but not enough, and it was not consistent. After the training, we put in place a hygiene committee, and with the members, we started to make an action plan—incremental planning–and now we are actually implementing the plan."
>
> - Bonny Selenga Jacques, head nurse, Lilanda Health Facility, Isangi District

Implications from Implementing the CCA in DRC

- **Support leadership.** The successful improvement of WASH practice requires commitment and leadership at all levels of the health system. At the national level, it is crucial that WASH is included and aligned within all relevant policies, strategies, and guidelines so that it is established as an integrated component of HCF development. At the HCF level, as the better managed facilities were able to demonstrate dramatic improvements over a relatively short program period, managers should be supported to develop leadership and management skills.
- **Ensure participation of *all* stakeholders.** Active and continued stakeholder participation puts pressure on facilities and individuals to perform, increases accountability and sustainability, and encourages the collection of timely and actionable data for decision-makers to use in allocating resources, time, and funding. Regular audits and assessments performed by health district and HCF teams encourage the maintenance of high-quality WASH services according to action plans at the facility level and should be continued.
- **Leverage or establish formal coordination mechanisms.** The implementation and coordination of WASH-focused national and local initiatives should be encouraged to share learning, increase accountability, and plan and prevent duplication of activities. Examples include formal peer support learning mechanisms (i.e., HCF hygiene committees) or informal multisectoral working groups (lending groups, community health committes, etc.). A formal coordination mechanism for health and WASH actors would also enable joint targets and monitoring further integrating efforts to strengthen WASH quality improvement.
- **Engage communities throughout design and implementation.** The promotion of the behavioral changes that are essential in driving improvements at HCF and community levels requires the ongoing inclusion of staff and patients. Communities should be included in HCF management to increase accountability and sustainability.

References

More information and detailed results from MCSP's DRC WASH activities are available here.

Guatemala: Establishing Specific Standards for Outpatient, Labor, Delivery, and Postnatal Wards in the Western Highlands

MCSP Guatemala collaborated with the MOH to pilot the CCA in 11 secondary and tertiary HCFs offering labor and delivery services in the Western Highlands. Throughout the initial stages of the CCA process, MOH leadership clearly wanted to prioritize improvements within labor, delivery, and postnatal care settings to prevent HAIs among women and newborns in the perinatal period. Although detailed global and national standards for infection prevention were available, they were located within lengthy technical manuals that would be difficult for HCF staff and district health offices to refer to with ease (especially those staff who are often low literacy, like cleaning staff). Available standards were also general and did not sufficiently contextualize standards to ward-level environments. As a result, health system staff were not clear on the

expectations for WASH and infection prevention, nor did they understand their role in ensuring an effective infection prevention system.

As the first step of the CCA (see Figure 1), MCSP facilitated an interactive process with the MOH, Ministry of Environment and Natural Resources, and other stakeholders to establish ward-level WASH and infection prevention scorecards for use in monitoring, coaching and supervision, and formal evaluation of HCF performance. Three scorecards were developed for the following wards:

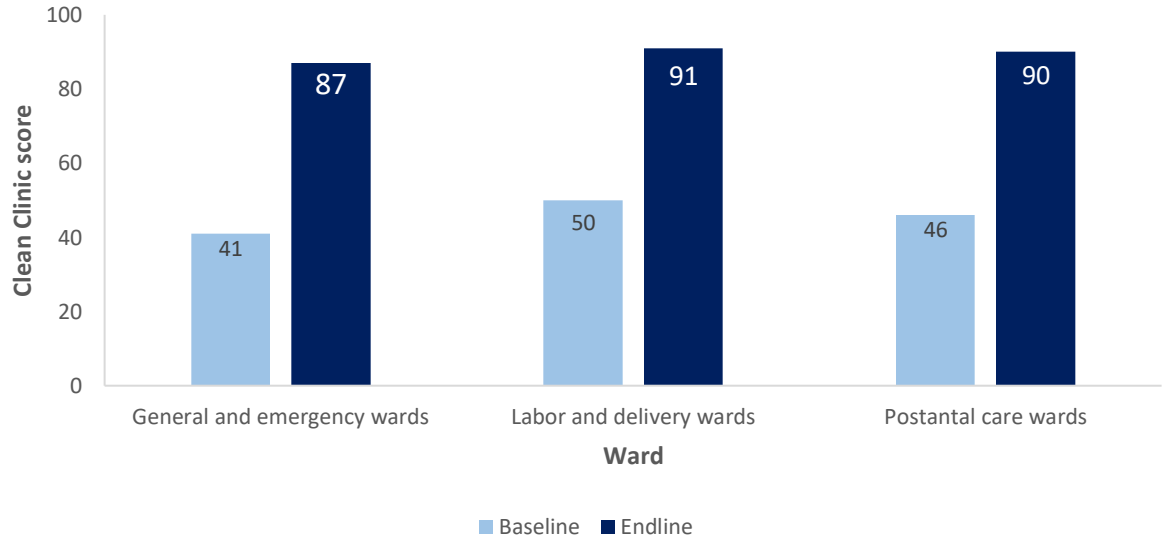
- Outpatient/emergency ward (including HCF infrastructure criteria)
- Labor and delivery ward
- Postnatal care wards

As part of the CCA process, MCSP and the MOH also outlined monitoring, coaching and supervision, and evaluation systems. Roles and responsibilities in relation to the scorecards were assigned to HCF staff. MCSP and municipal MOH offices were responsible for co-conducting routine monitoring, coaching, and supervision visits (minimum monthly) with various HCF staff (administrator, health care providers, cleaning staff, and maintenance staff). At the end of the program, all 11 participating HCFs were evaluated using the same scorecard tools used during routine monitoring, coaching, and supervision visits.

Results

After 9 months of coaching and supervision visits using standardized tools, each HCF was evaluated across three wards (emergency/general, labor and delivery, and postnatal) in seven technical domains (WASH, sterilization, waste management, cleaning, administration, and wastewater). As displayed in Figure 4, over a period of 6 months, all 11 HCFs improved their average emergency ward Clean Clinic scores, from 41 points at baseline to 87 points at endline, on a 100-point scale. Within labor and delivery wards, the average score increased from 50 to 91 points. Within postnatal care wards, the average score increased from 46 to 90 points.

Figure 4: Average baseline and endline Clean Clinic total scores by ward across MCSP-supported health care facilities (n = 11)



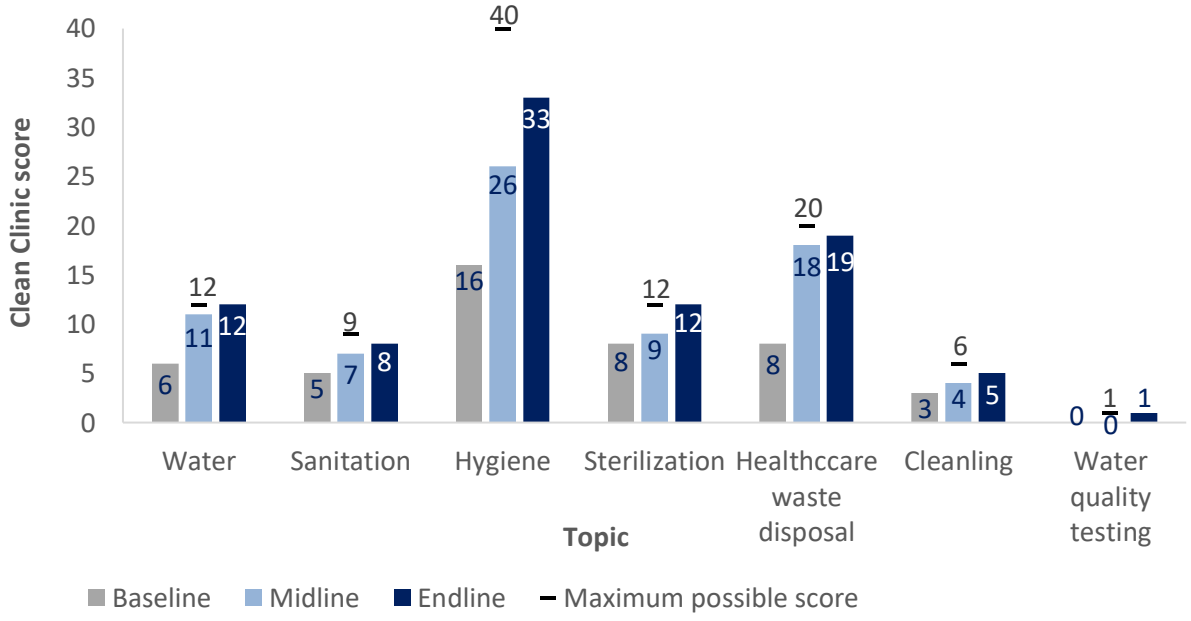
Implications of Using Ward-Level Scorecards in the Western Highlands of Guatemala

MCSP identified several benefits to providing short, detailed standard reference tools (scorecards) to health system to improve the quality of infection prevention services within HCFs, including:

Photo by Karen Kasmauski, MCSP

- **The scorecards clearly identify infection prevention expectations within health care environments.** This simple improvement led to a better understanding among all health system staff on what their roles and responsibilities were, which led to individual and collective improvements.
- **The scorecards generate detailed data that are easily interpreted and applied by HCF and ward supervisors (as shown in Figure 5)**. The criteria within each ward-level scorecard were also weighted so that ward and HCF supervisors could easily identify their infection prevention priorities to inform funding and resourcing decisions when operating with limited funding and resources. HCF staff could also use the scorecards as advocacy tools with municipal, departmental, and national government systems and other supporting partners to address larger HCF problems.
- **The national MOH and water ministry recognized the value of institutionalizing a formal infection prevention monitoring, evaluation, and recognition system.** Through the CCA, MCSP provided the MOH with the WASH and infection prevention standards, indicators, and implementation tools needed to run an effective CCA program. At the end of MCSP (April 2019), the MOH committed to scaling up the use of the CCA process and tools across all 45 national hospitals.

Figure 5: Average Clean Clinic score results in postnatal care wards in Guatemala, disaggregated by water, sanitation, and hygiene/infection prevention and control topic (n = 11)



References

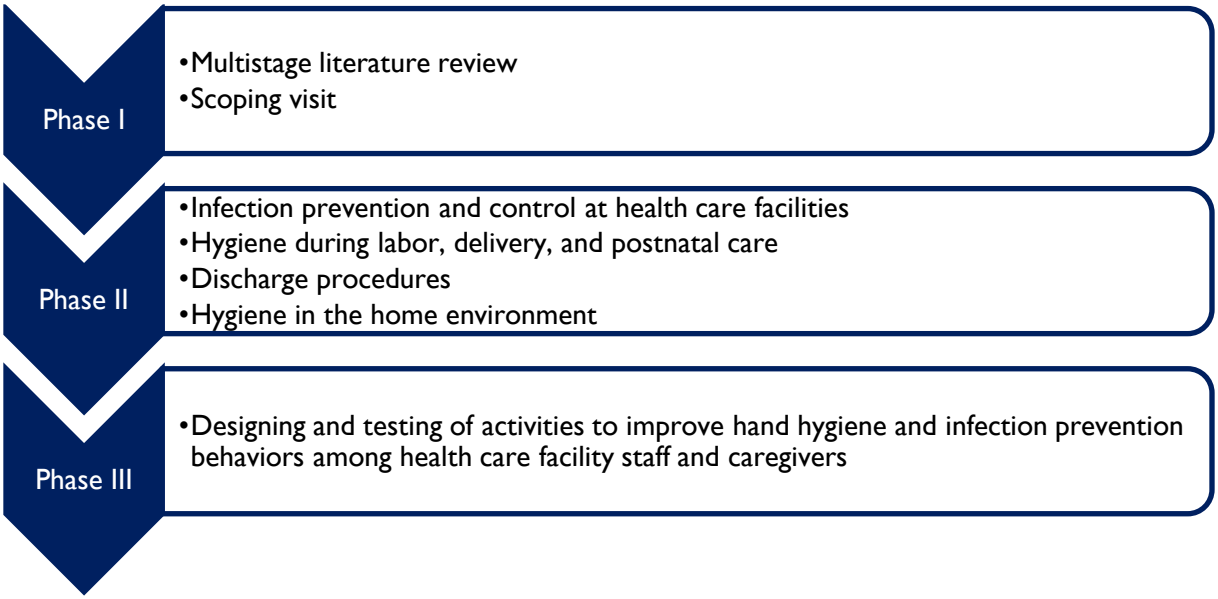
More information and detailed results from MCSP's Guatemala WASH activities are forthcoming through a peer-reviewed publication. A program costing analysis of the Clean Clinic activities can also be found here.

Nigeria: Operationalizing Research to Improve QoC for Maternal and Newborn Health in HCFs

MCSP Nigeria launched in 2014 and aimed to improve the quality of facility-based maternal, newborn, and child health/postpartum family planning services and community-based child health services; improve health information systems' monitoring of service delivery and health outcomes; and increase the use of lifesaving innovations. MCSP provided facility-based training on basic and comprehensive obstetric and newborn care, essential newborn care, and QoC. Though hand hygiene, infection prevention, and WHO's "six clean birth practices" were components of MCSP's QoC improvement efforts, they were not the primary focus. As evidence and project implementation experiences mounted, so did MCSP's recognition that infection prevention practices and systems deserved greater attention.

In order to address this challenge and improve the quality of facility-based services, MCSP conducted a three-phase learning activity aimed at reducing HAIs in women and newborns in the perinatal period and improving hygiene around the day of birth in Nigeria. The research components carried out within each of the three phases are summarized in Figure 6.

Figure 6: Nigeria water, sanitation, and hygiene/sepsis learning activity components by phase



In March 2017, phase I of the activity comprised a literature review, scoping visit, and key informant interviews with staff from primary, secondary, and tertiary HCFs in Kogi and Ebonyi states; academic institutes; UN agencies and nongovernmental organizations; the Government of Nigeria; and a pharmaceutical company. A full report on phase I can be found here.

The findings from these activities were used to help inform the development of a research protocol for the next phase of the activity. Phase II consisted of observational and qualitative data collection during delivery, postdelivery care, discharge, and newborn care at home to elucidate barriers and motivators to practicing appropriate hygiene behaviors during the period from the onset of labor through the first 2 days of life. Similarly, findings from the phase II study (found in publications here and here) were used to help inform the

design of a pilot implementation activity in phase III. The pilot activity was implemented in 30 MCSP-supported facilities in Kogi and Ebonyi states over the span of 3 months.

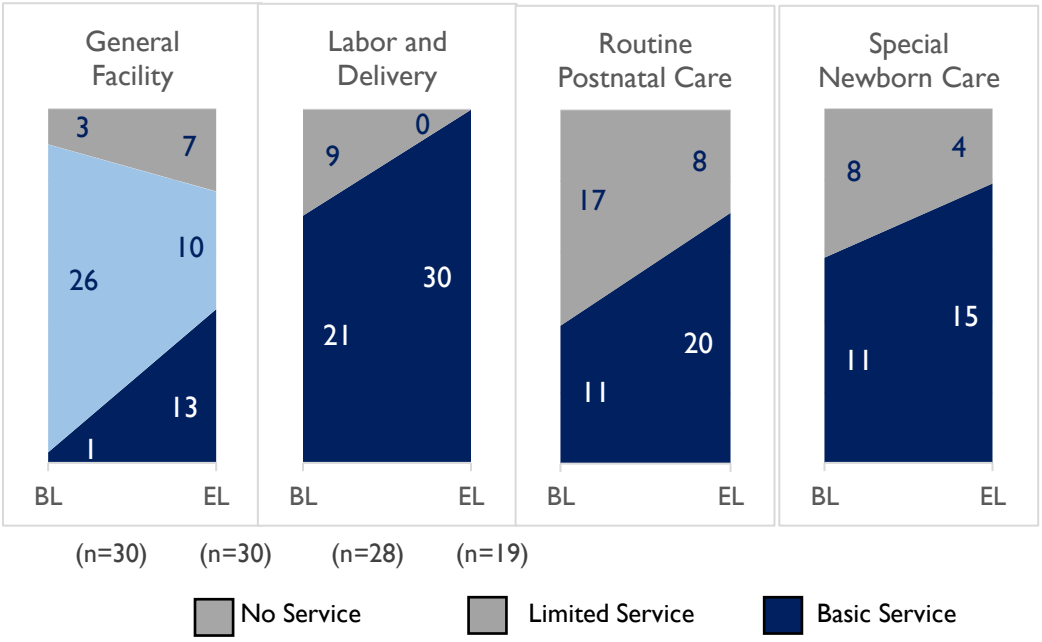
Incorporating Formative Research Results into Ongoing QoC Improvement Efforts

The phase II findings informed a phase III pilot intervention aimed at addressing opportunity, ability, and motivational factors to hand hygiene compliance. The intervention included establishment of detailed WASH and infection prevention standards alongside user-friendly monitoring and performance recognition systems. MCSP oriented and trained HCF managers, ward supervisors, and local government area MOH staff in simple techniques to enforce the standards. MCSP also developed interpersonal communication materials that communicate emotional and motivational interest in behavior compliance. A limited number of handwashing stations and health care waste management containers were provided to specific wards, along with guidance on convenient placement to reduce barriers to use.

Results

Although the phase III pilot implementation was a short 3-month period, results demonstrate that HCF staff can make incremental WASH and infection prevention improvements independently of external funding. Within a short 12-week span, HCFs made improvements in many of the criteria listed within the Clean Clinic scorecards. Criteria included access to basic WASH, waste management, and cleaning services (as defined by the JMP), along with the availability of basic infection prevention supplies, such as sterile gloves. For instance, one of the most heavily weighted criteria was a functional handwashing station with soap. HCF staff clearly began to prioritize the provision of water and soap within each ward following the phase III activities (see Figure 7).

Figure 7: Changes in the number of health care facilities with access to basic hygiene services (soap and water) by ward from baseline to endline in Kogi and Ebonyi states, Nigeria



Some HCFs even demonstrated WASH service improvements that were not considered of high importance, such as ensuring dedicated, functional bathing facilities for expecting or new mothers. However, it is important to note that the short implementation timeframe of this activity did not allow for monitoring the

maintenance (sustainability) of these improvements or any associated behavior changes. Information and results on the multiphased activity in Nigeria can be found in the end of activity report located here.

Implications from the Learning Activity

The results from phase III show that even in the absence of large funding sources aimed at construction, HCF staff can make many incremental improvements in WASH services and infection prevention once useful data and incentives are provided. Inexpensive, multimodal strategies that achieve the following objectives can lead to quick improvements in HCF infection prevention readiness:

- **Clarify standards, roles, and responsibilities** by integrating the use of common tools within existing QoC and infection prevention improvement systems.
- **Collect detailed, ward-specific data** and make that data available to HCF staff, managers, and local government health offices to inform resource and funding allocation decisions.
- **Share formal assessment results with the public/serviced communities** to increase awareness and generate demand for better services.
- **Incorporate simple individual and collective performance-based recognition/reward systems** that are sanctioned and managed by the MOH: Recognition systems can be tied to monetary incentives (e.g., performance-based financing), certificates of achievement, ward and HCF annual certifications, or public recognition.
- **Identify (through research) effective motivating factors** for staff, patients, and visitors to comply with basic hand hygiene and infection prevention protocols.

Recommendations for the Future

MCSP was implemented during a period of global awakening to the problems affecting WASH in HCFs and its impact on meeting SDGs 3 (universal, high-quality health care) and 6 (universal access to WASH). In 2019, the 72nd World Health Assembly adopted a resolution on WASH in HCFs urging member states to establish a road map to improve WASH in HCFs by creating/strengthening national standards, setting targets, collecting actionable data, addressing WASH service inequalities, and integrating WASH into broader QoC initiatives.

The country examples within this report represent only a few highlights from MCSP's global experiences. MCSP's WASH legacy includes insights and recommendations that can inform the design and implementation of country road maps that will result in self-reliant national health systems that provide high-quality health care services. Those recommendations include:

- **Employ behavior change interventions aimed at improving motivation:** Past interventions have focused primarily on training, infrastructure improvements, and equipping clinicians to improve IPC. Yet even where access to WASH services is improving, stakeholders (staff, patients, and caregivers) do not consistently use them. MCSP's research in Nigeria and its implementation experiences across countries highlight the need for future initiatives to design evidence-based, multimodal, behavior-centered interventions to improve and sustain the plethora of habits and routines required to maintain WASH in HCF standards. These interventions should incorporate not only training, education, and infrastructure improvements but also motivation-related interventions, such as persuasion, accountability, modeling, and incentives. In DRC, Haiti, and Guatemala, MCSP had success using certification systems and publishing results over media platforms and in community engagement meetings. Other innovative strategies, like performance-based financing, may also be interesting to explore. Stakeholders are encouraged to design programs that incorporate WASH and IPC from a systems perspective, with the recognition that behaviors are everlasting concerns in health care and require comprehensive interventions to sustain compliance and ensure institutionalization.
- **Improve monitoring and data use at HCF level.** Through research and implementation in the highlighted countries, MCSP realized that individual HCFs are unable to make informed decisions on funding and resource allocation because little data exist on the availability, quality, and use of WASH services. Any future data collected should be immediately shared with HCF management and staff to inform immediate action. When HCFs have access to detailed and relevant data, staff can, and do, make many incremental improvements in WASH and infection prevention, even in the absence of external funding and resourcing support.
- **Strengthen WASH and infection prevention monitoring within the health system to drive incremental improvements.** Detailed WASH and infection prevention data are rarely collected at HCF or health system levels. Without routine and comprehensive data collection, managers at every level of the health system are not able to make informed decisions on financial and resource allocations or re-enforce standards. The WASH in HCF subsector is currently limited primarily to reporting on output and proxy indicators. In addition to measuring outputs, stakeholders should measure outcomes (e.g., reducing contamination, reducing infections, reducing costs, or improving QoC) to support advocacy for increased investments in WASH in HCFs. Investing in these measurements will allow WASH in HCF stakeholders to advocate for investments in WASH in HCF because of the widespread impacts on health, QoC, and savings in time, resources, and money.
- **Employ WASH and IPC collectively as part of sustained quality improvement efforts.** WASH and IPC are not standalone challenges; they are fundamental to providing any safe health care service and for ensuring a positive experience of care. WASH and IPC improvement efforts should always be integrated into any quality improvement effort.
- **Monitor and strengthen supply chain prioritization and delivery systems.** Most countries lack systems for monitoring health office performance related to WASH/ IPC supply chain and maintenance support. In MCSP's experience, HCF improvements will plateau quickly unless monitoring and

accountability systems are applied to district and provincial health offices to ensure the consistent supply of required resources and supplies.

- **Advocate for higher prioritization of IPC materials and supplies.** MCSP identified a common challenge across country programs related to supply prioritization. Convenient access to antibiotics has created a global clinical culture focused primarily on infection treatment, not prevention. This prioritization is reflected within supply chain systems that prioritize essential medicines over preventive supplies. With the persistence of HAIs and the emergence of antimicrobial resistance, national health systems must begin to allocate sufficient budget and resources to infection prevention. To achieve and sustain incremental improvements like those achieved under MCSP, it is essential to advocate for the prioritization of IPC supplies and materials within national supply chain systems in a similar way that essential medicines are prioritized.