MOMENTUM

Country and Global Leadership

Technical Brief

ENSURING THE DELIVERY OF ESSENTIAL HEALTH SERVICES DURING THE COVID-19 PANDEMIC:

An Infection Prevention and Control Readiness Response in Uganda

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GOAL

The COVID-19 pandemic significantly disrupted health systems, creating a need to assess both assets and gaps to prioritize immediate infection prevention and control (IPC) risks and health care facility needs. In August 2020, the United States Agency for International Development (USAID)-funded MOMENTUM Country and Global Leadership project began implementing an IPC COVID-19 activity in Uganda in partnership with the Uganda Protestant Medical Bureau (UPMB).

The goal of the program was to provide rapid, needs-based support focused on water, sanitation, and hygiene (WASH) and IPC readiness in high-volume facilities delivering maternal, newborn, and child health services, leveraging partner platforms and public organizations. It aimed to ensure that the delivery of essential health services was not adversely affected by the COVID-19 pandemic, and to improve the quality of care (QoC) among the 25 targeted health care facilities (HCFs) in Uganda. Late in the program life, MCGL started supporting an additional 25 HCFs at the request of the Ministry of Health (MoH).

MOMENTUM WASH/IPC Uganda Country Program Overview:

Program Dates: July 2020–May 2022

Geographic focus: Five border districts of southwestern Uganda: Kabale, Kisoro, Kanungu, Rukungiri, and Kasese

Program scope: 25 health care facilities (14 level-4 facilities, 10 general hospitals, and one regional referral hospital), including 15 public, one private, and nine faith-based facilities

Extension scope (October 2021–May 2022): 25 additional facilities (23 public, two faith -based)

KEY FINDINGS AND RECOMMENDATIONS

1. **Health facility IPC readiness scores improved from an average of 51 percent at baseline to 76 percent at endline.** Similar improvements were seen across wards, with significant improvements in handwashing and personal protective equipment (PPE) compliance among HCF staff. Results show that it is possible to make comprehensive IPC improvements in a short period of time and with a package of minimal support in the areas of infrastructure, supply, training, coaching, and data collection and use.
2. **Strategies to provide broad and intensive support to cleaning cadres should be incorporated in future IPC and QoC efforts.** Health systems stakeholders cited the importance of cleaning cadres in maintaining basic IPC standards and noted the widespread lack of support for them to fulfill their critical IPC role prior to this program.
3. **Virtual information sharing across facilities and districts expedited networking, problem-solving, and the adoption of best practices.** Though neither coaches nor training participants preferred exclusive use of virtual platforms, there was value in maintaining a virtual network of colleagues to work toward collective improvements.
4. **HCF and district staff should be trained to use free data management systems such as mWater/Solstice to collect detailed and timely WASH/IPC data for informed decision-making and action.** A harmonized system and approach are needed to collect, report on, and use WASH/IPC data across the national health system.

PROGRAM APPROACH, STRATEGIES, AND INTERVENTIONS

MOMENTUM implemented COVID-19 response activities in two phases, followed by an extension period (Phase 3):

- **Phase 1 (Rapid response):** MOMENTUM assessed and prioritized the immediate IPC risks and HCF needs: targeting COVID-19-specific priority actions and supporting activities to quickly improve access to basic WASH services and IPC practices, ensuring sufficient stocks of IPC supplies, and collecting critical data needed to identify risks and allocate resources to make priority improvements.
- **Phase 2 (Strengthen and maintain IPC standards through quality improvement [QI] support):** Building on the IPC improvements, MOMENTUM then transitioned to strengthening the capacity of subnational governments and HCF staff to sustain IPC QI, establishing a culture of IPC, and deploying advanced IPC measures as part of HCFs' COVID-19 preparedness and response plans.
- **Phase 3 (Facilitate sustainable use of digital data systems):** At the request of the Ugandan MoH in September 2021, MOMENTUM adapted select digital data collection tools and dashboards for use by the program and strengthened MoH and partner capacity to provide ongoing monitoring and QI support.

PHASE 1 (RAPID RESPONSE)

MOMENTUM conducted an initial health facility assessment (HFA) in October 2020 to identify WASH/IPC infrastructure, supply, and training needs. Without predeveloped national assessment tools and reporting systems available, MOMENTUM designed and used a comprehensive assessment tool based on the World Health Organization (WHO) Water and Sanitation for Health Facility Improvement Tool (WASH FIT) and IPC Assessment Framework (IPCAF), as well as the Clean Clinic Approach assessment tool and emerging indicators used in the early days of the COVID-19 pandemic response.

MOMENTUM used the results of the HFA to develop the intervention. Detailed results from HCFs and wards can be found on this interactive public console. Based on the HFA findings, MOMENTUM worked with the UPMB, HCF managers, and IPC focal points to prioritize immediate, minor infrastructure repairs to WASH services. These minor improvements were implemented in nine HCFs and included replacing faulty water pumps, unclogging piped systems, repairing water taps, installing or repairing handwashing stations, and other similar repairs. MOMENTUM procured necessary IPC and PPE commodities[1] for all 25 supported HCFs.

MOMENTUM introduced all 25 HCFs and district health offices to its new Essential Supply List for Infection Prevention and Control in Health Care Facilities, which provides global operational guidance on the essential supplies needed for HCFs to maintain basic standard IPC precautions at all health care service levels and contexts. This list can also aid HCF staff, administrators, and government officials at local and national levels to better understand which IPC supplies should be prioritized to maintain minimal WASH/IPC readiness. This Essential List provides guidance to inform budgeting, procurement, and planning decisions that impact WASH/IPC readiness at both the health system and health facility levels.

[1] PPE supplies include consumable and non-consumable items such as disposable masks, liquid soap, hand sanitizer, and rubber boots for cleaning staff, etc.

PHASE 2 (STRENGTHEN AND MAINTAIN IPC STANDARDS THROUGH QI SUPPORT)

After assessing and addressing the critical WASH infrastructure and IPC supply needs of each partner facility, MOMENTUM transitioned to focus on strengthening the capacity of doctors, nurses, midwives, cleaners, and other facility staff, and provided supportive supervision and mentorship in QI. Figure 1 outlines MOMENTUM's QI approach in Uganda.

FIGURE 1: WASH/IPC READINESS IMPROVEMENT PROGRAM APPROACH [2]

Phase 1		Phase 2		
Support	**Procurement and Civil Works**	**Moderate Virtual Platforms**	**Offer Physical and Virtual QI Training**	**Facilitate Data Reviews**
• Support review of assessment data in partnership with facility hubs. • Support strengths, weaknesses, opportunities, and threats (SWOT) analysis for QI.	• Procure needed IPC supplies. • Identify facilities in need of minor repairs of WASH infrastructure.	• In partnership with district health teams (DHTs), hubs moderate virtual trainings. • WhatsApp groups to support: - Peer learning - Sharing of learning and ideas - As-needed performance support	• QI coach training to 28 participants. • QI practicum training for 100 health care workers (HCWs). • Onsite IPC mentorship for HCWs in 10 HCFs. • On-the-job training for 75 cleaners on basic IPC principles and practices. • Two inter-facility sessions sharing best practices.	• Facilitate monthly reviews of quality indicators and QI efforts. • Facilitate in-person coaching and mentorship to under-performing facilities. • Facilitate district WASH/IPC data review sessions.

MOMENTUM established or leveraged existing virtual platforms ("hubs") created by other implementing partners, including USAID's Regional Health Integration to Enhance Services in Southwestern Uganda (RHITES-SW) project and Baylor Uganda (a local nongovernmental organization). These hubs provided support to "spokes" (participating health facilities). Five hubs were established, one per district, and 20 spokes from the participating facilities. MOMENTUM procured five licenses for the use of the video platform Zoom to facilitate hub access for the five districts. All hubs, spokes, and district offices received information technology equipment, including laptops, speakers, modems, and routers, as well as technical assistance and monthly data plans to facilitate running virtual communities of learning.

Regular and structured mentoring sessions targeted teams of providers (IPC or QI teams along with DHTs) to focus facility efforts on meeting key quality indicators required for COVID-19 preparedness. District-specific WhatsApp groups and a Google site were used to share timely learning and influence decision-making. Twenty-eight HCF staff and DHT members participated in QI coach training and 100 participated in the QI practicum online training. These trainings cut across three countries, enabling intercountry exchange of knowledge and best practices. The approach enabled MOMENTUM and partners to access professional network platforms for continuity of learning and information exchange, even in the face of travel restrictions.

[2] Phase 3 was designed in the final months of the program and was therefore not in the original program approach.

This virtual platform was complimented by physical site mentorship visits in under-performing facilities and where Internet connectivity was not possible. Additionally, 75 health care cleaners were trained on basic IPC principles and practices through in-person trainings by the QI coaches and DHT members.

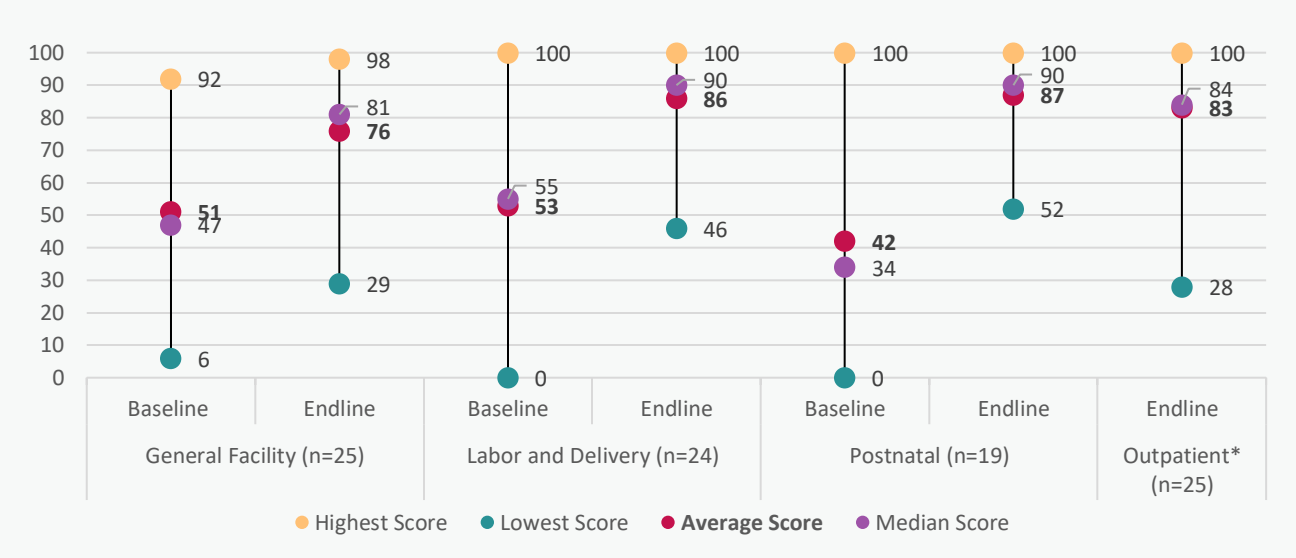
MOMENTUM used the mWater/Solstice digital data management platform to collect baseline, monitoring, and endline assessment data and shared the results with the participating facilities and MoH staff using an integrated data dashboard. As a result of this experience, the participating HCFs and districts began using mWater/Solstice to conduct their own WASH and IPC assessments based on a newly drafted government WASH and IPC assessment tool.

PHASE 1 AND 2 RESULTS AND FINDINGS

WASH/IPC READINESS

An endline assessment was conducted in June 2021 to determine whether the 25 HCFs showed improved WASH/IPC readiness. Detailed results for facilities and wards can be found on the interactive console. As Figure 2 shows, the overall HCF WASH/IPC readiness assessment scores increased from an average of 51 percent at baseline to 76 percent at endline.[3] WASH/IPC readiness for COVID-19-specific standards also improved across HCFs. Postnatal care wards saw the most significant improvements, with an average score increase from 42 to 87 percent, followed closely by the labor and delivery wards, with scores increasing from an average of 52 percent at baseline to 86 percent at endline. The outpatient wards in Uganda were not assessed at baseline because they were not originally identified as prioritized wards. However, as the program progressed, HCF and government stakeholders voiced interest in expanding the assessment to include these wards, yielding the endline results presented in Figure 2.

FIGURE 2: FACILITY WASH/IPC READINESS ASSESSMENT RESULTS BY WARD (N=25 HCFS)

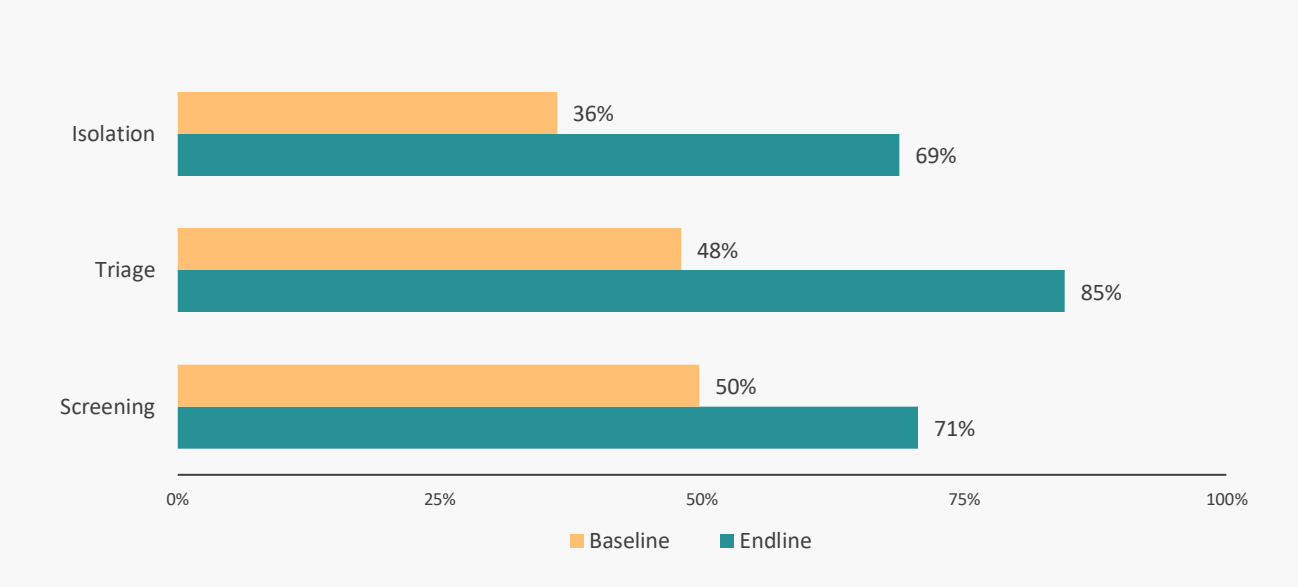


**Outpatient ward data was collected at endline only.*

[3] General HCF WASH/IPC readiness scores were based on 83 weighted questions in the following categories: COVID-19 screening; COVID-19 triage; COVID-19 isolation; water, sanitation, and hygiene; hygiene and infection prevention; health care waste; environmental cleaning; and administration. Wards were assessed using similar WASH and IPC criteria that were relevant to the specific ward context. All scores were assessed based on a 100-point scoring scale.

Comparisons of WASH/IPC readiness scores by type of facility (public, faith-based, private) and district showed minimal variation, with a slightly higher increase in readiness scores at public facilities (26 percent increase in 15 public facilities compared with 22 percent increase across nine faith-based facilities). All districts showed an increase in general facility readiness, with the biggest increase seen in Kisoro district (from 28 to 81 percent). These increased scores are attributed to improved behavioral compliance to hygiene and IPC practices, better waste disposal, increased environmental cleaning, and use of IPC data to implement change. Figure 3 shows that there were WASH/IPC readiness increases across various COVID-19-designated wards/areas as well.

FIGURE 3: CHANGES IN HEALTH CARE FACILITY WASH/IPC READINESS SCORES BY COVID-19 AREA/WARD

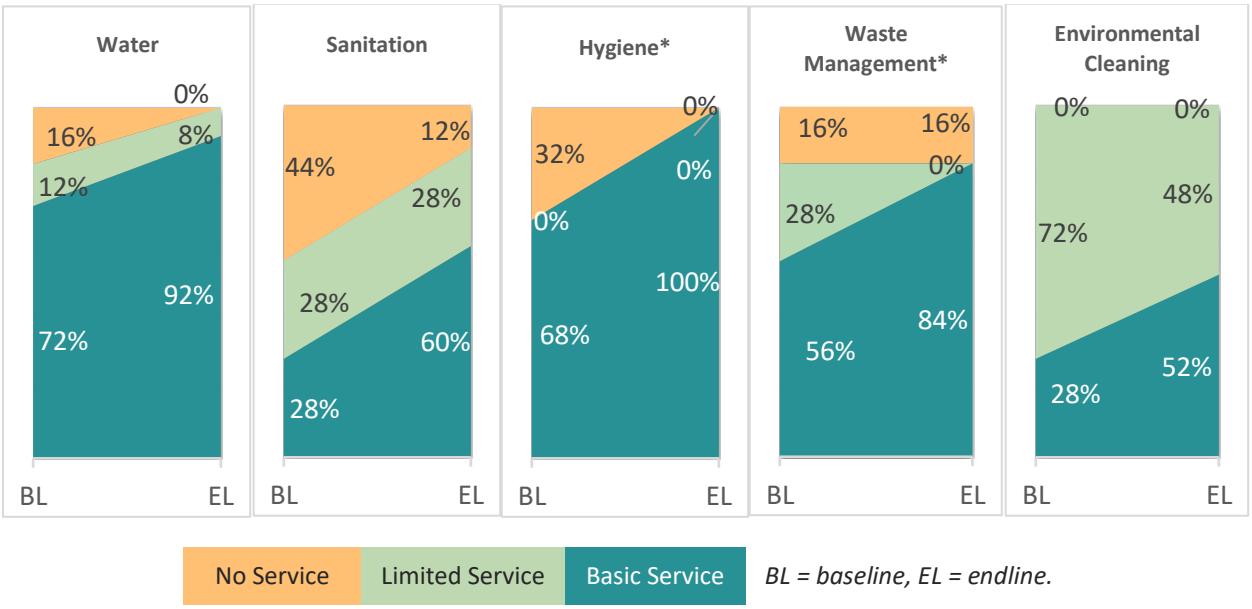


HEALTH CARE FACILITY ACCESS TO BASIC WASH SERVICES

Figure 4 shows the IPC assessment results contextualized according to the WHO/UNICEF Joint Monitoring Program (JMP) service-level indicators for monitoring WASH, health care waste management, and environmental cleaning services in HCFs.[4] Improvements were seen across all five of the JMP WASH service categories. Six facilities moved from "No" or "Limited Water Service" to "Basic Service" levels. The greatest gains were in hygiene. After receiving MOMENTUM support, all supported HCFs had access to a basic hygiene service. These results highlight the previously existing WASH service needs across health facilities and demonstrate how greater gains can be made in WASH/IPC readiness where facilities have access to basic WASH/IPC resources, such as continuous water access and sanitation infrastructure. Environmental cleaning saw the least improvement, which could be improved by supporting more training for cleaners, provision of adequate cleaning supplies, protective gear for cleaners, and supervising the implementation of standards during cleaning.

[4] Full descriptions of the JMP service level indicators are available at https://washdata.org/monitoring/health-care-facilities.

FIGURE 4: IPC ASSESSMENT RESULTS BY WHO/UNICEF JOINT MONITORING PROGRAM (JMP) SERVICE-LEVEL INDICATORS (N=25)

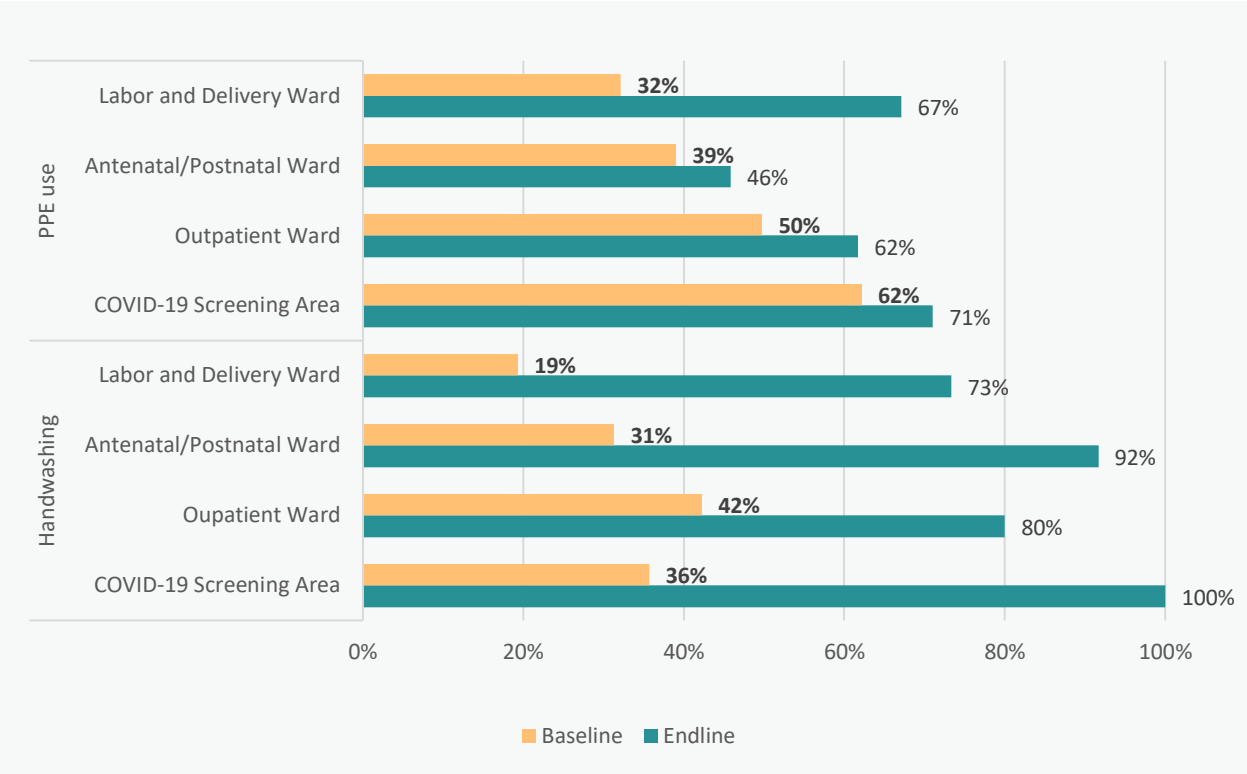


**If wards meet basic service levels, they are classified as basic. If wards meet at least limited service levels, but not basic, they are classified as limited. Otherwise, wards are classified as no service.*

WASH/IPC BEHAVIORAL COMPLIANCE AMONG HEALTH CARE WORKERS

As part of its QI support to HCFs, MOMENTUM conducted behavioral audits to evaluate handwashing practices and observation of PPE use in various wards—including COVID-19 screening areas—on a monthly basis, starting at baseline. At final assessment, all facilities had improved handwashing practices across assessed wards (see Figure 5). COVID-19 screening areas saw the biggest improvements in handwashing (from 36 to 100 percent). Modest improvements in staff PPE use were also recorded, with the biggest improvements seen in labor and delivery wards.

FIGURE 5: AVERAGE HEALTH WORKER COMPLIANCE WITH IPC BEHAVIORS BY WARD (N=25)



STAKEHOLDER FEEDBACK THROUGH ADAPTIVE LEARNING METHODS

During program implementation, MOMENTUM used a variety of adaptive learning techniques to better understand the acceptability, feasibility, and quality of the program's implementation approach—with a focus on the QI trainings and coaching activities. A variety of methods, including pulse surveys, key informant interviews (KIIs), most significant change (MSC) exercises, and lessons learned meetings, were used to refine activities and inform follow-on programs. Pulse surveys, KIIs, and MSC exercises, in particular, yielded rich insights for program staff and health network leadership.

PULSE SURVEY AND KEY INFORMANT INTERVIEW RESULTS

Halfway through the implementation period, MOMENTUM conducted a pulse poll of 63 participants (24 coaches and 39 practicum participants) from within the participating HCFs and DHTs to solicit feedback on the accessibility and feasibility of providing remote training and QI support. MOMENTUM also conducted four KIIs with district health staff who served as QI coaches to HCF teams. Both QI coaches and practicum participants understood the necessity and advantages of virtual training and QI support methods in the COVID-19 pandemic context and widely reported satisfaction with the virtual trainings and support. One common advantage of the virtual approaches, as noted by health system stakeholders, was that virtual information sharing across facilities and districts expedited networking, problem-solving, and the adoption of best practices. However, surveyed stakeholders still strongly preferred purely in-person or hybrid implementation models. Table 1 lists some common reasons.

TABLE 1: COMMON REASONS QI COACH AND QI PRACTICUM PARTICIPANTS PREFERRED IN-PERSON TRAINING AND SUPPORT

Feasibility	Acceptability
• Lack of practical, on-the-job instruction through virtual methods. • Persistent network and equipment challenges (even after MOMENTUM provided technology and airtime support to HCFs needing support). • Lack of knowledge on how to use technology platforms (WhatsApp and Zoom). • Conflicting priorities with routine duties (no protected time to leave site and fully participate).	• Hesitancy to ask questions and fully participate in an online environment. • Limited time to develop rapport with other participants and coaches. • No dedicated space and time to fully participate. • Lack of leadership support (buy-in).

These results led MOMENTUM to shift back to a hybrid model of support when and where pandemic restrictions and risk levels allowed.

MOST SIGNIFICANT CHANGE RESULTS

In May 2021, the MOMENTUM team worked with the UPMB to use the MSC approach (a qualitative research method) to obtain stories from health facility staff on what they felt were the most important changes since the start of the program. The exercise took place in three level-4 HCFs (St. Paul, Rukungiri, Kanungu) and one hospital (Bwera Hospital). Each HCF contributed four to six participants, which usually included a cleaner, clinician, nurse, midwife, and/or laboratory staff. Participants were oriented to the MSC approach and method and then were asked to share a story in response to the following question: "In your opinion, what is the most significant change that you have seen at your workplace for IPC since the introduction of training in IPC QI?" The question was intentionally broad with little guidance from project staff in order to capture the values and priorities of HCF staff. Participants shared their stories with the group, then went through a prioritization process to select the top two MSC stories. Participants also decided on a domain of change for each story.

Two key themes emerged from applying the MSC methodology with health facility stakeholders:

- **There was a newfound appreciation of cleaning staff and the importance of cleaning.** Three of the four HCF teams selected stories told by cleaners. These stories, as demonstrated in the quote from a cleaner below, show that HCFs value the role of cleaners in preventing the spread of infections, but recognize how few health or health system initiatives include training for cleaning staff—an oversight that should not be ignored in future programs.

  "We [cleaning staff] have gotten increased awareness about IPC through virtual training and continuing medical education (CME), and information given through the IPC materials that were given to the facility. There is great improvement in general cleanliness and both personal protection, patients and environmental protection, such as handwashing, availability of handwashing facilities at every entry point, triaging areas, around the latrines, wards, and entrances around the facility. Through training and health education for health workers, patients, and the community, COVID-19 SOPs [standard operating procedures] have been observed and implemented, that is to say wearing of face masks, social distancing, isolation, and temperature taking at the triaging areas, and this has reduced the risks of acquiring the

COVID-19 virus. MOMENTUM has not only supported training but has also supplied IPC materials like gloves, bleach, face masks, face shields, gumboots, etc. This has improved both personal protection in the form of PPE and patients' protection by improving general cleanliness and sanitation within the working and surrounding environments at the community we are serving."

- **IPC behavior compliance was associated with safety and reduced staff risk among participants,** as demonstrated by the following quote from a QI coach:

  "The knowledge acquired during the training enabled me to support my team in implementing some IPC measures like screening for COVID-19 at the entrance of the facility, handwashing at all service area points, and monitoring trends in our supplies for IPC. Despite the fact that we handled all COVID-19 suspects for the district, as a facility, we only registered one case of COVID-19 among the staff. I attribute this to strong IPC measures that were being followed by members of the team and supported by QI interventions following the training in IPC QI."

PHASE 3: FACILITATING SUSTAINABLE USE OF DIGITAL DATA MANAGEMENT SYSTEMS

In September 2021, the Uganda MoH requested additional MOMENTUM support to make the mWater/Solstice platform permanently available to the participating districts. In addition, in collaboration with the MoH's Department of Environmental Health, MOMENTUM drafted a new WASH/IPC readiness tool combining existing MOMENTUM tools with the newly developed MoH WASH/IPC tool. This tool was shared via the mWater/Solstice platform at no cost to users. MOMENTUM trained 20 MoH subnational officers and three project staff to pre-test the tool. With the feedback from this pre-test, MOMENTUM revised the tool, assigning each question a score, before using it to train more than 100 health workers from more than 50 HCFs (25 from Phase 1 and the 25 additional HCFs included in the Extension Phase).

Using the mWater/Solstice platform, MOMENTUM developed a data dashboard based on the finalized tool. The dashboard has two sections: the first is for use by individual facilities with specific assessment results, and the second targets the MoH and partners with aggregated summary results. Five MoH subnational officers and three project staff received training on managing and administering the tools and dashboards using the mWater/Solstice platform. From the pool of trainees, a district point of contact (POC) was assigned for each of the five participating districts to support the central POC. The participating facilities continue to conduct ongoing WASH/IPC assessments using the tool, with technical support provided by MoH staff.

LESSONS LEARNED AND INGREDIENTS OF SUCCESS

Through implementation of this program, MOMENTUM documented the following lessons learned and best practices to inform future efforts:

1. **Results showed improvements in HCF WASH/IPC readiness, access to basic WASH services, and behavior compliance across HCFs and wards.** These results show that it is possible to make comprehensive IPC improvements in a short period of time and with a package of minimal support in the areas of infrastructure, supply, training, coaching, and data collection and use.
2. **Using a common digital data management system that was accessible to all stakeholders improved routine monitoring and data use for decision-making** through the generation of timely WASH/IPC dashboards and ability to avoid working through digital management experts. District governments recognized these benefits and requested additional support in scaling up the system's use (resulting in Phase 3 of the program).
3. **As demonstrated in the MSC results, incorporating QI methods into WASH/IPC interventions** was essential to understand and address root causes of facility-specific challenges. Though cleaners were not previously prioritized by the health system or development partners to receive training and support, stakeholders within this program recognized the critical role of cleaning staff and the importance of supporting them to effectively fulfill their roles in IPC moving forward.
4. **Virtual information sharing across facilities and districts** expedited networking, problem-solving, and the adoption of best practices. While exclusive use of virtual platforms was not preferred by coaches or practicum participants, they saw value in maintaining a virtual network of colleagues to work toward collective improvements

RECOMMENDATIONS

MOMENTUM's strategic approach to support HCFs in Uganda to improve WASH/IPC readiness and service quality successfully protected the delivery of routine reproductive, maternal, newborn, and child health services during the COVID-19 pandemic. Though support was limited to 50 HCFs (25 from the original cohort, and 25 new facilities in Phase 3) in five border districts of Uganda, MOMENTUM recommends the following actions to replicate and sustain success, improve efficiency, and maintain WASH/IPC readiness:

1. **The MoH and partners should continue efforts to scale up low-resource approaches to improving WASH/IPC readiness and behavior compliance within the national health system.** HCF staff can independently make significant, quick progress with limited resources and funding while simultaneously working with broader health and WASH systems to tackle remaining long-term or high-cost challenges.
2. **Virtual communities of learning among HCF cadres should be supported to remain active.** Virtual groups supplement in-person and localized quality support by allowing health professionals of various cadres to network nationally and collaborate on finding and implementing solutions.
3. **Strategies to provide broad and intensive support to cleaning cadres should be incorporated in future IPC and QoC efforts.** Health system stakeholders cited the importance of the cleaning cadres in maintaining basic IPC standards and noted the widespread lack of support prior to this program.
4. **HCF and district staff should be trained to use free data management systems such as mWater/Solstice** to collect detailed and timely WASH/IPC data for informed decision-making and action. A harmonized system and approach is needed to collect, report on, and use WASH/IPC data across the national health system.

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