

MOMENTUM

Country and Global Leadership



Technical Brief

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

An Infection Prevention Readiness Response in India



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BACKGROUND AND GOAL

The COVID-19 pandemic significantly disrupted health systems, creating a need to assess both assets and gaps to prioritize immediate infection prevention risks and health care facilities' needs. In August of 2020, the United States Agency for International Development-funded [MOMENTUM Country and Global Leadership](#) project began implementing an infection prevention and control (IPC) COVID-19 program in India. 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 reproductive, maternal, newborn, and child health services by using existing MOMENTUM operational platforms and coordinating with district health offices.

MOMENTUM WASH/IPC India Country Program Overview:

Program Dates:

August 2020–October 2021

Geographic Focus:

three states (eight districts):

- Chhattisgarh (Baloda Bazar, Mahasamund, and Rajnandgaon)
- Jharkhand (Bokaro and East Singhbhum)
- Madhya Pradesh (Betul, Hoshangabad, and Vidisha)

Program Scope: 81 facilities – 63 public and 18 private healthcare facilities

The program 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 among the targeted health care facilities (HCFs). The intervention originally began with 61 health care facilities (46 public and 15 private HCFs) in six districts, in two states: Madhya Pradesh (Betul, Hoshangabad, and Vidisha) and Chhattisgarh (Baloda Bazar, Mahasamund, and Rajnandgaon). In December 2020, the program started working in an additional 20 HCFs (16 public and four private HCFs) in two districts in Jharkhand (Bokaro and East Singhbhum).

KEY FINDINGS AND RECOMMENDATIONS

1. **The average health facility IPC/WASH readiness scores improved from 46% at baseline to 70% at endline**, showing 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. **Key infrastructure needs were addressed in 70 (86%) of the intervention HCFs, including in 26 (32%) HCFs where improvements were made by leveraging government budgets.** MOMENTUM encourages future programs to explore co-financing strategies with local governments at the start of program design to pool resources and extend program reach.
3. **Program stakeholders recognized that empowering and engaging cleaning and paramedical staff is critical in ensure compliance with IPC/WASH standards within HCFs.**
4. **Infection Prevention and Control Committees (IPCC) play a critical role in ensuring adherence to IPC/WASH practices.** Strengthened IPCCs are well placed to lead data-driven improvement processes in HCFs.
5. **While the Chakr decontamination machines for N-95 masks piloted under this program were effective, MOMENTUM recommends further testing and stakeholder engagement before scaling their use.**

PROGRAM APPROACH AND ACTIVITIES

MOMENTUM implemented COVID-19 response programs in two phases that were designed to first address immediate HCF infrastructure and supply shortages that were inhibiting HCF infection prevention readiness, and then to address behavior compliance and systems challenges that could best be addressed once infrastructure and supplies were available to HCF staff (Figure 1).

Phase 1 (Rapid Response): In collaboration with district health offices, MOMENTUM assessed and prioritized the immediate infection prevention risks and needs of HCFs. The program targeted COVID-19 specific priority actions and supported activities to quickly improve access to basic WASH services and IPC practices and sufficient stocks of IPC supplies and collected critical data needed to identify risks and allocate resources to make priority improvements. Existing IPCCs were reactivated in this period. Based on the assessment findings, MOMENTUM worked with HCF managers and IPC focal points to prioritize immediate, minor infrastructure repairs to WASH services. Minor infrastructure repairs were made in 70 (86%) of the intervention HCFs, including in 26 (32%) HCFs where improvements were made by leveraging government budget. Repairs 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 personal protective equipment (PPE) commodities for all 81 of the supported HCFs.

Phase 2 (Strengthen and maintain IPC standards through quality improvement support): Building off the initial IPC improvements, MOMENTUM transitioned to strengthen the capacity of sub-national governments and HCF staff to continue and sustain IPC quality improvements, establish a culture of IPC, and to deploy advanced IPC measures as part of their COVID preparedness and response plans.

PHASE 1 (RAPID RESPONSE)

The MOMENTUM India COVID-19 response program conducted a health facility assessment in September–October 2020 in collaboration with existing quality and IPC networks at each level of the health system. HCF managers and IPC focal points contributed to the first health facility assessments. MOMENTUM hoped to use pre-developed national assessment tools and reporting systems to complete the assessment, however, these tools were limited in scope. Therefore, the program created a comprehensive assessment tool based on existing national tools such as Kayakalp and National Quality Assurance Standards (NQAS), 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.

The assessment identified existing IPC/WASH infrastructure, supply, and training needs that were used to define and develop program interventions. A complete list of detailed results for HCFs and wards is available on a public-facing, interactive [dashboard](#). Based on the assessment findings, MOMENTUM worked with district health offices, HCF managers, and IPC focal points to prioritize immediate infrastructure and supply needs. MOMENTUM procured prioritized IPC and PPE commodities for the 81 facilities and rehabilitated WASH infrastructure at targeted facilities, including extending/rehabilitating WASH infrastructure in 44 intervention facilities.¹ Program advocacy led to the remaining 26 intervention facilities utilizing their own funds to close the infrastructural gaps identified at baseline.

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

To develop institutional mechanisms, the project team worked to create IPCCs with representation from all cadres to balance power dynamics and provide cleaning staff with a voice in issue identification and troubleshooting. The team aimed for IPCCs to have regular monthly meetings with proper documentation and follow-up action on identified issues.

MOMENTUM also introduced all 81 HCFs and the district health offices to the new global guidance document: [Essential Supply List for Infection Prevention and Control in Health Care Facilities](#), which provides global operational guidance on all the essential supplies for HCFs to maintain basic standard IPC precautions in all health care service levels and contexts. This list can also aid HCF staff, administrators, and government officials at local and national levels to understand which IPC supplies should be prioritized to maintain minimal IPC readiness. This list of essential supplies provides guidance to inform budgeting, procurement, and planning decisions that affect IPC readiness of the health system and at health facility levels.

PHASE 2 (STRENGTHEN AND MAINTAIN IPC STANDARDS THROUGH QUALITY IMPROVEMENT 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 quality improvement (QI). The program first developed a 12-hour virtual training package, delivered over six days, for facility staff of all cadres, including cleaning and housekeeping personnel.

Between August 2020 and July 2021, the MOMENTUM team conducted three batches of virtual training, two initial training sessions followed by a refresher training session, reaching 488 and 226 health care providers, respectively.

The program adopted a hub-and-spoke mentoring model. The MOMENTUM program office served as hubs providing virtual and in-person mentoring for spokes of IPC teams within networks of facilities for shared learning. This 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 to the intervention HCFs.

To sustain these capacity building efforts, the program collaborated with the Institute for Healthcare Improvement to build the capacity of government officials across the intervention districts on QI tools and methods. The program developed a pool of master trainers or “QI coaches” in QI processes (six officials, two from each intervention district). 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. Using the hub-and-spoke model, the QI coach in Betul district in Madhya Pradesh trained over 200 health care providers from five districts in Madhya Pradesh and Chhattisgarh on QI tools and processes.



Nurse Shivkala Pandey demonstrating the use of the 3-bucket mopping trolley to her team.

FIGURE 1: IPC/WASH READINESS IMPROVEMENT PROGRAM APPROACH

Phase 1		Phase 2		
Assessment & Prioritization	Procurement and Civil Works	Moderate Virtual Platforms	QI Training & Support	Facilitate Data Reviews
<ul style="list-style-type: none"> Initial IPC/WASH readiness assessment design and data collection Support SWOT analysis for QI Activate/ establish IPCCs 	<ul style="list-style-type: none"> Procure needed IPC supplies. Identify facilities to provide support in renovation of waste management and installation of triage and handwashing stations 	<ul style="list-style-type: none"> Virtual trainings on Zoom WhatsApp groups to support: <ul style="list-style-type: none"> Peer learning Sharing ideas As-needed performance support 	<ul style="list-style-type: none"> QI coach training for 14 participants. Capacity building on IPC/WASH in health care settings for all staff 	<ul style="list-style-type: none"> Facilitate monthly reviews of quality indicators and QI efforts by IPCCs Facilitate in-person coaching and mentorship to lower performing facilities

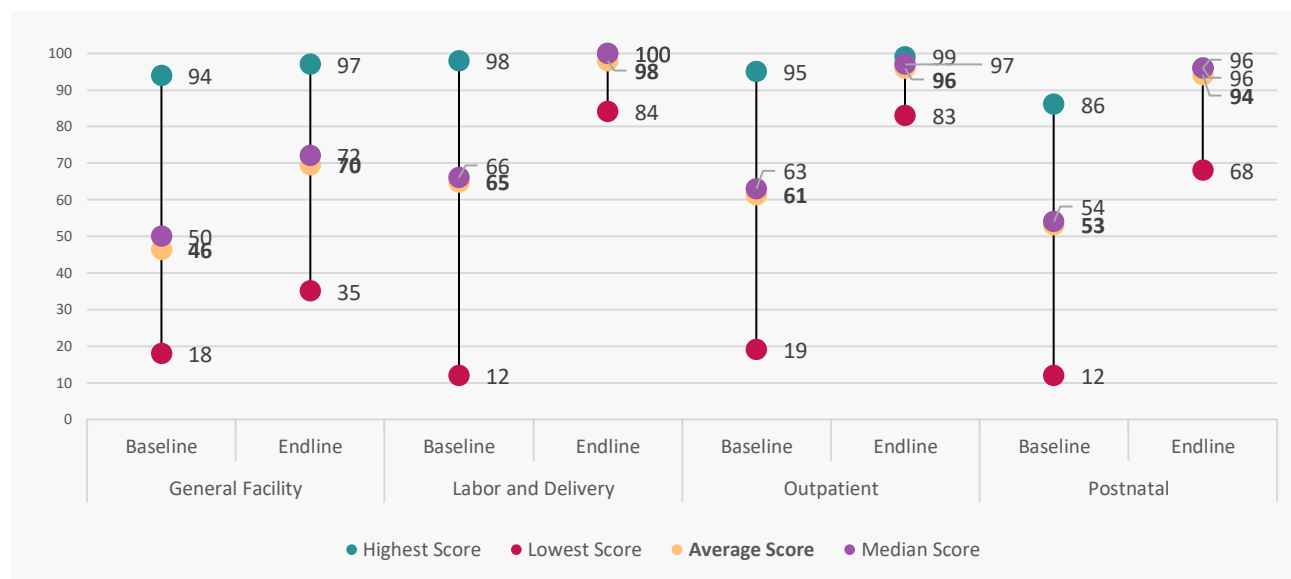
RESULTS AND FINDINGS

WASH/IPC READINESS

An endline evaluation was conducted in August 2021 to assess the extent to which the WASH/IPC readiness and key behaviors had changed within supported HCFs. The additional 20 facilities added during the intervention were not included in the baseline assessment. However, final results for all 81 facilities are available on a public [dashboard](#). The final assessment of the original 61 HCFs showed increased IPC readiness. As displayed in Figure 2, the overall HCF infection prevention readiness assessment scores increased from an average of 46% at baseline assessment to 70% at endline.² HCF IPC readiness for COVID-19 specific standards also improved across HCFs. The postnatal wards saw the most significant improvements with an average score increase from 53% to 94% at endline, outpatient wards followed, with the baseline increasing from 61% to 96% at endline. The labor and delivery wards had the highest average baseline score (65%) but improved to an average score of 98% after MOMENTUM assistance. HCFs (and individual wards) of all levels saw improvements but were smallest in general facility readiness assessments.

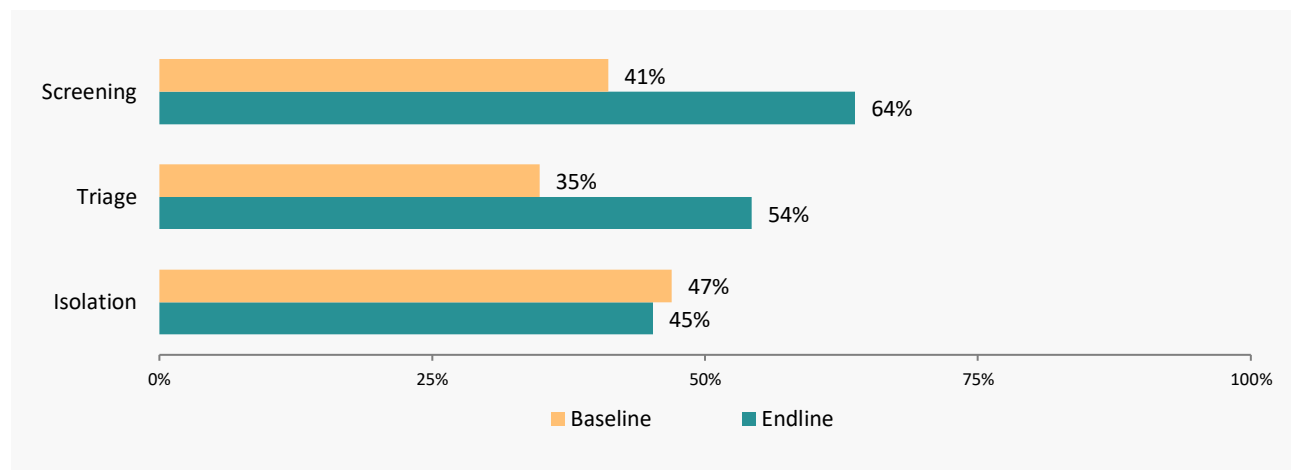
² General HCF WASH/IPC readiness scores are based on 83 weighted questions in the following categories: COVID-19 screening, COVID-19 triage, COVID-19 isolation, WASH, hygiene and IPC, health care waste, environmental cleaning, and administration. Wards were assessed using similar WASH and IPC criteria that were relevant to the specific ward context. All scores were assessed based on a 100-point scoring scale.

FIGURE 2: IPC/WASH FACILITY ASSESSMENT RESULTS BY WARD (N=61)



The COVID-19 infection prevention readiness scores, a sub-set of the general HCF scores, are depicted in Figure 3. For COVID-19 screening areas, HCFs improved from an average score of 41% at baseline to an average score of 64% at endline. Isolation scores saw a slight readiness decrease from an average of 47% at baseline to 45% at endline. Isolations wards were deprioritized by the government during the program. Staff deployed to these wards were sent back to their original posts, resulting in the drop in scores from baseline to endline.

FIGURE 3: COVID-19 INFECTION PREVENTION READINESS SCORES BY AREA (N=61)

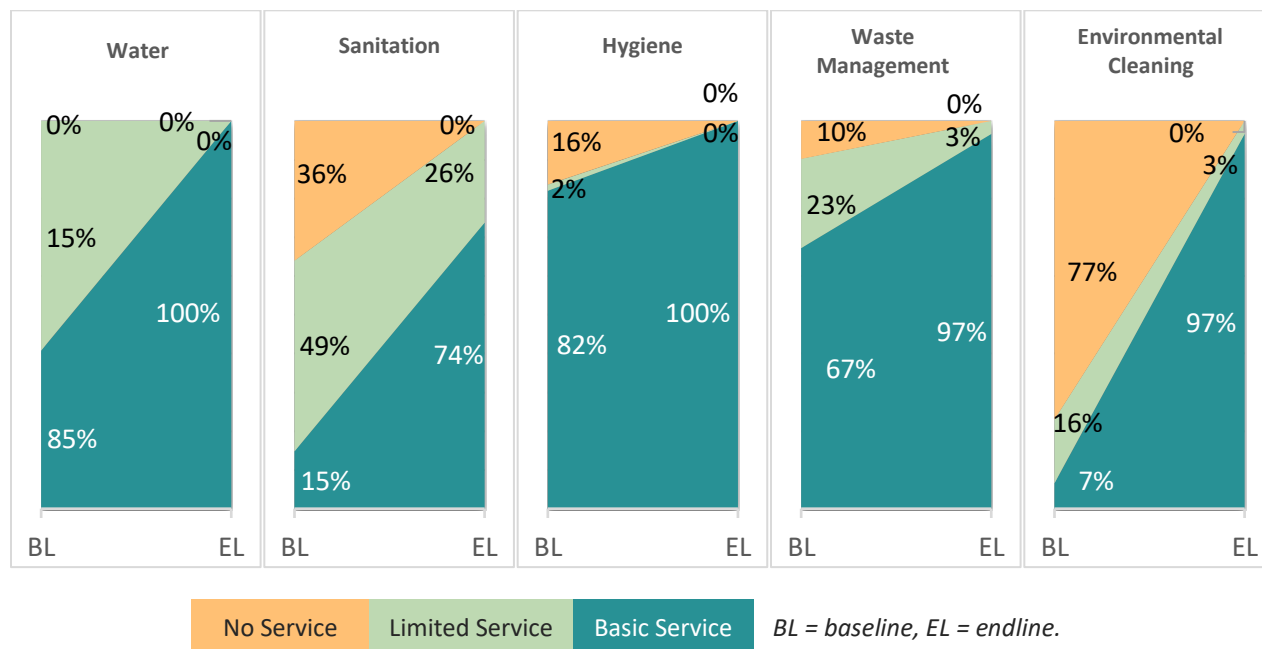


HEALTH CARE FACILITY ACCESS TO BASIC WASH SERVICES

Figure 4 shows the IPC assessment results contextualized according to the [WHO/UNICEF Joint Monitoring Program](#) service-level indicators for monitoring WASH, health care waste management, and environmental

cleaning services in HCFs.³ Results demonstrate that significant improvements can be made with minimal support to improving HCF WASH infrastructure. Environmental cleaning made the most progress with the number HCFs with no service decreasing from 47 to zero and 59 HCFs reaching basic service levels. The water service level showed significant improvement with nine facilities moving from limited service to basic service levels. No service in waste management decreased from six facilities to zero and 14 facilities moving from limited to basic service levels. These results highlight WASH service needs across health facilities and demonstrate how greater gains can be made in infection prevention readiness where facilities have access to basic IPC/WASH resources, such as continuous water access and sanitation infrastructure.

FIGURE 4: WHO/UNICEF JOINT MONITORING PROGRAM SERVICE-LEVEL INDICATORS (N=61)



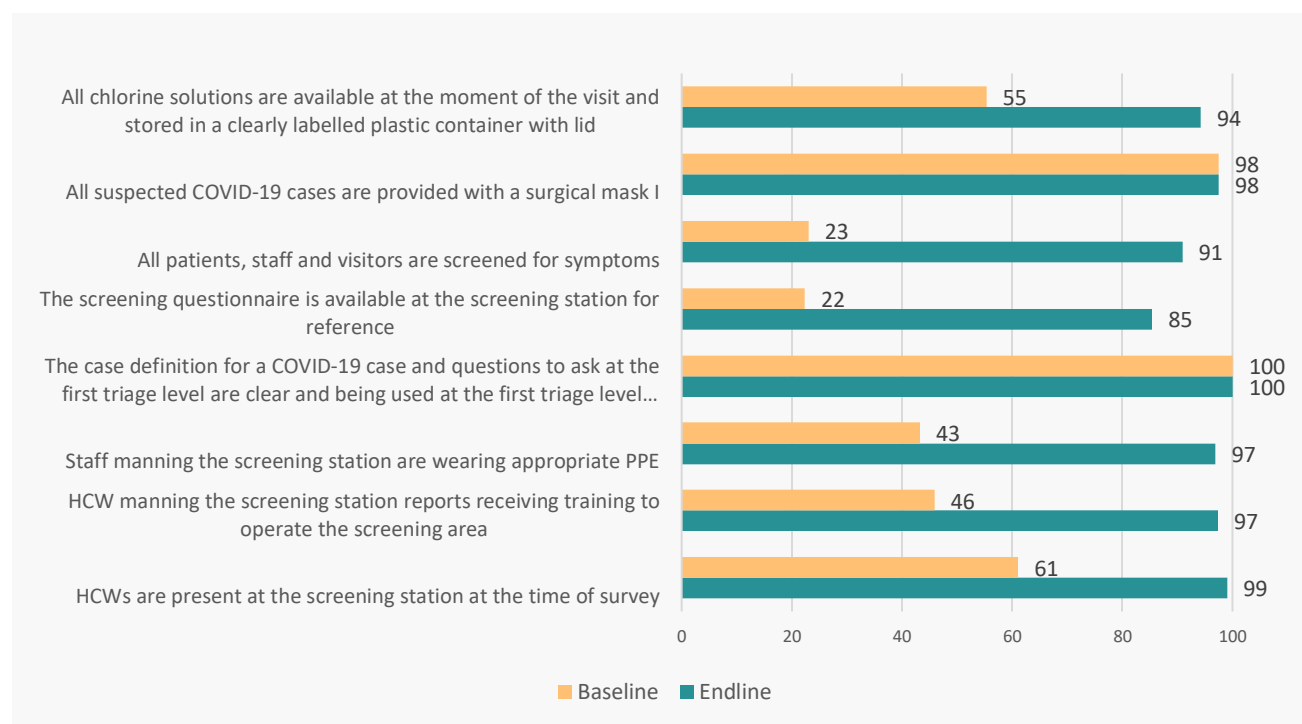
**If any wards met basic service levels, then the health facility was assessed as having a “basic” service. If any wards met at least “limited” service levels, but none meet “basic” service standards, then the ward was assessed as having “limited” service.*

WASH/IPC BEHAVIORS

As part of MOMENTUM’s QI support to HCFs, MOMENTUM conducted behavioral audits to evaluate PPE use and adherence to COVID-19 protocols. As shown in Figure 5, staff use of PPE and the availability and adherence to COVID-19 screening protocols saw significant improvements. The number of instances where all patients, staff, and visitors were screened for symptoms went from an average of 23% at baseline to 91% at endline. Furthermore, proper use of PPE by staff at screening stations rose from an initial assessment average of 43% at baseline to 97% at endline.

³ Full descriptions of the Joint Monitoring Program service level indicators are available at the following webpage: <https://washdata.org/monitoring/health-care-facilities>

FIGURE 5: AVERAGE HEALTH WORKER COMPLIANCE WITH IPC BEHAVIORS BY WARD (N=61 HCFs)



LESSONS LEARNED

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

- Results showed improvements in HCF 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.
- MOMENTUM was successful in coordinating with local governments to identify and leverage public funding to make minor WASH infrastructure improvements in 26 HCFs,** while MOMENTUM supplemented government resources to make similar improvements in 44 additional HCFs
- Re-allocation of human resource hampered capacity strengthening efforts.** During the second surge in COVID-19 infections in India (April–May 2021), several QI coaches were re-assigned to roles in COVID-19 response and immunization related activities. This hampered their participation in capacity building of HCF staff in QI methods, especially from peripheral HCFs. These trainings were conducted later by MOMENTUM team members.
- Cleaning staff need additional support and effective behavior change support.** Baseline assessments revealed that competency of cleaning and paramedical staff in key IPC procedures was particularly low. Less than 50% of cleaning staff present across intervention HCFs had received any training on IPC procedures and only one-third of the cleaning staff observed adhered to recommend hand hygiene, PPE, and cleaning protocols. The MOMENTUM team conducted capacity strengthening sessions especially designed for cleaners and paramedics to upgrade their skills and knowledge in key WASH/IPC procedures. Technical resources on IPC were developed for cleaning staff and distributed to them. Further, the project team also advocated for including cleaning staff in IPCC meetings to empower them and include them in

the decision-making process. Throughout implementation, MOMENTUM's repeated reminders and intensive support during mentoring visits and trainings were not successful in changing average behavior compliance rates among cleaning cadre.

- **Data driven decision-making is feasible only when the necessary workforce is available.** The program promoted data reporting on availability of cleaning supplies and PPE material at intervention facilities, with the vision to ensure sufficient stock. However, due to insufficient labor at facilities, patient overload and lack of incentive and motivation for service providers, data in the monthly progress reports was not collected as planned and could not be used for improving stock availability.
- **Challenges in staff turnover impacted delivery of the QI approach:** MOMENTUM envisaged that trained QI coaches would implement downstream training of other colleagues in their district. However, in four out of eight districts, they were not able to be involved due to other responsibilities such as COVID-19 management and immunization activities and therefore could not train staff of peripheral health facilities in the QI methods. These trainings were conducted later by MOMENTUM team members.
- **WhatsApp allowed for just-in-time learning and inter-facility interactions** as well as participation of staff at multiple levels and cadres. For quick updates and IPC/WASH knowledge sharing, the MOMENTUM team coordinated the formation of district-level WhatsApp groups in intervention districts. These virtual platforms were utilized to share relevant resource materials in real time, as and when requested by intervention facilities, and for government IPC/WASH directives and best practices from facility level, acting as a source of motivation for peer learning.
- **The Chakr decontamination machine was tested but had low acceptability and feasibility.** Even after receiving the necessary certifications, while introducing the Chakr Machine (ozone-based decontamination system for N-95 masks) at selected sites, the project team experienced fear and apprehension across all levels, i.e., policymakers and end users at the facilities—service providers, about whether the machine could completely decontaminate the N-95 masks and whether the decontaminated masks were safe to use. The project team had to advocate with policy makers and service providers at the facilities regarding the safety of the decontaminated masks and observed gradual acceptability for the machine.

RECOMMENDATIONS

The strategic approach that MOMENTUM took to support HCFs in India to improve infection prevention readiness and service quality was successful in protecting the delivery of routine reproductive, maternal, newborn, and child health services during the pandemic, even as India saw a spike in COVID-19 cases in the spring and summer of 2021. To replicate and sustain the success of this program, improve efficiency, and sustain infection prevention readiness, MOMENTUM recommends the following actions:

- **Infection prevention and control committees should be operationalized at all facilities.** IPCCs play a key role in ensuring WASH/IPC standards are maintained at HCFs and in accelerating actions to be taken to address the gaps in standards. Initially, HCFs required intensive support to make the IPCCs functional and operational. In the initial phase of the program, MOMENTUM team members supported IPCC members in conducting monthly IPCC meetings, identifying the existing IPC and WASH issues at the facility, and preparing an action plan for mitigating IPC and WASH issues.
- **Empower and engage cleaning and paramedical staff to improve and sustain IPC/WASH standards.** Baseline assessments revealed that competency of cleaning and paramedical staff in key IPC procedures was particularly low and MOMENTUM programmatic experiences demonstrated a resistance of cleaning staff across HCFs to adhere to basic IPC measures. Future efforts should consider how to tailor IPC trainings for contracted cleaning staff and their schedules (e.g., multiple staff shifts). Formative research

should be conducted to identify and test behavior change strategies designed to increase hygiene, PPE use, and other IPC behaviors among cleaning staff.

- **Continue to support capacity strengthening efforts among local governments.** Training government officers as QI coaches to function as master trainers can institutionalize long-term solutions. These head trainers function as a hub for capacity strengthening of service providers based at peripheral health facilities and are critical to sustaining WASH/IPC standards.
- **Coordinate with local governments to co-finance solutions.** Through this program, MOMENTUM supported local governments to match existing government funding with specific HCF infrastructure needs, resulting in one-third of the infrastructure projects being funded through local governments. MOMENTUM encourages future programs to explore similar co-financing strategies with local governments at the start of program design in order to pool resources and extend program reach.
- **While the Chakr decontamination machines for N-95 masks were effective, MOMENTUM recommends further testing and stakeholder engagement before scaling their use.** Though the Chakr machines were effective during peak COVID times, sustainable options for long-term use should be explored. In addition to mistrust of the machines among staff, other barriers included generating sufficient electric power, space, and staff availability to use the machines.

Attribution

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