



**MINISTRY OF HEALTH**

# Interim Infection Prevention and Control Recommendations for Coronavirus Disease 2019 (COVID-19) in Health Care Settings

Ministry of Health  
3-27-2020

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## ABBREVIATIONS AND ACRONYMS

ABHR	alcohol-based hand rub
ACH	Air Changes Per Hour
CBMWTF	Common Bio-medical Waste Treatment Facility
CDC-Kenya	Centers for Disease Control-Kenya
COPD	chronic obstructive pulmonary disease
COVID-19	Coronavirus disease 19
CPR	Cardiopulmonary Resuscitation
EU	European Union
HCW	Health Care Worker
IPC	Infection Prevention and Control
ITECH-Kenya	International Training and Education Center for Health, Kenya
MERS-CoV	Middle East Respiratory Syndrome coronavirus
MOH	Ministry of Health
MTaPS	Medicines, Technologies, and Pharmaceutical Services
NIOSH	US National Institute for Occupational Safety and Health
PPE	Personal Protective Equipment
SARS-CoV	Severe Acute Respiratory Syndrome Coronavirus
USAID	US Agency for International Development
WHO	World Health Organization

## FOREWORD

This interim guidance is intended for health care workers (HCWs), health care managers, and infection prevention and control (IPC) teams at the facility level, but it is also relevant for the national, county, and sub-county levels for planning. It is based on currently available information about COVID-19 and will be updated as information becomes available.

Although it is not possible to predict the future course of the outbreak, planning for a scenario in which many persons become ill and seek care at the same time is an important part of preparedness and can improve outcomes if an outbreak occurs. Therefore, preserving health care system functioning is paramount. It is critical for health care facilities to continue to provide care for all patients, irrespective of COVID-19 infection status, at the appropriate level (e.g., home-based care, outpatient, urgent care, emergency room, or hospitalization). Facilities may need to respond to a surge in patients requiring care. Concerted efforts will be required to mobilize all aspects of health care to reduce transmission of disease, direct people to the right level of care, and decrease the burden on the health care system.

Key concepts in this guidance will help:

- **Limit how germs enter the facility.** Cancel elective procedures, limit points of entry, manage visitors, screen patients for respiratory symptoms, encourage patient respiratory hygiene using alternatives to facemasks, (e.g., tissues to cover cough) and use telemedicine when possible.
- **Isolate symptomatic patients as soon as possible.** Set up separate, well-ventilated triage areas (may use tents), place patients with suspected or confirmed COVID-19 in private rooms with doors closed and private bathrooms (as possible), and prioritize airborne infection isolation rooms for patients undergoing aerosol-generating procedures.
- **Protect health care personnel.** Emphasize hand hygiene, install barriers to limit contact with patients at triage, cohort COVID-19 patients, limit the number of staff providing their care, prioritize respirators and airborne infection isolation rooms for aerosol-generating procedures, and optimize PPE use to extend supplies.



Dr. Patrick Amoth  
Ag. Director General for Health  
Ministry of Health

## ACKNOWLEDGEMENT

These interim IPC recommendations for health settings have been developed through the contributions of many individuals and institutions, such as the Centers for Disease Control-Kenya; ITECH; US Agency for International Development (USAID) Medicines, Technologies, and Pharmaceutical Services (MTaPS) Program; and WHO that are committed to ensuring that the transmission of COVID-19 to HCWs and the public within the health care setting is limited. The Ministry of Health (MOH) through the Directorate of Health Standards Quality Assurance and Regulations wishes to thank all the contributing authors led by the sub-committee on case management and IPC for the COVID-19 response for their expertise and time given to writing these guidelines.

A handwritten signature in blue ink, consisting of several overlapping loops and a long horizontal stroke.

Dr. Simon K. Kibias, OGW  
Ag. Director Directorate of Health Standards Quality Assurance and Regulations

## PREPARING YOUR HEALTH FACILITY FOR AN OUTBREAK OF COVID-19

### Actions to take now to prepare for an outbreak of COVID-19

1. Designate a time to meet with your staff to educate them on COVID-19 and what they may need to do to prepare.
2. Explore alternatives to face-to-face triage and visits. The following options can reduce unnecessary health care visits and prevent transmission of respiratory viruses in your facility:
  - Instruct patients to use available advice lines or call and speak to an office/clinic staff if they become ill with symptoms, such as fever, cough, or shortness of breath.
  - Reschedule routine clinics if possible.
  - Identify staff to conduct telephonic and telehealth interactions with patients where possible. Develop protocols so that staff can triage and assess patients quickly.
  - Determine algorithms to identify which patients can be managed by telephone and advised to stay home and which patients need to be sent for emergency care or come to your facility.
  - Instruct patients that, if they have respiratory symptoms, they should call before they leave home, so staff can be prepared to care for them when they arrive.
  - The telephone numbers for patients to call will be available and disseminated.
3. Plan to optimize your facility's supply of personal protective equipment (PPE) in the event of shortages. Identify flexible mechanisms to procure additional supplies when needed.
4. Prepare your facility to safely triage and manage patients with respiratory illnesses, including COVID-19.
  - Place visual alerts (signs, posters) at entrances and in strategic places providing instruction on hand hygiene, respiratory hygiene, and cough etiquette.
  - Ensure that supplies are available (tissues, waste receptacles, alcohol-based hand sanitizer).
  - Ensure that surgical masks are available at triage for patients with respiratory symptoms.
  - Create an area to spatially separate patients with respiratory symptoms. Ideally, patients should be >1 meter apart in waiting areas.

### Plan to Take the Following Actions if COVID-19 is Spreading in your Community

1. Work with national and county department of health and other local partners to understand the impact and spread of the outbreak in your area.
2. Designate staff who will be responsible for caring for suspected or known COVID-19 patients. Ensure they are trained on IPC recommendations for COVID-19 and proper use of PPE.
3. Monitor HCWs and ensure maintenance of essential health care facility staff and operations:
  - Ensure staff are aware of sick leave policies and are encouraged to stay home if they are ill with respiratory symptoms.
  - Be aware of work restrictions and monitoring based on staff exposure to COVID-19 patients.
  - Advise employees to check for any signs of illness before reporting to work each day and notify their supervisor if they become ill.
  - Do not require a health care provider's note for employees who are sick with respiratory symptoms before returning to work.
  - In settings of widespread transmission, your facility may consider screening staff for fever or respiratory symptoms before entering the facility.



- Make contingency plans for increased absenteeism caused by employee illness or illness in employees' family members that would require them to stay home. Planning for absenteeism could include extending hours, cross-training current employees, or hiring temporary employees.
4. When possible, manage mildly ill COVID-19 patients at home (see guidance on home care for COVID-19 patients with mild symptoms).
- Assess the patient's ability to engage in home monitoring, the ability for safe isolation at home, and the risk of transmission in the patient's home environment.
  - Caregivers and sick persons should have clear instructions regarding home care and when and how to access the health care system for face-to-face care or urgent/emergency conditions.
  - If possible, identify staff who can monitor those patients at home with daily check-ins by telephone, text, or other means.
  - Engage county department of health services, and community organizations to assist with support services (such as delivery of food, medication, and other goods) for those treated at home.

## Steps Health Care Facilities Can Take Now to Prepare for COVID-19

### BE PREPARED

- ✓ **Stay informed about the local COVID-19 situation**
- ✓ **Develop or review your facility's emergency plan.** A COVID-19 outbreak in your community could lead to staff absenteeism. Prepare alternative staffing plans to ensure as many of your facility's staff are available as possible.
- ✓ **Establish relationships with key health care and public health partners in your community.** Make sure you know about health care and public health emergency planning and response activities in your community. Learn about plans to manage patients, accept transfers, and share supplies.
- ✓ **Create an emergency contact list.** Develop and continuously update emergency contact lists for key partners and ensure that lists are accessible in key locations in your facility.
- ✓ **Communicate about COVID-19 with your staff.** Share information about what is currently known about COVID-19, the potential for surge, and your facility's preparedness plans.
- ✓ **Communicate about COVID-19 with your patients.** Provide updates about changes to your policies regarding appointments, providing non-urgent patient care by telephone, and visitors. Consider using your facility's website or social media pages to share updates.
- ✓ **Ensure your facility has an active IPC committee.** This committee should coordinate with the rapid response teams and the IPC coordinator at sub-county and county level.

### PROTECT YOUR WORKFORCE

- ✓ **Screen patients and visitors for symptoms** of acute respiratory illness (e.g., fever, cough, difficulty breathing) before entering your health care facility.
- ✓ **Ensure proper use of PPE** (see guidance on rational use of PPE).
- ✓ **Conduct an inventory of available PPE supplies.** Consider conducting an inventory of available PPE supplies. Explore strategies to rationalize use of PPE.
- ✓ **Encourage sick employees to stay home.**

## PROTECT YOUR PATIENTS

- ✓ **Stay up-to-date** on the best ways to manage COVID-19 patients.
- ✓ **Separate and fast track patients with respiratory symptoms** so they are not waiting among other patients seeking care. Identify a separate, well-ventilated space that allows waiting patients and visitors to be separated
- ✓ **Consider strategies to prevent patients who can be cared for at home from coming to your facility** potentially exposing themselves or others to potential infections, such as:
  - Using your telephone system to deliver messages to incoming callers about when to seek medical care at your facility, when to seek emergency care, and where to go for information about caring for a person with COVID at home
  - Adjusting your hours of operation to include telephone triage and follow-up of patients during a community outbreak
  - Leveraging telemedicine technologies and self-assessment tools

## RECOMMENDATIONS FOR OUTPATIENT CARE

The basic principles of IPC and standard precautions should be applied in all health care facilities, including outpatient care. For COVID-19, the following measures should be adopted:

- Triage and early recognition.
- Emphasize that patients with respiratory systems must use hand hygiene, respiratory hygiene, and surgical masks.
- Appropriate use of contact and droplet precautions for all suspected cases.
- Prioritize care of symptomatic patients.
- When symptomatic patients are required to wait, ensure that they have a separate waiting area.
- Educate patients and families about the early recognition of symptoms, basic precautions to be used, and which health care facility they should refer to.

## INPATIENT FACILITIES

- Reschedule elective surgeries as necessary.
- Shift elective urgent inpatient diagnostic and surgical procedures to outpatient settings, when feasible.
- Limit visitors to COVID-19 patients. Provide surgical mask for visitors if visit is inevitable.
- Plan for a surge of critically ill patients and identify additional space to care for these patients. Include options for:
  - Using alternate and separate spaces in the emergency room, ICUs, and other patient care areas to manage known or suspected COVID-19 patients
  - Separating known or suspected COVID-19 patients from other patients
  - Identifying dedicated staff to care for COVID-19 patients

## LONG-TERM CARE FACILITIES

- Limit visitors to the facility.
- Post visual alerts (signs, posters) at entrances and in strategic places to provide instructions on hand hygiene, respiratory hygiene, and cough etiquette.
- Ensure that supplies are available (tissues, waste receptacles, alcohol-based hand sanitizer).

- Take steps to prevent known or suspected COVID-19 patients from exposure to other patients.
- Limit the movement of COVID-19 patients (e.g., have them remain in their rooms).
- Identify dedicated staff to care for COVID-19 patients.
- Observe newly arriving patients/residents for development of respiratory symptoms.

## Principles of IPC strategies associated with health care for suspected COVID-19 infection

To achieve the highest level of effectiveness in the response to a COVID-19 outbreak using the strategies and practices recommended in this document, an IPC program with a dedicated and trained team, or at least an IPC focal point, should be in place and supported by national and facility senior management. In facilities where IPC is limited or nonexistent, it is critical to start by ensuring that at least minimum requirements for IPC are in place as soon as possible.

IPC strategies to prevent or limit transmission in health care settings include the following:

1. Ensuring **triage, early recognition**, and source control (isolating patients with suspected COVID infection)
2. Applying **standard precautions** for all patients
3. Implementing empiric **additional precautions** (droplet and contact and, whenever applicable, airborne precautions) for suspected cases of COVID-19 infection
4. Implementing **administrative controls**
5. Using **environmental and engineering** controls

### 1. Ensuring triage, early recognition, and source control

Clinical triage includes a system for assessing all patients to allow early recognition of possible COVID-19 infection and immediate isolation of patients with suspected COVID-19 infection in an area separate from other patients (source control).

To facilitate early identification of cases of suspected COVID-19 infection, health care facilities should:

- Encourage HCWs to have a high level of clinical suspicion;
- Establish a well-equipped triage station at the entrance of health care facility, supported by trained staff;
- Institute the use of screening according to the updated case definition and
- Post signs in public areas reminding symptomatic patients to alert HCWs
- Promote hand hygiene and respiratory hygiene as essential preventive measures

### 2. Applying standard precautions for all patients

Standard precautions include hand and respiratory hygiene, the use of appropriate PPE according to risk assessment, injection safety practices, safe waste management, proper linens, environmental cleaning and sterilization of patient-care equipment.

Ensure that the following respiratory hygiene measures are used:

- All patients cover their nose and mouth with a tissue or elbow when coughing or sneezing;
- Offer a surgical mask to patients with suspected COVID 19 infection while they are in waiting/public areas or in cohorting rooms;
- Perform hand hygiene after contact with respiratory secretions.

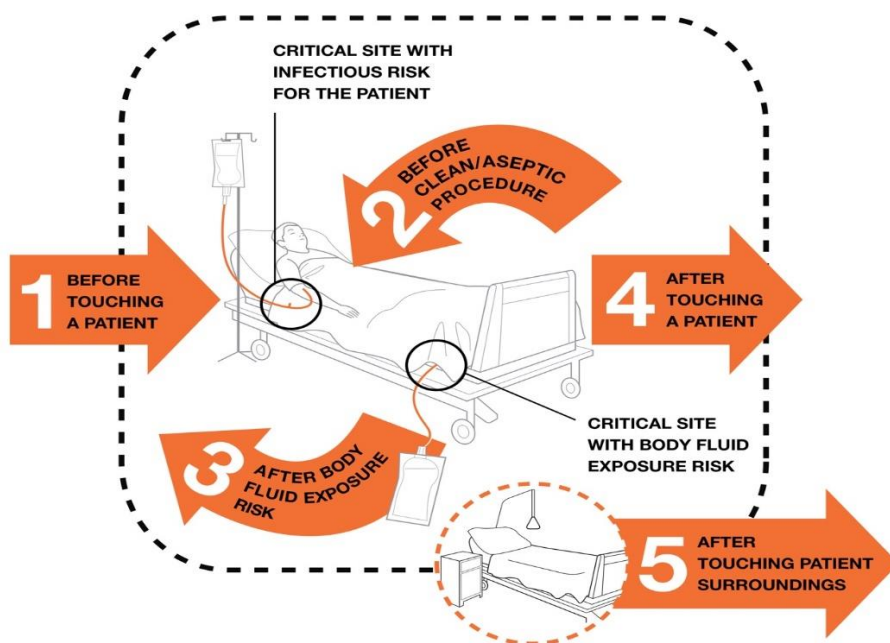
HCWs should apply the WHO's 5 Moments for Hand Hygiene approach before touching a patient, before any clean or aseptic procedure is performed, after exposure to body fluid, after touching a patient, and after touching a patient's surroundings.

- Hand hygiene includes either cleansing hands with an alcohol-based hand rub (ABHR) or with soap and running water;
- Alcohol-based hand rubs are preferred if hands are not visibly soiled;
- Wash hands with soap and water when they are visibly soiled.

HAND HYGIENE: WHY, HOW & WHEN?

## WHEN?

### YOUR 5 MOMENTS FOR HAND HYGIENE\*



\*NOTE: Hand hygiene must be performed in all indications described regardless of whether gloves are used or not.

<b>1</b>	<b>BEFORE TOUCHING A PATIENT</b>	<b>WHEN?</b>	Clean your hands before touching a patient when approaching him/her.
		<b>WHY?</b>	To protect the patient against harmful germs carried on your hands.
<b>2</b>	<b>BEFORE CLEAN/ASEPTIC PROCEDURE</b>	<b>WHEN?</b>	Clean your hands immediately before performing a clean/aseptic procedure.
		<b>WHY?</b>	To protect the patient against harmful germs, including the patient's own, from entering his/her body.
<b>3</b>	<b>AFTER BODY FLUID EXPOSURE RISK</b>	<b>WHEN?</b>	Clean your hands immediately after an exposure risk to body fluids (and after glove removal).
		<b>WHY?</b>	To protect yourself and the health-care environment from harmful patient germs.
<b>4</b>	<b>AFTER TOUCHING A PATIENT</b>	<b>WHEN?</b>	Clean your hands after touching a patient and her/his immediate surroundings, when leaving the patient's side.
		<b>WHY?</b>	To protect yourself and the health-care environment from harmful patient germs.
<b>5</b>	<b>AFTER TOUCHING PATIENT SURROUNDINGS</b>	<b>WHEN?</b>	Clean your hands after touching any object or furniture in the patient's immediate surroundings, when leaving – even if the patient has not been touched.
		<b>WHY?</b>	To protect yourself and the health-care environment from harmful patient germs.



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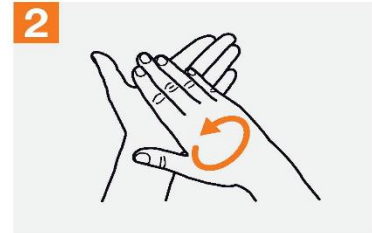
# How to Handrub?

**RUB HANDS FOR HAND HYGIENE! WASH HANDS WHEN VISIBLY SOILED**

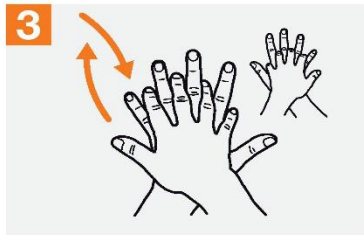
**🕒 Duration of the entire procedure: 20-30 seconds**



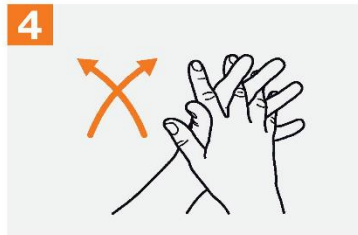
Apply a palmful of the product in a cupped hand, covering all surfaces;



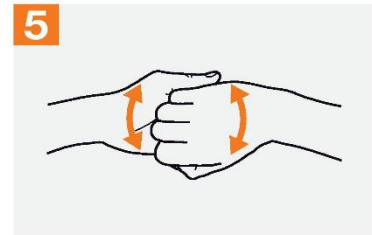
Rub hands palm to palm;



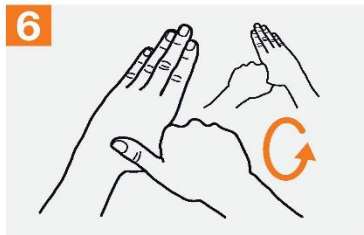
Right palm over left dorsum with interlaced fingers and vice versa;



Palm to palm with fingers interlaced;



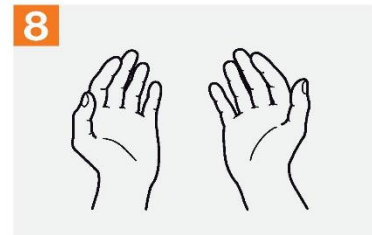
Backs of fingers to opposing palms with fingers interlocked;



Rotational rubbing of left thumb clasped in right palm and vice versa;



Rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa;



Once dry, your hands are safe.



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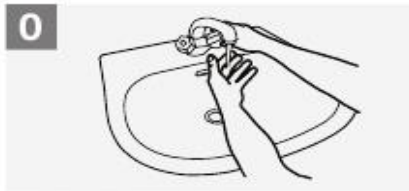
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# How to Handwash?

WASH HANDS WHEN VISIBLY SOILED! OTHERWISE, USE HANDRUB

 **Duration of the entire procedure: 40-60 seconds**



Wet hands with water;



Apply enough soap to cover all hand surfaces;



Rub hands palm to palm;



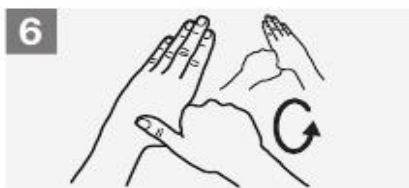
Right palm over left dorsum with interlaced fingers and vice versa;



Palm to palm with fingers interlaced;



Backs of fingers to opposing palms with fingers interlocked;



Rotational rubbing of left thumb clasped in right palm and vice versa;



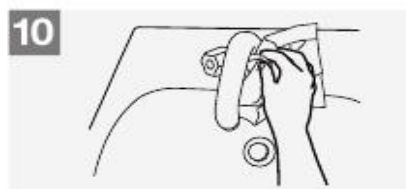
Rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa;



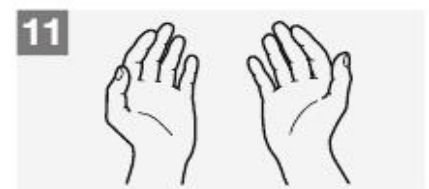
Rinse hands with water;



Dry hands thoroughly with a single use towel;



Use towel to turn off faucet;



Your hands are now safe.



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### 3. Rational Use of PPE

The rational, correct, and consistent use of PPE also helps to reduce the spread of pathogens. The use of PPE effectiveness strongly depends on adequate and regular supplies, adequate staff training, appropriate hand hygiene and specifically appropriate human behaviour.

It is important to ensure that environmental cleaning and disinfection procedures are followed consistently and correctly. Thoroughly cleaning environmental surfaces with water and detergent and applying commonly used hospital-level disinfectants (such as sodium hypochlorite) are effective and sufficient procedures. Medical devices and equipment, laundry, food service utensils and medical waste should be managed in accordance with safe routine procedures.

**SEQUENCE FOR PUTTING ON PERSONAL PROTECTIVE EQUIPMENT (PPE)**

The type of PPE used will vary based on the level of precautions required, such as standard and contact, droplet or airborne infection isolation precautions. The procedure for putting on and removing PPE should be tailored to the specific type of PPE.

**1. GOWN**

- Fully cover torso from neck to knees, arms to end of wrists, and wrap around the back
- Fasten in back of neck and waist



**2. MASK OR RESPIRATOR**

- Secure ties or elastic bands at middle of head and neck
- Fit flexible band to nose bridge
- Fit snug to face and below chin
- Fit-check respirator



**3. GOGGLES OR FACE SHIELD**

- Place over face and eyes and adjust to fit



**4. GLOVES**

- Extend to cover wrist of isolation gown



**USE SAFE WORK PRACTICES TO PROTECT YOURSELF AND LIMIT THE SPREAD OF CONTAMINATION**

- Keep hands away from face
- Limit surfaces touched
- Change gloves when torn or heavily contaminated
- Perform hand hygiene



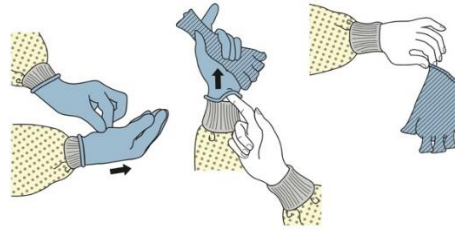
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## HOW TO SAFELY REMOVE PERSONAL PROTECTIVE EQUIPMENT (PPE) EXAMPLE 1

There are a variety of ways to safely remove PPE without contaminating your clothing, skin, or mucous membranes with potentially infectious materials. Here is one example. **Remove all PPE before exiting the patient room** except a respirator, if worn. Remove the respirator **after** leaving the patient room and closing the door. Remove PPE in the following sequence:

### 1. GLOVES

- Outside of gloves are contaminated!
- If your hands get contaminated during glove removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Using a gloved hand, grasp the palm area of the other gloved hand and peel off first glove
- Hold removed glove in gloved hand
- Slide fingers of ungloved hand under remaining glove at wrist and peel off second glove over first glove
- Discard gloves in a waste container



### 2. GOGGLES OR FACE SHIELD

- Outside of goggles or face shield are contaminated!
- If your hands get contaminated during goggle or face shield removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Remove goggles or face shield from the back by lifting head band or ear pieces
- If the item is reusable, place in designated receptacle for reprocessing. Otherwise, discard in a waste container



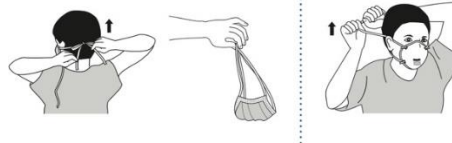
### 3. GOWN

- Gown front and sleeves are contaminated!
- If your hands get contaminated during gown removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Unfasten gown ties, taking care that sleeves don't contact your body when reaching for ties
- Pull gown away from neck and shoulders, touching inside of gown only
- Turn gown inside out
- Fold or roll into a bundle and discard in a waste container

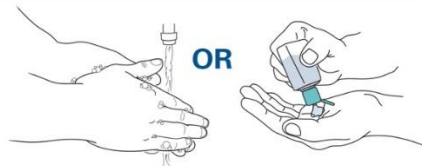


### 4. MASK OR RESPIRATOR

- Front of mask/respirator is contaminated — DO NOT TOUCH!
- If your hands get contaminated during mask/respirator removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Grasp bottom ties or elastics of the mask/respirator, then the ones at the top, and remove without touching the front
- Discard in a waste container



### 5. WASH HANDS OR USE AN ALCOHOL-BASED HAND SANITIZER IMMEDIATELY AFTER REMOVING ALL PPE



**PERFORM HAND HYGIENE BETWEEN STEPS IF HANDS BECOME CONTAMINATED AND IMMEDIATELY AFTER REMOVING ALL PPE**



CS250872-E



#### 4. Implementing empiric additional precautions

##### 3.1 Contact and droplet precautions

- In addition to using standard precautions, all individuals, including family members, visitors and HCWs, should use contact and droplet precautions before entering the room where suspected or confirmed COVID-19 patients are admitted;
- Patients should be placed in adequately ventilated single rooms. For general ward rooms with natural ventilation, adequate ventilation is considered to be adequate
- When single rooms are not available, patients suspected of being infected with COVID-19 should be grouped together;
- All patients' beds should be placed at least 1 m apart regardless of whether they are suspected to have COVID-19 infection;
- Where possible, a team of HCWs should be designated to care exclusively for suspected or confirmed cases to reduce the risk of transmission;
- HCWs should use an N95 mask
- HCWs should wear eye protection (goggles) or facial protection (face shield) to avoid contamination of mucous membranes;
- HCWs should wear a clean, non-sterile, long-sleeved gown;
- HCWs should also use gloves;
- The use of boots, coverall and apron is not required during routine care;
- After patient care, appropriate doffing and disposal of all PPE's and hand hygiene should be carried out. Please note that a new set of PPE's is needed, when care is given to a different patient;
- Equipment should be either single-use and disposable or dedicated equipment (e.g., stethoscopes, blood pressure cuffs and thermometers).  
If equipment needs to be shared among patients, clean and disinfect it between use for each individual patient (e.g., by using ethyl alcohol 70%).
- HCWs should refrain from touching eyes, nose or mouth with potentially contaminated gloved or bare hands;
- Avoid moving and transporting patients out of their room or area unless medically necessary. Use designated portable X-ray equipment and/or other designated diagnostic equipment. If transport is required, use predetermined transport routes to minimize exposure for staff, other patients and visitors, and have the patient using a medical mask;
- Ensure that HCWs who are transporting patients perform hand hygiene and wear appropriate PPE as described in this section;
- Notify the area receiving the patient of any necessary precautions as early as possible before the patient's arrival;
- Routinely clean and disinfect surfaces which the patient is in contact;
- Limit the number of HCWs, family members and visitors who are in contact with a suspected and confirmed COVID-19 patient;
- Maintain a record (name and contacts) of all persons entering the patient's room, including all staff and visitors.

##### 3.2 Airborne precautions for aerosol-generating procedures

Some aerosol-generating procedures have been associated with an increased risk of transmission of coronaviruses (SARS-CoV and MERS-CoV), such as tracheal intubation, non-invasive

ventilation, tracheotomy, cardiopulmonary resuscitation, manual ventilation before intubation, and bronchoscopy.

Ensure that HCWs performing aerosol-generating procedures:

- Perform procedures in an adequately ventilated room – that is, natural ventilation with air flow of at least 160 L/s per patient or in negative pressure rooms with at least 12 air changes per hour (ACH) and controlled direction of air flow when using mechanical ventilation;
- Use a particulate respirator at least as protective as a US National Institute for Occupational Safety and Health (NIOSH)-certified N95, European Union (EU) standard FFP2, or equivalent. When HCWs put on a disposable particulate respirator, they must always perform the seal check. Note that if the wearer has facial hair (i.e., a beard) it may prevent a proper respirator fit;
- Use eye protection (i.e., goggles or a face shield); wear a clean, non-sterile, long-sleeved gown and gloves. If gowns are not fluid resistant, HCWs should use a waterproof apron for procedures expected to have high volumes of fluid that might penetrate the gown;
- Limit the number of persons present in the room to the absolute minimum required for the patient's care and support.

## 5. Implementing administrative controls

Administrative controls and policies for the prevention and control of transmission of COVID-19 infections within the health care setting include, but may not be limited to: establishing sustainable IPC infrastructures and activities; educating patients' caregivers; developing policies on the early recognition of acute respiratory infection potentially caused by COVID 19; ensuring access to prompt laboratory testing for identification of the etiologic agent; preventing overcrowding, especially in the emergency department; providing dedicated waiting areas for symptomatic patients; appropriately isolating hospitalized patients; ensuring adequate supplies of PPE; ensure the adherence of IPC policies and procedures for all facets of health care.

### 4.1. Administrative measures related to HCWs

- Provision of adequate training for HCWs;
- Ensuring an adequate patient-to-staff ratio;
- Establishing a surveillance process for acute respiratory infections potentially caused by COVID-19 among HCWs;
- Ensuring that HCWs and the public understand the importance of promptly seeking medical care;
- Monitoring HCW compliance with standard precautions and providing mechanisms for improvement as needed.
- Workflow processes should be adjusted to ensure rapid triaging and separation of suspected COVID-19 patients.

## 6. Using environmental and engineering controls

These controls address the basic infrastructure of the health care facility. These controls aim to ensure there is adequate ventilation in all areas in the health care facility, as well as adequate environmental cleaning.

Additionally, spatial separation of at least 1 meter should be maintained between all patients. Both spatial separation and adequate ventilation can help reduce the spread of many pathogens in the health care setting.

Ensure that cleaning and disinfection procedures are followed consistently and correctly. Cleaning environmental surfaces with water and detergent and applying commonly used hospital disinfectants (such as sodium hypochlorite) is an effective and sufficient procedure. Manage laundry, food service utensils and medical waste in accordance with safe routine procedures.

**Standard precautions should be applied at all times.  
Additional contact and droplet precautions should continue until the patient is asymptomatic.**

## COLLECTING AND HANDLING LABORATORY SPECIMENS FROM PATIENTS WITH SUSPECTED COVID-19 INFECTION

All specimens collected for laboratory investigations should be regarded as potentially infectious. HCWs who collect, handle or transport any clinical specimens should adhere rigorously to the following standard precaution measures and biosafety practices to minimize the possibility of exposure to pathogens.

- Ensure that HCWs who collect specimens use appropriate PPE (i.e., eye protection, an N95 mask, a long-sleeved gown, gloves). If the specimen is collected with an aerosol-generating procedure, personnel should wear a particulate respirator at least as protective as a certified N95, an EU standard FFP2, or the equivalent;
- Ensure that all personnel who transport specimens are trained in safe handling practices and spill decontamination procedures;
- Place specimens for transport in leak-proof specimen bags (i.e., secondary containers) that have a separate sealable pocket for the specimen (i.e., a plastic biohazard specimen bag), with the patient's label on the specimen container (i.e., the primary container), and a clearly written laboratory request form;
- Ensure that laboratories in health care facilities adhere to appropriate biosafety practices and transport requirements, according to the type of organism being handled;
- Deliver all specimens by hand whenever possible.
- Document clearly each patient's full name, date of birth and suspected COVID-19 of potential concern on the laboratory request form. Notify the laboratory as soon as possible that the specimen is being transported.

## RATIONAL USE OF PPE FOR COVID-19

### PPE in the health care setting

PPE should be used based on the risk of exposure (e.g., type of activity) and the transmission dynamics of the pathogen (e.g., contact, droplet or aerosol). The following observations should be ensured for rational use of PPE:

#### Minimize the need for PPE

The following interventions can minimize the need for PPE while protecting HCWs and others from exposure to COVID-19 virus in health care settings.

- Consider using telemedicine to evaluate suspected cases of COVID-19, thus minimizing the need for these persons to go to health care facilities for evaluation.
- Use physical barriers to reduce exposure to the COVID-19 virus, such as glass or plastic windows. This approach can be implemented in areas of the health care setting where patients will first present, such as triage areas, the registration desk at the emergency department, or at the pharmacy window where medication is collected.
- Restrict HCWs from entering the rooms of COVID-19 patients if they are not involved in direct care.
- Consider bundling activities to minimize the number of times a room is entered (e.g. check vital signs during medication administration or have food delivered by HCWs while they are performing other care) and plan which activities will be performed at the bedside.
- Visitors will not be allowed but if this is not possible, But this is allowed to happen, restrict the number of visitors to areas where COVID-19 patients are being isolated; restrict the amount of time visitors are allowed to spend in the area; and provide clear instructions about how to put on and remove PPE and perform hand hygiene to ensure that visitors avoid self-contamination. Such visitors should wear a face mask.

#### Ensure PPE use is rational and appropriate

PPE should be used based on the risk of exposure (e.g. type of activity or procedure) and the transmission dynamics of the pathogen (e.g. contact, droplet or aerosol). The overuse of PPE will have a further impact on supply shortages. Observing the following recommendations will ensure rational use of PPE.

- The type of PPE used when caring for COVID-19 patients will vary according to the setting and type of personnel and activity (See Table below). HCWs involved in the direct care of patients should use the following PPE: gowns, gloves, medical mask, and eye protection (goggles or face shield).
- Specifically, for aerosol-generating procedures (e.g. tracheal intubation, non-invasive ventilation, tracheostomy, cardiopulmonary resuscitation, manual ventilation before intubation, bronchoscopy) HCWs should use respirators, eye protection, gloves and gowns; aprons should also be used if gowns are not fluid resistant. Respirators (e.g. N95, FFP2 or equivalent standard) have been used for an extended time during previous public health

emergencies involving acute respiratory illness when PPE was in short supply. This refers to wearing the same respirator while caring for multiple patients who have the same diagnosis without removing it, and evidence indicates that respirators maintain their protection when used for extended periods. However, using one respirator for longer than 4 hours can lead to discomfort and should be avoided.

- Among the general public, persons with respiratory symptoms or those caring for COVID-19 patients at home should receive surgical and N95 masks respectively. For additional information, see Home care guidance for patients with COVID-19 presenting with mild symptoms and management of their contacts.
- For persons without symptoms, wearing a mask of any type is not recommended. Wearing medical masks when they are not indicated may cause unnecessary cost and a procurement burden and create a false sense of security that can lead to the neglect of other essential preventive measures.

- Respirators (e.g., N95 masks): using one respirator for longer than 4 hours can lead to discomfort and should be avoided.
- Among the general public, persons with respiratory symptoms or those caring for COVID-19 patients at home should receive surgical or N95 masks respectively.
- For asymptomatic individuals, wearing a mask of any type is not recommended.

## Recommended type of PPE to be used in the context of COVID-19 disease, according to the type of activity

### Outpatient facilities

Setting	Target personnel or patients	Activity	Type of PPE or procedure
Screening	Health care workers	Preliminary screening involving not direct contact	Maintain spatial distance of at least 2 m No PPE required. If the 2 m requirement is not possible provide a surgical mask to the patient
	Patients without respiratory symptoms.	Any	No PPE required
Triage	Patients without respiratory symptoms.	Any	No PPE required
	Healthcare workers triaging Patients with respiratory symptoms.	Any	Maintain spatial distance of at least 2 m No PPE required. If the 2 m requirement is not possible provide a surgical mask
	Patients with respiratory symptoms.	Any	Maintain spatial distance of at least 1 m.
	Healthcare workers	Physical examination of patients without respiratory symptoms.	Provide surgical mask for the patient if tolerated by patient.
	Patients with respiratory symptoms.	Any	Provide surgical mask if Tolerated (If patient has no underlying respiratory complications e.g. COPD).
	Cleaners	After and between consultations with patients with respiratory symptoms.	Surgical mask Gown and Aprons Heavy duty gloves Eye protection (if risk of Splash from organic material or chemicals). Boots or closed work shoes
	Waiting room	Patients with respiratory symptoms.	Any

			Immediately move the patient to an isolation room or separate area away from others; if this is not feasible, ensure spatial distance of at least 1 m from other patients.
	Patients without respiratory symptoms.	Any	No PPE required
Administrative areas	All staff, including healthcare workers.	Administrative tasks	No PPE required

### Inpatient health facilities

Setting	Target personnel or patients	Activity	Type of PPE or procedure
Patient room	Healthcare workers	Providing direct care to COVID-19 patients.	N-95 mask
			Gown
			Gloves
		Eye protection (goggles or face shield).	
	Aerosol-generating procedures performed on COVID-19 patients.	Respirator N95i, or equivalent.	
		Gown	
		Gloves	
Cleaners	Entering the room of COVID-19 patients.	Eye protection	
		Apron	
		N95 mask	
		Gown	
		Heavy duty gloves	
		Eye protection (if risk of splash from organic material or chemicals).	
Visitors (Highly discouraged)	Entering the room of a COVID-19 patient	Boots or closed work shoes	
		Medical mask	
		Gown	
Other areas of patient transit (e.g., corridors), wards,	All staff, including healthcare workers.	Any activity that does not involve contact with COVID-19 patients.	Gloves
			No PPE required
Screening	Health care workers	Preliminary screening not involving direct contact	Maintain spatial distance of at least 2 m No PPE required. If the 2 m requirement is not possible provide a surgical mask
	Patients without respiratory symptoms.	Any	No PPE required



Triage	Healthcare workers triaging Patients with respiratory symptoms.	Any	Maintain spatial distance of at least 2 m No PPE required. If the 2 m requirement is not possible provide a surgical mask to the patient
	Patients with respiratory symptoms.	Any	Maintain spatial distance of at least 1 m in between patients Provide surgical mask if tolerated by patient.
Laboratory	Lab technologist	Manipulation of respiratory samples.	N95 masks Gown Gloves Eye protection (if risk of splash)
Administrative areas	All staff, including healthcare workers.	Administrative tasks that do not involve contact with COVID-19 patients.	No PPE required

## Community

Setting	Target personnel or patients	Activity	Type of PPE or procedure		
Home	Patients with respiratory symptoms (Suspected or confirmed COVID cases)	Any	Maintain spatial distance of at least 1 m.		
			Provide surgical mask to the patient if tolerated, except when sleeping.		
	Caregiver such as parents, guardians or CHV	Entering the patient's room, but not providing direct care or assistance.	Surgical mask		
	Caregiver such as parents, guardians or CHV	Providing direct care to COVID-19 patient with mild symptoms being cared for at home.	Gloves Surgical mask Apron (if risk of splash) Eye Protection		
Public areas (e.g., shopping malls, train stations).	Individuals without respiratory symptoms	Any	No PPE required		
			Healthcare workers or Community Health Volunteers	Providing direct care or assistance to a COVID-19 patient at home	Surgical masks Gown Gloves Eye protection

## POINTS OF ENTRY (POEs)

Setting	Target personnel or patients	Activity	Type of PPE or procedure
Administrative areas	All staff	Any	No PPE required
Screening area	Staff	First screening (temperature measurement) not involving direct contact	Maintain spatial distance of at least 1 m. No PPE required
	Staff	Second screening (i.e., interviewing passengers with fever for clinical symptoms suggestive of COVID-19 disease and travel history).	Surgical mask Gloves
Screening Area	Cleaners	Cleaning the area where passengers with fever are being screened.	Surgical masks
			Gown/ Apron
			Heavy duty gloves
			Eye protection (if risk of splash from organic material or chemicals).
Temporary isolation area	Staff	Entering the isolation area, but not providing direct assistance.	Boots or closed work shoes
			Maintain spatial distance of at least 1 m.
	Staff, healthcare workers	Assisting passenger being transported to a healthcare facility.	Surgical mask
			Gloves
Temporary isolation area	Cleaners	Cleaning isolation area	Surgical masks
			Gown and Apron
			Heavy duty gloves
			Eye protection (if risk of splash from organic material or chemicals).
Ambulance transfer vehicle or	Healthcare workers	Transporting suspected COVID-19 patients to the referral healthcare facility.	Boots or closed work shoes
			N95 respirator
			Gowns
	Driver	Involved only in driving the patient with suspected COVID-19 disease and the driver's compartment is separated from the COVID-19 patient.	Gloves
Eye protection			
Ambulance transfer vehicle or	Healthcare workers	Transporting suspected COVID-19 patients to the referral healthcare facility.	Maintain spatial distance of at least 1 m.
			No PPE required
			Surgical mask
			Gowns
Ambulance transfer vehicle or	Driver	Assisting with loading or unloading patient with suspected COVID-19 disease.	Gloves
			Eye protection
			Surgical mask

		No direct contact with patient with suspected COVID-19, but no separation between driver's and patient's compartments.	Surgical masks
	Patient with suspected COVID-19 disease.	Transport to the referral healthcare facility.	Surgical mask if tolerated
	Cleaners	Cleaning after and between transport of patients with suspected COVID-19 disease to the referral healthcare facility.	Surgical masks Gown and Apron Heavy duty gloves Eye protection (if risk of splash from organic material or chemicals). Boots or closed work shoes

**Special considerations for rapid response teams and teams in quarantine areas assisting with public health investigations Community**

Setting	Target personnel or patients	Activity	Type of PPE or procedure
Anywhere	Rapid response team investigators.	Interview suspected or confirmed COVID-19 patients or their contacts.	No PPE if done remotely (e.g., by telephone or video conference).
			Remote interview is the preferred method.
Anywhere	Rapid response team investigators.	In-person interview of suspected or confirmed COVID-19 patients without direct contact.	Surgical mask Maintain spatial distance of at least 1 m.
			The interview should be conducted outside the house or outdoors, and confirmed or suspected COVID-19 patients should wear a surgical mask if tolerated. If indoor maintain the 1 m distance.
Anywhere	Rapid response team investigators.	In-person interview with asymptomatic contacts of COVID-19 patients.	Maintain spatial distance of at least 1 m.
			No PPE required

			<p>The interview should be performed outside the house or outdoors. If it is necessary to enter the household environment, use a thermal imaging camera to confirm that the individual does not have a fever, maintain spatial distance of at least 1 m and do not touch anything in the household environment.</p>
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In addition to using the appropriate PPE, frequent hand hygiene and respiratory hygiene should always be performed. PPE should be discarded in an appropriate waste container after use, and hand hygiene should be performed before putting on and after taking off PPE. The number of visitors should be restricted. If visitors must enter a COVID-19 patient's room, they should be provided with clear instructions about how to put on and remove PPE and about performing hand hygiene before putting on and after removing PPE; this should be supervised by HCW.

## Handling cargo from affected countries

The rationalized use and distribution of PPE when handling cargo from and to countries affected by the COVID-19 outbreak includes following these recommendations.

- Wearing a mask of any type is not recommended when handling cargo from an affected country.
- Gloves are not required unless they are used for protection against mechanical hazards, such as may occur when manipulating rough surfaces.
- The use of gloves does not replace the need for appropriate hand hygiene, which should be performed frequently, with soap and running water or an Alcohol Based Hand Rub.
- When disinfecting supplies or pallets, no additional PPE is required beyond what is routinely recommended.

## INTERIM GUIDELINES FOR ISOLATION ROOM(S) OR AREA FOR COVID-19 PATIENTS IN HEALTH CARE FACILITIES

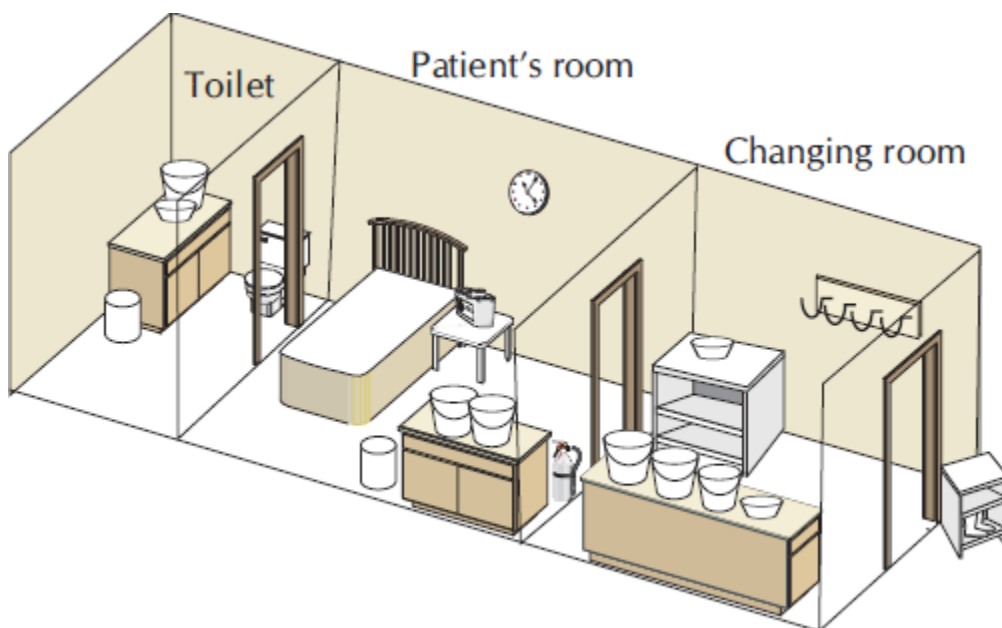
This interim guidance is to help HCWs and managers prepare isolation room or areas for COVID-19 patients. The Government of Kenya encourages health care managers and HCWs to prepare for isolation of COVID-19 patients.

The guidance provides information on:

- Isolation room or area requirements
- Precautions to be observed:
  - Before entering the isolation, room or area
  - During collection of diagnostic respiratory specimens and treatment of patients in isolation area or room
  - When leaving the isolation area
- Visitor restrictions to the isolation room or area

Isolation room or area requirements:

- Ideally isolation ward or room should be located at the far from other clinical areas in order to reduce the risk of potential exposures. Example:



3. A sample layout of an isolation area

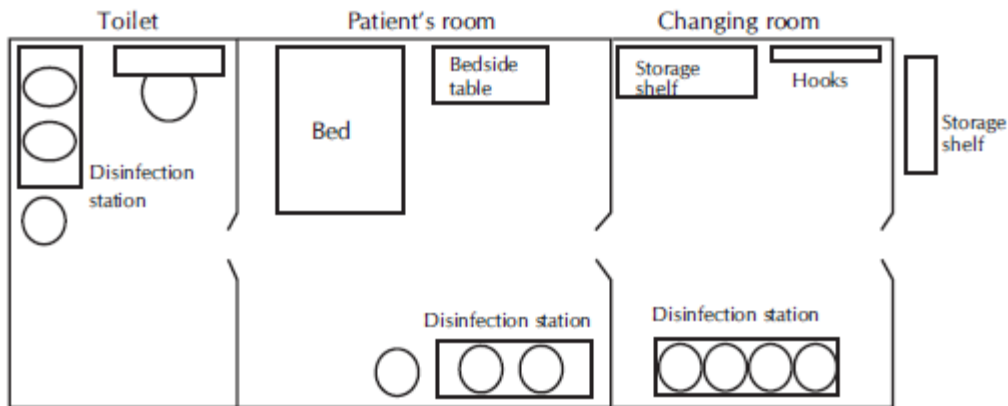


Fig. 9. A sample layout for a single patient

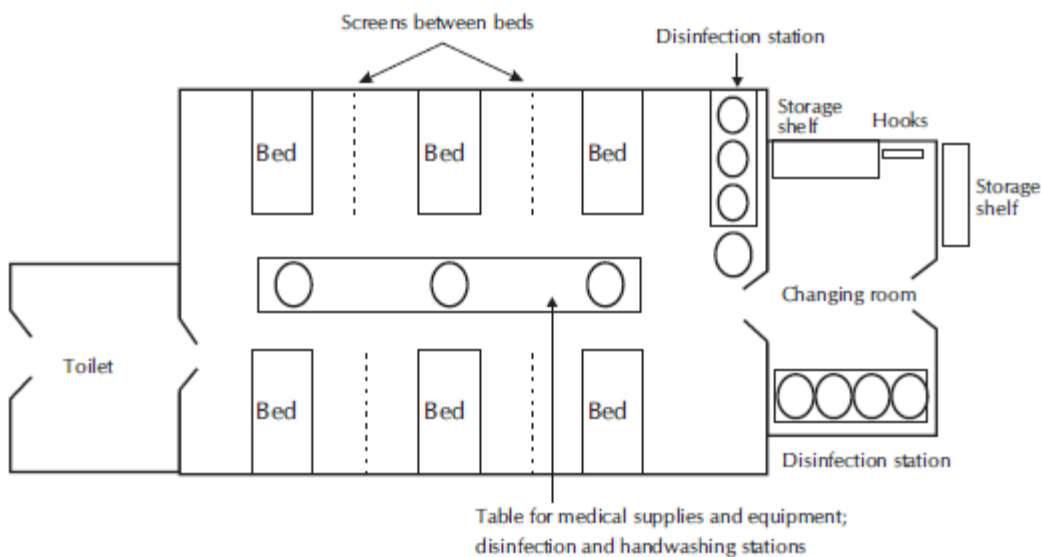


Fig. 10. A sample layout for several patients

- Adequate ventilation either natural or mechanical.
- The door is kept closed at all times (preferably with a patient observation window so that the patient can be seen without the need to open the door)
- Handwashing station with running water and soap and alcohol based hand rub. These should be placed near the point of care, at the entrance and exit of the isolation room.
- Preferably should have toilet and bathroom so the patient does not leave the room. In case the room does not have one, a dedicated toilet and bathroom should be identified.
- Patient bedside locker or table for placing items
- Easy to clean surfaces (no carpets, preferably no curtains)
- Space for provision of PPE at the entrance to the room for HCWs
- A designated team of HCWs, to care for known or suspected COVID-19 patients. These HCWs care only for these patients during their shift.
- Keep a roster of all staff working in the isolation areas including visitors, for possible outbreak investigation and contact tracing. Here is an example:

Date	Name	Service	Time In	Time Out
13.6.98	Dr. Nsango	<i>Infectious Diseases</i>	10:15	11:30
13.6.98	Nurse Bandari	<i>Intensive Care</i>	10:00	11:30
13.6.98	Nurse Ninakazi	<i>Intensive Care</i>	11:00	13:30
13.6.98	Masika	<i>Cleaning</i>	11:10	11:45
13.6.98	Madunda	<i>Family member</i>	11:15	

- Limit transport and movement of the patient outside of the room for medically essential purposes.
  - Consider providing portable x-ray equipment in isolation room to reduce the need for patient transport.
- Patients who must be transported out of isolation area should wear a surgical mask to contain secretions during transport. If patients cannot tolerate a surgical mask or one is not available, they should use tissues to cover their mouth and nose.
- To the extent possible, patients with known COVID-19 should be housed in the same room for the duration of their stay in the facility. Avoid cohorting of both suspected and confirmed COVID-19 patients in the same isolation room
- Once the patient has been discharged or transferred, the room should be terminally cleaned and ventilation allowed for at least an hour before another patient uses the room.
- Dedicated medical equipment should be used when caring for patients with known or suspected COVID-19.
- All non-dedicated, non-disposable medical equipment used for patient care should be cleaned and disinfected according to manufacturer's instructions in between use for each patient
- Post signs on the door indicating that the space is an isolation area indicating contact and droplet isolation precaution.
- Remove all non-essential furniture and ensure that the remaining furniture is easy to clean and does not conceal or retain dirt or moisture within or around it.
- Stock the PPE supply and linen outside the isolation room or area (e.g. in the change room). Setup a trolley outside the door to hold PPE. A checklist may be useful to ensure that all equipment is available.
- Use pedal operated bins lined with the appropriate color-coded liner.
- Ensure that used (i.e. dirty) bins remain inside the isolation rooms.
- Place a puncture-proof container for sharps disposal inside the isolation room or area.
- Keep the patient's personal belongings to a minimum. Keep water pitchers and cups, tissue wipes, and all items necessary for attending to personal hygiene, within the patient's locker.
- Place an appropriate container with a lid next to the exit for equipment and items that requires disinfection or sterilization.
- Clean isolation area at least three times a day or more frequent if required.



- Keep adequate equipment required for cleaning or disinfection inside the isolation room or area and cleaning of the isolation room or area using chlorine-based solution at 0.5% concentration should be supervised.
- Set up a telephone or other method of communication in the isolation room or area to enable patients, to communicate with health-care workers. This may reduce the number of times the workers need to don PPE to enter the room or area.

#### Before entering the isolation room or area:

- Collect all equipment and items needed;
- Perform hand hygiene with an alcohol-based hand rub (preferably when hands are not visibly soiled) or soap and running water
- Put on PPE in the order that ensures adequate placement of PPE items and prevents self-contamination using and taking off PPE;

#### During collection of diagnostic respiratory specimens and treatment the following should be observed:

- HCWs in the room should wear an N-95, eye protection, gloves, and a gown.
- The number of HCWs present during the procedure should be limited to only those essential for patient care and procedure support.

#### When leaving the isolation room or area:

- Either remove PPE in the anteroom (room before entering the patient area) or if there is no anteroom a designated area to make sure that the PPE will not contaminate either the environment outside the isolation room or area, or other people.
- Remove PPE in a manner that prevents self-contamination with contaminated PPE or hands.
- Perform hand hygiene with an alcohol-based hand rub (preferably) or soap and water whenever ungloved hands touch contaminated PPE

#### Visitors restrictions to the isolation room or area

Limit visitors to patients with known or suspected COVID-19. Encourage use of alternative mechanisms for patient and visitor interactions such as video-call applications on cell phones or tablets. If visitation must occur, visits should be scheduled and controlled, and the following should be observed:

- Ensure that visitors consult the health-care worker in charge (who is also responsible for keeping a visitor record) before being allowed into the isolation areas.
- Facilities should evaluate risk to the health of the visitor (e.g., visitor might have underlying illness putting them at higher risk for COVID-19) and ability to comply with precautions.
- Facilities should provide instruction, before visitors enter patients' rooms, on hand hygiene, limiting surfaces touched, and use of PPE according to current facility policy while in the patient's room.
- Visitors should not be allowed during aerosol generating procedure or other specimen collection procedures.
- Visitors should be instructed to only visit the patient room. They should not go to other locations within the isolation room. They should wear a surgical mask.

## GUIDANCE FOR MEDICAL WASTE MANAGEMENT

This section provides guidance for the management of solid waste and wastewater management by workers and employers.

Generally, management of waste that is suspected or known to contain or contaminated with COVID-19 virus does not require special precautions beyond those already used to protect workers from the hazards they encounter during their routine job tasks.

### Medical waste

For medical waste with potential or known COVID-19 contamination, manage like any other regulated infectious medical waste. Use typical engineering and administrative controls, safe work practices, and PPE, such as puncture-resistant gloves and face and eye protection, to prevent worker exposure to the waste streams (or types of wastes), including any contaminants in the materials, they manage. Such measures can help protect workers from sharps and other items that can cause injuries or exposures to infectious material

According to the notification, the pollution control board directed the health care facilities having isolation wards for COVID-19 patients, sample collection centers and laboratories to follow the guidelines to ensure safe handling and disposal of bio-medical waste generated during the diagnostic and treatment of suspected or confirmed patients.

### Waste segregation

The health care facilities are required to keep separate color-coded bins, color coded bag and containers, puncture proof sharp containers in the clinical areas and wards.

Ensure there is proper segregation of waste as per the bio-medical waste management (BMWM) rules, 2016 and the National waste management guidelines.

Double layered bags should be used for the collecting waste from COVID-19 isolation wards to ensure that no accidental leakage occurs from the bags.

**KENYA**  
**SEGREGATION OF MEDICAL WASTE**  
**PREVENTION OF NEEDLE STICK INJURIES AND RISK OF DISEASE TRANSMISSION STARTS WITH YOU!**

General waste	Infectious waste	Pathological waste	Sharp Waste
Paper Packaging material Food	Gauze/dressing Used IV/ fluid lines Used gloves Infusion set	Anatomical waste - Teeth - Placenta Pathological waste - Sputum container - Test tube containing specimen	Cannula/branula Broken slides Broken vial Broken ampules Lancet
Retractables Scalpels Blades Needles Suture needles			
General waste bin	Infectious waste bin	Pathological waste bin	SAFETY BOX

**IT IS THE RESPONSIBILITY OF HEALTH PERSONNEL TO SEGREGATE WASTE IMMEDIATELY ACCORDING TO TYPE**

**This segregation chart should be placed above the segregation bins**

Ministry of Health  
P.O. Box 30018  
Nairobi - Kenya

This material was developed by MMIS and has been revised by PSI in collaboration with PATH.  
PATH's, HCWM project has received support for printing from the U.S. Centers for Disease Control through PEPFAR

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FROM THE AMERICAN PEOPLE

PEPFAR

## Labelling of medical waste

It is mandatory to label bags and containers used for collecting bio-medical waste from COVID-19 isolation areas and treatment points.

The waste bags should be clearly labelled as infectious waste indicating the source as COVID-19 waste to enable common bio-medical waste treatment facility (CBMWTF) identify the waste easily.

## PPE for Waste Handlers

Setting	Target personnel or patients	Activity	Type of PPE or procedure
Waste handling area for COVID-19 isolation area	Waste handlers	Waste handling from COVID Isolation area	N95 respirators
			Apron
			Heavy duty gloves
			Eye protection
			Boots
			long-sleeved gown

## Collection, storage and final disposal

The bio-medical waste should be collected and stored separately by the same CBMWTF staff prior handling it. A dedicated collection bin labelled as COVID-19 should be used to store waste from the isolation wards.

At the waste treatment area, prioritize treatment and disposal of waste coming from the COVID-19 treatment and isolation areas immediately upon receipt.

The inner and outer surface of the containers, bins and trolleys used for storage of COVID-19 waste should be disinfected with sodium hypochlorite solutions.

## Transportation within a Facility and Offsite

The Medical Waste must be transported in waste bins from the room it is generated into the interim storage room and ultimately to the Designated Accumulation Area. From this area, the waste will then be treated onsite or prepped for transportation offsite for treatment.

- All containers for offsite transport must be well labeled Hazardous COVID-19 waste and sealed

## Storage and transport:

Infectious wastes must be treated without delay

The bags must be transported separate from other waste.

## Treatment and final disposal of COVID-19 Waste

Medical waste from COVID-19 isolation center should be treated or decontaminated to reduce the microbial load in the waste and to render the by-products safe for further handling and disposal.

Treatment processes methods may include **autoclaving, incineration, chemical disinfection, grinding/ shredding/disinfection methods.**

If onsite treatment is not available or the health care facility chooses to not treat the waste onsite, the facility should package the waste appropriately for transport offsite to a permitted medical waste transfer station and/or treatment facility.

If waste is moved off-site, it is critical to understand where and how it will be treated and destroyed. All who handle health care waste should wear appropriate PPE (that is, boots, apron, long-sleeved gown, thick gloves, mask, and goggles or a face shield) and perform hand hygiene after removing it. For more information refer to the WHO guidance, Safe management of wastes from health-care activities

Waste collectors must take all precautions while handling/collecting the waste and they must wear the proper PPE (that is, boots, apron, long-sleeved gown, thick gloves, mask, and goggles or a face shield) and perform hand hygiene as per standard precautions.

- This type of waste **MUST ON NO ACCOUNT LEAVE THE HOSPITAL** before being pre-treated (incineration, autoclaving, chemical treatment) on-site.
- Where pre-treatment is not possible, the waste must be disposed of in a purpose-built on-site burial pit (in which the waste is covered with lime).
- Liquids should be poured down the drain. The inner and outer surface of the waste bins and carts/trolleys used for containment of COVID-19 waste should be cleaned and disinfected with sodium hypochlorite 0.5% solutions.

**All health care waste handlers should wear appropriate PPE** (that is, boots, apron, long-sleeved gown, thick gloves, mask, and goggles or a face shield) and perform hand hygiene after removing it. For more information refer to the WHO guidance, Safe management of wastes from health-care activities

### *Municipal Waste*

Workers and employers should manage municipal (e.g., household, business) solid waste with potential or the knowledge of possible COVID-19 contamination like any other non-contaminated municipal waste.

Use typical engineering and administrative controls, safe work practices, and PPE, such as puncture-resistant gloves and face and eye protection, to prevent worker exposure to the waste streams (or types of wastes), including any contaminants in the materials, they manage. Such measures can help protect workers from sharps and other items that can cause injuries or exposures to infectious materials.

### *Recycling*

As with municipal waste, employers and workers in the recycling industry should continue to use typical engineering and administrative controls, safe work practices, and PPE, such as puncture-

resistant gloves and face and eye protection, to prevent worker exposure to recyclable materials they manage, including any contaminants in the materials. Proper treatment of material for recycling should be considered to avoid the risk of exposure.

### Wastewater

Coronaviruses are susceptible to the same disinfection conditions in the health care setting as other viruses, so current disinfection conditions in wastewater treatment facilities is expected to be sufficient. This includes conditions for practices such as oxidation with hypochlorite (i.e., chlorine bleach) and peracetic acid, as well as inactivation through the use of ultraviolet irradiation.

There is no evidence to suggest that additional, COVID-19-specific protections are needed for employees involved in wastewater management operations, including those at wastewater treatment facilities. Wastewater treatment plant operations should ensure workers follow routine practices to prevent exposure to wastewater, including using the engineering and administrative controls, safe work practices, and PPE normally required for work tasks when handling untreated wastewater.

### Safely disposing of greywater (water from washing PPE, surfaces and floors)

Current WHO recommendations are to clean utility gloves or heavy duty, reusable plastic aprons with soap and water and then decontaminate them with 0.5% sodium hypochlorite solution after each use.

Single-use gloves (nitrile or latex) and gowns should be discarded after each use and not reused; hand hygiene should be performed after PPE is removed.

If greywater includes disinfectant used in prior cleaning, it does not need to be chlorinated or treated again. However, it is important that such water is disposed of in drains connected to a septic system or sewer or in a soak away pit. If greywater is disposed of in a soak away pit, the pit should be fenced off within the health facility grounds to prevent tampering and to avoid possible exposure in the case of overflow.

### General Hygiene and WASH considerations

Considerations for WASH practices in homes and communities Upholding best WASH practices in the home and community is also important for preventing the spread of COVID-19 and when caring for confirmed cases at home. Regular and correct hand hygiene is of particular importance.

Hand hygiene in non-health care settings is one of the most important measures that can be used to prevent COVID-19 infection. In homes, schools and crowded public spaces – such as markets, places of worship, and train or bus stations – regular hand washing should occur before preparing food, before and after eating, after using the toilet or changing a child's diaper and after touching animals. Functioning hand washing facilities with water and soap should be available within 5 m of toilets.

Treatment and handling requirements for excreta Best WASH practices, particularly hand washing with soap and clean water, should be strictly applied and maintained because these provide an important additional barrier to COVID-19 transmission and to the transmission of infectious diseases in general

Consideration should be given to safely managing human excreta throughout the entire sanitation chain, starting with ensuring access to regularly cleaned, accessible and functioning toilets or latrines and to the safe containment, conveyance, treatment and eventual disposal of sewage.

When there are suspected or confirmed cases of COVID-19 in the home setting, immediate action must be taken to protect caregivers and other family members from the risk of contact with respiratory secretions and excreta that may contain the COVID-19 virus.

The person handling the waste from the patient should be provide with PPE (boots, apron, long-sleeved gown, thick gloves, mask, and goggles or a face shield) and ensure proper hand hygiene

### Medical Waste Management in Home Care

The Rapid Response Team must ensure provision of health care waste disposal bags in the home setting services and also link the care givers with a health facility for prompt collection of waste.

Use typical engineering and administrative controls, safe work practices, and PPE, such as puncture-resistant gloves and face and eye protection, to prevent worker exposure. Such measures can help protect workers from sharps and other items that can cause injuries or exposures to infectious materials.

### Wastewater

Wastewater should be disposed of down functional drained that empties into the main environmental sewer system.

There is no evidence to suggest that additional, COVID-19-specific protections are needed for employees involved in wastewater management operations, including those at wastewater treatment facilities. Wastewater treatment plant operations should ensure workers follow routine practices to prevent exposure to wastewater, including using the engineering and administrative controls, safe work practices, and PPE normally required for work tasks when handling untreated wastewater.

### Safely disposing of greywater or water from washing PPE, surfaces and floors

Current WHO recommendations are to clean utility gloves or heavy duty, reusable plastic aprons with soap and water and then decontaminate them with 0.5% sodium hypochlorite solution after each use. Single-use gloves (nitrile or latex) and gowns should be discarded after each use and not reused; hand hygiene should be performed after PPE is removed.

If greywater includes disinfectant used in prior cleaning, it does not need to be chlorinated or treated again. However, it is important that such water is disposed of in drains connected to a septic system or sewer or in a soak away pit. If greywater is disposed of in a soak away pit, the pit should be fenced off within the health facility grounds to prevent tampering and to avoid possible exposure in the case of overflow.

## Safe management of health care waste

Considerations for WASH practices in homes and communities Upholding best WASH practices in the home and community is also important for preventing the spread of COVID-19 and when caring for confirmed cases at home. Regular and correct hand hygiene is of particular importance.

## Hand hygiene

Hand hygiene in non-health care settings is one of the most important measures that can be used to prevent transmission of COVID-19 infection. In homes, schools and crowded public spaces – such as markets, places of worship, and train or bus stations , Hand washing should occur before preparing food, before and after eating, after using the toilet or changing a child's diaper and after touching animals. Functioning hand washing facilities with water and soap should be available within 5 meters of toilets.

Treatment and handling requirements for excreta by implementing WASH practices, particularly hand washing with soap and clean running water, should be strictly applied and maintained because these provides an important additional barrier to COVID-19 virus transmission and other infections. Consideration should be given to safe management of human excreta throughout the entire sanitation chain, starting with ensuring access to regularly cleaned, accessible and functioning toilets or latrines and to the safe containment, conveyance, treatment and eventual disposal of sewage.

When there are suspected or confirmed cases of COVID-19 in the home setting, immediate action must be taken to protect caregivers and other family members from the risk of contact with respiratory secretions that may contain the COVID-19 virus.

- Provision of PPE (boots, apron, long-sleeved gown, thick gloves, mask, and goggles or a face shield)
- Perform hand hygiene after removing PPE

# CLEANING AND DISINFECTION OF ENVIRONMENT AND EQUIPMENT IN HEALTH CARE FACILITIES AND HOMES WITH PATIENTS WITH SUSPECTED OR CONFIRMED COVID-19

The environment and equipment can become a source of infection transmission of COVID-19 virus. To reduce the risk of infection transmission from the environment and equipment, cleaning and disinfection is critical.

## Cleaning process

Cleaning using detergents is an essential part of disinfection. Organic matter can inactivate many disinfectants. Cleaning reduces the soil load, allowing the disinfectant to work.

Removal of pathogens such as the virus that causes COVID-19 requires thorough cleaning followed by disinfection. Cleaning entails use of mechanical rubbing to create friction that physically removes dirt, debris, and microorganisms.

- Using soap and water, clean the furniture and other equipment first, then surfaces and lastly clean the floor.
- Clean more frequently the high touch surfaces e.g., door handles, telephones, switches, and bed rails.
- Develop a cleaning schedule and ensure cleaning is done at least three times a day and as and when necessary.
- Clean progressing from:
  - Least soiled areas to the most soiled areas
  - High to low areas

Have designated cleaning tools for the isolation ward or room. The cleaning tools (e.g., Mops, buckets, cleaning cloths) **MUST** be disinfected and hang to dry before next use.

## Disinfection process

Currently WHO recommendations for environmental and equipment disinfection include the use of:

- 70% Ethyl alcohol to disinfect reusable small equipment (e.g., thermometers, stethoscopes) between uses
- Sodium hypochlorite at 0.5% for disinfection of surfaces in health care facilities or homes

Prepare fresh chlorine solution because it loses strength with time. **Store any remaining chlorine solutions safely in closed containers for not more than 24 hours.** Keep the solution away from direct sunlight to avoid further inactivation of chlorine.

Wipe equipment and surfaces with a cloth soaked in the disinfectant and mop the floor using a mop soaked in chlorine solution prepared **at least 30 minutes before use.**

Use Chlorine solution mainly on hard, non-porous surfaces. Adequate time is required to kill the virus, i.e., **at least 10 minutes contact time.**



## Preparation of chlorine disinfectant solution

Gloves should be worn when handling and preparing chlorine solutions.  
Protective eye wear should be worn in case of splashing.  
Surgical mask should be worn to avoid inhaling chlorine fumes.

### 1. Formula when using Chlorine Liquid

$$\frac{\% \text{ Chlorine in Liquid Product} - 1}{\% \text{ Chlorine Desired}} = \text{Total parts of water}$$
  
for **each** part of Chlorine Liquid

#### Example:

To make a 0.5% Chlorine solution from 3.5% Chlorine liquid:

$$\frac{3.5\% \text{ of Chlorine Liquid} - 1}{0.5\% \text{ Chlorine Desired}} = 7 - 1 = 6$$

0.5% Chlorine Desired

Therefore, add **6 parts of water** each time you add 1 part of Chlorine liquid.

### 2. Formula when using Chlorine Powder

$$\frac{\% \text{ Chlorine desired} \times 1000}{\% \text{ chlorine in powder}} = \text{Grams of Chlorine powder for each liter of water}$$

#### Example:

To make a 0.5% Chlorine solution from 35% Chlorine powder:

$$\frac{0.5\% \text{ Chlorine Desired} \times 1000}{35\% \text{ Chlorine in powder}} = 14.2 \text{ grams}$$

Therefore, dissolve **14.2g of Chlorine powder** in each liter of water.

## The Process of Cleaning and Disinfecting an Isolation Ward or Room

The risk when cleaning is not the same as the risk when face to face with a sick person who may be coughing or sneezing. Cleaning staff should be informed to avoid touching their face, especially their nose, eyes and mouth, when cleaning.

1. Perform hand hygiene
2. Put on PPE (surgical mask, goggles, gown, apron, utility gloves and closed water-proof shoes)
3. Ensure that the cleaning process is supervised by an IPC or clinical personnel or other qualified personnel for the safety of cleaning staff in how they wear and use PPE, and effectiveness of the cleaning work.
4. Dispose of the waste as per provided guidelines (all waste from isolation room is considered as infectious and should be incinerated)
5. Clean an occupied room at least three times a day (more frequent if required)
6. After cleaning and disinfection of the isolation area, clean and disinfect the cleaning tools, rinse and hang them to dry, to ensure they are ready for next use.
7. Remove PPE and perform hand washing.
8. Ensure cleaning, disinfection and rinsing of any re-usable PPE like goggles, utility gloves and boots once each cleaning job is done.

9. After discharge or transfer of patient(s) clean and disinfect all items to include beds and mattresses, surfaces and floors then allow ventilation of the cleaned room for at least an hour (if possible) preferably by natural air (open windows and doors).
10. Set the isolation ward or room for use by another patient (always ensure **minimum equipment**)

## Cleaning and Disinfection of Social Contact Environments

Social contact environments include (but are not limited to), transport vehicles, shopping centers and private businesses.

The risk of transmission of COVID-19 in the social and non-health care work settings can be minimized through a good standard of general hygiene. This includes:

- Promoting respiratory etiquette.
- Routine cleaning of frequently touched surfaces with detergent/disinfectant solutions.
- Providing adequate alcohol-based hand rub for staff and consumers to use.
- Strict use of alcohol-based hand rub in shops and markets especially in areas where food is on display and frequent touching of produce by staff and buyers occurs.
- Consider signs to ask shoppers to only touch what they intend to purchase.

If the risk of contamination with COVID-19 virus in public areas e.g. streets, shopping area and public transport vehicles spraying with disinfecting chemicals. Coronavirus is mainly transmitted via respiratory droplets and can also spread by touching contaminated surfaces. Disinfectant spray helps reduce these transmission mechanisms.

## Dishes and Cutlery

Dishes and cutlery are to be cleaned in a commercial or domestic dishwasher using appropriate dishwasher detergents. If dishwashers are unavailable, consider using disposable dishes and cutlery. Reusable dishes and cutlery must be cleaned using hot water and appropriate detergents (neutral detergent with pH between 6 and 8). Care should be taken to ensure all items are thoroughly cleaned. Disinfect the items by soaking in a hot water at 90°C for two minutes or immerse in 0.5% chlorine solution for a minute then rinse thoroughly with clean water before air-drying. Dishes and cutlery should be stored clean and dry in a cupboard or covered to prevent potential contamination from sneezes or coughs. Staff handling dishes and cutlery should ensure they have performed effective hand washing using soap and running water for 40-60 seconds before handling dishes.

The person cleaning dishes, and cutlery should wear PPE (facial protective gear, waterproof gown and apron, gloves, and boots).

## GUIDANCE FOR HANDLING LINEN WHEN CARING FOR PERSONS SUSPECTED OR CONFIRMED TO HAVE CORONA VIRUS DISEASE (COVID-19)

This interim guidance is for use by all health care settings that are caring for persons who are suspected or confirmed to have corona virus disease (COVID-19). The purpose of this guidance is to reduce the risk of infection to patients and health care staff involved in the use, handling or laundering of health care linen.

All linen used in health care setting both in a health facility and in home based care settings should not pose as a vehicle for the transfer of pathogens to patients or HCWs. Health care linen include bed sheets, blankets, towels, personal clothing, patient apparel, uniforms, gowns, drapes for surgical procedures. During the course of use linen used in a health care setting become contaminated and laundering is necessary. Laundering of such linen is most commonly adequate, but in some instances, due to inappropriate disinfection or subsequent recontamination, the linen may become a contaminated inanimate surface with the possibility to transfer pathogens. Used linen contains microorganisms.

### Handling of infectious linen

Disease transmission attributed to health-care laundry has involved contaminated fabrics that were handled inappropriately. All linen used in the direct care of patients with suspected and confirmed COVID-19 should be managed as 'infectious' linen. Linen must be handled, transported and processed in a manner that prevents exposure to the skin and mucous membranes of staff, contamination of their clothing and the environment. The following measures must be taken when handling contaminated or infectious linen:

- Staff handling health care linen should be trained on handling and processing of infectious linen
- All contaminated or infectious linen must be placed in leak proof linen bags/receptacles up to  $\frac{3}{4}$  full and then the bag is tied at the mouth and labelled e.g. ward/care area and date.
- Transport to laundry or designated laundering area for immediate reprocessing
- Clean and disinfect hampers or other carts for transporting laundry
- The following situations must be avoided when handling infectious linen:
  - ✓ Do not shake dirty laundry; this minimizes the possibility of dispersing virus through the air.
  - ✓ Do NOT place used/infectious linen on the floor or any other surfaces e.g. a locker/table top;
  - ✓ Do not sort used/infectious linen once bagged;
  - ✓ Do not overfill laundry receptacles;
  - ✓ Do not place inappropriate items in the laundry receptacle e.g. used equipment/needles.

### Collection and internal transportation

Contaminated linen should be placed into leak proof bags, these bags are then securely tied to prevent spillage. Bags containing contaminated linen must be clearly identified with labels, color-coding, or other methods so that the staff responsible handles the linen safely. The workers handling contaminated linen must observe the following guidelines:

- Always use the appropriate PPE when handling infected linen
- Hold the linen away from your body
- Do not shake the linen to minimize the possibility of dispersing virus through the air.
- Collect linen at least twice a day (or more often if necessary)
- Put the linen into an impervious bags immediately after removal from patients bed
- Use a designated cart with a lid to transport the linen packaged in impervious bags to the laundry
- Send the infected linen for immediate cleaning

### Cleaning infected Linen

Every health care setting must maintain the standard precautions required to protect the worker from exposure to potentially infectious materials during collection, handling, and transportation of contaminated linen through the use of PPE, containment and labeling. Manual cleaning of contaminated linen must be discouraged and instead, it is advisable to use washing machines wherever they are available.

### Machine Cleaning

When a machine launder is available, wash items as appropriate in accordance with the manufacturer's instructions. If possible, launder linen using 60°C-90°C water setting and dry linen completely.

Follow the steps below:

- Wear PPE (Surgical mask, Goggles, Apron and Utility gloves)
- For soiled linen remove the solid dirt first by sluicing
- Pre-wash linen using a detergent, then
- Adjust the washing machine temperatures to 90°C for at least 10 Min (to kill microorganisms)
- Dry the linen under the sun
- Remove PPE
- Perform hand hygiene

### Manual Cleaning

If washing machine is not available, reprocess infected linen manually using the following steps:

- Wear PPE (surgical mask, Goggles, Apron, and Utility gloves)
- For soiled linen remove the solid dirt first by sluicing
- Immerse in detergent solution and use mechanical action (e.g., scrubbing) to remove soil
- Disinfect by: Immersing the linen in chlorine 0.05% solution for 15 minutes
- Rinse with clean water to remove residue
- Allow to fully dry, ideally hanging on a cloth-line in the sun
- Remove PPE
- Perform hand hygiene

After washing, cleaned and dried linen are ironed if possible, folded, and packaged for transport, and stored in an enclosed cupboard or room to avoid contamination

## Staff uniforms/Scrubs

Organizations may consider the use of scrubs for staff who are likely to come into close contact with patients' e.g. medical staff

The appropriate use of PPE will protect staff uniform/scrubs from contamination.

Hospital laundry services should be used to launder staff uniforms/scrubs.

**Remember never mix different cleaning and disinfection products as in some instant they can detergents tend to neutralize disinfectants making them less effective against pathogens or the mixture can generate toxic gases.**

## GUIDANCE AND RECOMMENDATIONS FOR OCCUPATIONAL HEALTH AND SAFETY IN THE CONTEXT OF COVID-19

### Responsibilities and rights

Health workers are at the front line of any outbreak response and as such are exposed to hazards that put them at risk of infection with an outbreak pathogen (in this case COVID-19).

#### **The employers and managers should therefore;**

- Assume overall responsibility to ensure that all necessary preventive and protective measures are taken to minimize occupational safety and health risks
- Provide quality and adequate Hand Hygiene and PPE supplies (masks, gloves, goggles, gowns, hand sanitizer, soap and water, cleaning supplies) in sufficient quantity to health care or other staff caring for suspected or confirmed COVID-19 patients, such that workers do not incur expenses for occupational safety and health requirements
- Provide for engineering and administrative controls including adjustments to work flow e.g. triaging and fast-tracking of symptomatic patients
- Familiarize personnel with technical updates on COVID-19 and provide appropriate tools to assess, triage, test and treat patients and to share IPC information with patients and the public;
- Advise workers on self-assessment, symptom reporting and staying home when ill (Use of exposure risk assessment tool periodically)
- Consult with health workers on occupational safety and health aspects of their work and notify the management of cases of occupational diseases;
- Provide psychosocial support for HCWs in the frontline of COVID\_19 response and patient management
- Allow workers to exercise the right to remove themselves from a work situation that they have reasonable justification to believe presents an imminent and serious danger to their life or health.
  - When a health worker exercises this right, they shall be protected from any undue consequences;

#### **Health worker rights include that employers and managers in health facilities:**

- Honor the right to compensation, rehabilitation and curative services if infected with COVID-19 following exposure in the workplace. This would be considered occupational exposure and resulting illness would be considered an occupational disease
- Provide access to mental health and counselling resources; and

- Enable co-operation between management and workers and/or their representatives.

### **HCWs Responsibilities:**

- Follow established occupational safety and health procedures, avoid exposing others to health and safety risks and participate in employer-provided trainings
- Use provided protocols to assess, triage and treat patients;
- Treat patients with respect, compassion and dignity;
- Maintain patient confidentiality;
- Swiftly follow established public health reporting procedures of suspect and confirmed cases;
- Provide or reinforce accurate IPC and public health information including to concerned people who have neither symptoms nor risk;
- Put on, use, take off and dispose of PPE properly;
- Self-monitor for signs of illness and self-isolate or report illness to managers, if it occurs;
- Advise management if they are experiencing signs of undue stress or mental health challenges that require support interventions; and
- Report to their immediate supervisor any situation which they have reasonable justification to believe presents an imminent and serious danger to life or health.

### **Management of health workers exposed to COVID-19 virus**

The management of health workers exposed to COVID-19 virus will vary according to the Risk categorization.

### **Recommendations for health workers with high risk for infection:**

- Stop all health care interaction with patients for a period of 14 days after the last day of exposure to a confirmed COVID-19 patient;
- Quarantine for 14 days in a designated setting
- Be tested for COVID-19 virus infection after 1 week;

### **Health care facilities should:**

- Provide psychosocial support to HCW during quarantine, or duration of illness if HCW becomes a confirmed COVID-19 case;
- Provide compensation for the period of quarantine and for the duration of illness (if not on a monthly salary) or contract extension for duration of quarantine/illness;

- Refresher IPC training for the health care facility staff, including HCWs at high risk for infection once he/she returns to work at the end of the 14-day period
- Provide the hand hygiene and waste disposal facilities at accessible and convenient points

### **Recommendations for health workers with low risk for COVID-19 infection:**

- Self-monitor temperature and respiratory symptoms daily for 14 days after the last day of exposure to a COVID-19 patient. HCWs should be advised to call health care facility if he/she develop any symptoms suggestive of COVID-19;
- Reinforce contact and droplet precautions when caring for all patients with acute respiratory illnesses and standard precautions to take care of all patients;
- Reinforce airborne precautions for aerosol generating procedures on all suspect and confirmed COVID-19 patients including use of N-95 masks or equivalent
- Reinforce the rational, correct and consistent use of PPE when exposed to confirmed COVID-19 patients;
- Apply WHO's "My 5 Moments for Hand Hygiene" before touching a patient, before any clean or aseptic procedure, after exposure to body fluid, after touching a patient, and after touching patient's surroundings;
- Practice respiratory etiquette at all times.
- Reinforce all measures of the standard precautions

## **Risk assessment and management of exposure of HCWs in the context of COVID-19**

Current evidence suggests that the virus that causes COVID-19 is transmitted between people through close contact and droplets. People most at risk of acquiring the disease are those who are in contact with or care for patients with COVID-19. This inevitably places HCWs at high risk of infection. Protecting HCWs is of paramount importance to the Government of Kenya. Understanding how HCW exposure to COVID 19 virus translates into risk of infection is critical for informing IPC recommendations. This data collection form and risk assessment tool can be used to identify IPC breaches and define policies that will reduce HCW exposure and nosocomial infection.

This tool is to be used for health care facilities with COVID 19 patients. The form should be completed for all HCWs who have been exposed to a patient with confirmed COVID-19. This tool aids in the risk assessment for HCWs after exposure and provides recommendations for their management.



**Assessment objectives:**

1. To determine the risk categorization of each HCW after exposure to a COVID-19 patient (see below Part 1: COVID-19 virus exposure risk assessment form for HCWs);
2. To inform the management of the exposed HCWs based on risk (see below Part 2: Management of health worker exposed to COVID-19 virus).

**Part 1: COVID-19 virus exposure risk assessment form for HCWs**

1. Interviewer information	
A. Interviewer name:	
B. Interviewer date (DD/MM/YYYY):	/ /
C. Interviewer phone number:	
D. Does the health worker have a history of staying in the same household or classroom environment with a confirmed COVID-19 patient?	<input type="checkbox"/> Yes <input type="checkbox"/> No
E. Does the HCW have history of traveling together in close proximity (within 1 meter) with a confirmed COVID-19 patient in any kind of conveyance?	<input type="checkbox"/> Yes <input type="checkbox"/> No

Yes, to questions I D – IE is considered community exposure to COVID-19. HCWs should be managed as such. The management recommendations in Part 2: Management of health workers exposed to COVID-19 virus apply only to exposure in health care settings.

2. Health worker information	
A. Last name:	
B. First name:	
C. Age	
D. Sex:	<input type="checkbox"/> Male <input type="checkbox"/> Female <input type="checkbox"/> Prefer not to answer
E. City:	
F. Country:	
G. Contact details:	
H. Type of health care personnel:	<input type="checkbox"/> Medical doctor <input type="checkbox"/> Physician assistant <input type="checkbox"/> Registered nurse (or equivalent) <input type="checkbox"/> Assistant nurse, nurse technician (or equivalent) <input type="checkbox"/> Radiology /x-ray technician <input type="checkbox"/> Phlebotomist <input type="checkbox"/> Ophthalmologist <input type="checkbox"/> Physical therapist <input type="checkbox"/> Respiratory therapist <input type="checkbox"/> Nutritionist/dietitian <input type="checkbox"/> Midwife

	<input type="checkbox"/> Pharmacist <input type="checkbox"/> Pharmacy technician or dispenser
	<input type="checkbox"/> Laboratory personnel <input type="checkbox"/> Admission/reception clerk <input type="checkbox"/> Patient transporter <input type="checkbox"/> Catering staff <input type="checkbox"/> Cleaner <input type="checkbox"/> Other (specify):
I. Health care facility unit type in which the health worker works?	Tick all that apply:  <input type="checkbox"/> Outpatient <input type="checkbox"/> Emergency <input type="checkbox"/> Medical unit <input type="checkbox"/> Intensive care unit <input type="checkbox"/> Cleaning services <input type="checkbox"/> Laboratory  <input type="checkbox"/> Pharmacy <input type="checkbox"/> Other, specify:

3. Health worker interactions with COVID-19 patient information	
A. Date of health worker first exposure to confirmed COVID-19 patient:	Date (DD/MM/YYYY): ___/___/____ <input type="checkbox"/> Not known
B. Name of health care facility where case received care:	
C. Type of health care setting:	<input type="checkbox"/> Hospital <input type="checkbox"/> Outpatient clinic <input type="checkbox"/> Primary health centre <input type="checkbox"/> Home care for mild cases <input type="checkbox"/> Other:
D. City:	
E. Country:	
F. Multiple COVID-19 patients in health care facility	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown Number of patients (approximate if exact number not known):

4. Health worker activities performed on COVID-19 patient	
A. Did you provide direct care to a confirmed COVID-19 patient?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown
B. Did you have face-to-face contact (within 1 meter) with a confirmed COVID-19 patient in a health care facility?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown
C. Were you present when any aerosol generating procedures	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown

was performed on the patient? See below for examples	
- If yes, what type of procedure?	<input type="checkbox"/> Tracheal intubation <input type="checkbox"/> Nebulizer treatment <input type="checkbox"/> Open airway suctioning <input type="checkbox"/> Collection of sputum <input type="checkbox"/> Tracheostomy <input type="checkbox"/> Bronchoscopy <input type="checkbox"/> Cardiopulmonary resuscitation (CPR) <input type="checkbox"/> Other, specify:
D. Did you have direct contact with the environment where the confirmed COVID-19 patient was cared for? E.g. bed, linen, medical equipment, bathroom etc.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown
E. Were you involved with health care interaction(s) (paid or unpaid) in another health care facility during the period above?	<input type="checkbox"/> Other health care facility (public or private) <input type="checkbox"/> Ambulance <input type="checkbox"/> Home care <input type="checkbox"/> No other health care facility

If the health worker responds 'Yes' to any of the Questions 4A – 4D the health worker should be considered as being exposed to COVID-19 virus.

5. Adherence to infection prevention and control (IPC) during health care interactions	
For the following questions, please quantify the frequency you wore PPE, as recommended: 'Always, as recommended' should be considered wearing the PPE when indicated more than 95% of the time; 'Most of the time' should be considered 50% or more but not 100%; 'occasionally' should be considered 20% to under 50% and 'Rarely' should be considered less than 20%.	
A. During the period of a health care interaction with a COVID-19 patient, did you wear personal protective equipment (PPE)?	<input type="checkbox"/> Yes <input type="checkbox"/> No
- If yes, for each item of PPE below, indicate how often you used it:	
- 1. Single gloves	<input type="checkbox"/> Always, as recommended <input type="checkbox"/> Most of the time (50% or more but not 100%) <input type="checkbox"/> Occasionally 20% to under 50%) <input type="checkbox"/> Rarely (less than 20% of the time)
- 2. Medical mask	<input type="checkbox"/> Always, as recommended <input type="checkbox"/> Most of the time <input type="checkbox"/> Occasionally <input type="checkbox"/> Rarely
- 3. Face shield or goggles/protective glasses	<input type="checkbox"/> Always, as recommended <input type="checkbox"/> Most of the time <input type="checkbox"/> Occasionally <input type="checkbox"/> Rarely

- 4. Disposable gown	<input type="checkbox"/> Always, as recommended <input type="checkbox"/> Most of the time <input type="checkbox"/> Occasionally <input type="checkbox"/> Rarely
B. During the period of health care interaction with the COVID-19 patient, did you remove and replace your PPE according to protocol (e.g. when medical mask became wet, disposed the wet PPE in the waste bin, performed hand hygiene, etc.)?	<input type="checkbox"/> Always, as recommended <input type="checkbox"/> Most of the time <input type="checkbox"/> Occasionally <input type="checkbox"/> Rarely
C. During the period of health care interaction with the COVID-19 case, did you perform hand hygiene before and after touching the COVID-19 patient? NB: Irrespective of wearing gloves	<input type="checkbox"/> Always, as recommended <input type="checkbox"/> Most of the time <input type="checkbox"/> Occasionally <input type="checkbox"/> Rarely
D. During the period of health care interaction with the COVID-19 case, did you perform hand hygiene before and after any clean or aseptic procedure was performed (e.g. inserting: peripheral vascular catheter, urinary catheter, intubation, etc.)?	<input type="checkbox"/> Always, as recommended <input type="checkbox"/> Most of the time <input type="checkbox"/> Occasionally <input type="checkbox"/> Rarely
E. During the period of health care interaction with the COVID-19 case, did you perform hand hygiene after exposure to body fluid?	<input type="checkbox"/> Always, as recommended <input type="checkbox"/> Most of the time <input type="checkbox"/> Occasionally <input type="checkbox"/> Rarely
F. During the period of health care interaction with the COVID-19 case, did you perform hand hygiene after touching the COVID-19 patient's surroundings (bed, door handle, etc.)?  Note: this is irrespective of wearing gloves	<input type="checkbox"/> Always, as recommended <input type="checkbox"/> Most of the time <input type="checkbox"/> Occasionally <input type="checkbox"/> Rarely
G. During the period of health care interaction with the COVID-19 case, were high touch surfaces decontaminated frequently (at least three times daily)?	<input type="checkbox"/> Always, as recommended <input type="checkbox"/> Most of the time <input type="checkbox"/> Occasionally <input type="checkbox"/> Rarely

6. Adherence to infection prevention and control (IPC) when performing aerosol generating procedures (e.g. Tracheal intubation, nebulizer treatment, open airway suctioning, collection of sputum, tracheostomy, bronchoscopy, cardiopulmonary resuscitation (CPR) etc.)	
For the following questions, please quantify the frequency you wore PPE, as recommended: 'Always, as recommended' should be considered wearing the PPE when indicated more than 95% of the time; 'Most of the time' should be considered 50% or more but not 100%; 'occasionally' should be considered 20% to under 50% and 'Rarely' should be considered less than 20%.	
A. During aerosol generating procedures on a COVID-19 patient, did you wear personal protective equipment (PPE)?	<input type="checkbox"/> Yes <input type="checkbox"/> No
- If yes, for each item of PPE below, indicate how often you used it:	
- 1. Single gloves	<input type="checkbox"/> Always, as recommended <input type="checkbox"/> Most of the time

	<input type="checkbox"/> Occasionally <input type="checkbox"/> Rarely
- 2. N95 mask (or equivalent respirator)	<input type="checkbox"/> Always, as recommended <input type="checkbox"/> Most of the time <input type="checkbox"/> Occasionally <input type="checkbox"/> Rarely
- 3. Face shield or goggles/protective glasses	<input type="checkbox"/> Always, as recommended <input type="checkbox"/> Most of the time <input type="checkbox"/> Occasionally <input type="checkbox"/> Rarely
- 4. Disposable gown	<input type="checkbox"/> Always, as recommended <input type="checkbox"/> Most of the time <input type="checkbox"/> Occasionally <input type="checkbox"/> Rarely
- 5. Waterproof apron	<input type="checkbox"/> Always, as recommended <input type="checkbox"/> Most of the time <input type="checkbox"/> Occasionally <input type="checkbox"/> Rarely
B. During aerosol generating procedures on the COVID-19 patient, did you remove and replace your PPE according to protocol (e.g. when medical mask became wet, disposed the wet PPE in the waste bin, performed hand hygiene, etc.)?	<input type="checkbox"/> Always, as recommended <input type="checkbox"/> Most of the time <input type="checkbox"/> Occasionally <input type="checkbox"/> Rarely
C. During aerosol generating procedures on the COVID-19 case, did you perform hand hygiene before and after touching the COVID-19 patient? NB: Irrespective of wearing gloves	<input type="checkbox"/> Always, as recommended <input type="checkbox"/> Most of the time <input type="checkbox"/> Occasionally <input type="checkbox"/> Rarely
D. During aerosol generating procedures on the COVID-19 case, did you perform hand hygiene before and after any clean or aseptic procedure was performed (e.g. inserting: peripheral vascular catheter, urinary catheter, intubation, etc.)?	<input type="checkbox"/> Always, as recommended <input type="checkbox"/> Most of the time <input type="checkbox"/> Occasionally <input type="checkbox"/> Rarely
E. During aerosol generating procedures on the COVID-19 case, did you perform hand hygiene after touching the COVID-19 patient's surroundings (bed, door handle, etc.)?  Note: This is irrespective of wearing gloves	<input type="checkbox"/> Always, as recommended <input type="checkbox"/> Most of the time <input type="checkbox"/> Occasionally <input type="checkbox"/> Rarely
F. During aerosol generating procedures on the COVID-19 case, were high touch surfaces decontaminated frequently (at least three times daily)?	<input type="checkbox"/> Always, as recommended <input type="checkbox"/> Most of the time <input type="checkbox"/> Occasionally <input type="checkbox"/> Rarely

<b>7. Accidents with biological material</b>	
A. During the period of a health care interaction with a COVID-19 infected patient, did you have any	<input type="checkbox"/> Yes <input type="checkbox"/> No

episode of accident with biological fluid/respiratory secretions? See below for examples	
- If yes, which type of accident?	<input type="checkbox"/> Splash of biological fluid/respiratory secretions in the mucous membrane of eyes <input type="checkbox"/> Splash of biological fluid/respiratory secretions in the mucous membrane of mouth/nose <input type="checkbox"/> Splash of biological fluid/respiratory secretions on non-intact skin <input type="checkbox"/> Puncture/sharp accident with any material contaminated with biological fluid/respiratory secretions

Risk categorization of health workers exposed to COVID-19 virus

1. High risk for COVID-19 virus infection

The HCW did not respond 'Always, as recommended' to Questions:

- 5A1 – 5G, 6A – 6F
- Or responded 'Yes' to 7A.

2. Low risk for COVID-19 virus infection

- All other answers

Part II: Management of HCWs exposed to COVID-19 virus

The management of HCWs exposed to COVID-19 varies according to the risk categorization, as above.

Recommendations for HCWs at high risk for infection:

- Stop all health care interactions with patients for a period of 14 days after the last day of exposure to a confirmed COVID-19 patient;
- Be tested for COVID-19;
- Quarantine for 14 days in a designated setting.<sup>1</sup>
- Provide psychosocial support to HCW during quarantine, or throughout the duration of illness if HCW is confirmed to have COVID-19;

- Provide compensation for the period of quarantine and for the duration of illness (if not on a monthly salary) or contract extension for duration of quarantine/illness;
- Provide review of IPC training for the health care facility staff, including HCWs at high risk for infection after 14-day quarantine period.

#### Recommendations for health workers at low risk for COVID-19:

- Self-monitor temperature and respiratory symptoms daily for 14 days after the last day of exposure to a COVID-19 patient. HCWs should call the health care facility if they develop any symptoms suggestive of COVID-19;
- Reinforce contact and droplet precautions when caring for all patients with acute respiratory illness<sup>2</sup> and standard precautions for all patients;
- Reinforce airborne precautions for aerosol-generating procedures on all suspected and confirmed COVID-19 patients; Reinforce the rational, correct, and consistent use of personal protective equipment;<sup>3</sup>
- Apply WHO's "My 5 Moments for Hand Hygiene" before touching a patient, before any clean or aseptic procedure, after exposure to body fluid, after touching a patient, and after touching a patient's surroundings;<sup>4</sup>
- Practice respiratory etiquette at all times.

## RECOMMENDATIONS FOR DENTAL PRACTICE IN RESPECT TO COVID-19 PANDEMIC

Interim guidance on IPC during health care is recommended when COVID-19 infection is suspected. Dental professionals are uniquely exposed to COVID-19 due to regular contact with oral mucosa, and bodily fluids, saliva and blood. Most dental procedures result in production of droplet and aerosols, which can remain suspended in the air for some time before being inhaled or settling on environmental surfaces. Dental professionals should therefore have an understanding of COVID-19 transmission, detection of infection and extra precautions required when providing dental treatment to avoid contracting or transmitting the infection.

### Provision of routine care

Previous experience with the SARS coronavirus of nosocomial infections. Care should be taken to avoid or minimize operations that can produce droplets of aerosols. **Routine dental visits should be deferred, pending advisories from the Ministry of Health.** Dental emergencies will continue to be managed non-invasively applicable. Where procedures must be done, this should be done with presumption of COVID-19 exposure and appropriate precautions taken. It was reported that dental practice should be postponed at least 1 month for convalescing patients with SARS. It is unknown yet whether the same suggestion should be recommended for patients recovered from COVID-19.

### Plan ahead

All clinics should have standard operating procedures in place for handling patients presenting to the clinic who have been potentially exposed to COVID-19. Standalone clinics should have a designated space to safely separate the patient potentially exposed to COVID-19 from others who may be in the waiting area. This should be an area separated by a door. Clinics within hospitals should be aware of the designated point for handling suspected COVID-19 exposure. All professionals should be well versed with the country case definition for COVID-19 infection which may be amended from time to time as the situation evolves.

### Evaluation of Patients

Where possible, patient triaging over the telephone should be done prior to arrival at the clinic. Patients with symptoms of respiratory tract infection should be advised to stay home until the condition resolves.

Where additional history reveals recent travel from a country with confirmed COVID-19 cases or contact with such individuals should be advised to call the national hotline 719 for further evaluation. Follow-up on compliance of the advisory to use the hotline should be done.

Where telephone triaging is not possible, dental clinics are recommended to establish precheck triages to measure and record the temperature of every staff and patient as a routine procedure. A contact free thermometer is strongly recommended. Precheck staff should ask patients questions about their health status and history of contact or travel. Patients who have a presentation and/or travel or contact history suggestive of COVID-19 exposure should be registered and transferred to designated hospitals screening COVID-19 cases, or if the clinic is within a hospital, the designated COVID-19 screening site. For patient



transfer, calling the national hotline 719 will avail a rapid response team who will come to evaluate and evacuate the patient. Following the MOH advisory, patients who have been to epidemic regions within the past 14 days, will be quarantined for at least 14 days. Such patients should only be seen to address dental emergencies.

### **Oral Examination**

The current literature suggests that a significant proportion of people infected with COVID-19 are asymptomatic. Preoperative antimicrobial mouth rinse could reduce the number of microbes in the oral cavity. Chlorhexidine mouthwash has been found to have poor virucidal activity against coronavirus. A pre-procedure mouth rinse with oxidative agents such as 1% hydrogen peroxide or 0.2% povidone is recommended. Intraoral x-ray examination is the most common radiographic technique in dental imaging; however, it can stimulate saliva secretion and coughing. Therefore, extraoral dental radiographies, such as panoramic radiography is advised.

### **Provision of dental care for confirmed COVID-19 infected patients.**

Provision of care for confirmed cases of covid-19 infection should be restricted to dental emergencies. Appropriate precautions should be taken to protect the patient and all staff in the operatory and minimize risk of contamination. Strict personal protection measures should be in place. All personnel should endure handwashing before and after examination, procedures, leaving the patient surroundings and after handling tissue, bodily fluids or contaminated material. Care should be taken by staff to avoid touching their own eyes, mouth and nose.

PPE for all staff in the operatory should include: hair net, disposable gown, face masks and goggles/face shields, surgical gloves and waterproof footwear are recommended. Face shields and goggles are essential with use of high or low-speed drilling with water spray

Care should be taken to avoid or minimize operations that can produce droplets of aerosols. Procedures that are likely to induce coughing should be avoided (if possible) or performed cautiously (WHO 2020a). Aerosol-generating procedures, such as the use of a 3-way syringe, should be minimized as much as possible. The 4-handed technique is beneficial for controlling infection. The use of saliva ejectors with low or high volume can reduce the production of droplets and aerosols. Rubber dams and high-volume saliva ejectors can help minimize aerosol or spatter in dental procedures.

If a carious tooth is diagnosed with symptomatic irreversible pulpitis not controlled by medication, pulp exposure could be made with chemo mechanical caries removal under rubber dam isolation and a high-volume saliva ejector after local anesthesia; then, pulp devitalization can be performed to reduce the pain. The filling material can be replaced gently without a devitalizing agent later according to the manufacturer's recommendation. Where use of high-speed handpiece is unavoidable it recommended to schedule the procedure as the last patient in the day to decrease the risk of nosocomial infection. After treatment, environmental cleaning and disinfection procedures should be followed. Alternatively, patients could be treated in an isolated and well-ventilated designated treatment room or negatively pressured rooms if available.

The treatment planning of tooth fracture, luxation, or avulsion is dependent on the age, the traumatic severity of dental tissue, the development of the apex, and the duration of tooth avulsion. If the tooth needs to be extracted, if suturing is needed, absorbable suture is preferred. For patients with facial soft tissue contusion, debridement and suturing should be performed. It is recommended to rinse the wound slowly and use the saliva ejector to avoid spraying.

Dental emergencies can occur and exacerbate in a short period and therefore need immediate treatment. Life-threatening cases with oral and maxillofacial compound injuries or infections should be admitted to the hospital immediately, and chest imaging should be prescribed if available to exclude suspected infection because of the turnaround time for receiving COVID-19 test results. RT-PCR test, besides being time-consuming, needs a laboratory with pan-coronavirus or specific SARS-CoV-2 detection capacity.

### **Information:**

It is worth advocating to encourage all dental professionals to engage in self-learning, make full use of online resources, and learn about the latest academic developments. With the increased knowledge of viral features, epidemiologic characteristics, clinical spectrum, and treatment, strategies to prevent, control, and stop the spread of COVID-19 will continue to be developed.

### **In light of the above, the following is recommended:**

- Only dental emergencies should be addressed at all levels until further communication. These emergencies are:
  - 1. Uncontrolled Bleeding in the mouth and orofacial region.
  - 2. Cellulitis and soft tissue infections intraorally or extra orally that can potentially compromise the airway.
  - 3. Trauma involving facial bones that potentially compromises the airway.
  - 4. Cancer patients in need of urgent care
- Patients are encouraged to call the dental professional for consultation and only visit the dental clinic on the advice on the dental professional.
- If a stand-alone clinic does not have enough room/capacity to triage and isolate suspected cases, it should desist from operating.
- All dentists working in public dental facilities, government and any other institution, should liaise with the hospitals where they are working on how to handle the patients. In the absence of proper PPE for all patient handling staff-Dentist, Dental assistants, Community Oral Health Officers, Dental Nurses and hygienists as prescribed in the text above, they should not handle any patients.
- All dental personnel handling patients **must** have proper PPE, this include; N95 mask, face shield, gloves, disposable gowns, disposable head caps. Employers must ensure that the above are provided as single use items.

- It is the responsibility of the dental practitioner to educate their patients on the risks of undertaking a non-urgent procedure and also to ensure their safety and the safety of other patients and staff.

## INTERIM GUIDANCE FOR SAFE HANDLING OF HUMAN REMAINS OF COVID-19 PATIENTS IN KENYA HOSPITALS AND MORTUARIES

**Purpose of this guidance is to** protect against the spread of **COVID-19** at the site of death, during transport of human remains, at the mortuary, and during final disposal of remains. Personnel should adhere to Standard Precautions. At every point of handling human remains of a COVID-19 patient, appropriate PPE must be worn.

### PPE Recommendations

The following PPE should be worn at a minimum:

- Wear nonsterile, nitrile gloves when handling potentially infectious materials.
- If there is a risk of cuts, puncture wounds, or other injuries that break the skin, wear heavy-duty gloves over the nitrile gloves.
- Wear a clean, long-sleeved fluid-resistant or impermeable gown to protect skin and clothing.
- Use a plastic face shield or a face mask and goggles to protect the face, eyes, nose, and mouth from splashes of potentially infectious bodily fluids.
- In case of a death in the ward or other bed, position pre-opened body bags next to hospital bed in a medical stretcher/Mortuary stretcher.
- Pull bed sheet(s) up and around body. **Do not wash or clean body. Do not remove inserted medical equipment from body.**
- Gently roll body wrapped in sheets while sliding the body bag under body.
- Complete transfer of body to body bag.
- Zip up body bag and ensure you minimize air in bag.
- Disinfect gloved hands using alcohol-based hand rub (ABHR).
- If any areas of PPE have visible contamination, disinfect with 0.5% **Sodium hypochlorite** (bleach).
- Disinfect outside of the body bag with 0.5% Sodium hypochlorite (bleach).
- Wheel the medical stretcher/Mortuary stretcher to decontamination area.
- Decontaminate surface of body bag with 0.5% Sodium hypochlorite.
- Begin by applying the 0.5% Sodium hypochlorite to top of bag and any exposed areas of Medical stretcher's or Mortuary stretcher.

- Roll the body bag to one side to decontaminate half of bottom of body bag and newly exposed portion of Medical stretcher's cot.
- Repeat with other side of bag and Medical stretcher.
- After cleaning all visible soiled areas, reapply 0.5% Sodium hypochlorite and allow enough contact time.
- Disinfect surfaces of medical stretcher's or Mortuary stretcher from handles to wheels with disinfectant.
- Disinfect gloved hands using bleach solution.
- Place patient identification and any other documents that need to accompany the body. These can be put in a zip lock bag. Affix the following labels to the body bag before it is placed into the hearse or other vehicle used to transport the body: "infectious substance" label
- Push Medical stretcher and hand over the decontaminated body bag for burial
- Proceed to PPE removal area.
- Key considerations:
  - Strictly observe standard precautions
  - Appropriate PPE must be worn
  - Do not wash or clean the body.
  - Do not remove any inserted medical equipment e.g. endotracheal or other tubing that would lead to generation of aerosols

## INTERIM GUIDANCE FOR SAFE TRANSPORTATION OF HUMAN REMAINS

The Step-by-step guidelines are intended to protect workers involved in the transportation of human remains from the mortuary in the hospital to the place of final disposition. The disposal of human remains from COVID-19 cases should be overseen by a public health official to avoid community practices that would result in more infections through contact.

The following points are important considerations when transporting human remains of a COVID-19 patient:

- The local health authorities should designate a team to oversee the process of human remains disposal in case of COVID-19 deaths.
- Minimize handling transportation of human remains to the extent possible.
- Ensure that anyone handling the body bag wears single-use (disposable) gloves with extended cuffs and a long-sleeved disposable gown.
- Coordinate all transportation of human remains of a COVID-19 patient with the local health officials
- As in the case of any other highly infectious disease, avoid transporting noncremated remains via aircraft.
- A plan should be in place to transport the body safely from the hospital to the hearse or vehicle used to transport the body.
- A public health official should be designated in advance to accompany the body from the hospital to the place of final disposition to ensure the safety of all those involved in the process.
- Follow government guidance on the conduct of funerals which includes minimizing the number of attendants to not more than fifteen and ensuring social distancing.
- There should be procedures in place so the designated official accompanying the body knows what to do if the body bag is compromised during transport and how to safely decontaminate it.
- The health official overseeing the body disposal should have a biohazard spill kit and recommended PPE with all the equipment needed for any situation in which the body bag is compromised.

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