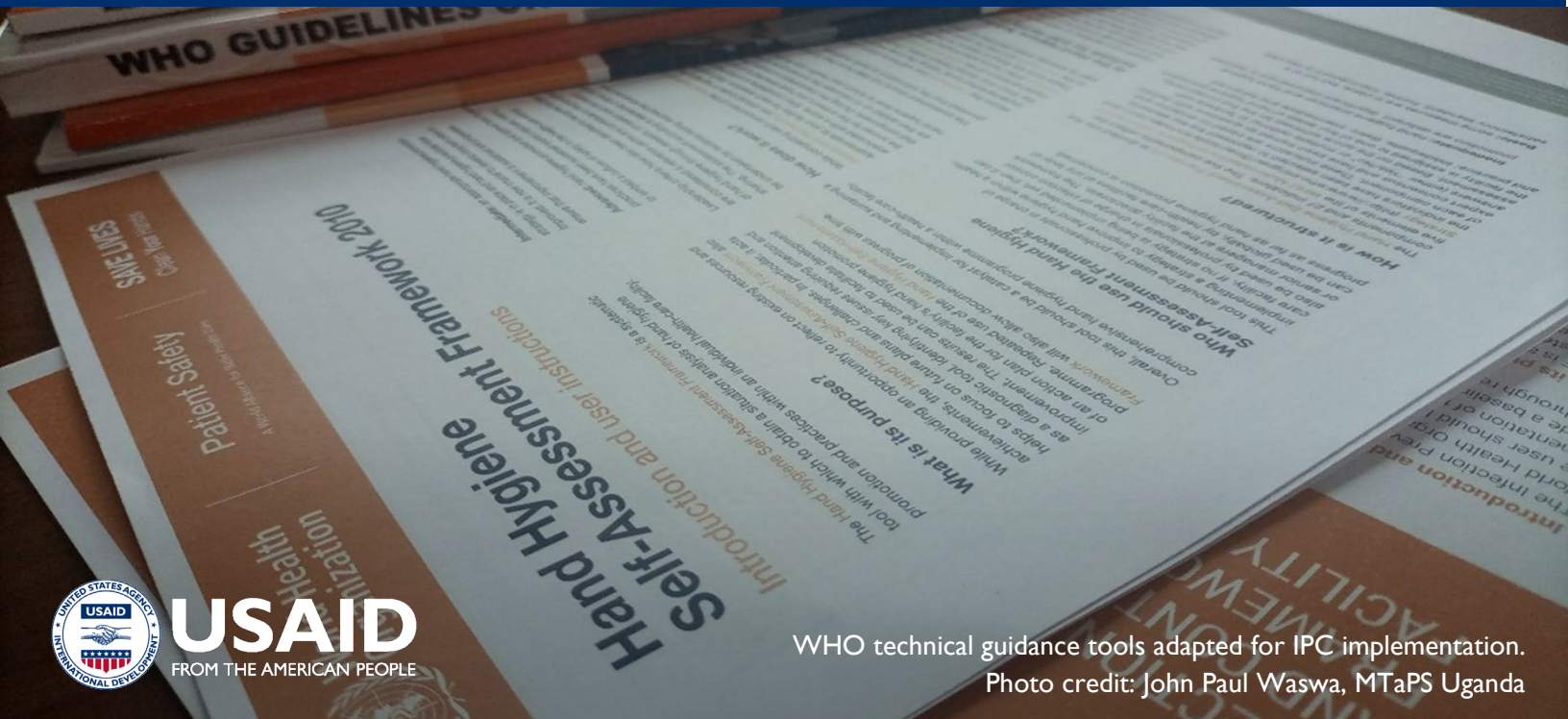


USAID MEDICINES, TECHNOLOGIES, AND PHARMACEUTICAL SERVICES (MTAPS) PROGRAM

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WHO technical guidance tools adapted for IPC implementation.
Photo credit: John Paul Waswa, MTaPS Uganda

Lessons Learned from the Implementation of Infection Prevention and Control Programs in Uganda

Technical Brief | May 2023

Successful approaches for strengthening IPC capacity at the national and facility levels

Background

The US Agency for International Development (USAID) Medicines, Technologies, and Pharmaceutical Services (MTaPS) Program uses a systems-strengthening approach to support the government of Uganda to improve infection prevention and control (IPC), antimicrobial stewardship (AMS) and multisectoral coordination. MTAps' efforts to control antimicrobial

resistance (AMR) are guided by evidence-based international tools, including the World Health Organization (WHO) Joint External Evaluation (JEE) tool (version 2.0, 2018) and the 2019 Benchmarks for International Health Regulations (IHR) Capacities.¹

The WHO Global Action Plan on AMR, strategic objective 3, stipulates that countries have robust IPC systems to reduce transmission of infections as one of

¹ World Health Organization. (2017). Joint external evaluation of IHR core capacities of the Republic of Uganda: mission report: June 26–30, 2017. World Health Organization. <https://apps.who.int/iris/handle/10665/259164>. License: CC BY-NC-SA 3.0 IGO.

the measures of combatting AMR.² This is mirrored in the Uganda National Action Plan for Antimicrobial Resistance 2018–2023 (NAP-AMR) where IPC is under the strategic objective 2 (improving prevention, detection, and control of infectious agents).³ To contribute to the implementation of this strategic objective, MTaPS has supported strengthening capacity for IPC practices in Uganda at the national and subnational levels.

Problem Statement

Uganda scored capacity level 3 for IPC during the 2017 JEE assessment, indicating that the country’s capacity was at the developed level. However, the country still required support for critical WHO IHR benchmark actions related to levels 2 and 3, and to move toward the demonstrated capacity level in line with the Global Health Security Agenda (GHSA). Baseline assessments conducted by MTaPS in 2021 in 13 supported health facilities assessed the IPC program core components, hand hygiene multimodal strategies, and knowledge on hand hygiene using standard WHO tools.⁴ The average score on the Infection Prevention and Control Assessment Framework (IPCAF) was 476/800 (intermediate level), with some facilities scoring as low as 229.5 (basic level). The average Hand Hygiene Self-Assessment Framework (HHSAF) score was 234.4/500 (basic level) with some facilities scoring as low as 165. Knowledge of hand hygiene and health care–acquired infections was limited among the 130 health care workers (HCWs) surveyed, and only 68% had received formal training on hand hygiene in the past 3 years. Other challenges identified in the assessment included limited funds to support IPC implementation, lack of key IPC guidelines, and lack of a functional facility-level committee to implement the IPC program.

Technical Approach

INTERVENTION

At the national level, MTaPS’ activities to strengthen IPC are guided by the country’s NAP-AMR, One Health Strategy, the WHO JEE 2.0 tool (2018), and the WHO Benchmarks for IHR Capacities (2019). These tools are designed to help countries identify and implement recommended actions to make progress in key GHSA technical areas, including IPC. The JEE and WHO benchmarks categorize countries into 5 capacity levels ranging from 1 (no capacity) to 5 (sustainable capacity). To support technical implementation and achievement of the WHO IPC benchmarks, MTaPS relies on WHO IPC-related evidence-based guidance and tools.

At the health facility level, MTaPS adapted the WHO approach for IPC implementation and hand hygiene (HH) using the multimodal strategy shown in figure 1.

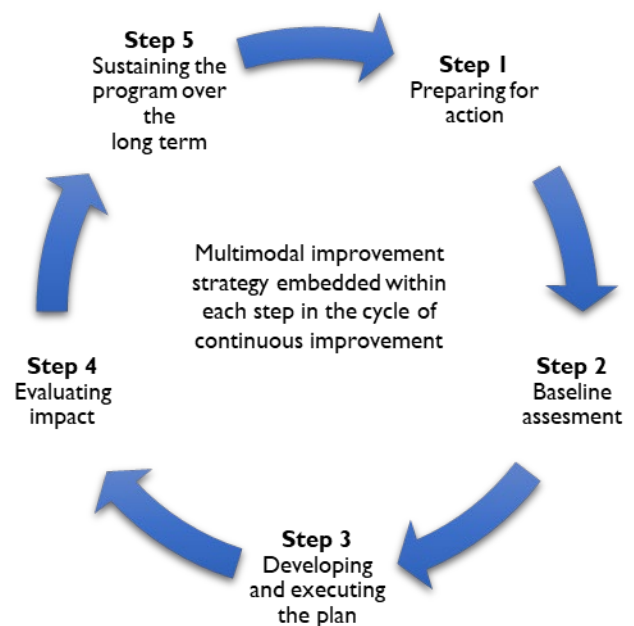


Figure 1. WHO IPC/HH implementation approach

From: Minimum requirements for infection prevention and control. Geneva: World Health Organization; 2019.

² World Health Organization (2015). Global action plan on antimicrobial resistance. World Health Organization. <https://www.who.int/publications/i/item/9789241509763>.

³ Uganda National Action Plan for Antimicrobial Resistance 2018–2023. https://www.cphl.go.ug/sites/default/files/2020-02/Uganda%20National%20Action%20Plan%20for%20Antimicrobial%20Resistance%202018-%202023-compressed_0.pdf.

⁴These include the WHO Infection Prevention and Control Assessment Framework (IPCAF) and Hand Hygiene Self-Assessment Framework (HHSAF): <https://www.who.int/publications/i/item/WHO-HIS-SDS-2018.9>; [https://cdn.who.int/media/docs/default-source/integrated-health-services-\(ihs\)/hand-hygiene/monitoring/hhsa-framework-october-2010.pdf?sfvrsn=41ba0450_6](https://cdn.who.int/media/docs/default-source/integrated-health-services-(ihs)/hand-hygiene/monitoring/hhsa-framework-october-2010.pdf?sfvrsn=41ba0450_6).



Feedback session on IPC/HH assessments in Hoima Regional Referral Hospital, Uganda. Photo credit: John Paul Waswa, MTaPS

MTaPS' approach encompassed conducting baseline assessments, using the results to conduct a root cause analysis of gaps, drafting continuous quality improvement (CQI) plans with facilities informed by the assessments, routine monitoring and data collection to assess progress and identify bottlenecks, routine mentorships, and supportive supervision. MTAps also strengthened the capacity of other implementing partners to adopt and use tested successful approaches to support sustainability.

STAKEHOLDER ENGAGEMENT

From the outset, MTAps has worked closely with the Ministry of Health, the Ministry of Agriculture, Animal Industry, and Fisheries, the National One Health platform, the National AMR subcommittee, and the Protestant and Catholic Medical Bureaus, which manage some of the implementing facilities, to support their involvement and ensure ownership. MTAps also collaborated with other implementing partners, specifically those implementing the USAID/US President's Emergency Plan for AIDS Relief (PEPFAR)-funded Regional Health Integration to Enhance Services (RHITES) program to ensure cascading of best practices.

Implementation

MTaPS initially met with key stakeholders and the supported health facilities to introduce the program and the IPC/HH implementation approaches, to identify key beneficiaries, and to obtain buy-in and authorizations.

Following entry, MTAps worked with 13 facilities to identify members to establish IPC committees with program assistance. MTAps trained selected personnel on the use and application of the standard tools for IPC and HH assessments and distributed several key tools to ensure their familiarity with HCWs, as many workers were using the tools for the first time. Over time, MTAps adjusted the IPC committee membership to continually incorporate motivated IPC champions. Capacity strengthening of the teams involved knowledge transfer through theoretical and practical training activities. MTAps supported the teams to collect, enter, clean, and analyze the data, and to develop CQI plans based on the results.

MTaPS conducted monthly supervision and mentorship sessions which included short, targeted, frequent continuing medical education (CME) sessions, onsite and offsite training for HCWs, sharing related stories during trainings and CMEs, and instant feedback and meetings with the IPC teams and clinicians. Teams developed and applied a tool to monitor the progress of CQI plan implementation and customized several other standard tools to the local context. During program implementation, two facilities acted as models: Kiwoko Hospital for IPC and Lacor Hospital for AMS. To foster practical learning and exchange of skills and knowledge, MTAps organized a peer-to-peer learning activity where HCWs from all MTAps-supported facilities visited Lacor to observe practices at one of the best-performing facilities. Communication continued through online

group networks, enabling participants to share best practices and compare progress in a healthy competitive atmosphere. MTaPS employed a cascading mechanism where MTaPS trained key trainers, who in turn facilitated training for other trainers, who continue to cascade this knowledge.

Results and Achievements

These approaches have produced results and improvements in 7 MTaPS-supported facilities (figure 2), specifically in the IPC core components, hand hygiene strategies, and hand hygiene knowledge among health workers in these facilities. Kiwoko Hospital had the highest overall improvement, and the most improvement in the IPC core components; Naggalama hospital demonstrated the most improvement in the hand hygiene multimodal strategies; and Kumi Hospital showed the highest improvement in health worker knowledge on hand hygiene. Overall, median scores for IPC, hand hygiene, and HH knowledge increased from baseline to endline assessment (table 1). The most significant increase was seen in the HHSAF score, which increased from 252.5 at baseline to 350 at endline.

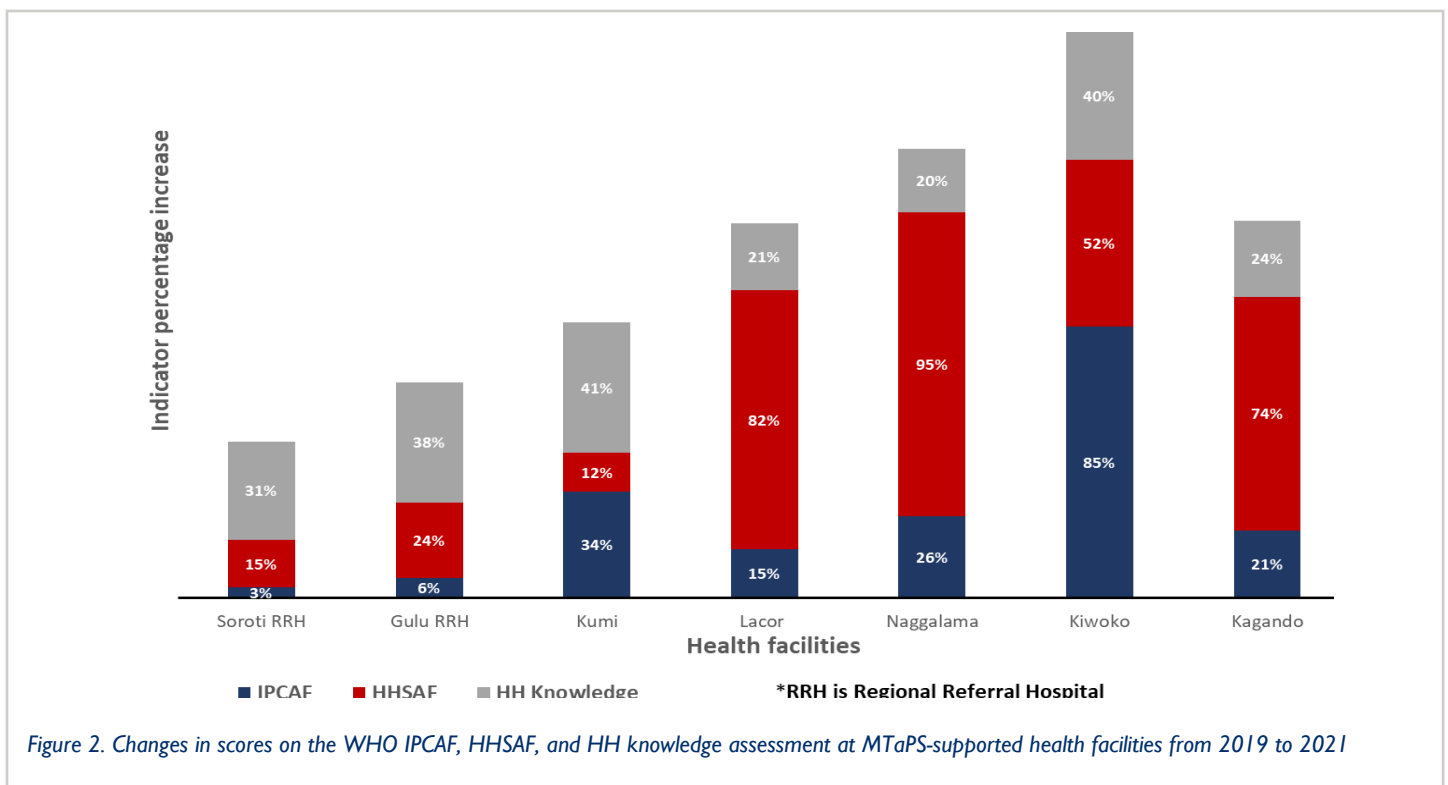
Table 1. Median and interquartile ranges (IQR) for IPCAF, HHSAF, and health worker HH knowledge assessments

	Baseline	Midline	Endline
IPCAF: Median (IQR)	547 (125.0)	570 (82.5)	635 (75.8)
HHSAF: Median (IQR)	252.5 (41.2)	335 (80.0)	350 (81.3)
Knowledge: Median (IQR)	42.5 (8.8)	-	74 (15.1)

Lessons Learned

Some of the major lessons learned while implementing the program at both national and subnational levels include the following:

- Leadership and commitment are critical to achieving success**, specifically, securing commitment from leaders from the ministry, relevant implementing partners, and the facilities (hospital directors and administrators). Notably, in the case of Kiwoko Hospital, where the facility administration was closely involved, most of the health workers showed interest in the activities and were part of the implementation, and the facility recorded the highest improvement. Additionally, Naggalama Hospital scored highest on the leadership score assessed as a core component of the IPCAF, achieved the highest IPCAF score in the final assessment, and scored the highest on improvement for HHSAF (figure 2) because of its facility leadership support for IPC best practices.



2. **Dedication among HCWs was a main driver in achieving success** in program implementation. Assigning roles to people with demonstrated interest (champions) rather than working with people who rank highly in facilities ensured early adoption and more sustained implementation. Initially, facilities where staff expressed more interest had more activities in their facility plans (e.g., CME, mentorships, assessments) and achieved better results.
3. **The low-dose, high-frequency model for strengthening capacity leads to increased knowledge** uptake, and short but routine knowledge transfer sessions such as CMEs may be more impactful. Through this kind of mentorship, participants engaged in extensive discussions on a single topic until they mastered it before moving on to the next issue.
4. **People relate to stories more than facts.** Sharing stories usually sparked meaningful discussions during the CMEs and mentorship visits and generated commitments to taking action.
5. **Fostering ownership leads to better progress and results.** Health facility staff have an understanding of their working context and can easily craft a plan to fit their context. When facility staff are involved in developing plans and tools, they take ownership of the program activities, progress, and results. During program implementation, MTaPS provided guidance to each facility to draft their own CQI plans. Facilities did their own assessments; strengths, weaknesses, opportunities, and threats analysis; needs assessment; and activity prioritization with respective deadlines. Facilities took it upon themselves to implement activities as per their plans.
6. **Early engagement with key stakeholders at the management level** paved the way for a smooth program implementation.
7. **Establishing a model facility or institution from which other facilities can learn** from and benchmark supports peer-to-peer learning. Project implementors can decide to initially focus on one facility or can select an already well-performing facility to act as a model.
8. **Creating a network between health facility staff to exchange knowledge** on how to improve IPC in their respective health facilities fosters ongoing communication and exchange.
9. **Use of WHO's assessment tools and other standard evidence-based tools can inspire confidence** and provide comparative data. However, many global tools have indicators that are not applicable or relevant to the context, and adaptation is needed to support local use. Program implementors can develop simple tools to use for a particular period of time and make modifications over time based on experience and feedback received over the course of implementation.
10. **Initial implementation focusing on a relatively smaller number of facilities** helped to refine tools and approaches before moving progressively to add other facilities. It is thus important to pilot a program with a small number of beneficiaries before rolling it out on a larger scale.
11. **The cascade mechanism is an implementation strategy that yields high efficiency.** This strategy enables reaching out to a large population in a relatively short period of time, and is particularly important in emergency response, including COVID-19 and the Ebola virus disease response.
12. **Ensuring adequate awareness and dissemination of the standard IPC tools** among implementing partners and facilities is an important aspect for successful IPC program implementation.
13. **Supporting facilities to develop a facility action plan and budget** has been critical in ensuring accountability and sustaining improvement in practices and structures. The action plan provides an internal benchmark for keeping track and informing budgeting.

Pathway to Sustainability

MTaPS has shared approaches and lessons with the five USAID/PEPFAR-funded RHITES programs implementing IPC/water, sanitation, and hygiene (WASH) activities in their respective regions to cascade these best practices to other facilities. Additionally, MTaPS strengthened institutional and individual capacity in its supported health facilities to continue similar activities and approaches following the end of the project. Facility staff can support most aspects of program implementation and have been able to practice through mock sessions and other capacity-strengthening activities.

Conclusion

MTaPS' actions have moved the needle on the JEE-2 and the WHO IHR benchmarks for IPC, with a clear pathway for sustainable capacity strengthening and future pandemic preparedness. Tangible lessons include improved models for capacity strengthening, the importance of cascade mechanisms for implementation, and the need for strong networks and stakeholder buy-in on IPC. These lessons should be adopted by implementing partners and government ministries, departments, and agencies to ensure institutionalization of IPC for stronger health systems for both human and animal health.

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About USAID MTaPS:

The USAID Medicines, Technologies, and Pharmaceutical Services (MTaPS) Program (2018–2023) enables low- and middle-income countries to strengthen their pharmaceutical systems, which is pivotal to better health outcomes and higher-performing health systems. The program is implemented by a consortium of global and local partners, led by Management Sciences for Health (MSH), a global health nonprofit.

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