# TECHNICAL GUIDE TO IMPLEMENTING FACILITY-LEVEL COVID-19 INFECTION PREVENTION AND CONTROL ACTIVITIES IN MTaPS PROGRAM COUNTRIES

BACKGROUND

On January 30, 2020, WHO declared the outbreak of the COVID-19 a public health emergency of international concern (PHEIC)[1] and issued temporary recommendations under international health regulations (IHRs). USAID assigned MTaPS to reinforce infection prevention and control (IPC) systems in some USAID focus countries and to help facilities develop or update and implement emergency preparedness, response, and mitigation plans commensurate with the magnitude of the global threat. This pandemic presented an opportunity for Global Health Security Agency (GHSA) countries to test the responsiveness of the IPC systems, the strengthening of which USAID has supported, to respond to PHEIC. During the response, countries are expected to identify weaknesses and gaps, and to continue to work to ensure that national and facility level systems are more prepared and responsive.
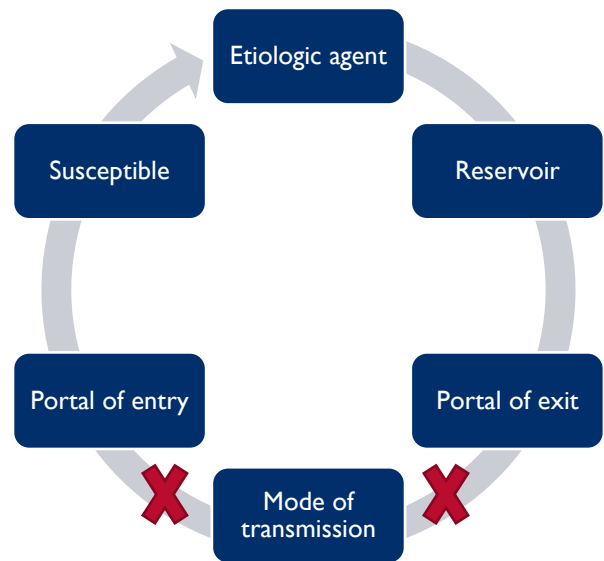
Source: Bioseal. The Chain of Infection

IPC is the bedrock of the fight against COVID-19. The goal of IPC interventions is to cut the chain of infection transmission, protect health care workers (HCWs), and prevent the health system from being overwhelmed by the weight of the pandemic and collapsing. IPC targets the two points marked by red X on the diagram.

MTaPS, under the USAID GHSA, has been supporting several USAID-focus countries to strengthen national capacities in IPC. This work included an assessment of the effectiveness of the WHO core components of IPC programming at the national and facility levels. The role of MTaPS has been to strengthen the capacity of national health systems to respond to infectious public health threats without unnecessarily exposing HCWs, patients, and visitors to infectious risks.

PURPOSE OF THIS IMPLEMENTATION GUIDE

This document is developed to guide facility-level IPC interventions during the COVID-19 response. Most of the IPC interventions during the COVID-19 response circle around training and sensitization. However, it is

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[1] Statement on the second meeting of the International Health Regulations (2005) Emergency Committee regarding the outbreak of novel coronavirus (2019-nCoV). Accessed at https://www.who.int/news-room/detail/30-01-2020-statement-on-the-second-meeting-of-the-international-health-regulations-(2005)-emergency-committee-regarding-the-outbreak-of-novel-coronavirus-(2019-ncov)

necessary to go beyond training to continuously build the competencies of HCW and affect real-time behavior change by supporting HCWs in their quest to consistently and sustainably comply with standard and additional IPC precautions. This miniguide has practical tips on how to set up and monitoring facility-level IPC interventions. It is useful for HCWs, facility managers, district- and high-level support structures, and other entities providing technical assistance to health facilities to organize COVID-19 response activities.

MTAPS OVERALL APPROACH TO STRENGTHENING COVID-19 IPC SYSTEMS

MTaPS' work builds on the WHO approach of strengthening the six national and eight facility-level core components of IPC programming. Even though its COVID-19 IPC work is centered on the health facility, MTaPS ensures that all work is anchored on strong national and intermediate oversight structures. Thus, MTaPS takes the following stepwise approach.

Step 1. Review, identify, and prioritize gaps in approaches, strategies, and tools at the national level. This enables MTaPS to identify any inadequacies in the national IPC response strategy and structures that need to be strengthened. At this level, there is need to ensure that guidelines, SOPs, sensitization and training materials are adequately aligned with the evidence-based guidance issued at the international level (WHO, US Centers for Disease Control and Prevention [CDC]). MTaPS supports the regular and frequent review and update of these tools, given the rapidly changing evidence on the SARS CoV2 and its evolution and impacts.

Step 2. Support the development of a facility IPC emergency response plan with specific interventions to address gaps. In addition to training all HCWs and support staff within the facility, MTaPS supports establishing or strengthening the facility's IPC committee or building champions around the master trainers at the facility to implement IPC interventions. Facility IPC leadership, either by a committee or a champion, is necessary for implementing the full package of IPC interventions at the health facility. This package includes implementing training, screening, and triage; strengthening standard and additional precautions; ensuring availability of personal protective equipment (PPE); appropriately managing waste and fatalities; and managing surge capacity for new cases and fatalities.[2] This work builds on ongoing IPC program structures and activities in facilities to strengthen their capacities to respond effectively to outbreaks, epidemics, and pandemics.

Step 3. Support development and implementation of a training and health worker behavior change strategy. MTaPS ensures that the training strategy is blended and flexible enough to continue face-to-face HCW training when possible, but, when there is a shut down and personnel cannot travel, remote training is possible using videoconferencing tools and technologies (Zoom, WebEx, Google hangout etc.) MTaPS has also developed eLearning modules that can be dispensed through Moodle or other online training platforms. This provides HCWs the opportunity to plan time and schedules to log on and take courses that will have the least impact on their daily work.

Once the training package is developed, MTaPS supports the training of master trainers. Given the real possibility that the country can eventually get shut down and the fact that MTaPS work is centered around health facilities, master trainers necessarily include two or three staff from each major health facility involved in patient care (case management, isolation, and quarantine). Master trainers also include national- and intermediate-level trainers who will continue to provide onsite or remote training to facility-level trainers.

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[2] MTaPS training approaches and packages can be found here: https://sites.google.com/mtapsprogram.org/covid19hub/training-courses-and-webinars

Step 4. Support implementation of a mechanism to monitor health care facility readiness and compliance (use the WHO scorecard). Once emergency response operations and IPC standards are established on the basis of the initial rapid assessment, continuous monitoring and reporting of compliance are needed. The goal of monitoring is to raise or maintain the facility in the green zone on the scorecard by quickly identifying and communicating gaps and inherent risks in implementation of standards. It is advised that the same tool that was used at baseline to observe and record be used to monitor the trend in compliance. Monitoring should be done as frequently as possible (weekly) during the emergency response. It should ideally be conducted by the internal IPC structures, such as the IPC committee or trained champions with remote or onsite support from the consultants or MOH national and intermediate focal points. Set up a system to accurately report findings and facility score and to provide feedback with recommended corrective actions to facility management.

Step 5. Support ongoing mentoring to facility staff to regularly assess and score performances and address gaps with respect to compliance with national and international standards and in all aspects of facility preparedness. During this phase, the focus is on gaps and weak areas revealed by periodic rapid assessments. MTaPS supports the facilities' IPC committees or champions to develop and implement specific

GENERAL TOTAL HEALTH FACILITY PERFORMANCE SCORE			FOLLOW-UP RECOMMENDATION ACCORDING TO HEALTH FACILITY PERFORMANCE
Inadequate	<50%		Once per day
Intermediary	50-79%		2 or 3 times per week
Performant	>79%		Once per week

WHO Scorecard performance levels and recommended follow up frequency

interventions to address the identified gaps. Short-term reassessments and continuous quality improvement cycles should be used to continuously improve on compliance, as part of an overall facility IPC strengthening program.

This miniguide delves into more details on specific activities to be implemented in facilities that are designated to respond to COVID-19 (case management, isolation, and quarantine centers). However, MTaPS also works to prepare health facilities that have not been designated but that are likely to receive and refer COVID-19 suspected patients. This miniguide has references to important tools that support each component of facility-level interventions.

FACILITY-LEVEL IPC INTERVENTIONS DURING COVID-19 RESPONSE

Objectives: The goal of IPC interventions is to cut the chain of transmission of SARS CoV2. MTaPS focuses on three key objectives when implementing IPC interventions in a health facility:

- Protect HCWs from SARS CoV2 infection circulating within the health facility

- Prevent HCWs, visitors, and patients from spreading SARS Cov2 from the facility into the community

- Prevent HCWs, visitors, and patients with other pathologies from inadvertently conveying SARS CoV2 into the health facility from the community

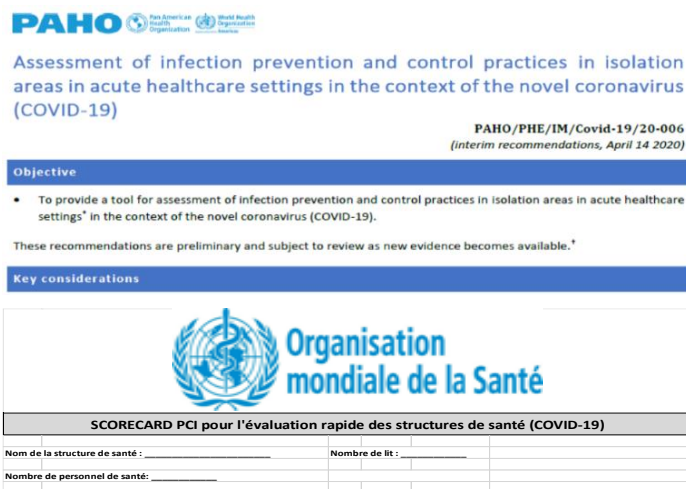# CHECKLIST OF MAJOR IPC ACTIVITIES AT THE FACILITY LEVEL

The following interventions, if appropriately implemented, have the potential enable a health facility to achieve the above stated objectives. Hence, MTaPS' role is to support each targeted facility to develop, establish, and sustain these interventions.

A. Developing facility-level interventions

1. Conduct a baseline facility rapid assessment

Activities at the facility level must start with a rapid assessment of the facility's readiness to respond to and mitigate the impact of COVID-19 on facility staff, the facility's ability to continue to provide services in particular, and the health system in general. Examples of tools that can be adapted and used for this activity include:

- WHO–PAHO: Assessment of infection prevention and control practices in isolation areas in acute health care settings in the context of the novel coronavirus (COVID-19)[3]

- WHO–AFRO: IPC scorecard for the rapid evaluation of health facilities (COVID-19)[4]; this tool has a scoring system that classifies facilities into three categories with color codes

- CDC: Infection Prevention and Control Assessment Tool for Nursing Homes Preparing for COVID-19[5]

- CDC: Coronavirus Disease 2019 (COVID-19) Outpatient Dialysis Facility Preparedness Assessment Tool[6]

WHO COVID-19 IPC assessment tools

2. Facilitate training of facility workers

After the rapid assessment, the next step is to quickly develop an intervention plan to address gaps, including a training plan. Then pivot to training HCWs, which is the foundation of the IPC emergency response. Within the context of COVID-19, training HCWs (doctors, nurses, assistants, laboratory technicians, pharmacists, and pharmacy attendants) must go together with sensitizing non-health workers in the facility, including cleaners, waste handlers, and even administrative personnel, guards, and other support staff, each of whom plays a role in preventing the spread of the virus in the facility. Use the gaps and weaknesses revealed by the rapid assessment to

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[3] WHO–PAHO. Assessment of infection prevention and control practices in isolation areas in acute healthcare settings in the context of the novel coronavirus (COVID-19).
https://iris.paho.org/bitstream/handle/10665.2/52028/PAHOPHEIMCovid1920006_eng.pdf?sequence=1&isAllowed=y
[4] WHO – AFRO. IPC scorecard for the rapid evaluation of health facilities (COVID-19).
https://drive.google.com/file/d/1K9LY2jZMj3716GWxhYZO4BYVNeAoSWFj/view
[5] CDC. Infection Prevention and Control Assessment Tool for Nursing Homes Preparing for COVID-19.
https://www.cdc.gov/coronavirus/2019-ncov/downloads/hcp/assessment-tool-nursing-homes.pdf
[6] CDC. Coronavirus Disease 2019 (COVID-19) Outpatient Dialysis Facility Preparedness Assessment Tool.
https://www.cdc.gov/coronavirus/2019-ncov/downloads/COVID-19-outpatient-dialysis.pdf

target training and reinforce concepts. Training should be targeted to each cadre of workers and department in accordance with the key functions they perform and the risk level assessed.

3. Develop or review and update the facility emergency plan

Training should always include a presentation of the facility's emergency plan. If the plan has not been updated to respond to the current emergency, then that exercise must be conducted. This is to make sure that the facility plan is adequate and responsive to the context of COVID-19 and that it is understood by all and responsibilities are clear. This plan should be consensual and must establish clear lines of responsibility for implementation. Once adopted, it must be disseminated to all departments concerned with its implementation. CDC has provided a framework to guide this exercise. This framework has four components: being prepared; communicating with staff and patients; protecting the workplace; protecting patients.[7] The Lessons Learned Information Sharing also published a document that describes a framework for a facility four-phase mitigation, preparedness, response, and recovery plan[8] that can be adapted and used as a framework.

4. Review the supply chain system for PPEs and waste management and cleaning supplies

MTaPS has developed a tool for facility-level needs assessment and quantification of PPEs and supplies for both waste management and environmental cleaning.[9] It is important to put in place a viable system to manage stocks and avoid stock-out of supplies during the emergency response. WHO issued interim guidance on the rational use of PPE.[10] It is important to support the health facility in quantifying needs and rationally using PPEs. This exercise can be coupled with the training of pharmacy and management staff. (See the separate miniguide on health facility supplies management.)

B. Examples of technical areas to address with interventions

1. Set up screening and triage to isolate COVID-19 patients or patients with acute respiratory symptoms

Supporting health facilities in setting up screening and triage systems is a critical component of facilities' IPC interventions. Screening has a dual function: identify patients with respiratory symptoms and suspected cases of COVID-19 and triage and separate such cases from the mainstream of patients to avoid cross-contamination between patients. CDC has developed a detailed guidance on screening and triage of patients at intake.[11] L. Ulzii-Orshikh Luvsansharav shared practical tips in a presentation during the CDC global IPC webinar on operational considerations for triage. This presentation included illustrations of how to set up triage in a health facility with limited resources.[12]

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[7] CDC. Coronavirus Disease 2019 (COVID-19). Steps Healthcare Facilities Can Take Now to Prepare for COVID-19. https://www.cdc.gov/coronavirus/2019-ncov/hcp/steps-to-prepare.html
[8] LLIS. Emergency Management Programs for Healthcare Facilities: The Four Phases of Emergency Management.
[9] MTaPS. Quantification tool: Medicines and Supplies/Equipment for COVID-19 https://docs.google.com/spreadsheets/d/1DraGHjzp9vlU6yvzwOfM--e2tfqpsfDcuh7uTKrdBYA/edit?usp=sharing
[10] WHO. Rational use of personal protective equipment (PPE) for coronavirus disease (COVID-19) https://apps.who.int/iris/bitstream/handle/10665/331498/WHO-2019-nCoV-IPCPPE_use-2020.2-eng.pdf?sequence=1&isAllowed=y
[11] CDC. Coronavirus Disease 2019 (COVID-19). Standard Operating Procedure (SOP) for Triage of Suspected COVID-19 Patients in non-US Healthcare Settings: Early Identification and Prevention of Transmission during Triage. https://www.cdc.gov/coronavirus/2019-ncov/hcp/non-us-settings/sop-triage-prevent-transmission.html
[12] L. Ulzii-Orshikh Luvsansharav. Operational Considerations for Triage of Suspected COVID-19 Patients in non-US Healthcare Settings. CDC IPC Global Webinar Series. May 14, 2020. https://echo.unm.edu/doc/covid/Ulzii_16_Triage.pdf

2. Set up a system for HCW risk assessment, monitoring, and other staff safety considerations

Continuously assessing and mitigating infection risks among HCWs is an essential element of IPC. It is only through monitoring that risk levels are established and appropriate mitigation strategies developed. According to CDC, the objectives of monitoring are: a) allow for early identification of HCWs at high risk of exposure to COVID-19; b) reinforce the need for HCWs to self-monitor for fever and other symptoms and avoid work when ill; and c) limit introduction and spread of COVID-19 within health care facilities by HCWs. (See CDC guidelines on management of HCWs exposed to or with suspected or confirmed COVID-19[13] and on identification of HCWs and inpatients with suspected COVID-19 in non-US health care settings.[14] Also see the CDC HCW risk assessment tool[15] which can be adapted.)

3. Review hand hygiene and WASH capacity within the health care facility to respond to COVID-19

Hand hygiene is the bedrock of standard IPC precautions. It is necessary to ensure that the water and soap supply are regular in the health facility. In facilities where water and soap are not readily available or at particular care stations where there is now a water, sanitation, and hygiene (WASH) point, consider providing a regular supply of alcohol-based hand rubs. If the health facility has a well-equipped pharmacy, the facility should consider setting up its own system to manufacture alcohol-based hand rubs.[16] Given that hand hygiene is the foundation of all IPC, including in regular health care delivery, COVID-19 provides an opportunity to advocate for sustained commitment of the health facility to improved hand hygiene practices and WASH infrastructure.

4. Review environmental cleaning and disinfection in the context of COVID-19

Develop a plan to regularly clean high-touch surfaces. This plan should take into consideration available human and material resources. It is important for the facility to develop and disseminate a cleaning protocol, support the quantification of needed cleaning supplies, and ensure continuous monitoring of consumption and stocks of supplies to avoid stock-out. (Refer to MTaPS SOP on environmental cleaning.[17]) WHO just released a specific IPC guide on cleaning and disinfection of environmental surfaces in the context of COVID-19.[18] This document has a table to guide frequency of cleaning patient areas.

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[13] CDC. Coronavirus Disease 2019 (COVID-19). Interim Operational Considerations for Public Health Management of Healthcare Workers Exposed to or with Suspected or Confirmed COVID-19: non-U.S. Healthcare Settings. https://www.cdc.gov/coronavirus/2019-ncov/hcp/non-us-settings/public-health-management-hcw-exposed.html

[14] CDC. Coronavirus Disease 2019 (COVID-19). Operational Considerations for the Identification of Healthcare Workers and Inpatients with Suspected COVID-19 in non-US Healthcare Settings. https://www.cdc.gov/coronavirus/2019-ncov/hcp/non-us-settings/guidance-identify-hcw-patients.html

[15] CDC. Coronavirus Disease 2019 (COVID-19). Appendix 1: Risk Assessment for Healthcare Workers Exposed to Persons with COVID-19. https://www.cdc.gov/coronavirus/2019-ncov/downloads/appendix-1-hcw-risk-assessment-tool.pdf

[16] WHO. Guide to Local Production: WHO-recommended Handrub Formulations. https://www.who.int/gpsc/5may/Guide_to_Local_Production.pdf?ua=1

[17] MTaPS. Procedures for Disinfection of COVID-19 Isolation Ward Area Patients. https://mtapsprogram.org/sites/default/files/Procedure%20for%20Disinfection%20of%20COVID-19%20Isolation%20Ward%20Area_032720.pdf

[18] WHO. Cleaning and disinfection of environmental surfaces in the context of COVID-19. https://www.who.int/publications/i/item/cleaning-and-disinfection-of-environmental-surfaces-inthe-context-of-covid-19

Table 3. Health-care setting: Recommended frequency of cleaning of environmental surfaces, according to the patient areas with suspected or confirmed COVID-19 patients.

Patient area	Frequency [a]	Additional guidance
Screening/triage area	At least twice daily	• Focus on high-touch surfaces, then floors (last)
Inpatient rooms / cohort – occupied	At least twice daily, preferably three times daily, in particular for high-touch surfaces	• Focus on high-touch surfaces, starting with shared/common surfaces, then move to each patient bed; use new cloth for each bed if possible; then floors (last)
Inpatient rooms – unoccupied (terminal cleaning)	Upon discharge/transfer	• Low-touch surfaces, high-touch surfaces, floors (in that order); waste and linens removed, bed thoroughly cleaned and disinfected
Outpatient / ambulatory care rooms	After each patient visit (in particular for high-touch surfaces) and at least once daily terminal clean	• High-touch surfaces to be disinfected after each patient visit • Once daily low-touch surfaces, high-touch surfaces, floors (in that order); waste and linens removed, examination bed thoroughly cleaned and disinfected
Hallways / corridors	At least twice daily [b]	• High-touch surfaces including railings and equipment in hallways, then floors (last)
Patient bathrooms/ toilets	Private patient room toilet: at least twice daily Shared toilets: at least three times daily	• High-touch surfaces, including door handles, light switches, counters, faucets, then sink bowls, then toilets and finally floor (in that order) • Avoid sharing toilets between staff and patients

[a] Environmental surfaces should also be cleaned and disinfected whenever visibly soiled or if contaminated by a body fluid (e.g., blood); [b] Frequency can be once a day if hallways are not frequently used.

Source WHO Cleaning and disinfection of environmental surfaces in the context of COVID-19[18]

5. Strengthen systems to limit the introduction of SARS CoV2 into the health facility from the community

CDC has issued operational considerations for containing COVID-19 in non-US health care settings.[19] There are three key priorities in these considerations that must be addressed:

- Triaging patients upon initial encounter at a health care facility

- Limiting the entry of HCWs and visitors with suspected COVID-19

- Screening, identifying, and isolating inpatients with suspected COVID-19

CDC recommends three types of surveillance: passive, enhanced passive, or active. CDC guidelines for setting up the surveillance system are available.[16]

6. Strengthen the waste management system

Support the facility in assessing its waste management system and implementing interventions to make it responsive to the COVID-19 context. Waste segregation at the source, use of appropriate color-coded containers, transportation, treatment, and final disposal must be established. If the facility does not have an incinerator to treat infectious waste, arrange for offsite transportation by an accredited agency for treatment and

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[19] CDC. Coronavirus Disease 2019 (COVID-19). Operational Considerations for Containing COVID-19 in non-US Healthcare Settings. https://www.cdc.gov/coronavirus/2019-ncov/hcp/non-us-settings/index.html

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elimination or consider using pit burial. (See MTaPS disposal procedures for COVID-19-related medical waste.[20] In addition to WHO guidelines, refer to the European Commission guidelines on waste management in the context of the coronavirus crisis.[21])

7. Review and update post-mortem plan in context of COVID-19

One of the major challenges that facilities face is managing mass fatalities during an emergency response, such as the COVID-19 outbreak. It is important to develop a clear plan with clear responsibilities for handling dead bodies in the facility. (Refer to MTaPS SOPs for handling bodies of deceased suspected or confirmed COVID-19 patients.[22] In addition, refer to the considerations related to the safe handling of bodies with suspected or confirmed COVID-19 from the European CDC.[23])

ANNEX 1. ILLUSTRATIVE CHECKLIST FOR FACILITY COVID IPC ACTIONS COMPLETION

Activity	Completion status (check ✔)
• Review, identify, and prioritize gaps in approaches, strategies, and tools at the national level	⬤ Done ⬤ In progress ⬤ Not done
• Support the development of a facility IPC emergency response plan with specific interventions to address gaps	⬤ Done ⬤ In progress ⬤ Not done
• Support the development and implementation of a training and HCW behavior change strategy	⬤ Done ⬤ In progress ⬤ Not done
• Conduct a baseline facility rapid assessment	⬤ Done ⬤ In progress ⬤ Not done
• Support development or review and update of the facility emergency plan	⬤ Done ⬤ In progress ⬤ Not done
• Facilitate training of facility workers	⬤ Done ⬤ In progress ⬤ Not done
• Support the implementation of a mechanism to monitor health care facility readiness and compliance (use the WHO scorecard)	⬤ Done ⬤ In progress ⬤ Not done

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[20] MTaPS. Disposal Procedures for COVID-19-Related Medical Waste
https://mtapsprogram.org/sites/default/files/Procedure%20for%20Disposal%20of%20Medical%20Waste%20of%20COVID-19%20Isolation%20Ward%20Area_032720.pdf
[21] European Commission. Waste management in the context of the coronavirus crisis.
https://ec.europa.eu/info/sites/info/files/waste_management_guidance_dg-env.pdf
[22] MTaPS. Procedures for Handling Bodies of Deceased Suspected or Confirmed COVID-19 Patients.
https://mtapsprogram.org/sites/default/files/Procedures%20for%20Handling%20Bodies%20of%20Deceased%20Suspected%20or%20Confirmed%20Patients_032720.pdf
[23] European Centre for Disease Prevention and Control. Considerations related to the safe handling of bodies of deceased persons with suspected or confirmed COVID-19. https://www.ecdc.europa.eu/sites/default/files/documents/COVID-19-safe-handling-of-bodies-or-persons-dying-from-COVID19.pdf

Activity	Completion status (check ✅)
• Review the supply chain system for PPEs, waste management, and cleaning supplies	⭕ Done ⭕ In progress ⭕ Not done
• Set up screening and triage to isolate COVID-19 patients or patients with acute respiratory symptoms	⭕ Done ⭕ In progress ⭕ Not done
• Set up a system for HCW risk assessment, monitoring, and other staff safety considerations	⭕ Done ⭕ In progress ⭕ Not done
• Review hand hygiene and WASH capacity within the health care facility to respond to COVID-19	⭕ Done ⭕ In progress ⭕ Not done
• Review environmental cleaning and disinfection in the context of COVID-19	⭕ Done ⭕ In progress ⭕ Not done
• Strengthen systems to limit the introduction of SARS CoV2 into the health facility from the community	⭕ Done ⭕ In progress ⭕ Not done
• Strengthen the waste management system	⭕ Done ⭕ In progress ⭕ Not done
• Review and update post-mortem plan in the context of COVID-19	⭕ Done ⭕ In progress ⭕ Not done