



GUIDELINES

**FOR THE PREVENTION, SURVEILLANCE AND
MANAGEMENT OF COVID-19 INFECTION
AMONG HEALTH CARE WORKERS**

IN ZIMBABWE, 2022



APRIL 2022

Foreword

The Guidelines for the Prevention, Surveillance and Management of COVID-19 Infection amongst Health Care Workers (HCW) in Zimbabwe were developed to prevent, detect and manage HCW COVID-19 infection, an emerging pandemic affecting the whole world. The HCW is at the fore front of this pandemic, thus the need for standardised operating procedures is of utmost importance. These guidelines therefore seek to reduce the significant morbidity and mortality among the HCW, ultimately ensuring the reduction of the cost to the health care worker and the Ministry of Health and Child Care (MoHCC) as a whole.

The Ministry of Health and Child Care requires that all health care workers in various health care settings follow infection prevention and control procedures. Therefore, these guidelines have been developed in line with the existing MOHCC COVID-19 guidelines that include the Zimbabwe guidelines for the surveillance of COVID-19, Management of COVID-19 and the National infection prevention and control. The Guidelines for the Prevention, Surveillance and Management of COVID-19 gives guidance to all healthcare workers on how to prevent, detect, manage and report COVID-19 exposed and confirmed cases.

These guidelines were developed through a consultative process among the Infection Prevention and Control, Surveillance, Risk Communication and Community Engagement, Case management pillars in collaboration with World Health Organisation.

In contribution to the national fight against COVID -19 pandemic amongst the health care workers of Zimbabwe who work in various settings, the undersigned, hereby pledge my commitment to the full operationalisation of these guidelines.



Air Commodore (Dr.) J. Chimedza

Permanent Secretary for Ministry of Health and Child Care (MoHCC)



Acknowledgements

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Abbreviations/Acronyms

COVID-19	-	Coronavirus disease 2019
CAI	-	Community Acquired Infections
HAI	-	Healthcare Associated Infections
HCW	-	Health Care Worker
HCWI	-	Health Care Worker Infection
IPC	-	Infection Prevention and Control
M and E	-	Monitoring and Evaluation
MoHCC	-	Ministry of Health and Child Care
PPE	-	Personal Protective Equipment
RCCE	-	Risk Communication and Community Engagement
SARS-COV-2	-	Severe Acute Respiratory Syndrome-Coronavirus-2
SOPs	-	Standard Operating Procedures
WHO	-	World Health Organization

Definition of terms

Contact tracing is the process of identifying, assessing, and managing people who have been exposed to someone who has been infected with the COVID-19 virus.

Isolation refers to those with symptoms suggestive of COVID-19 and therefore need to assume they are infected even if not yet tested so as to protect others around them. This will also apply to confirmed COVID-19 cases with mild symptoms and being managed at home that is not deemed sick enough to be admitted and those with mild symptoms and no high-risk factors

Self-quarantine refers to when you distance yourself from others after exposure or potential exposure just in case you develop symptoms of COVID-19.

Introduction



Background

The recent years have seen frequent outbreaks of emerging infectious diseases. These include the coronavirus (COVID-19) pandemic, an infectious respiratory disease caused by a novel coronavirus, severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). COVID-19 has overwhelmingly changed the world and, consequently, is changing the conditions of healthcare workers (HCW). This pandemic is creating profound challenges for healthcare workers and healthcare systems in the world, as the disease is spreading at an alarming rate, surpassing hospital capacities, and exposing healthcare workers to a high risk of exposure. Zimbabwe has not been spared. It recorded its highest Health-care Worker Infection (HCWI) infection rate of 11.8% of the total cumulative cases during the 2nd wave from 1 November 2020 to 20 February 2021. This was considered one of the highest HCWI rates in the African Region at that point in time.

It was of concern that healthcare workers made up to such a significant proportion, yet they are the ones who are supposed to be the care givers. The implication was that COVID-19 infection is now a Healthcare Acquired Infection (HAI) and occupational hazard, in addition to being a community-acquired infection. There was no distinction between HAI and community acquired infections because cases were not systematically investigated. However various efforts to reduce the incidence of HCWI rates were made.

Zimbabwe adapted the WHO HCWI surveillance tools and set up the HCWI surveillance system across all the 10 provinces. The objective of the system is early detection of COVID-19 cases, prevent the spread of infection in health facilities and ensure all cases are investigated and managed accordingly. With this system in place, a clear distinction of HAI and community acquired infection could be made. As of 20th of March 2022, the HCWI rate stands at 4.8 %. It is imperative to sustain the gains made so far by creating safe working environments and managing health and safety risks posed by occupational hazards in all health care settings.

This document outlines mechanisms for early identification, surveillance, management and monitoring of HCW exposure risk and infection with COVID-19. The guidelines must be used in conjunction with guidelines for COVID-19 Infection Prevention and Control (IPC), Case management, Surveillance as well as other measures that have been put in place to promote a general healthy and safe working environment.

Purpose of the guidelines

These guidelines serve as a framework to guide the prevention, early detection, and management of COVID-19 among healthcare workers.

Targeted users

- Healthcare workers at all levels of service delivery in both the public and private facilities
- Managers at all levels of service delivery in both the public and private facilities

Coordination of health care worker protection activities

Healthcare worker protection requires a multidisciplinary team to work together actively and effectively. There is need for coordination of different pillars in MoHCC. All pillars are responsible for generating evidence-based interventions on COVID-19 among health care workers. The following pillars play crucial roles in the coordination of health care worker protection:

Table 1: COVID-19 pillars and their roles in prevention and control of COVID-19 among Healthcare Workers.

Pillar name	Major role of the pillar
Infection prevention and control and protection of healthcare workers	<ul style="list-style-type: none"> To prevent and control the transmission of COVID-19; The pillar is responsible for the protection of healthcare workers
Surveillance, rapid response teams and case investigation	To implement the 24 hours targeted approach in the detection, investigation of COVID-19 cases, quarantine, isolation and undertaking contact tracing and auditing the cases as well as reporting of HCWI on a daily and weekly basis.
Case management and continuity of essential health services	<ul style="list-style-type: none"> To manage the COVID-19 confirmed or exposed healthcare workers
Risk Communication and community engagement	To provide reliable, evidence based and actionable information on COVID-19 to all healthcare workers
Laboratory	<ul style="list-style-type: none"> To ensure the healthcare workers have access to COVID-19 testing and genomic sequencing where cluster outbreaks or suspected reinfections in health care settings are reported.
Coordination Planning & Monitoring	<p>Systematic and well-coordinated health sector response to healthcare worker COVID-19 infections at all levels of care.</p> <p>Ensure built environment meets the minimum standards of the WHO co-component 8.</p>
Logistics, procurement and supply management	Provision of PPE and commodities for use
Vaccination	<ul style="list-style-type: none"> To ensure that HCWs are protected through vaccination.
Ports of Entry	<ul style="list-style-type: none"> Guards against the introduction of infection from outside our borders as well as protecting HCWs at POEs from possible infection.

Establishment of COVID-19 healthcare worker protection committee

- Every health facility, be it public or private, shall have a Healthcare Worker Protection Committee led by the Infection Prevention and Control Focal Person. Committee members will be drawn but not limited to the following pillars/departments:
 - ▶ Infection Prevention and Control
 - ▶ Case management
 - ▶ Mental and occupational health
 - ▶ Surveillance
 - ▶ Health information
 - ▶ Laboratory
 - ▶ Vaccination
 - ▶ Pharmacy
 - ▶ Risk Communication and Community Engagement



- The functions of this committee will be to:
 - ▶ Ensure that healthcare workers notify management of any accidental exposure at the workplace to biological fluids of suspect, probable or confirmed patients
 - ▶ Routinely screen HCWs for COVID-19
 - ▶ Ensure that the facilities are assessed for COVID-19 exposure risks
 - ▶ Ensure that all COVID-19 exposed HCWs are assessed, stratified and managed according to the level of risk.
 - ▶ Ensure that all COVID-19 confirmed HCWs are investigated using the HCW case investigation tool – (**See annex 3**) and managed as per guidelines.
 - ▶ Collect, collate and analyse HCWI data and ensure agreed indicators are reported to the National Surveillance Unit.
 - ▶ Report health care worker infections in the daily, weekly situational reports and national line list.
 - ▶ Ensure availability of data collection tools for health care worker surveillance.
 - ▶ Monitor HCWs for adherence to COVID-19 IPC measures.

Strategies for early detection

The following strategies are for early detection and mitigation of the risk of transmission of infection amongst HCWs. There is need to utilise the established lines of communication between HCWs and their managers in order for the strategies to be effective:

1. COVID-19 screening of HCWs

All healthcare workers should be screened using a standard screening tool when reporting to work.

- Active screening includes assessment for fever ($\geq 37.5^{\circ}\text{C}$), acute respiratory symptoms (e.g., cough, shortness of breath, sore throat), loss of taste or smell, muscle aches and chills.
- Passive screening is where healthcare workers assess themselves and report to the next level in the event of having signs and symptoms suggestive of COVID-19.

2. Routine testing of high-risk HCWs

All healthcare workers should be monitored for COVID-19 in line with current guidance from the government. This includes:

- For staff members working in red zones.
- For staff working in green zones.
- On pre-entry to unit /department or leaving the department

NB: Where testing is impossible a screening tool will be used.

1. Risk assessment

Regular assessment of risks and effectiveness of COVID-19 control measures, including compliance with IPC and safety protocols is imperative. A standardized risk assessment tool should be used – *see annexes 1, 2 and 4*. All exposed healthcare workers shall be assessed. The exposure risk shall be categorized and managed as per guidelines -see annex 2.

2. Contact tracing

All HCWs identified as contacts shall be listed and traced within 24 hours using the prevailing contact tracing guidelines

Definition of a COVID-19 contact

A contact is a person who experienced any one of the following exposures during the 2 days before and the 14 days after the onset of symptoms of a probable or confirmed case:

- Face-to-face contact with a probable or confirmed case within one (1) meter and for more than 15 minutes
- Direct physical contact with a probable or confirmed case
- Direct care for a patient with probable or confirmed COVID-19 disease without using proper personal protective equipment
- Other situations as indicated by local risk assessments (will be determined following risk assessment)

Risk categorization of healthcare worker exposure to COVID-19

All HCWs exposed to a person with COVID-19 whether in a healthcare facility or in the community should be assessed for symptoms of COVID-19.

If the exposed HCW is not symptomatic, an assessment can be done to determine the risk category of exposure, necessary work restriction and monitoring for 14 days. A register or 'log' of all HCWs involved in the care of a patient diagnosed with COVID-19, or who fulfil the definition of a contact, shall be collated by local management.

Risk categorization of health care workers can be determined by the standard definition of risk level using the risk exposure assessment tool –see *annex 2*. The risks associated with COVID-19 are categorized as 'Low risk' and 'High risk'.

Low-risk exposure

- HCW had distance of more than 1 metre away from a COVID-19 confirmed case for less than 15 minutes OR was within 1 meter, but HCW was wearing appropriate PPE (i.e., face cover and eye cover).
- HCW had distance of more than 1 metre away from a COVID-19 confirmed case for less than 15 minutes OR was within 1 meter, but COVID case was wearing a surgical mask (i.e., source control).

High-risk exposure

- HCW had close contact within 1 metre of a COVID-19 confirmed case for more than 15 minutes without appropriate PPE (no face cover/eye cover) or with failure of PPE.

and/or

- HCW had direct contact with respiratory secretions of confirmed COVID-19 case (i.e. clinical or laboratory confirmed).

It should be noted that the assessment of level of risk must be determined by the risk assessment tool and may not be limited to people that have come in contact with suspected or confirmed cases of COVID-19. All healthcare facilities should have an established communication plan for notifying appropriate public health authorities of any HCW who requires testing for COVID-19.



Management of healthcare workers exposed to SARS-CoV-2

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

1. Recommendations for healthcare workers with high risk of infection

- Stop all healthcare interaction with patients and quarantine as per the current guidelines.
- Be tested for COVID-19 virus infection as guided by the guidelines **Healthcare facilities should:**
 - ▶ Provide psychosocial support to healthcare workers during quarantine.
 - ▶ Refresher infection prevention and control training for the healthcare facility staff, including healthcare workers at high risk of infection once they return to work. recommended period.

All services provided should be documented and kept confidentially.

2. Recommendations for healthcare workers with low risk of COVID-19 infection:

- Continue reporting for duty but self-monitor temperature and respiratory symptoms as per current guidelines. Healthcare workers should be advised to inform supervisor if they develop any symptoms suggestive of COVID-19 at any point.

3. Recommendations for all risk groups

- Reinforce standard and transmission-based precautions when caring for all patients Reinforce airborne precautions for aerosol-generating procedures on all suspected, probable and confirmed COVID-19 patients.
- Reinforce the rational, correct, and consistent use of personal protective equipment when exposed to confirmed COVID-19 patients.
- Apply WHO's "My 5 Moments for Hand Hygiene". Always practise respiratory etiquette.

FLOW CHART FOR THE RISK ASSESSMENT

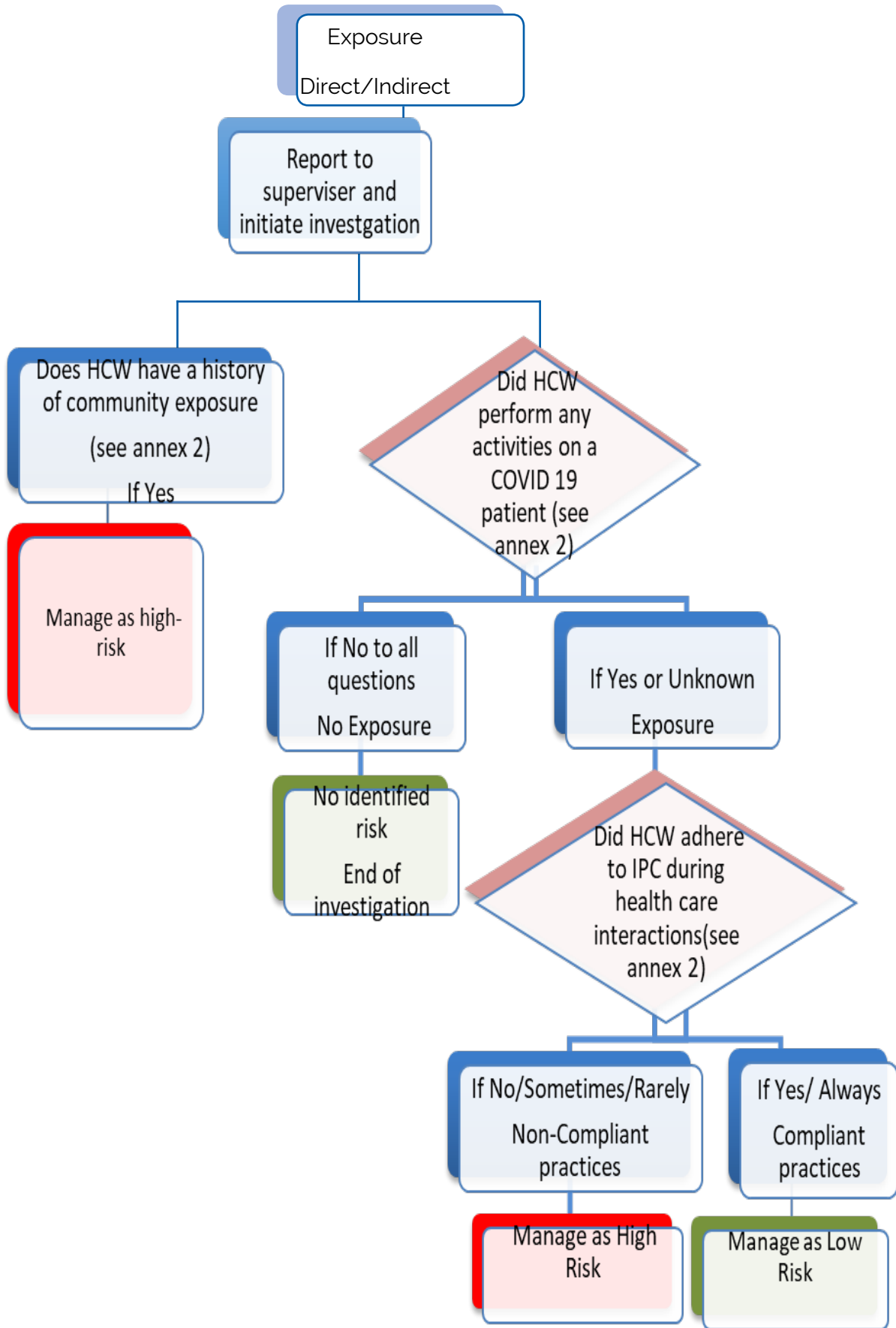


Figure 1: Risk assessment flow chart

Investigation and management of healthcare worker with symptoms suggestive of COVID-19 or COVID-19 positive result.

All cases of COVID-19 will be investigated using the surveillance protocol for SARS-COV-2 Infection among healthcare workers that is, the case investigation tool – (see Annex 3)

Management of a suspected or confirmed case

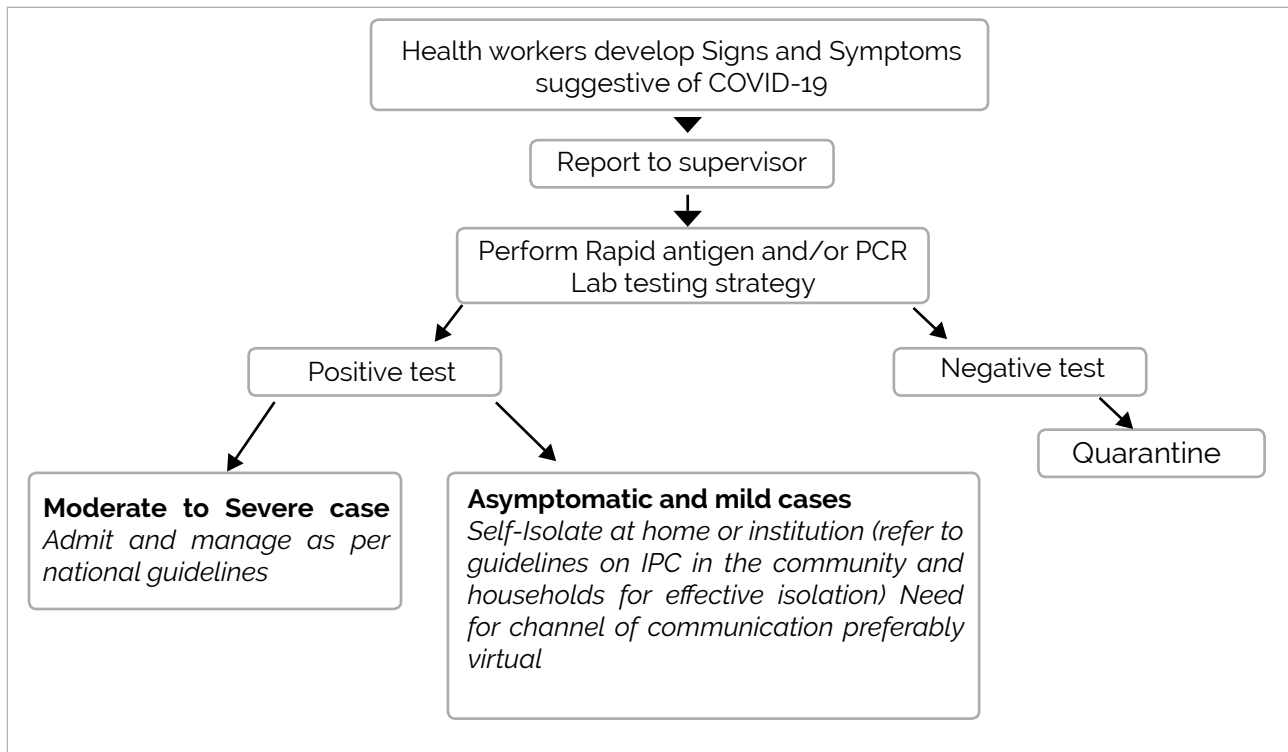


Figure 2 :management of healthcare workers suspected to be infected by COVID-19

Note: Psychosocial support should be provided to all infected healthcare workers
All confirmed cases should be investigated using the case investigation form – see annex 3

Staff return to work

All staff returning to work should be re oriented on COVID-19 IPC measures. The discharge of healthcare workers from quarantine or isolation shall be done in accordance with national guidance on discharge criteria. At the time of guideline development, the discharge criteria shall be as follows:

Discharge from isolation

- asymptomatic patients: 10 days after positive test for SARS-CoV-2
- Symptomatic patients: 10 days after symptom onset, plus at least 3 additional days without symptoms (including without fever and without respiratory symptoms).

Discharge from quarantine

- 14 days from commencement of quarantine period

HCW vaccination against COVID-19

Healthcare workers are at an increased risk of contracting COVID-19 due to their nature of work. In order to reduce morbidity and mortality amongst the exposed health care workers, every health care worker is required to be fully vaccinated in accordance with the prevailing vaccination guidelines.

Monitoring and Evaluation

HCWI indicators

HCW specific data to be reported by both the public and private sectors facilities to the National Surveillance Unit:

- Statistics of HCWIs disaggregated by profession, department and institution are to be reported on daily basis from the facility up to the national level Surveillance Unit.
- Outcomes of HCWIs investigations that also establish vaccination status and separating community acquired from HAI to be reported on weekly basis and the reporting timelines shall be as follows:
 - ▶ The IPC focal person shall complete the weekly summary report form and submit to the HIO office by end of day every Thursday (Week starting Friday to end of day Thursday). The facility HIO shall submit to the DHIO on every Friday, the DHIO shall in turn submit to the PHIO on the same Friday. The PHIO shall consolidate from all his/her districts and then submit on the same Friday to National level.
- A national weekly COVID-19 situational report which includes HCW specific indicators as determined by the MoHCC shall be produced and published every Sunday.

NB*for indicators in use refer to annex – 5 and 6

As much as possible, the electronic version of the risk assessment and surveillance tools should be used to capture data on HCWs.

HCWI surveillance tools

The following surveillance tools shall be used to collect HCWI data.

Table 2: Healthcare Worker Surveillance Tools

Type of tool	Timelines for completion	Person responsible for completing the forms	Frequency of submission	Person responsible for submitting the forms
Exposure Risk Assessment form	As soon as the exposure report is made	IPC focal person	Monthly	HIO
HCW Case Investigation form	Within 24hrs after a positive result	IPC focal person	Monthly	HIO
COVID-19 Facility Assessment form	Quarterly and as per rising need	IPC focal person	N/A	N/A

NB: COVID-19 assessment forms to be filed at the facility



Table 3: HCWI summary tools

Type of summary reporting form	Frequency of reporting	Person responsible for filling the form	Person responsible for reporting
Weekly summary reporting forms for the case investigation forms	Weekly	IPC focal person	HIO
Monthly summary reporting form for the exposure risk assessment form	Monthly	IPC focal person	HIO

Flow of HCWI data from facility to national level

HCWI data shall be captured, collated, and submitted from point of generation to national level. Figure 3 below shows the transmission of HCWI data

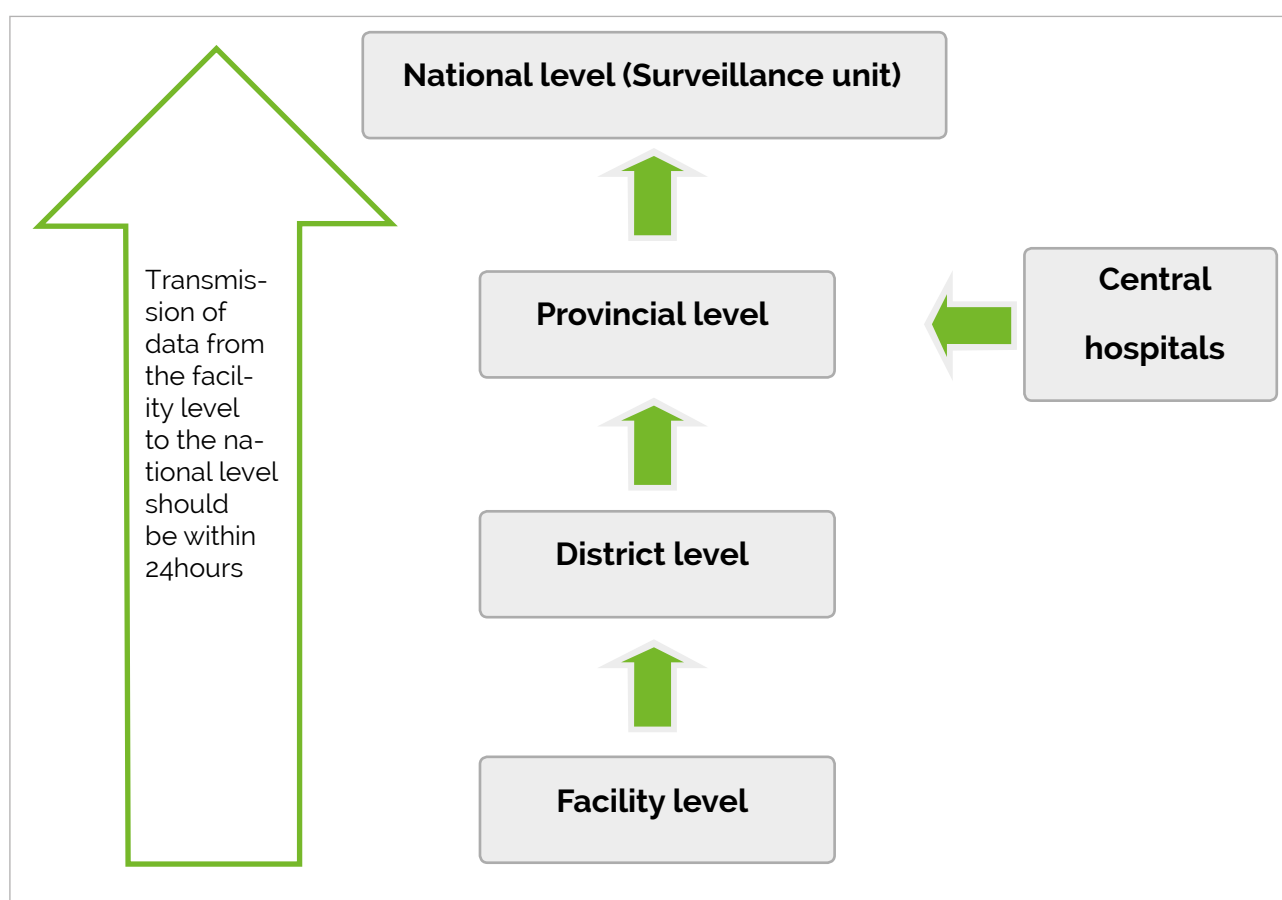


Figure 3: Flowchart showing HCWI data

Roles and responsibilities

Table 4: Roles and responsibilities of employers

<ol style="list-style-type: none">1. Assume overall responsibility to ensure that all necessary preventive and protective measures are taken to minimize occupational safety and health risks.2. Provide information, instruction, and training on occupational safety and health, including refresher training on infection prevention and control (IPC).3. Provide adequate IPC commodities including PPE supplies.4. Familiarize personnel with technical updates on COVID-19 and provide appropriate tools to assess, triage, test, and treat patients.5. Provide appropriate security measures as needed for personal safety.6. Provide a blame-free environment in which healthcare workers can report on incidents, such as exposures to blood or bodily fluids from the respiratory system, or cases of violence, and adopt measures for immediate follow up, including support to victims.7. Advise healthcare workers on self-assessment, symptom reporting, and staying home when ill.8. Maintain appropriate working hours with health breaks.9. Consult with healthcare workers on occupational safety and health aspects of their work and notify the Department of Occupational Safety and Health of cases of occupational diseases.10. Based on risk assessment findings, allow healthcare workers 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, and protect healthcare workers exercising this right from any undue consequences.11. Do not require healthcare workers to return to a work situation where there has been a serious danger to life or health until all necessary remedial action has been taken.12. Honour the right to Curative services, Rehabilitation, and Compensation for healthcare workers infected with COVID-19 following exposure.13. Provide access to mental health and counselling services.
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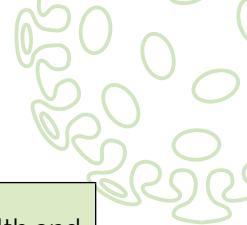


Table 5: Roles and responsibilities of Healthcare workers

1. Follow established occupational safety and health procedures, avoid exposing others to health and safety risks, and participate in employer-provided occupational safety and health training.
2. HCW should assess the level of risk based on the exposure to inform choice of PPE according to guideline.
3. Put on, use, take off, and dispose of PPE properly.
4. Use provided protocols to assess, triage, and treat patients.
5. Treat patients with respect, compassion, and dignity.
6. Maintain patient confidentiality.
7. Swiftly follow established public health reporting procedures of suspected and confirmed cases.
8. Provide or reinforce accurate IPC and public health information, including concerned people who have neither symptoms nor risk.
9. Self-monitor for signs of illness and self-isolate and report illness to managers, if it occurs.
10. Self-monitor for signs of stress and advise management if experiencing signs of undue stress or mental health challenges that require supportive interventions.

Annex 1: COVID -19 SCREENING TOOL FOR HEALTH CARE WORKERS



COVID -19 SCREENING TOOL FOR HCW

Screening of HCW should be done at entry into each healthcare facility (before commencing work and per start of each shift). This includes cadres who are visiting the institution from other areas such as supervisors

1. Demographic data

DATE(DD/MM/YEAR)

TIME.....HRS.....

Name and surname.....

Designation.....

Department

2. Screening method

Active

Passive

3. Parameters

3.1 Temperature

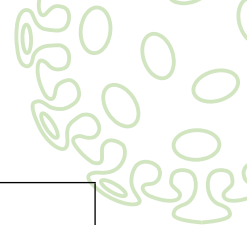
3.2 Have you been in contact with anyone who is a COVID-19 confirmed or probable case?

YES/NO

3.3 Suggestive signs and symptoms

Ask the following questions and tick appropriate response

Indicator	Yes	No	OTHER - please indicate
Sore throat			
Shortness of breath			
Fever			
Sneezing			
Diarrhoea			
Loss of taste			
Loss of smell			
Chest pains			



4. Management of HCW

OTHER - <i>please indicate applicable</i>	Yes	No
Proceed to work		
Referred to staff clinic		
Referred for COVID-19 testing		
Referred for psychosocial support		

Annex 2: RISK OF EXPOSURE ASSESSMENT TOOL

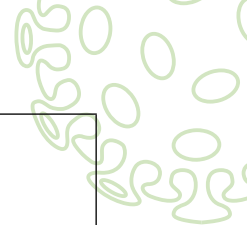


SARS-CoV-2 Exposure risk assessment for healthcare workers

The purpose of the risk assessment tool is to detect early cases of COVID-19 among healthcare workers and prevent the spread of infection in health facilities.

1. Interviewer information	
1.A. Interview date (DD/MM/YYYY):	___ / ___ / _____
1.B. Interviewer name:	
1.C.: Designation of interviewer	
1.D. Interviewer phone number	

2. Health worker information	
2. A. Surname:	
2. B. First name:	
2.C. Age	
2.D. Sex:	<input type="checkbox"/> Male <input type="checkbox"/> Female
2.E. Vaccination status	<input type="checkbox"/> Fully vaccinated <input type="checkbox"/> Partially vaccinated <input type="checkbox"/> Unvaccinated
2.F. Contact details:	
Mobile number:	Email address:



<p>2.G. Type of health care personnel</p> <p><input type="checkbox"/> Admission/reception clerk/switch board operator</p> <p><input type="checkbox"/> Nurse Aide</p> <p><input type="checkbox"/> Catering staff</p> <p><input type="checkbox"/> General Hand</p> <p><input type="checkbox"/> Environmental Health Practitioner</p> <p><input type="checkbox"/> Dentist or dental technician</p> <p><input type="checkbox"/> Laboratory personnel</p> <p><input type="checkbox"/> Laundry staff</p> <p><input type="checkbox"/> Medical doctor</p> <p><input type="checkbox"/> Clinical Officer</p> <p><input type="checkbox"/> Nutritionist/dietician/Hospital Food Services Supervisor</p>	<p><input type="checkbox"/> Ophthalmologist</p> <p><input type="checkbox"/> Ambulance driver</p> <p><input type="checkbox"/> Pharmacy personnel</p> <p><input type="checkbox"/> Physiotherapist/occupational therapist/rehab technician</p> <p><input type="checkbox"/> Radiology/x-ray technician</p> <p><input type="checkbox"/> Admin/accounts staff</p> <p><input type="checkbox"/> Student, intern</p> <p><input type="checkbox"/> Nurse (PCN/RGN/Midwife)</p> <p><input type="checkbox"/> Nurse tutor</p> <p><input type="checkbox"/> Nurse Manager (SIC/Matron etc)</p> <p><input type="checkbox"/> Mortuary attendant</p> <p><input type="checkbox"/> Other (specify)</p>
<p>2.H. Does the healthcare worker have a history of community exposure (family, transport, neighbourhood, market, place of worship, etc.)?</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>
<p><i>If the HCW answers "Yes" to Question 2.H, it is considered a community exposure to COVID-19 virus and healthcare workers should be managed as such. Management recommendations in Part 2:</i></p>	
<p>3. Health worker interactions with COVID-19 patient</p>	
<p>3. A1. Date of health worker's first exposure to probable/confirmed COVID-19 patient:</p>	<p>Date (DD / MM / YYYY): ___ / ___ / _____</p> <p><input type="checkbox"/> Not known</p>
<p>3. A2. Date of healthcare worker's last exposure to probable/confirmed COVID-19 patient:</p>	<p>Date (DD / MM / YYYY): ___ / ___ / _____</p> <p><input type="checkbox"/> Not known</p>
<p>3.B. Name of health facility where the case received care:</p>	
<p>3. C1. Level of health care</p>	<p><input type="checkbox"/> Primary (RHC/Clinic/rural hospital/polyclinic)</p> <p><input type="checkbox"/> Secondary</p> <p><input type="checkbox"/> Tertiary (Provincial Hospital/General Hospital)</p> <p><input type="checkbox"/> Quaternary</p>
<p>3. C2. Does the health facility manage COVID-19 patients?</p>	<p><input type="checkbox"/> Yes, exclusive COVID-19 treatment centre</p> <p><input type="checkbox"/> Yes, combined facilities (only partially devoted to COVID-19)</p> <p><input type="checkbox"/> No, facility not devoted to COVID-19</p>

3.D. District/City:	
3.E. Province:	

4. Activities performed by healthcare worker on COVID-19 patient	
4. A. Did you provide direct care to a confirmed COVID-19 patient?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown
4. B. Did you have face-to-face contact (within 1 meter) with a confirmed COVID-19 patient in a health facility?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown
4. C1. Were you present when any aerosol-generating procedures (AGP) were performed on the patient? See examples below	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown
4. C2 If yes, what type of AGP procedure? List of aerosol generating procedures (AGPs) in oral health care: All clinical procedures that use spray generating equipment such as three-way air/water spray, dental cleaning with ultrasonic scaler and polishing; periodontal treatment with ultrasonic scaler; any kind of dental preparation with high or low-speed hand-pieces; direct and indirect restoration and polishing; definitive cementation of crown or bridge; mechanical endodontic treatment; surgical tooth extraction and implant placement.	<input type="checkbox"/> Tracheal intubation <input type="checkbox"/> Non-invasive ventilation <input type="checkbox"/> Tracheotomy <input type="checkbox"/> Cardiopulmonary resuscitation (CPR) <input type="checkbox"/> Manual ventilation before intubation <input type="checkbox"/> Bronchoscopy <input type="checkbox"/> Endoscopy <input type="checkbox"/> sputum induction through a nebulized hypertonic saline solution <input type="checkbox"/> Suctioning <input type="checkbox"/> Autopsy procedures <input type="checkbox"/> Oral care, specify <input type="checkbox"/> Other (specify):
4. D. Did you have direct contact with the environment where the confirmed COVID-19 patient was cared for? For example, bed, linen, medical equipment, bathroom, etc.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown

4. E. Were you involved in health care interaction(s) (paid or unpaid) in another health facility during the period above?	<input type="checkbox"/> No <input type="checkbox"/> Other health facility (public or private) <input type="checkbox"/> Ambulance <input type="checkbox"/> Home care <input type="checkbox"/> Other
4. F. Have you been accidentally exposed to the respiratory secretions of a confirmed or probable patient?	<input type="checkbox"/> No <input type="checkbox"/> Yes (if YES, specify below) <input type="checkbox"/> Splash of biological fluid/respiratory secretions in the mucous membrane of the eyes <input type="checkbox"/> Splash of biological fluid/respiratory secretions in the mucous membrane of the 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

Defining the risk of exposure of healthcare workers (HCW) to the SARS-COV-2 virus

Responses	Exposition	Risks
If the HW answered "No" to all 4A to 4F, questions	> Non exposed HW	No risk identified.
If the HW answered "Yes" or "Unknown" to any of 4A to 4F questions	> Exposed HW	Continue investigation section 5 and 6

5. Adherence to infection prevention and control (IPC) during health care interactions
<p>For the following questions, please quantify the frequency with which you wore PPE, as recommended:</p> <p>"Always, as recommended" should be considered as wearing the PPE when indicated more than 95% of the time;</p> <p>"Most of the time" should be considered 50% or more, but not 95%;</p> <p>"Occasionally" should be considered 20% to under 50%; and</p> <p>"Rarely" should be considered less than 20%.</p>

5. 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 "No", kindly proceed to the Risk categorization	
If yes, for each item of PPE below, indicate how often you used it:	
5. A.1. disposable gloves	<input type="checkbox"/> Always, as recommended <input type="checkbox"/> Most of the time (50% to 95%) <input type="checkbox"/> Occasionally (20% to < 50%) <input type="checkbox"/> Rarely (< 20% of the time)
5. A.2. Medical mask	<input type="checkbox"/> Always, as recommended <input type="checkbox"/> Most of the time <input type="checkbox"/> Occasionally <input type="checkbox"/> Rarely
5. A.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
5. A.4. Disposable impervious gown	<input type="checkbox"/> Always, as recommended <input type="checkbox"/> Most of the time <input type="checkbox"/> Occasionally <input type="checkbox"/> Rarely
5. B. During the period of health care interaction with the COVID-19 patient, did you remove and replace your PPE according to protocol (for example, when your medical mask became wet, did you dispose of the wet PPE in the waste bin, perform hand hygiene, etc.)?	<input type="checkbox"/> Always, as recommended <input type="checkbox"/> Most of the time <input type="checkbox"/> Occasionally <input type="checkbox"/> Rarely
5. 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

<p>5. 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 (for example, inserting peripheral vascular catheter, urinary catheter, intubation, etc.)?</p>	<input type="checkbox"/> Always, as recommended <input type="checkbox"/> Most of the time <input type="checkbox"/> Occasionally <input type="checkbox"/> Rarely
<p>5. E. During the period of health care interaction with the COVID-19 case, did you perform hand hygiene after exposure to body fluid?</p>	<input type="checkbox"/> Always, as recommended <input type="checkbox"/> Most of the time <input type="checkbox"/> Occasionally <input type="checkbox"/> Rarely <input type="checkbox"/> No exposure to body fluid during that period
<p>5. 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.)?</p> <p>Note: this is irrespective of wearing gloves</p>	<input type="checkbox"/> Always, as recommended <input type="checkbox"/> Most of the time <input type="checkbox"/> Occasionally <input type="checkbox"/> Rarely
<p>5. G. During the period of health care interaction with the COVID-19 case, were high-touch surfaces decontaminated frequently (at least three times daily)?</p>	<input type="checkbox"/> Always, as recommended <input type="checkbox"/> Most of the time <input type="checkbox"/> Occasionally <input type="checkbox"/> Rarely

<p>6. Adherence to infection prevention and control (IPC) when performing aerosol-generating procedures (AGP)</p>	
<p>For the following questions, please quantify the frequency with which you wore PPE, as recommended:</p> <p>"Always, as recommended" should be considered wearing the PPE when indicated more than 95% of the time;</p> <p>"Most of the time" should be considered 50% to 95%;</p> <p>"Occasionally" should be considered 20% to under 50% and</p> <p>"Rarely" should be considered less than 20%.</p>	
<p>6.A. During aerosol-generating procedures on a COVID-19 patient, did you wear proper personal protective equipment (PPE)?</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Exposed to AGPs
<p>If "No" or "Not Exposed to AGPs", kindly proceed to the Risk categorization</p>	
<p>If "Yes", for each item of PPE below, indicate how often you used it:</p>	

6.A.1. Single-use gloves	<input type="checkbox"/> Always, as recommended <input type="checkbox"/> Most of the time <input type="checkbox"/> Occasionally <input type="checkbox"/> Rarely
6.A.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
6.A.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
6.A.4. Disposable impervious gown	<input type="checkbox"/> Always, as recommended <input type="checkbox"/> Most of the time <input type="checkbox"/> Occasionally <input type="checkbox"/> Rarely
6.A.5. Waterproof apron	<input type="checkbox"/> Always, as recommended <input type="checkbox"/> Most of the time <input type="checkbox"/> Occasionally <input type="checkbox"/> Rarely

Risk categorization of healthcare workers (HCW) exposed to SARS-CoV-2

Answers	Exposure	Risks
If a HCW answered "Always, as recommended" to all the questions under sections 5 and 6	=> Exposed but complying workers	=>Low risk
If a HCW did not answer "Always, as recommended" to one of the questions under sections 5 and 6	=> Exposed and non-complying workers	=> High risk of infection

Important note: In the event of accidental exposure to potentially contaminated respiratory secretions, a risk assessment is made based on the type of accident, the status of the source patient and the quality of local care to classify the agent as low or high risk.



Part 3: Management of healthcare workers exposed to SARS-CoV-2

The management of healthcare workers exposed to the COVID-19 virus will vary according to the risk categorization of healthcare workers exposed to COVID-19 virus, as determined in Part 1.

1. Recommendations for healthcare workers with high risk of infection

- Stop all health care interaction with patients and quarantine as per national guidelines
- Be tested for COVID-19 virus infection if symptoms develop during quarantine period.

Health facilities should:

- ▶ Provide psychosocial support to healthcare workers during quarantine, or during illness if they become a confirmed COVID-19 case.
- ▶ Refresher infection prevention and control training for the health facility staff, including healthcare workers at high risk of infection once they return to work at the end of the quarantine period.

2. Recommendations for healthcare workers with low risk of COVID-19 infection:

- Self-monitor temperature and respiratory symptoms daily for 14 days after the last day of exposure to a COVID-19 patient. Healthcare workers should be advised to call a health facility if they develop any symptoms suggestive of COVID-19;

3. Recommendations for all risk groups

- Reinforce contact and droplet precautions when caring for all patients with acute respiratory illness and standard precautions to take care of all patients.
- Reinforce airborne precautions for aerosol-generating procedures on all suspected, probable, and confirmed COVID-19 patients
- Reinforce the rational, correct, and consistent use of personal protective equipment 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 a patient's surroundings.
- Always practise respiratory etiquette.

Part 4: Summary of the algorithm for the risk assessment

Important note:

- If at the end of the information up to question 4, a community exposure is selected, the health worker will be managed as having been at risk in community and managed according to recommendations in part 2 of the tool.
- If there has been no identified risk of occupational, nor community infection, the investigation is stopped and there is no specific measure to be taken.
- If there is an identified occupational risk, the investigation must be continued with questions 5 and 6 to characterize the risk as low or high

Annex 3: HEALTH CARE WORKER CASE INVESTIGATION FORM



HEALTH CARE WORKER INFECTION CASE INVESTIGATION TOOL

Objectives of the tool

- Determine the factors related to COVID-19 infection, with a good distinction between community acquired infections and healthcare associated infections
- Identify the probable mode of contamination
- Take appropriate preventive measures, based on the results of the investigation
- Inform epidemiological surveillance for larger scale public health measures.

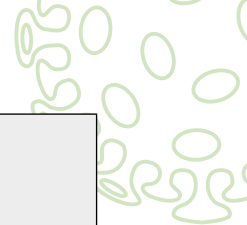
Questions marked with an asterisk (*) should be considered as essential

Interviewer information and contextual information (to be filled in by interviewer; some questions might require information from the health care facility administrator)	
1.A. Interview date (dd/mm/yyyy)	___/___/_____
1.B.1. Interviewer surname and first name	
1.B.2 Interviewer phone number	
1.B.3 Interviewer email	
*1. C.1. Type of health care by level of care	<input type="checkbox"/> Primary (RHC/Clinic/rural hospital/polyclinic) <input type="checkbox"/> Secondary <input type="checkbox"/> Tertiary (Provincial Hospital/General Hospital) <input type="checkbox"/> Quaternary
*1.C2 Type of facility in the context of the COVID-19	<input type="checkbox"/> Exclusive COVID-19 treatment centre <input type="checkbox"/> Combined facilities (only partially devoted to COVID-19) <input type="checkbox"/> Facility not devoted to COVID-19
*1. D1. Date of specimen collection (dd/mm/yyyy) or onset of clinical signs if known	___/___/_____
1.D2 Previous testing dates (if more than one sample was taken DD/MM/YYYY, DD/MM/YYYY, DD/MM/YYYY)	

*1.E. Reason for test	<input type="checkbox"/> Onset of symptoms <input type="checkbox"/> Face-to-face contact (within 1 meter) with a confirmed COVID-19 case <input type="checkbox"/> Exposure to potentially contaminated aerosols <input type="checkbox"/> Contact with potentially contaminated care environment <input type="checkbox"/> Accidental exposure to body fluids (respiratory secretions) <input type="checkbox"/> Routine test <input type="checkbox"/> Other (Specify) :
*1. F. To date, how many healthcare workers have been tested in the same facility?	
*1. G.1. Test result [If not yet known, complete when result is available]	<input type="checkbox"/> Positive <input type="checkbox"/> Negative
1.G.2: Specify dates in relation to quarantine: (Day 1 to 14) if health worker was in quarantine	
*1. H. Are there COVID-19 patients in the health care facility?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown Number of patients (approximate number if exact number not known):
*1. I. Are there areas dedicated to COVID-19 cases in the health care facility?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown
*1. J. Are there healthcare workers dedicated only to the care of COVID-19 patients?	<input type="checkbox"/> Yes <input type="checkbox"/> Yes but number unknown <input type="checkbox"/> No <input type="checkbox"/> Unknown
*1. K. If yes, how many healthcare workers are dedicated to the care of COVID-19 patients in the same facility?	<input type="checkbox"/> <input type="checkbox"/> Number unknown

Health worker information	
2.A. Surname	
2.B. First name	
2.C. Date of birth (dd/mm/yyyy)	___/___/_____
2.D. Sex	<input type="checkbox"/> Male <input type="checkbox"/> Female

2.E. Vaccination status	<input type="checkbox"/> Fully vaccinated <input type="checkbox"/> Partially vaccinated <input type="checkbox"/> Unvaccinated
2.F. District/City	
*2.G. Province	
2.H. Contact details (email and/or phone number)	
*2. I. Category of HCW <input type="checkbox"/> Admission/reception clerk/switch board operator <input type="checkbox"/> Nurse Aide <input type="checkbox"/> Catering staff <input type="checkbox"/> General Hand <input type="checkbox"/> Environmental Health Practitioner <input type="checkbox"/> Dentist or dental technician <input type="checkbox"/> Laboratory personnel <input type="checkbox"/> Laundry staff <input type="checkbox"/> Medical doctor <input type="checkbox"/> Clinical Officer <input type="checkbox"/> Nutritionist/dietician/Hospital Food <input type="checkbox"/> Services Supervisor	<input type="checkbox"/> Ophthalmologist <input type="checkbox"/> Ambulance driver <input type="checkbox"/> Pharmacy personnel <input type="checkbox"/> Physiotherapist/occupational therapist/rehab technician <input type="checkbox"/> Radiology/x-ray technician <input type="checkbox"/> Admin/accounts staff <input type="checkbox"/> Student, intern <input type="checkbox"/> Nurse(PCN/RGN/Midwife) <input type="checkbox"/> Nurse tutor <input type="checkbox"/> Nurse Manager (SIC/Matron etc) <input type="checkbox"/> Mortuary attendant <input type="checkbox"/> Health Information personnel <input type="checkbox"/> Other (specify)



<p>*2. J. Health care facility unit type in which the healthcare worker works.</p>	<p>[Tick all that apply]</p> <ul style="list-style-type: none"><input type="checkbox"/> Outpatient<input type="checkbox"/> Inpatient (hospitalization)<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"/> Surgery/Surgical Theatre<input type="checkbox"/> Paediatrics<input type="checkbox"/> Maternity<input type="checkbox"/> Surveillance, rapid response and contact tracing<input type="checkbox"/> Home Care<input type="checkbox"/> Accounts/Administration<input type="checkbox"/> Point of Entry<input type="checkbox"/> Other (specify):
<p>2.K. Date of communication of the test result</p> <p>(dd/mm/yyyy)</p> <p>[If not yet known, complete when result is available]</p>	<p>___/___/_____</p>
<p>*2. L. In the 14 days prior to the onset of your symptoms and/or day of the test, have you been, at your work, in close contact with:</p>	<ul style="list-style-type: none"><input type="checkbox"/> Confirmed COVID-19 case<input type="checkbox"/> Health worker with confirmed COVID-19<input type="checkbox"/> A healthcare environment that has cared for one or more probable/confirmed cases and/or performed an aerosol-generating procedure<input type="checkbox"/> A probable/confirmed case or a person with symptoms for whom you were providing care outside of your primary work setting<input type="checkbox"/> None of the above<input type="checkbox"/> Unknown

*2. M. In the 14 days prior to the onset of your symptoms or on the day of testing, have you been in close contact with:	<input type="checkbox"/> A probable/confirmed case of COVID-19 or a person with symptoms in your home <input type="checkbox"/> A probable/confirmed case or a person with symptoms outside of your work or family setting (e.g. on public transport, places of worship, markets or supermarkets, other public or private spaces to be specified) <input type="checkbox"/> None of the above <input type="checkbox"/> Don't know
N. Have you been assessed for risks associated with the exposure?	<input type="checkbox"/> Yes -High <input type="checkbox"/> Yes Low <input type="checkbox"/> No (Specify reasons) _____
2. O. Co-morbidities	<input type="checkbox"/> No co-morbidities <input type="checkbox"/> Hypertension <input type="checkbox"/> Cardiovascular Disease <input type="checkbox"/> Diabetes Mellitus <input type="checkbox"/> Cancer <input type="checkbox"/> Chronic lung disease <input type="checkbox"/> Chronic renal failure <input type="checkbox"/> other(specify) <input type="checkbox"/> Unknown

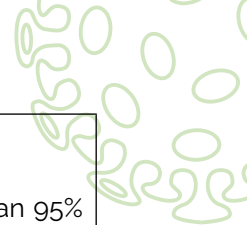
3. Health worker and health care facility information	
3. A.1. Date of health worker first exposure to probable/confirmed COVID-19 patient (dd/mm/yyyy)	___/___/_____ <input type="checkbox"/> Not known
3. A.2. Date of health worker last exposure to probable/confirmed COVID-19 patient (dd/mm/yyyy)	___/___/_____ <input type="checkbox"/> Not known
3.B. Name of health care facility where the COVID-19 patient received care:	
3. C. District/City	
*3.D. Province	
3.E. Number of healthcare workers in the facility	



3.F. Number of health worker tested for COVID-19 in the facility in the same period	
*3. G. Are you part of the staff dedicated to the care of COVID-19 patients?	<input type="checkbox"/> Yes <input type="checkbox"/> No -
*3. H. Have you attended training courses on infection prevention and control (IPC) programmes?	<input type="checkbox"/> Yes <input type="checkbox"/> Yes but I don't remember/I'm not sure <input type="checkbox"/> No <input type="checkbox"/> I do not know what IPC is
*3. I. If "Yes" When did you attend the most recent IPC training course in the health care facility in which you work?	<input type="checkbox"/> Date (dd/mm/yyyy): ___/___/_____
*3. J. How much training time on IPC (standard precautions, additional precautions) did you receive in the health care facility in which you work?	<input type="checkbox"/> < 2 hours <input type="checkbox"/> > 2 hours <input type="checkbox"/> I don't know what IPC is <input type="checkbox"/> I don't know what standard/additional precautions are
*3. K. Have you participated in training courses on the use of personal protective equipment (PPE)?	<input type="checkbox"/> Yes <input type="checkbox"/> No
*3. L. Was the PPE training carried out remotely or were practical sessions on standard precautions/additional precautions carried out?	<input type="checkbox"/> Only remote/theoretical <input type="checkbox"/> Just practical <input type="checkbox"/> Both
*3. M. Do you know the 5 recommended moments for hand hygiene in health care?	<input type="checkbox"/> I don't know them <input type="checkbox"/> I know them and practice them for each patient <input type="checkbox"/> I know them and practice them when I can <input type="checkbox"/> I know them, but I don't have time to practice them
*3. N. Is alcohol-based hand rub available at the point of care (in the ward, near the patient's bed)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Sometimes <input type="checkbox"/> I don't know

<p>*3. O. Is appropriate personal protective equipment (PPE) continuously available for care to COVID-19 patients</p>	<input type="checkbox"/> Yes <input type="checkbox"/> Yes, but not all equipment (click on all applicable items) <ul style="list-style-type: none"> <input type="checkbox"/> Medical mask always available <input type="checkbox"/> Respirator (N95 or FFP2 or FFP3 standard, or equivalent) always available <input type="checkbox"/> Disposable gown always available <input type="checkbox"/> Gloves always available <input type="checkbox"/> Eye protection (goggles or face shield) always available <input type="checkbox"/> I don't know
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4. Health worker activities performed on confirmed COVID-19 patient	
*4. A. Did you provide direct care to a probable/confirmed COVID-19 patient?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown
*4. B.1 Did you have close contact (within 1 meter) with a probable/confirmed COVID-19 patient in a health care facility?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown
4. B.2 If yes, what was the longest period of close contact with the COVID-19 probable/confirmed case?	<input type="checkbox"/> < 2 minutes <input type="checkbox"/> 2–5 minutes <input type="checkbox"/> 5–15 minutes <input type="checkbox"/> > 15 minutes <input type="checkbox"/> Unknown
4.C. Was the confirmed case classified as:	<input type="checkbox"/> Pre-symptomatic <input type="checkbox"/> Asymptomatic <input type="checkbox"/> Symptomatic
4.C.2 In the case of a symptomatic patient, the case was considered:	<input type="checkbox"/> mild <input type="checkbox"/> Moderate <input type="checkbox"/> Severe
*4. D. During the health care interaction with the COVID-19 patient, did you wear appropriate PPE?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown



If 4.D is "Yes", for each item of PPE below, indicate how often you used it as follows:

"Always, as recommended" should be considered as wearing the PPE when indicated more than 95% of the time.

"Most of the time" should be considered as 50% of the time or more, but < 95%

"Occasionally" should be considered as 20% to less than 50% of the time.

"Rarely" should be considered as less than 20%.

4. D.1. Disposable gloves	<input type="checkbox"/> Always, as recommended <input type="checkbox"/> Most of the time <input type="checkbox"/> Occasionally <input type="checkbox"/> Rarely
4. D.2. Medical mask	<input type="checkbox"/> Always, as recommended <input type="checkbox"/> Most of the time <input type="checkbox"/> Occasionally <input type="checkbox"/> Rarely
4. D.3. Respirator (e.g. N95, FFP2 or equivalent)	<input type="checkbox"/> Always, as recommended <input type="checkbox"/> Most of the time <input type="checkbox"/> Occasionally <input type="checkbox"/> Rarely
4. D.4. 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. D.5. Disposable impervious gown	<input type="checkbox"/> Always, as recommended <input type="checkbox"/> Most of the time <input type="checkbox"/> Occasionally <input type="checkbox"/> Rarely
4. E. During the health care interaction with the COVID-19 patient did you remove and replace your PPE according to protocol (e.g. when a medical mask became wet, disposed of 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

<p>4. F. During the health care interaction with the COVID-19 patient did you perform hand hygiene before and after touching the patient?</p> <p>[Note: this is irrespective of wearing gloves]</p>	<input type="checkbox"/> Always, as recommended <input type="checkbox"/> Most of the time <input type="checkbox"/> Occasionally <input type="checkbox"/> Rarely
<p>4. G. During the health care interaction with the COVID-19 patient 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.)?</p>	<input type="checkbox"/> Always, as recommended <input type="checkbox"/> Most of the time <input type="checkbox"/> Occasionally <input type="checkbox"/> Rarely
<p>4. H. During the health care interaction with the COVID-19 patient did you perform hand hygiene after exposure to body fluid?</p>	<input type="checkbox"/> Always, as recommended <input type="checkbox"/> Most of the time <input type="checkbox"/> Occasionally <input type="checkbox"/> Rarely
<p>4. I. During the health care interaction with the COVID-19 patient did you perform hand hygiene after touching the patient's surroundings (e.g. bed, door handle, etc.)?</p> <p>[Note: this is irrespective of wearing gloves]</p>	<input type="checkbox"/> Always, as recommended <input type="checkbox"/> Most of the time <input type="checkbox"/> Occasionally <input type="checkbox"/> Rarely
<p>4. J. During the health care interaction with the COVID-19 patient were high-touch surfaces decontaminated frequently (at least three times daily)?</p>	<input type="checkbox"/> Always, as recommended <input type="checkbox"/> Most of the time <input type="checkbox"/> Occasionally <input type="checkbox"/> Rarely
<p>4. K. Did you have direct contact with the environment in which the confirmed COVID-19 patient was cared for (e.g. bed, linen, medical equipment, bathroom, etc.)?</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown
<p>*4. L. Were you involved in health care interaction(s) (paid or unpaid) in another health care facility during the above period?</p>	<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



5. Adherence to IPC measures when performing aerosol-generating procedures (AGP); tracheal intubation, non-invasive ventilation, tracheotomy, cardiopulmonary resuscitation, manual ventilation before intubation, bronchoscopy, sputum induction induced by using nebulized hypertonic saline, autopsy procedures, oral care and other.

*5. A. During aerosol-generating procedures on a COVID-19 patient did you wear appropriate PPE? Yes No Unknown

If "Yes", answer the following questions (if not, go to section 6):

B. What type of aerosol-generating procedure was carried out?

List of aerosol generating procedures (AGPs) in oral health care: All clinical procedures that use spray generating equipment such as three-way air/water spray, dental cleaning with ultrasonic scaler and polishing; periodontal treatment with ultrasonic scaler; any kind of dental preparation with high or low-speed hand-pieces; direct and indirect restoration and polishing; definitive cementation of crown or bridge; mechanical endodontic treatment; surgical tooth extraction and implant placement.

Tracheal intubation
 Non-invasive ventilation
 Manual ventilation before intubation
 Tracheostomy
 Bronchoscopy
 endoscopy
 Cardiopulmonary resuscitation
 Manual ventilation before intubation
 Sputum induction induced by using nebulized hypertonic saline
 Autopsy procedures
 Oral care, specify:
 Other *[specify]* :

5. C. During the health care interaction with a COVID-19 patient did you wear appropriate PPE? Yes No Unknown

If yes, for each item of PPE below, indicate how often you used it as follows:

"Always, as recommended" should be considered as wearing the PPE when indicated more than 95% of the time.

"Most of the time" should be considered as 50% of the time or more, < 95%

"Occasionally" should be considered as 20% to less than 50% of the time.

"Rarely" should be considered as less than 20%.

5. C.1. Disposable gloves

Always, as recommended
 Most of the time
 Occasionally
 Rarely

5. C.2. N95 mask (or equivalent respirator) <i>Probe for quality and good fit</i>	<input type="checkbox"/> Always, as recommended <input type="checkbox"/> Most of the time <input type="checkbox"/> Occasionally <input type="checkbox"/> Rarely
5. C.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
5. C.4. Disposable impervious gown	<input type="checkbox"/> Always, as recommended <input type="checkbox"/> Most of the time <input type="checkbox"/> Occasionally <input type="checkbox"/> Rarely
5. C.5. Waterproof apron	<input type="checkbox"/> Always, as recommended <input type="checkbox"/> Most of the time <input type="checkbox"/> Occasionally <input type="checkbox"/> Rarely
5. D. During aerosol-generating procedures on the COVID-19 patient did you remove and replace your PPE according to protocol (e.g. if the respirator became wet, disposed of 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
5. E. During aerosol-generating procedures on the COVID-19 patient did you perform hand hygiene before and after touching the patient? [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
5. F. During aerosol-generating procedures on the COVID-19 patient 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

<p>5. G. During aerosol-generating procedures on the COVID-19 patient did you perform hand hygiene after touching the patient's surroundings (e.g. bed, door handle, etc.)? [Note: this is irrespective of wearing gloves]</p>	<input type="checkbox"/> Always, as recommended <input type="checkbox"/> Most of the time <input type="checkbox"/> Occasionally <input type="checkbox"/> Rarely
<p>5. H. During aerosol-generating procedures on the COVID-19 patient were high-touch surfaces decontaminated frequently (at least three times daily)?</p>	<input type="checkbox"/> Always, as recommended <input type="checkbox"/> Most of the time <input type="checkbox"/> Occasionally <input type="checkbox"/> Rarely

6. Accidental exposure to body fluids (respiratory secretions)	
<p>*6. A. During the health care interaction with a COVID-19 patient were you accidentally exposed to biological fluid/respiratory secretions? [See below for examples]</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p>6. A.1 If yes, which type of accident?</p>	<input type="checkbox"/> Splash of biological fluid/respiratory secretions in the mucous membrane of the eyes <input type="checkbox"/> Splash of biological fluid/respiratory secretions in the mucous membrane of the 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
<p>6. A.2 If yes, how long after the incident was local care provided?</p>	<input type="checkbox"/> Right after the event <input type="checkbox"/> After some delay (more than 5 minutes)
<p>6. A.3 If yes, has local care been properly carried out (immediate washing with plenty of water followed by the application of an effective antiseptic)?</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No

7. Disease impacts	
7. A. Clinical symptoms	<input type="checkbox"/> Asymptomatic <input type="checkbox"/> Mild <input type="checkbox"/> Moderate <input type="checkbox"/> Severe
7. B. Evolution	<input type="checkbox"/> Healing without after-effects <input type="checkbox"/> Healing with after-effects (specify) <input type="checkbox"/> Death at home <input type="checkbox"/> Death in health facility <input type="checkbox"/> Unknown

Interpretation of results and actions to be taken in the short term

A. Interpretation of results and short-term measures

- Concept of management of suspect, probable or confirmed cases
- Story documented contact in the professional context with a suspect, probable or confirmed case
- Staff who has worked in a field which takes care of such patients, provided that the "droplet", "contact" or even "aerosol" mode of transmission can be validly mentioned.
- Accident with exposure to body fluids (respiratory secretions)
- Community exposure
- Systematic screening
- No notion of exposure
- Others?

B. Determination of the enabling factors (to be specified in the box below)

1. Linked to individual performance :
2. Linked to the performance of the establishment or service:
3. Others :



C. Probable mode of contamination

- Droplets / Direct contact (specify)
- Indirect contact (specify)
- Procedures generating aerosols (specify)
- Accident involving exposure to body fluids (specify)
- Not determined

D. Possible short-term preventive corrective measures

E. Therapeutic and social care until return to work

Annex 4: HEALTH FACILITY COMPLIANCE ASSESSMENT TOOL

RISK OF COVID-19 INFECTION AMONG HEALTHCARE WORKERS IN ZIMBABWE

NB: This is a working document. The questions to assess health facility compliance will change in line with new evidence and recommendations.

Instructions: Tick in the appropriate column based on the scoring key below.

Health Facility and Assessment Information	
Date of assessment	
Health Facility Name	
Level of facility (<i>Provincial hosp, district hosp, Mission hosp, general hosp, Primary Health care facility</i>)	

	Yes	No	N/A	Comments and responses that are not Yes/NO
IPC Programme				
1.1 Does the facility have infection prevention control program?				
1.2 Does the facility have full-time IPC focal person?				
1.3 Is there a functional IPC committee?				
1.4 Does the committee consist of multidisciplinary cadres (Nurses, Drs, environmental health etc.)?				
1.5 Is the programme integrated into the national response plan at facility level?				
1.6 Is there an individual of established sub functional committee or an individual who is responsible for Health worker safety and well-being? If the response is no, continue to part 2.0, please.				
1.7 Is the individual or committee part of the IPC committee?				
1.8 Does this committee or individual monitor the compliance of IPC measures by HCW?				
1.9 Is this committee/individual knowledgeable on Risk stratification for asymptomatic frontline personnel after exposure to COVID-19 patients?				
1.10 Does the committee/individual reinforce airborne precautions for aerosol-generating procedures on all suspected and confirmed COVID-19 patients?				



	Yes	No	N/A	Comments and responses that are not Yes/NO
1.11 Is the rational, correct and consistent use of personal protective equipment when exposed to confirmed COVID-19 patients reinforced?				
1.12 Is application of 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) reinforced?				
1.13 Does the facility undertake a risk assessment to identify areas or procedures where risk of exposure to infection might occur and introduce Infection Prevention and Control measures to reduce that risk?				
1.14 Does the facility have a system to manage the PPE and commodity stocks				
1.14 Are environmental health or occupational health services involved in this programme? (Involvement in the development and implementation of action plans?)				
2.0 Availability of guidelines and SOPs on the protection of healthcare workers:				
2.1.a Guidelines on risk assessment on management of COVID-19 exposed Healthcare workers				
2.1. b Health worker infection monitoring tool				
2.1.c IPC guidelines with SOPS				
2.1.d. Zimbabwe PPE policy				
e. Guidelines on WASH indicators in health facilities				
2.2 Is there a system to monitor the implementation of the guidelines? (Periodic reports from facilities, audit reports on practices, field supervision and feedback)				
3.0 Trainings				
3.1 Are all the HW trained on Rational, correct and consistent use of personal protective equipment Donning and doffing Precautions for all procedures including aerosol-generating procedures on all suspected and confirmed COVID-19 patients				
3.2 Are all support staff (cleaners, ambulance drivers, waste collectors, etc.) trained on basic IPC precautions?				
3.3 Were the managers trained or oriented on COVID-19 guidelines?				

	Yes	No	N/A	Comments and responses that are not Yes/NO
3.4 Did all staff manning the red zones received IPC/CM training?				
3.5. Is refresher IPC training for the health facility staff, including healthcare workers at high risk of infection once they return to work at the end of the 14-day period done?				
4.0 Existence of IEC materials				
4.1. Are IEC materials and/or leaflets on self-quarantine and self- isolation available?				
4.2 Are posters on donning and doffing steps visibly displayed in donning and doffing areas?				
4.3 Are barrier and distancing measures (refectories, rest areas, etc. as in any other workplace) and existence of a monitoring mechanism (staff designated for monitoring-evaluation with regular reports) implemented?				
5.0 Triage and screening				
Is there a properly set up triage and screening area? One-way flow of patients and staff Designated areas for COVID -19 suspects and asymptomatic cases Signages-arrows to show the flow of patients and HW Is the triage manned by a trained cadre? Is screening questionnaire available?				
6.0 Donning and doffing				
6.1 Availability of designated donning and doffing area				
6.2 One-way flow of patients and staff				
6.3 Is adequate and proper PPE available?				
7.0 Epidemiological surveillance				
7.1 Is there a system for collecting, analysing and interpreting epidemiological data on COVID-19 cases among healthcare workers? (Data collection forms, reporting, training).				
7.2 Are health worker infection prevention measures based on the interpretation of data from an operational level? (Example of measures put in place based on surveillance data)				



	Yes	No	N/A	Comments and responses that are not Yes/NO
8.0 Strategy on the early detection and management of health worker infection risk				
8.1 Organizing routine detection				
8.1.a. Is there a system - be it passive (self-reporting) or active (screening) - for routine early detection of cases of health worker infections? (verify)				
8.1.2. Are the self-monitoring forms available at the facility?				
8.1.3. Have the professionals responsible for surveillance activities been adequately trained?				
8.2 Detection methods:				
8.2.1. Are there clear guidelines on early detection of HCW infections? (Based on available case definitions or other national recommendations?)				
8.2.2 Managing the resumption of work after detection:				
Are there clear guidelines on procedures for resuming work after a positive test on a health worker? (Based on national guidelines or recommendations)				
9.0 Investigation and management of exposed and confirmed COVID-19 cases				
9.1. Does the facility have a system for assessing health worker SARS-CoV-2 infection risk?				
9.2. Are all exposed cases subject to a full assessment with findings and concrete measures depending on the level of exposure?				
9.3. Have the professionals responsible for conducting the assessments been trained on the tasks to be performed?				
9.4. Do you have a system for investigating cases of healthcare workers infected with SARS-CoV-2? If yes Availability of case investigation forms at the facility? Are they being filled in the event of a positive health worker? Are copies of these forms always submitted to the next level? (Never, always, sometimes) (verify) From the investigations conducted what are the factors linked to the infection of HW at your facility?				
9.5. How many HW were infected since March 2020				

	Yes	No	N/A	Comments and responses that are not Yes/NO
9.6 How many cases were investigated				
9.7 How many HCWI had established source of infection?				
9.8 Proportion of HW infected in the community				
9.9 Is the HCWI data disaggregated by gender?				
9.10 Is the HCWI data disaggregated by cadre?				
9.11 Is the HCWI data disaggregated by work department?				
9.12 Have the professionals responsible for conducting the investigations been trained on the tasks to be performed?				
9.13 What proportion of confirmed HW had contact tracing done?				
9.14 Is there a system of monitoring HCWI?				
10. Availability of psycho-social services				
10.1 Does the facility have a system to provide psychosocial support to healthcare workers during quarantine, or during illness if they become a confirmed COVID-19 case?				
10.2 What HW behaviors related to HCWI are practiced at your institution				

15. OTHER OBSERVATIONS AND COMMENTS

Assessed by:

Name: _____

Designation: _____

Signature: _____

Name: _____

Designation: _____

Signature: _____

Plan for improvement

Action	Responsible Person / Office	Timeline: By when
1.		
2.		
3.		
4.		

Annex 5: TEMPLATE FOR WEEKLY SUMMARY REPORTING OF HCWI INVESTIGATIONS OUTCOMES

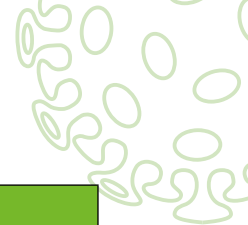
Health Care Worker Infections by probable source of infection

Reporting Institution	Cases		Vaccination status						Likely source of infection		Outcome		
	New	Cum	Fully vaccinated		Partially vaccinated		Unvaccinated		HAI	CAI	Self-isolating	Admitted	Died
			New	Cum	New	Cum	New	Cum					

NB: Vaccination status to be guided by the current national vaccination guidelines

Annex 6: HEALTH CARE WORKER INFECTIONS BY PROFESSION

Profession	Cases		Vaccination status						Likely source of infection		Outcome		
	New	Cum	Fully vaccinated		Partially vaccinated		Unvaccinated		HAI	CAI	Self-isolation	Admitted	Died
			New	Cum	New	Cum	New	Cum					
Nurse													
Nurse Aide													
Doctor													
Dental													
Lab Staff													
Health Information													
Pharmacy													
Environ. Health													
Rehabilitation													
Radiology													
Admin Staff													
Driver													
General Hand													
Security guards													
Mortuary attendant													
Others (Specify)													



Annex 7: List of participants who participated in the guidelines development.

NAME	DESIGNATION	ORGANISATION	STATION
Miriam Mangeya	National IPC Coordinator	MOHCC	Head Office
Israel Chabata	Emergency Preparedness and Response Manager	MOHCC	Head Office
Hilary Toga Sigauke	Clinical Medical Officer	Bulawayo City Council	Bulawayo
Beulah Gudyanga	Senior Nursing Officer III, IPC Manager	MOHCC	Victoria Chitepo Provincial Hospital Manicaland Province
Janet Jonga	Emergency Preparedness and Response Manager	MOHCC	Head Office
Kethiwe Ncube	Senior Nursing Officer III, IPC Manager	MOHCC	Silobela District Hospital, Kwekwe Midlands Province
Patience Ndlovu	Senior Nursing Officer III, IPC Manager	MOHCC	Gwanda Provincial Hospital Matebeleland South Province
Dingilizwe Mpofu	IPC Manager	MOHCC	Matebeleland North Province
Phineas M. Jira	Provincial Health Information Officer	MOHCC	Matebeleland South Province
Falayi Mbusi	Clinical Medical Officer	Bulawayo City Council	Bulawayo
Eunnah Majuru	Health Promotion Officer	MOHCC	Chegutu District, Mashonaland West
Mkhokheli Ngwenya	NPO- TB / COVID-19 Surveillance pillar	WHO	WHO
Trevor Kanyowa	NPO- Health Promotion & Social Determinants of Health/ COVID-19 Case Management FP	WHO	WHO
Zvanaka Sithole	NPO-Family and Reproductive Health Linkages / COVID-19- IPC FP	WHO	WHO

Annex 8: List of participants who participated in the validation of the guidelines

NAME & SURNAME	ORGANIZATION	DESIGNATION	Station
Miriam Mangeya	MoHCC HQ	IPC Pillar	Head Office
Nyaradzai Chiwara	MoHCC HQ	Director Nursing Services/IPC Pillar lead	Head Office
Janet T. Jonga	MoHCC HQ	EPR Manager	Head Office
Israel Chabata	MoHCC HQ	EPR Manager	Head Office
Zvanaka Sithole	WHO	NPO-FRH/ COVID-19 IPC FP	WHO
Alexander Goredema	MoHCC	RDS Manager	Head Office
Constance Mushayavanhu	MoHCC	Health Information Officer	Head Office
Patience Ndlovu	MoHCC	Provincial IPC FP	PMD Matabeleland South
Trevor Muchabaiwa	WHO	Information Management Officer	WHO
Harunavamwe N. Chifamba	MoHCC Case Management	Case Management Pillar Lead	Sally Mugabe Central Hospital
Godwin Museka	MoHCC	Quality Assurance Manager	Pariirenyatwa Group of Hospitals
Musoro Fibion	MoHCC	Mental Health Officer	Head Office





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