



■ Technical Report

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

An Infection Prevention and Control Readiness Response
in Five Countries



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ABBREVIATIONS

CHAG	Christian Health Association of Ghana
DHT	District health team
HCF	Health care facility
HFA	Health facility assessment
IPC	Infection prevention and control
IPCAF	Infection prevention and control assessment framework
JMP	Joint Monitoring Program
KI	Key informant
KII	Key informant interview
MoH	Ministry of Health
MSC	Most Significant Change
PPE	Personal protective equipment
QI	Quality improvement
QoC	Quality of care
SW	Southwest
UHC	Upazila Health Complex
UHFWC	Union Health and Family Welfare Center
USAID	U.S. Agency for International Development
VC	Virtual coaching
VL	Virtual learning
VT	Virtual training
WASH	Water, sanitation, and hygiene
WASH FIT	Water and Sanitation for Health Facility Improvement Tool
WHO	World Health Organization

BACKGROUND AND GOAL

COVID-19 significantly disrupted health systems, creating a need to assess both assets and gaps to prioritize immediate infection prevention risks and the needs of health care facilities (HCFs). In August 2020, MOMENTUM Country and Global Leadership began implementing an infection prevention and control (IPC) COVID-19 activity in five countries: Bangladesh, Ghana, India, Sierra Leone, and Uganda.

MOMENTUM Country and Global Leadership selected these five countries using the following criteria:

- Demonstrated political support for water, sanitation, and hygiene (WASH)/IPC at national and subnational levels.
- Strong project operational capacity that allows for rapid implementation and sustained progress.
- Potential for replicating interventions in other similar countries.
- Existing quality improvement (QI) initiatives (QED countries or similar) that support sustainability and layering of complementary efforts.
- U.S. Agency for International Development (USAID) Mission interest and opportunities to complement other USAID investments and external partner efforts.

The goal of the program was to provide rapid, needs-based support focused on 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 152 HCFs across the five focus countries. An additional HCF cohort was added in India (20 HCFs) when additional USAID COVID-19 funding became available halfway through the country program. In Uganda, a second cohort of 25 HCFs was added in the final six months of the country program to support a Ministry of Health (MoH) request to expand project support.

Quick Facts

BANGLADESH

Project Dates: Aug 2020–Sep 2021

Project Scope: Eight union health and family welfare centers (UHFWCs), six Upazila Health Complexes (UHCs), and one district hospital in six sub-districts of Barishal District

GHANA

Project Dates: Aug 2020–Sep 2021

Project Scope: 25 Christian Health Association of Ghana (CHAG)-supported HCFs (six secondary, 19 primary) in 11 regions

INDIA

Project Dates: Aug 2020–Sep 2021

Project Scope: 91 HCFs (63 public, 18 private) across three states (Jharkand, Madhya Pradesh, Chhattisgarh)

SIERRA LEONE

Project Dates: Jul 2020–Sep 2021

Project Scope: 21 primary care and six secondary HCFs

UGANDA

Project Dates: Aug 2020–Jun 2022

Project Scope: 25 HCFs across five border districts in Southwest (SW) Uganda (14 level IV, 11 hospitals)

LESSONS LEARNED AND RECOMMENDATIONS

LESSONS LEARNED AND INGREDIENTS OF SUCCESS

1. Results showed improvements in HCF WASH/IPC readiness, access to basic WASH services, and behavior compliance across HCFs and wards.
2. While incremental improvements can yield short-term benefits, stakeholders are concerned about enduring health systems challenges.
3. As demonstrated in the Most Significant Change (MSC) results, incorporating QI methods into WASH/IPC interventions was essential to understand and address root causes of facility-specific challenges.
4. Using a common digital data management system 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.
5. Virtual information sharing across facilities and districts expedited networking, problem-solving, and the adoption of best practices.

RECOMMENDATIONS TO IMPROVE WASH/IPC IN HEALTH CARE FACILITIES

1. Scale up low-resource approaches to improve WASH/IPC readiness and behavior compliance within national health systems.
2. Virtual communities of learning among HCF cadres should be supported to remain active.
3. Strategies to formalize and provide intensive support to cleaning cadres should be incorporated in future IPC and QoC efforts.
4. HCF and district staff should be trained to use free data management systems such as mWater/Solstice.

RECOMMENDATIONS FOR IMPLEMENTING FUTURE VIRTUAL QUALITY IMPROVEMENT TRAINING AND SUPPORT INITIATIVES

1. Avoid virtual-only support and consider hybrid coaching and monitoring models in future efforts, given that virtual support yields best results when accompanied by in-person support.
2. Test ways to make program presence felt and ways to establish personal connections even when using virtual technology (e.g., establish onsite coaches to provide continuity between virtual sessions and foster teamwork).
3. Prepare implementation plans for both remote and in-person QI training and support activities.
4. Invest in technology equipment and resources required for hybrid training and support models.
5. Plan significant time orienting participants and their supervisors to the virtual approach and tools.

PROGRAM APPROACH, STRATEGIES, AND INTERVENTIONS

MOMENTUM implemented COVID-19 response activities in two phases:

- **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 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.

TABLE 1: COUNTRY PROGRAM REACH, LOCATION, AND TIMELINES¹

Country	Location	Partners	Timeline	# of public HCFs	# of private HCFs	# of faith-based HCFs	Total HCFs
Bangladesh	Barishal District	District government	Aug 2020–Sep 2021	15 ²	0	0	15
Ghana	11 regions	Local governments, CHAG	Aug 2020–Sep 2021	0	0	25	25
India	8 districts across Chhattisgrah, Jharkhand, Madhya Pradesh	Local and state governments	Aug 2020–Sep 2021	63	18	0	81* (initial = 61) (expansion = 20)
Sierra Leone	Western Urban, Western Rural, Kailahun, Pujehun Districts	District governments, Christian Health Association of Sierra Leone	Jul 2020–Sep 2021	18	0	8	26
Uganda	5 SW border districts	District governments, Uganda Protestant Medical Bureau	Aug 2020–May 2022	38	1	11	50* (initial = 25) (expansion = 25)
				134	19	44	197

¹ For more detailed breakdowns of the level and type of health facilities in each country, please refer to the country briefs: [Bangladesh](#), [Ghana](#), [India](#), [Sierra Leone](#) and [Uganda](#).

² MOMENTUM Country and Global Leadership initially targeted 17 HCFs in Bangladesh. However, following initial IPC assessments, the district government demolished and rebuilt two HCFs. Construction activities outlasted the program.

PHASE 1 (RAPID RESPONSE)

MOMENTUM conducted an initial HFA in late 2020 to identify WASH/IPC infrastructure, supply, and training needs. Though some assessment tools existed in the focus countries, none of the tools were comprehensive in assessing WASH and IPC. Without predeveloped national assessment tools and reporting systems available that provided comprehensive (and common) infection prevention readiness information, MOMENTUM designed and used an 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. Once a common tool and protocol was established to compare results across country programs, MOMENTUM country teams pretested and contextualized the tools with district health offices. MOMENTUM uploaded the health facility assessment (HFA) monitoring tools for each country program into the [mWater/Solstice](#) digital data management platform to collect baseline, monitoring, and endline assessment data, and shared the results with participating facilities and MoH staff using an integrated data system.



Cleaner is protected by using PPE and keeping health premises clean.

MOMENTUM used the results of the baseline HFA to develop the intervention with MoH and HCF stakeholders. Detailed results from HCFs and wards can be found at the following country program brief links ([Bangladesh](#), [Ghana](#), [India](#), [Sierra Leone](#), and [Uganda](#)). Based on the baseline HFA findings, MOMENTUM worked with the district health offices, faith-based health networks (where relevant), HCF managers, and IPC focal points to prioritize immediate, minor infrastructure repairs to WASH services in a subset of HCFs (see Table 2). These minor improvements were implemented in 74 HCFs and included replacing faulty water pumps, unclogging piped systems, repairing water taps, installing or repairing handwashing stations, and making other similar repairs. A maximum of US\$2,500 was invested in each HCF. MOMENTUM procured necessary IPC and personal protective equipment (PPE) commodities¹ for all 197 supported HCFs.

TABLE 2: MOMENTUM-SUPPORTED INFRASTRUCTURE REHABILITATION ACTIVITIES BY COUNTRY

Country	# of HCFs received infrastructure rehabilitation support	Water	Sanitation	Hygiene	Waste management
Bangladesh	13	2	1	3	7
Ghana	24	12	13	17	0
India	21	17	9	11	4
Sierra Leone	7	4	0	0	7
Uganda	9	2	7	3	0
Total	74	38	30	34	18

* Numerous HCFs received MOMENTUM support to rehabilitate more than one type of WASH-related infrastructure.

MOMENTUM introduced all 197 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 levels and contexts of health care services. 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 Supply List provides guidance to inform budgeting, procurement, and planning decisions that impact WASH/IPC readiness at both the health system and health facility levels.

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, cleaners, and other facility staff and providing supportive supervision and mentorship in QI. The program first developed a 12-hour virtual training (VT) package, delivered over six days, for HCF staff of all cadres, including clinicians and support staff (e.g., cleaning and housekeeping personnel). At the start of this program, four quality aims were agreed upon to track HCF staff performance for prioritized improvements (displayed in Table 3).

TABLE 3: QUALITY AIMS AND ASSOCIATED ACTIONS

Quality aim	HCF-level actions contributing to quality aim achievement	Performance indicator
Hand Hygiene	<ol style="list-style-type: none"> Determine if there are functional hand hygiene facilities (with water and soap and alcohol-based hand rub) at every point of care. Determine if there are regular ward-based audits to assess the availability of hand rub, soap, single-use towels, and other hand hygiene resources. 	Percentage of health facility staff who comply with hand hygiene protocol during interaction with patients
PPE	<ol style="list-style-type: none"> Determine if facility has sufficient PPE supply; if not, communicate need to administration. Determine if health facility colleagues are using PPE correctly per the protocol. 	Percentage of health facility staff who adhere to mask protocol
Screening and Triage	<ol style="list-style-type: none"> Determine if all individuals arriving at the facility are screened per protocol. Determine if facility has dedicated space and required equipment for screening/triage for all individuals arriving at the facility. Determine if facility has identified isolation room/rooms for individuals with suspicious symptoms after screening. 	Percentage of individuals screened for COVID-19 upon arrival at facility per protocol
Cleaning and Disinfection	<ol style="list-style-type: none"> Determine if the facility has sufficient PPE and cleaning supplies; if not, communicate need to administration. Determine if cleaning protocols are in place. Determine if cleaning is performed per the protocol. 	Percentage of cleaning routines observed where the cleaner cleaned high-touch surfaces such as doorknobs, light switches, faucets, bed rails, bed surface

MOMENTUM established or leveraged existing virtual platforms (“hubs”) that provided support to participating health facilities (“spokes”) to implement QI activities and promote progress against the four quality aims. Figure 1 shows a list of common support activities provided across country programs. MOMENTUM developed a pool of master trainers or “QI coaches” in QI processes within each country. After completing the QI workshops, the district-level QI coaches and MOMENTUM team trained QI champions and staff in all supported HCFs to identify IPC and WASH gaps and prioritize improvements by applying QI tools.

Where needed, 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. Technical assistance involved regular (monthly) and structured in-person and virtual sessions across facilities, targeting teams of providers (IPC or QI teams along with facility in-charge) to focus facility efforts on meeting key quality indicators required for COVID-19 preparedness. Refresher trainings and direct support were provided to HCF staff during in-person mentoring visits at the intervention HCFs.

FIGURE 1: WASH/IPC READINESS IMPROVEMENT PROGRAM APPROACH

Phase 1		Phase 2		
Support	Procurement and Civil Works	Moderate Virtual Platforms	Offer Physical and Virtual QI Training	Facilitate Data Reviews
<ul style="list-style-type: none"> Support review of assessment data in partnership with facility hubs. Support strengths, weaknesses, opportunities, and threats analysis for QI. 	<ul style="list-style-type: none"> Procure needed IPC supplies. Identify facilities in need of minor repairs of WASH infrastructure. 	<ul style="list-style-type: none"> In partnership with district health teams (DHTs), hubs moderate VT. WhatsApp groups to support: <ol style="list-style-type: none"> Peer learning Sharing of learning and ideas As-needed performance support 	<ul style="list-style-type: none"> QI coach training for 28 participants. QI practicum training for 100 health care workers. Onsite IPC mentorship for health care workers in 10 HCFs. On-the-job training for 75 cleaners on basic IPC principles and practices. Two inter-facility sessions sharing best practices. 	<ul style="list-style-type: none"> 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.

Regular and structured mentoring sessions targeted teams of providers (IPC or QI teams along with DHTs) to focus facility efforts on meeting the four quality aims described in Table 2. Specific WhatsApp groups and a Google site were used to share timely learning and influence decision-making. Selected HCF staff and district health staff participated in QI coach training and then coaches collaborated with MOMENTUM to conduct the QI practicum online training with HCF staff. Training in Bangladesh and India were conducted independently, while the training was implemented collectively for participants in Ghana, Sierra Leone, and Uganda to enable 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. This virtual platform was complemented 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 house program monitoring and QI tools and data across the five country programs and endline assessment data. The results were shared with the participating facilities and MoH staff using an integrated data [dashboard](#). Since the mWater system is publicly available and MOMENTUM trained HCF and district health staff to use the system, participating HCFs and districts began using mWater/Solstice to conduct their own WASH and IPC assessments and data dashboards for decision-making and resource allocation.

PHASE 1 AND 2 RESULTS AND FINDINGS

PROGRAM RESULTS

This section summarizes key program results across the five countries. For detailed results by country, please see technical briefs for [Bangladesh](#), [Ghana](#), [India](#), [Sierra Leone](#), and [Uganda](#). In order to capture program learning while rapidly implementing in the five countries, the project used principles of adaptive learning by collecting both quantitative and qualitative data to answer three key learning questions on themes important to MOMENTUM Country and Global Leadership globally and building in pause-and-reflection moments to discuss learning and recommend adjustments for this program and future programs.

The data sources included the HFAs described above, monitoring data for the four measures tied to each QI aim collected by facilities through routine behavioral audits, a pulse survey of QI coaches and HCF staff, MSC stories (a qualitative research method to capture stories that represent the most important chances from the perspective of facility staff), and key informant interviews (KIIs) with district health staff. For logistical and practical reasons, not all methods were used in all countries. HCF readiness assessments were completed in all participating HCFs across all country programs. However, this report only shares the HCF readiness assessment results for the 152 HCFs included in the original program cohort, given that the 45 HCFs added later in the implementation period (20 HCFs in India, 25 in Uganda) did not receive the full intensity or length of QI support from the project. Detailed results on cohort 2 HCFs are included in the country program brief links above. Pulse poll and MSC in Bangladesh, Ghana, and Uganda, and KIIs in Bangladesh and Uganda. To reflect on learning, a lessons learned meeting was held virtually with project staff and partners. Results are presented in subsequent sections for each of the key learning questions, which are outlined in Table 4.

TABLE 4: PROGRAM LEARNING QUESTIONS AND DATA COLLECTION METHODS

Learning questions	Method(s) used and participating country programs					
	HCF readiness assessments N=152	QI measures N=152	Pulse Surveys	KIIs N=9	Lessons learned +	MSC stories N=3
1. Did WASH/IPC readiness and behavioral indicators improve?	x	x				
2. Do stakeholders perceive that WASH/IPC essential behaviors by HCF staff improved?				x		x
3. Did HCFs and districts use data to inform internal action(s) under their authority and to seek higher health system support when needed?			x	x		
4. How acceptable and feasible is virtual coaching (VC)?			x	x	x	

HFA RESULTS

The HFA tool used to assess HCF infection prevention readiness and calculate readiness scores were based on 83 weighted questions in the following domains: COVID-19 screening; COVID-19 triage; COVID-19 isolation; WASH; hygiene and infection prevention; health care waste; environmental cleaning; and administration (see details in Table 5). The scoring tool is based on a scale of 0–100 points, with 100 being a perfect readiness score. MOMENTUM’s IPC readiness tool can be found in Annex A and was based on the WHO’s WASH FIT and IPCAF, as well as the Clean Clinic Approach assessment tool and emerging indicators used in the early days of the COVID-19 pandemic response.

TABLE 5: HCF-WIDE INFECTION PREVENTION SCORING SYSTEM

Domain	Points Possible
COVID-19 screening	23
COVID-19 triage	7
COVID-19 isolation	24
Water infrastructure, access, availability	8
HCF hygiene and infection prevention	19
HCF waste management	2
HCF cleaning and standard operating procedures	7
HCF policies/strategies	10
Total points possible	100

Though not presented in this cross-country report, specific wards (pediatric outpatient, labor and delivery, postnatal) were assessed using similar WASH and IPC criteria, as applicable. Ward-level results are available in aforementioned country program briefs.

As Figure 2 shows, the range of HCF scores at baseline and endline varied widely within all five countries. HCFs in Bangladesh started with the lowest average IPC readiness scores, but also made the most progress, improving by an average of 41 points. HCFs in Ghana started with the highest average scores and therefore made the most modest increases—but maintained very high IPC readiness scores. Interestingly, when comparing results from public, private, and faith-based health facilities, there were only modest differences in HCF performance based on managing entity (though private HCF sample sizes were minimal). To view ward-level readiness scores, please refer to the country technical briefs, which contain detailed ward-level assessment results for the following wards/areas: COVID-19-related screening, isolation and triage, pediatric outpatient, labor and delivery, and postnatal.

FIGURE 2: FACILITY WASH/IPC READINESS ASSESSMENT SCORES BY COUNTRY (N=152 HCFS)*



*Only results from health facilities included in the original country program cohorts (152 HCFS) are included in this figure. Cohort 2 HCFS (20 HCFS from India and 25 from Uganda) are not included in this figure.

Figure 3 reports on HCF access to basic WASH services as defined by the [WHO/UNICEF Joint Monitoring Program \(JMP\)](#) service-level indicators for monitoring WASH, health care waste management, and environmental cleaning services in HCFs. Improvements were seen across all five of the JMP WASH service categories in all five country programs.

FIGURE 3: HCF IPC ASSESSMENT RESULTS BY WHO/UNICEF JMP SERVICE-LEVEL INDICATORS (N=152 HCFS)

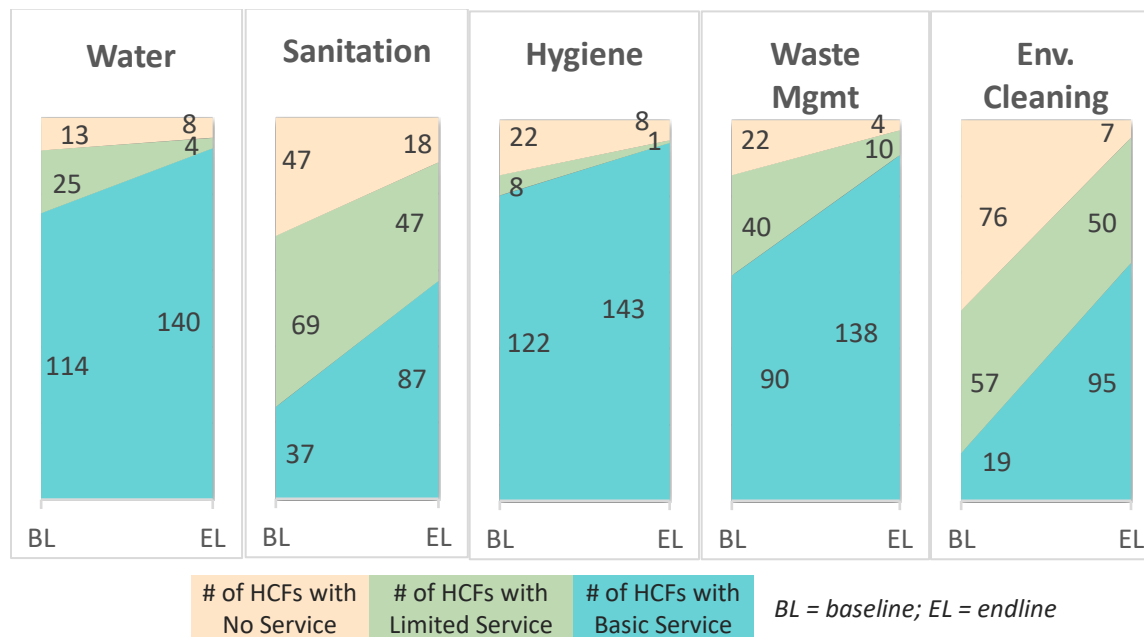


Table 5 shows the increase in proportion of HCFs with basic WASH service access. Marked improvements were observed across all five WASH service categories, with environmental cleaning and health care waste management increasing the most. After partnering with MOMENTUM Country and Global Leadership, almost all supported health facilities had access to basic water services (92%) and basic hygiene services (94%). HCF access to waste management services and environmental cleaning services improved the most.

TABLE 6: PERCENTAGE INCREASE IN THE NUMBER OF HCFS THAT GAINED ACCESS TO BASIC WASH SERVICES FROM BASELINE TO ENDLINE (AS DEFINED BY JMP SERVICE CATEGORIES)

Increase in proportion of MOMENTUM-supported HCFs that gained access to basic WASH services (baseline – endline)				
Water	Sanitation	Hygiene	Waste management	Environmental cleaning
75%–92%	23%–55%	80%–94%	59%–91%	13%–63%

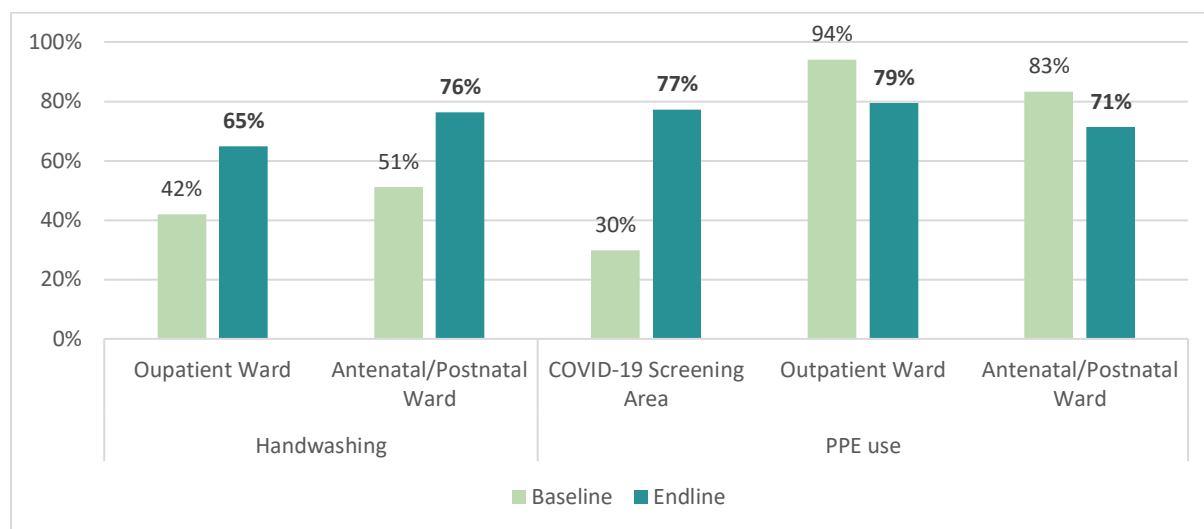
Although sanitation access improved, progress lagged in the other service categories because of significant infrastructure needs and remaining supply chain challenges to maintain a stock of menstrual health products in female-designated sanitation facilities. Results highlight the previously existing WASH service needs across health facilities and demonstrate how greater gains can be made in WASH/IPC readiness where HCFs have access to basic WASH/IPC resources, such as continuous water access and sanitation infrastructure.

As part of its QI process, HCF and district health office staff (trained as coaches or in the practicum curriculum) conducted monthly behavioral audits after baseline assessments to evaluate handwashing practices and observe PPE use in various wards—including COVID-19 screening areas. These monitoring activities were opportunistic and observed any clinical and/or support staff who were operating in the

assessed locations at the time of visit. Therefore, auditors did not consistently observe the same HCF staff members, so results should be interpreted with caution. Data reported by auditors were extracted from the HCF dashboards in mWater/Solstice to help MOMENTUM answer the first learning question (did WASH/IPC readiness and behavioral indicators improve?).

Throughout the course of implementation, MOMENTUM Country and Global Leadership saw a gradual improvement in HCF staff handwashing compliance across countries, though rates varied slightly by country and ward setting (see country briefs for details) ([Bangladesh](#), [Ghana](#), [India](#), [Sierra Leone](#), and [Uganda](#)).

FIGURE 4: AVERAGE HEALTH WORKER COMPLIANCE WITH IPC BEHAVIORS BY WARD (N=152)



The project also monitored HCF staff compliance with facemask (surgical or N95 or equivalent) among HCF staff. HCF staff compliance with facemasks was variable across, and within, countries at endline. Staff in Indian HCFs maintained high compliance throughout program implementation, while staff in Sierra Leone and Uganda made drastic improvements. In Bangladesh and Ghana, there were reductions in staff PPE compliance throughout the course of implementation.

DID STAKEHOLDERS PERCEIVE THAT WASH/IPC ESSENTIAL BEHAVIORS BY HCF STAFF IMPROVED?

MOMENTUM Country and Global Leadership used the MSC approach and KIIs to assess HCF staff perceptions of WASH/IPC performance aligned with the quantitative HCF readiness assessments and behavior audits. The MSC and KII methods also provided insight into HCF staff perceptions of driving and inhibiting factors related to maintaining HCF infection prevention standards.

The MSC approach is a qualitative method used to obtain stories from health facility staff on what they felt were the most important changes since the start of the project. MSC activities took place with HCF staff in Bangladesh, Ghana, and Uganda. For detailed information on how MSC was applied and country-specific results, visit the country-level learning briefs: [Bangladesh](#), [Ghana](#), and [Uganda](#).

Three common themes emerged from HCF stakeholders across the three countries.

1. Stories told by or about cleaning staff were selected by participant groups across all three countries. These **stories highlighted how cleaning staff are often overlooked and underappreciated within health systems. MSC participants also highlighted how critical training and supporting cleaning staff was to achieving program results.** Across countries, a programmatic focus on cleaner participation, capacity, and resourcing was viewed as one of the programs successes.
2. In all three countries, **HCF staff valued the comprehensive infection prevention trainings** outlining infrastructure, supply, behavior, and data use standards that should compose an HCF IPC program. Several MSC participants noted that they learned new information about IPC standards in clinical settings or that they learned a new strategy to make or maintain improvements.
3. Stories across the three countries included examples of **how collecting and reviewing data on infection prevention practices helped facility staff** identify areas for improvement and motivated staff to keep up with these practices to reduce the risk of spreading infection.

Key informants (KIs) from Bangladesh and Uganda reported seeing significant improvements in IPC behavior compliance including mask wearing, handwashing, cleaning protocols, and COVID-19 screening. As displayed in Table 7, they attributed these improvements to intensive monitoring, training quality, supply provision, and increased motivation (due to the pandemic).

TABLE 7: KI-IDENTIFIED FACTORS ASSOCIATED WITH IPC BEHAVIOR COMPLIANCE

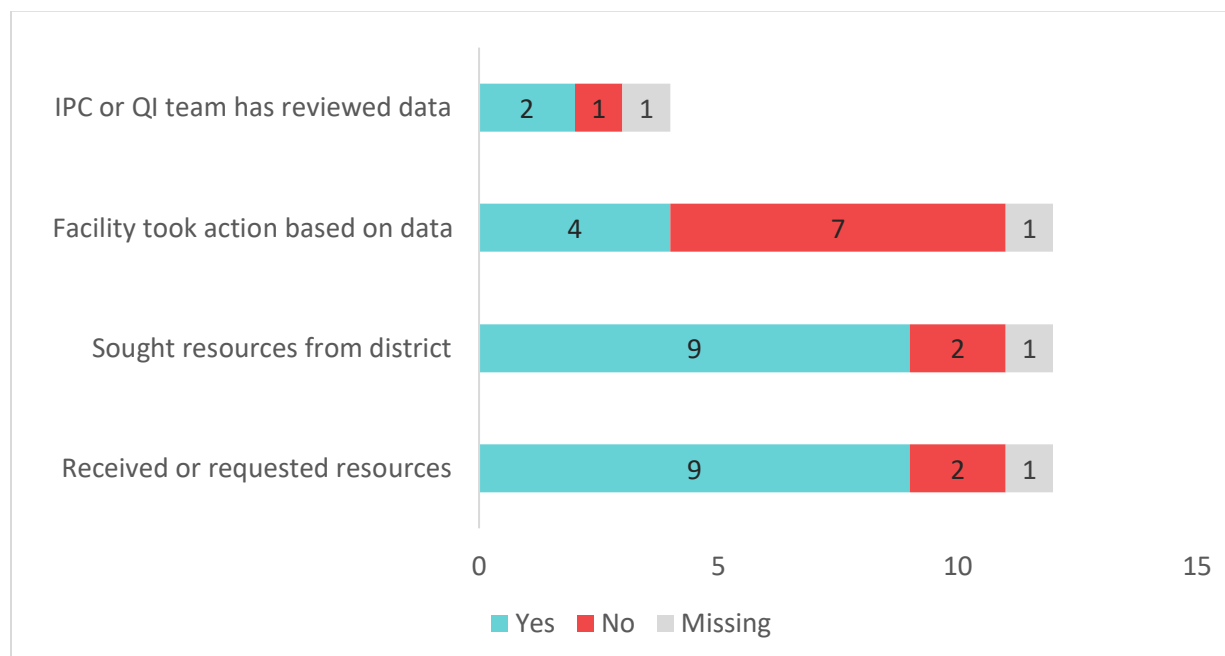
Factors contributing to increased IPC behavior compliance		Challenges inhibiting additional progress/sustainability	
Bangladesh (n=4)	Uganda (n=5)	Bangladesh (n=4)	Uganda (n=5)
<ol style="list-style-type: none"> 1. Project supported routine (monthly) monitoring 2. Mobilizing QI committees 3. Counseling the patients and visitors 4. Providing material support 5. Providing social behavior and communication change/information, education, and communication materials 6. Training 	<ol style="list-style-type: none"> 1. Increased understanding of the risks and importance 2. Increased availability of supplies 3. Heightened fear during pandemic 4. Training of cleaning staff 	<ol style="list-style-type: none"> 1. Manpower shortages 2. Lack of sufficient time while experiencing second wave of COVID-19 3. Lack of awareness/information 4. Insufficient necessary logistics 5. Manpower shortages 	<ol style="list-style-type: none"> 1. Irregular supply of IPC commodities 2. Difficulty in changing attitudes and the need for constant reminders 3. Remaining knowledge gaps 4. Insufficient funds for capacity strengthening of HCF staff 5. Limited devices/technologies to collect data 6. Insufficient staffing

The KIs also highlighted several systems concerns (staffing, unreliable supply chains, insufficient/infrequent trainings) that they thought was stifling additional progress or would become sustainability challenges. Table 7 lists the factors KIs contributed to these systems concerns, along with remaining challenges they perceived to be inhibiting further progress and/or sustainability. Although not part of this program, MOMENTUM Country and Global Leadership plans to conduct a postintervention assessment 12–18 months after program end in a subset of HCFs in two implementation countries to gain insight to any potential sustainability challenges with the intervention.

DID HCFs AND DISTRICTS USE DATA TO INFORM INTERNAL ACTION(S) UNDER THEIR AUTHORITY AND TO SEEK HIGHER HEALTH SYSTEM SUPPORT WHEN NEEDED?

MOMENTUM Country and Global Leadership used pulse surveys, lessons learned +, and KIIs to understand if HCFs and district health offices were reviewing and using data to inform actions. HCF administrators from 12 HCFs across Bangladesh, Ghana, and Uganda were asked four pulse survey questions related to data use, opinions on the utility of data reviews, the likelihood of sustaining data reviews, and challenges with sustaining data reviews, along with recommendations for sustaining data reviews. The questions and responses are presented in Figure 5, which shows that few respondents reported doing data reviews within the IPC or QI teams (or focal points) at HCFs. Interestingly, almost half of respondents still reported taking action based on the data and nine (82%) reported seeking and receiving district resources.

FIGURE 5: HCF ADMINISTRATOR RESPONSES TO DATA REVIEW AND USE PULSE SURVEY (N=12)



Data from the nine KIIs conducted in Bangladesh and Uganda with HCF staff provided additional insight on perceptions of data review acceptability and feasibility of conducting data reviews.

All KIIs agreed that data reviews were appropriate and important. KIIs cited the following common reasons:

- Identifies areas for improvement (mentioned by three KIIs).
- Gives the latest information (mentioned by two KIIs).
- Helps to improve safety, well-being (mentioned by four KIIs).
- Helps to track and manage infections in the health facility (three KIIs).

However, despite these positive findings, KIs thought that data reviews were unlikely to be sustained due to staffing issues, hectic schedules, reduced emphasis on the COVID-19 pandemic over time, no expectations or support of routine monitoring, no government-sanctioned monitoring system, and irregular physical mentorship meetings. KIs thought that data reviews more likely to be sustained with the following in place:

- Setting a strict goal by the government (mentioned by three KIs).
- Frequent monitoring from a third party (mentioned by two KIs).
- Allocating resources (mentioned by five KIs).
- Expanding training and conducting refresher training on QI (mentioned by three KIs).
- Creating a standardized, digital monitoring system (mentioned by two KIs).

ACCEPTABILITY AND FEASIBILITY OF VC AND MENTORSHIP

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, KIIs, 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 KII 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 VT and QI support methods in the COVID-19 pandemic context and widely reported satisfaction with the VT 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 8 lists some common reasons for this preference.

TABLE 8: COMMON REASONS QI COACH AND QI PRACTICUM PARTICIPANTS PREFERRED IN-PERSON TRAINING AND SUPPORT

Feasibility	Acceptability
<ul style="list-style-type: none"> • 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). 	<ul style="list-style-type: none"> • 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.

The fourth learning question explored whether QI coaches and practicum participants thought that virtual coaching and mentorship were acceptable and feasible. This question was of interest because QI support was partially or completely virtual (depending on country context) due to the COVID-19 pandemic. If stakeholders thought that the exclusively virtual support was acceptable and feasible, it may provide a low-cost, high-frequency QI support model for future programs. Detailed pulse survey and KII response data are included below.

Of the 46 QI coaches who responded to our pulse poll, 32 (70%) participated in a virtual QI practicum session and 13 (28%) conducted VC. The 32 QI coaches who participated in VT provided feedback on the feasibility and acceptability of virtual approaches (Figure 6). The majority of respondents (85%) were able to attend VT sessions. However, over a third of respondents reported problems with managing the amount of time required for VT, getting away from duties to attend VT, and VT being scheduled at inconvenient times. Acceptability metrics averaged between “a little” (2) and “moderate” (3). Feasibility metrics generally averaged between “not at all” (1) and “a little” (2). Respondents least agreed with “Was it easy to get away from duties to attend VT?” and most agreed with “Do you feel the skills you learned are useful?”.

The 13 QI coaches who led VC also provided feedback and their responses are presented in Figure 8. Acceptability metrics averaged between “a little” (2) and “moderate” (3). Feasibility metrics generally averaged between “not at all” (1) and “a little” (2). Respondents least agreed with “Was it easy to get away from duties to attend VT?” and most agreed with “Do you feel the skills you learned are useful?”. Eight percent of coaches provided constructive feedback related to VC, saying that there was little time for supervision, little time in general, and they felt they had little skills.

FIGURE 6: FEASIBILITY AND ACCEPTABILITY OF VT: FEEDBACK FROM QI COACHES WHO PARTICIPATED (N=32)

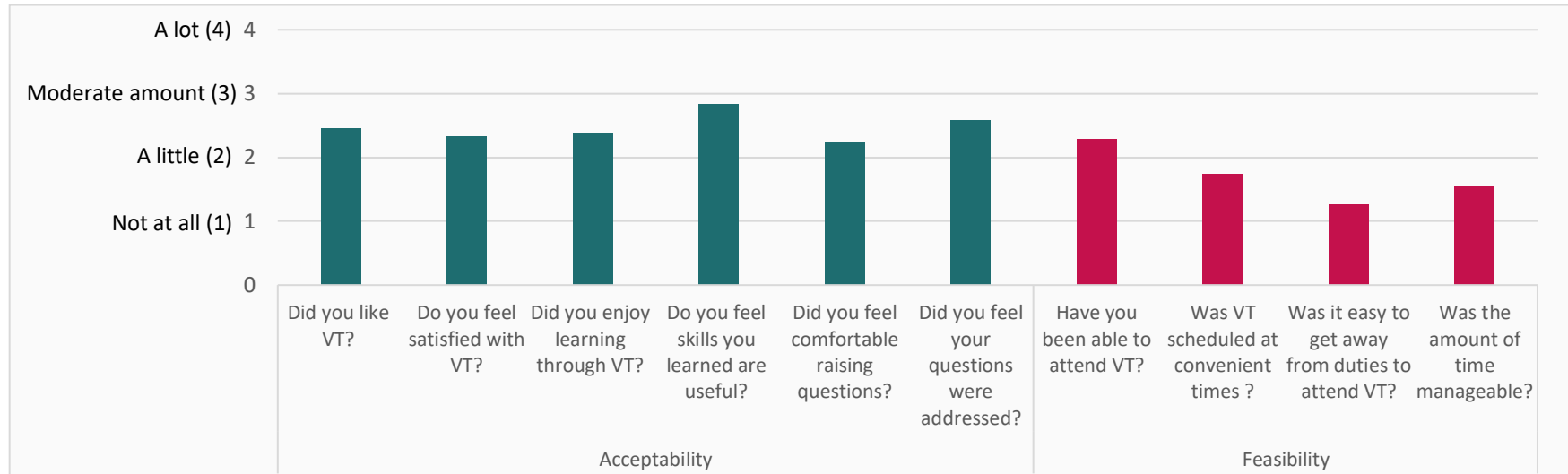
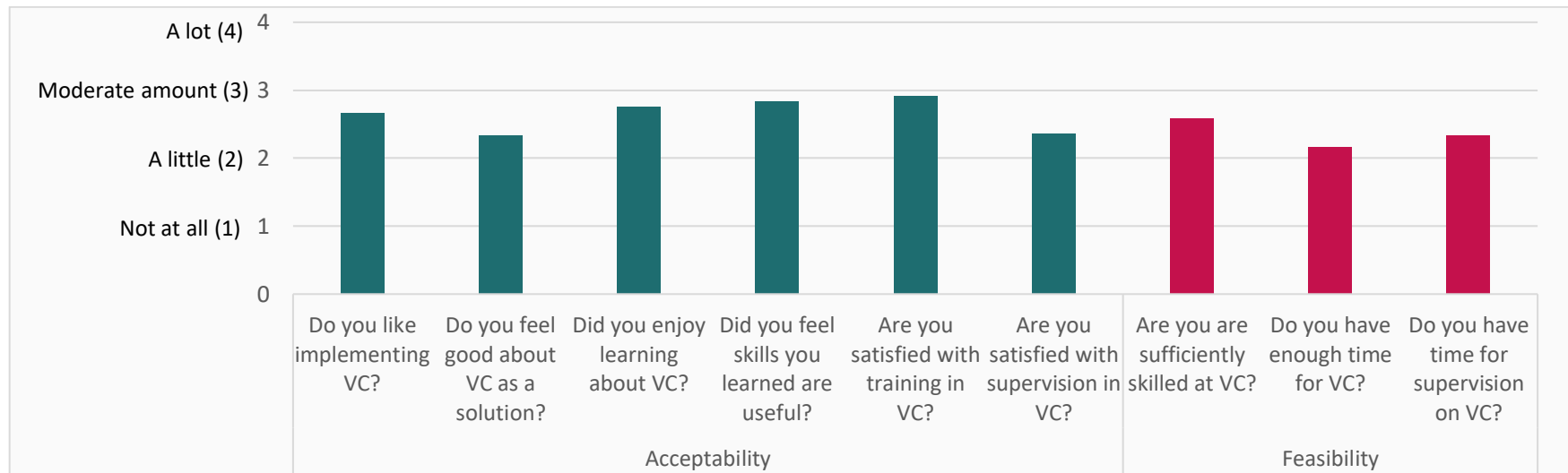


FIGURE 7: FEASIBILITY AND ACCEPTABILITY OF VC: FEEDBACK FROM QI COACHES WHO LED COACHING (N=13)



MOMENTUM also collected responses from 29 health care providers who are not coaches, but participated in virtual learning (VL) (i.e., training and/or coaching). Results are summarized in Figure 8. Acceptability metrics were generally close to “a little” (2). Feasibility metrics generally averaged between “not at all” (1) and “a little” (2). Respondents least agreed with “Was it easy to get away from duties to attend VT?” and most agreed with “Do you feel the skills you learned are useful?”. Similar to feedback from QI coaches, health care providers were able to attend the VL sessions but had mixed feelings about feasibility. For example, 14% of respondents felt scheduling was inconvenient and it was not easy to get away to attend VL. Acceptability of VL was high overall among health care providers; however, 7% of respondents did not feel their questions were addressed or did not feel comfortable raising any questions.

Feedback from 15 providers who participated in a WhatsApp group are presented in Figure 9. Acceptability metrics were generally close to “a little” (2). Feasibility metrics generally averaged between “not at all” (1) and “a little” (2). Respondents least agreed with “Was it easy to get away from duties to attend VT?” and most agreed with “Do you feel the skills you learned are useful?”.

FIGURE 8: FEASIBILITY AND ACCEPTABILITY OF VL: FEEDBACK FROM PROVIDERS (NON-COACHES) WHO PARTICIPATED (N=29)

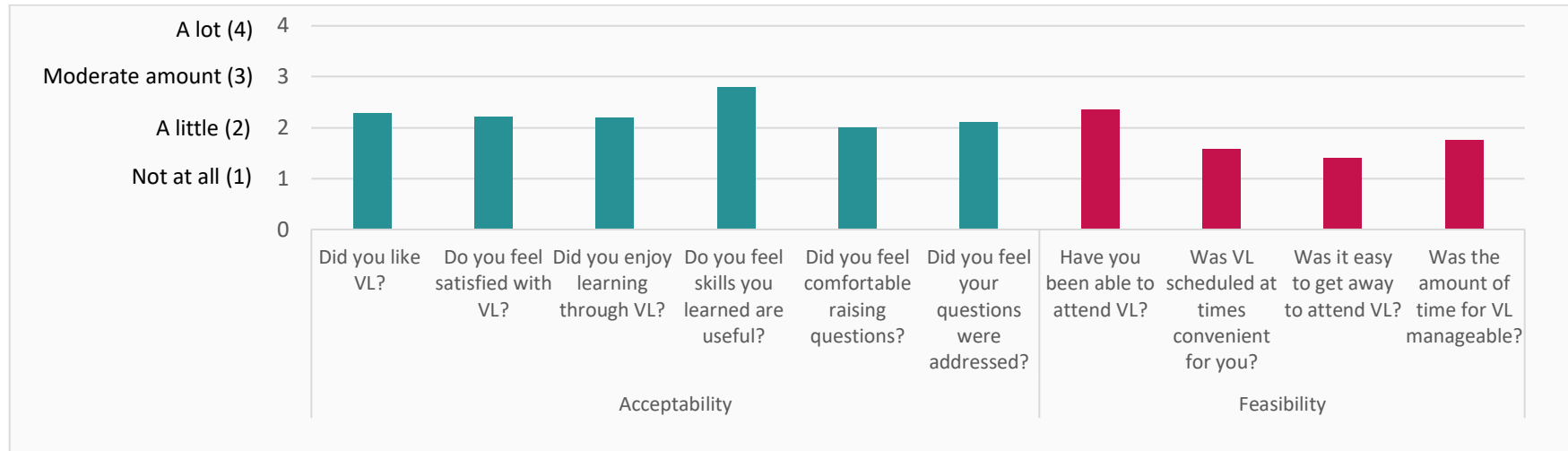
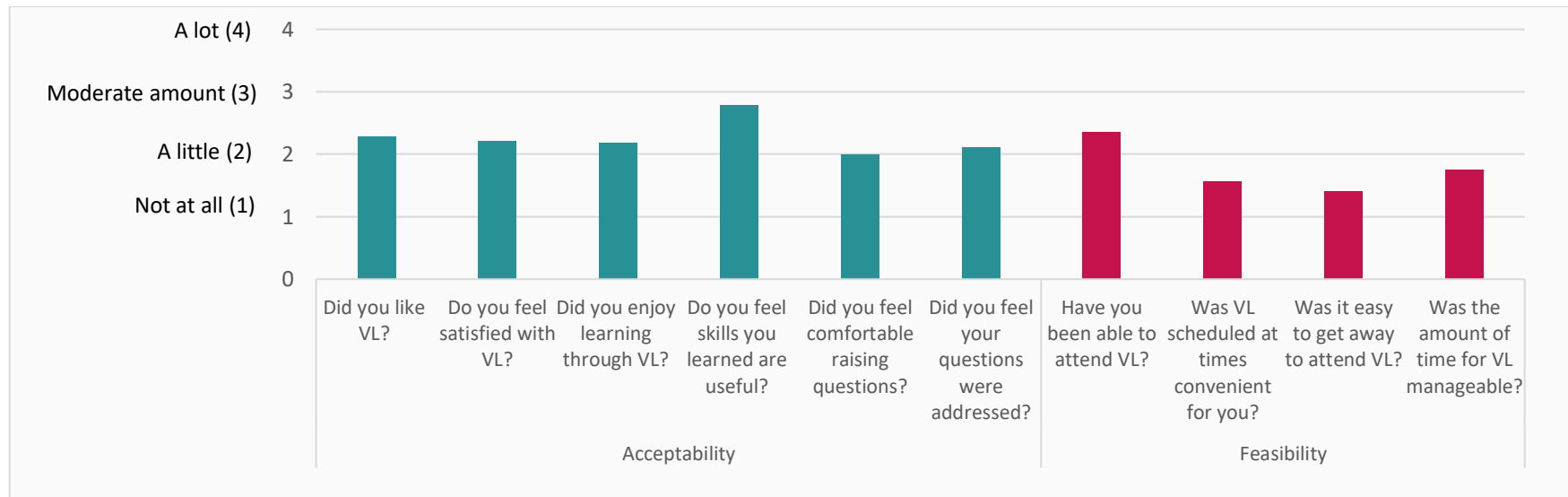


FIGURE 9: FEASIBILITY AND ACCEPTABILITY OF VL: FEEDBACK FROM PROVIDERS (NON-COACHES) WHO PARTICIPATED (N=29)



Participant suggestions from pause-and-reflection conversations

MOMENTUM Country and Global Leadership conducted structured conversations in April 2021 with country program staff with the aim of documenting specific recommendations to improve virtual approaches to QI. Staff suggestions can be summarized under the following four recommendations:

1. **Think about how to motivate and excite people when using VT.** Specific suggestions included: clarifying per diem situations up front, include participatory method instead of didactic methods, use real-life vignettes, have participants lead or co-lead sessions and set aside time for participants to socialize and build comradery.
2. **Support mobile connectivity and build tech literacy.** Specific recommendations included: identifying participant comfort levels with technology and VL, plan to provide adequate technology and data purchasing support, continue using WhatsApp, coordinate with district offices to sustain funding of these virtual platforms to sustain cohort contact and scale virtual methods.
3. **Encourage people to join as team/groups for better teamwork after training** (not always possible during the COVID-19 pandemic).
4. **Make program presence felt at the facility and district levels, even when working virtually** (not always possible during the COVID-19 pandemic).

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. **While incremental improvements can yield short-term benefits, stakeholders are concerned about enduring health systems challenges.** Stakeholders cited challenges with operations and maintenance, supply chains, staffing, financing, and management support as challenges to sustaining achievements from this 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. **Using a common digital data management system 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).
5. **Virtual information sharing across facilities and districts** expedited networking, problem-solving, and the adoption of best practices. Although 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 as part of a hybrid QI approach.

RECOMMENDATIONS TO IMPROVE WASH/IPC IN HEALTH CARE FACILITIES

MOMENTUM's strategic approach to support HCFs in improving 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 relatively small geographies in each country, MOMENTUM recommends the following actions to replicate and sustain success, improve efficiency, and maintain WASH/IPC readiness:

1. **Scale up low-resource approaches to improving WASH/IPC readiness and behavior compliance within national health systems.** 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. To aid future efforts, MOMENTUM Country and Global Leadership distilled lessons learned from this program and published a brief titled [Scaling up Effective Water, Sanitation, and Hygiene Services through Faith-Based Health Care Networks](#) to guide faith-based networks (and other local partners) to take WASH activities to scale, and suggests ways to achieve scaling through limited, medium-level, and significant investments.
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 formalize and provide 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 are needed to collect, report on, and use WASH/IPC data across the national health system.

RECOMMENDATIONS FOR IMPLEMENTING FUTURE VIRTUAL QI TRAINING AND SUPPORT INITIATIVES

Through implementation of this program, MOMENTUM documented the following recommendations to inform the design and implementation of future QI approaches.

1. Virtual support yields best results when accompanied by in-person support. Future efforts should avoid virtual-only support and consider hybrid coaching and monitoring models.
2. Test ways to make program presence felt and ways to establish personal connections even when using virtual technology (e.g., establish onsite coaches to provide continuity between virtual sessions and foster teamwork).
3. Prepare implementation plans for both remote and in-person QI training and support activities.
4. Invest in technology equipment and resources required for hybrid training and support models.
5. Plan significant time orienting participants *and their supervisors* to the virtual approach and tools.

ANNEX A: HEALTH FACILITY ASSESSMENT TOOLS

The following tools are available as annexes [for download](#):

A.1: COVID-19 Readiness Toolkit (Editable)

A.2: General Health Care Facility Scorecard (inclusive of specific COVID-19 areas)

A.3: Outpatient Ward Scorecard

A.4: Labor and Delivery Ward Scorecard

A.5: Postnatal Care Ward Scorecard

A.6: Health Facility Administrator Interview Tool

A.7: ICT Assessment Survey

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