Assessment of IPC practices at Douala general hospital, September 2019. Photo credit: Alphonse Acho

Infection Prevention and Control Interventions in Targeted Health Facilities

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Background

Context

The Global Health Security Agenda (GHSA)—a global partnership of countries and organizations—was launched in 2014 with the aim to strengthen country, regional, and global capacity to prevent, detect, and respond to infectious disease threats. To meet requirements described in the World Health Organization (WHO) International Health Regulations (IHR) 2005, Cameroon became a GHSA participating country. In September 2017, Cameroon carried out an external evaluation of the IHR's 19 areas using the WHO Joint External Evaluation (JEE) tool. The outcomes of the evaluation serve as baseline metrics to measure progress in capacity building. The evaluation revealed that antimicrobial resistance (AMR) was one of the weakest technical areas for Cameroon, with the lowest score of 1 out of 5 for all four associated indicators, including the prevention and control of health care-associated infections (HCAIs). In 2018, the US Agency for International Development (USAID) Medicine, Technologies and Pharmaceutical Services (MTaPS) Program started supporting 10 countries, including Cameroon, to provide technical assistance to strengthen systems and practices that enhance infection prevention and control (IPC), among other areas.

Problem Statement/Challenge

AMR is one of the most serious threats to global health, food security, and international development. It can potentially cause up to 10 million deaths annually by 2050 and a cumulative loss of USD 100 trillion to the global economy.1 In resource-limited countries like Cameroon, specific factors exacerbate AMR, such as inadequate IPC capacity, and lead to a rise in HCAIs. HCAIs may stem from the indiscriminate use of antimicrobials and cause prolonged hospitalization. They also increase the financial burden on patients and health facilities. The 2017 JEE rated Cameroon at "no capacity" (score 1) for HCAI and IPC programs.

Stakeholder Engagement

MTaPS engaged national counterparts and other implementing partners (IPs) working in AMR through the planning, implementation, and monitoring and evaluation phases of activities. MTaPS supported the technical secretariat of the AMR multisectoral coordination committee; the IPC technical working group (TWG); other IPC departments, such as the Department of Health Promotion (DPS) and the Department of Care Organization and Health Technologies; and regional delegations of public health to implement and monitor IPC activities. MTaPS also collaborated with WHO and other USAID IPs (Infectious Disease Detection and Surveillance and Food and Agricultural Organization) to co-finance activities to synergize implementation efforts. MTaPS participated in activities when invited by national counterparts and supported the International Federation of the Red Cross (IFRC) to strengthen IPC in some Cameroon Red Cross health facilities. MTaPS participated in the monthly coordination meetings of USAID IPs, where reports of implemented activities were shared and upcoming activities announced. In September 2019, MTaPS and WHO supported the Ministry of Health (MOH) to carry out an assessment of IPC practices in 37 health facilities using the Infection Prevention and Control Assessment Framework (IPCAF) tool.

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Technical Approach

Strategic Approach/Process

MTaPS' support was guided by the MTaPS results framework in IPC. The results framework is informed by MTaPS' theory of change and premised on the USAID pharmaceutical systems strengthening (PSS) approach (figure 1).

[1] Tackling drug-resistant infections globally: Final report and recommendations, May 2016; p.12. Available at: https://amr-review.org/sites/default/files/160525_Final%20paper_with%20cover.pdf

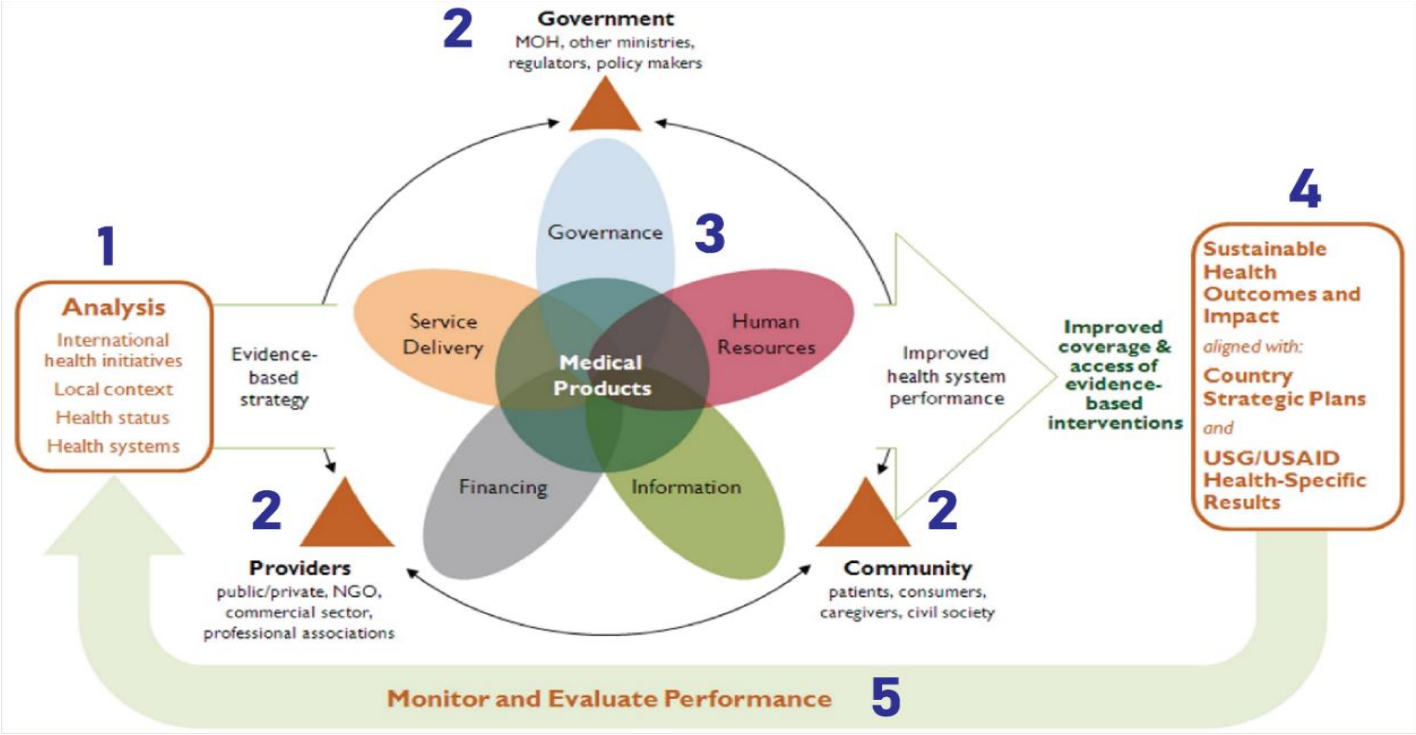

Figure 1: MTaPS' approach to strengthening pharmaceutical systems

PSS considers the interactions among the pharmaceutical subsystem and the health system building blocks when developing interventions and strategies. Based on the MTaPS objectives and using the WHO benchmark tool, MTaPS designed and implemented IPC activities to strengthen IPC governance, strengthen institutional and HR capacity to manage IPC, advance the availability and use of IPC-related information for decision making and the global learning agenda, optimize IPC financing, and promote implementation of IPC practices and services.

MTaPS' activities in IPC strengthening were as follows:

1. **Baseline assessment of IPC practices in 37 health facilities in four regions in Cameroon**
   MTaPS started by collaborating with WHO to support national counterparts to assess IPC practices at the national level and in 37 health facilities in four regions using the Infection Prevention and Control Assessment Tool 2 and IPCAF tool, respectively. Health facilities were selected from all levels of the health system pyramid in these regions and from the private and public sectors.[2] Although WHO released the IPCAF tool in 2018 to help health facilities improve their IPC status, none of the facilities surveyed had used the tool. The assessment helped MTaPS understand the local context, support health facilities to design activities based on evidence, and define process indicators for continuous quality improvement (CQI).

2. **Support national counterparts to develop IPC training curricula**
   A gap identified by the IPC assessment was the absence of an IPC training curriculum. MTaPS supported the IPC TWG, the DPS, and other stakeholders to develop IPC training modules based on WHO IPC core components, a trainer's guide, and a participant's manual. WHO modules on advanced leadership and management of an IPC program were adapted to complement the training of IPC committee members. The modules were transformed into eLearning modules to complement

[2] Cameroon health system pyramid: https://www.minsante.cm/site/sites/default/files/National%20Health%20Development%20Plan%202016-2020.Cameroon..pdf

face-to-face training of preservice and in-service staff.

3. **Training of trainers on IPC**
   Another gap was the limited number of health care workers (HCWs) trained on IPC in health facilities. MTaPS supported the training of 25 master trainers (11 female; 14 male) on IPC as a first step to strengthen HCW capacity. Master trainers comprised staff from the central, regional, and health facility levels. The trainers were instrumental in building the capacity of HCWs and carrying out onsite supervision of IPC practices in health facilities.

4. **Establishment of IPC committees in health facilities**
   To strengthen institutional and human resource capacity to manage IPC in health facilities, MTaPS supported the DPS to establish IPC committees in six of the 38 health facilities by briefing them on:

   - Designating a facility IPC champion (focal person)
   - Formalizing the IPC committees via a signed service note and terms of reference
   - Training IPC champions
   - Training IPC committee members
   - Supporting the drafting of a one-year IPC action/improvement plan in each health facility based on IPCAF assessment results

   After formalizing the IPC committees, MTaPS held a two-day onsite training for committee members. Sixty participants (20 female; 40 male) from 6 IPC committees (10 per health facility) were trained in IPC and leadership and management of an IPC program in the health facility. After the training, MTaPS supported the development of facility IPC action plans to start the CQI process. One year later, MTaPS supported the DPS to assess the effects of the training and CQI; identify lessons learned; and scale up this activity in six additional health facilities, for a total of 12 facilities.

5. **Development of national IPC guidelines**
   To improve IPC practices and services in health facilities, MTaPS supported the MOH to develop national IPC guidelines. MTaPS supported the printing of the guidelines and the dissemination of hard and electronic copies to the 12 targeted health facilities and others.

6. **Continuous quality improvement**
   MTaPS designed a CQI process using the Plan-Do-Study-Act (PDSA) cycle. Given that Cameroon is a developing country with limited resources, MTaPS focused on improving no-cost and low-cost IPC practices in the CQI process. MTaPS used a WhatsApp forum to regularly encourage the IPC committees. Onsite supervision was organized to identify implementation challenges and find ways to improve. During onsite supervision, facilitators worked with IPC champions to assess IPC activities using the IPCAF questionnaire. The WHO hand hygiene self-assessment framework questionnaire was used to evaluate hand hygiene practices. This was followed by a working session with the IPC committees to ascertain the level of implementation of activities in the IPC action plans. During these sessions, implementation challenges were identified using the Fishbone method, and solutions were sought.[3] A restitution session with the leadership of the health facilities followed, during which facilitators advocated for funds to continue supporting IPC activities.

[3] Fishbone method: https://www.cms.gov/medicare/provider-enrollment-and-certification/qapi/downloads/fishbonerevised.pdf

Results and Achievements

MTaPS has supported Cameroon to achieve three IHR benchmark actions in capacity level 2, four in level 3, and two in level 4. MTaPS-supported health facilities progressed in their IPC status compared to their baseline IPCAF scores using the WHO IPC capacity levels: inadequate (0–200), basic (201–400), intermediate (401–600), and advanced (601–800).

Table 1: IPCAF follow-up scores compared to baseline

No	Health facility	Baseline score /800	Baseline status	Repeat score (June 2021) /800	Repeat status
1	Yaounde Jamot Hospital	140 *(Sept 2019)*	Inadequate	427	Intermediate
2	Obala district hospital	273 *(March 2021)*	Basic	456	Intermediate
3	Ebolowa regional hospital	405 *(Sept 2019)*	Intermediate	437	Intermediate
4	Sangmelima reference hospital	360 *(March 2021)*	Basic	512	Intermediate
5	Bafoussam regional hospital	343 *(Sept 2021)*	Basic	506	Intermediate
6	Mbouda district hospital	408 *(March 2021)*	Intermediate	522	Intermediate
7	Foumbot district hospital	175 *(Sept 2019)*	Inadequate	528	Intermediate
8	Bangangte district hospital	303 *(March 2021)*	Basic	505	Intermediate
9	Edea regional hospital annex	237 *(Sept 2019)*	Basic	519	Intermediate
10	Douala general hospital	368 *(Sept 2019)*	Basic	515	Intermediate
11	Bonassama district hospital	360 *(Sept 2019)*	Basic	705	Advanced
12	Nkongsamba regional hospital	238 *(March 2021)*	Basic	491	Intermediate

Of the 12 health facilities, 11 progressed to the intermediate level while Bonassama district hospital progressed to the advanced level. All facilities now have a functional IPC program with functional core components except Douala general hospital, whose IPC committee has not met since it was established. Most health facilities adopted the multimodal strategy to improve IPC practices and improved their water, sanitation, and hygiene and waste management. Bonassama district hospital now has a functional incinerator, while Mbouda and Foumbot district hospitals have dug waste disposal pits to manage waste. Edea regional and Douala general hospitals contracted waste management agencies to handle their waste elimination.

Application

Major lessons learned from MTaPS' support that could be applicable to other projects are:

- IPC committees are instrumental in improving IPC practices in health facilities
- Identify focal persons passionate about IPC to champion IPC improvements
- Engaging and training health facility management on leadership and management of an IPC program contributes to buy-in and success of an IPC program
- Focusing initially on low-hanging fruit (no-cost and low-cost activities) encourages ownership and contributes to rapidly improving IPC status and sustainability
- Applying the PDSA cycle with the WHO multimodal strategy is key to improving IPC status
- Putting national counterparts at the center of the activity for stewardship promotes ownership and sustainability of the activity

Pathway to Sustainability

MTaPS transferred technical expertise and tools to government counterparts, developed training curricula and an eLearning platform to complement face-to-face trainings, and established a pool of IPC master trainers to cascade training to other health facilities. The early results of these activities contributed to the MOH designating an IPC national focal person and instructing all health facilities to set up IPC committees and to the IFRC's invitation for MTaPS to facilitate a training of

trainers of 30 (18 female; 12 male) staff from Cameroon Red Cross health facilities to initiate IPC consciousness in these facilities.

Recommendations and Way Forward

Recommendations to further enhance IPC capacity are to:

- Use the PDSA cycle alongside the WHO multimodal strategy to design a CQI program to improve IPC interventions in the health facility
- Establish IPC committees with clear terms of references and action plans with clearly defined indicators to improve IPC status
- Use the Fishbone method to identify implementation challenges and adapt strategy
- Institutionalize the use of WHO assessment tools to measure progress

References

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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.