

# Health workers exposure risk assessment and management in the context of COVID-19 virus

Interim guidance  
4 March 2020



Coronavirus disease (COVID-19) was first detected in Wuhan city, China in December 2019. On 30 January 2020, the WHO Director General declared that the current outbreak constituted a Public Health Emergency of International Concern.

Current available evidence is that the COVID-19 virus is transmitted between people through close contact and droplets. People most at risk of infection are those who are in contact with a COVID-19 patient and/or who care for COVID-19 patients. This inevitably places health workers at a high risk of infection.

## Target audience:

This tool is to be used by health care facilities that have either cared for or admitted COVID-19 patients. This form is to be completed for all health workers who have been exposed to a confirmed COVID-19 patient in a health care facility. It is intended to be an operational tool used by health care facilities once a COVID-19 patient has been identified within the facility. This tool will help determine the risk of COVID-19 virus infection of all HCWs who have been exposed to a COVID-19 patient and then provides recommendations for appropriate management of these HCWs, according to their infection risk.

## 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 assessment of risk of exposure for health workers in health care facilities

Protecting HCWs is of paramount importance to WHO. Understanding HCW exposure to COVID-19 virus and how this translates into risk of infection is critical for informing infection prevention and control (IPC) recommendations. The data that will be captured using this data collection form and risk assessment tool can be used to identify IPC breaches and define policy to mitigate health worker and nosocomial infection. As such, health care facilities using the following risk assessment are encouraged to share deidentified data with WHO to inform discussions about WHO guidance related to IPC. That is, any data shared with WHO should not include any personally identifiable information (Questions 2A, 2B and 2G).

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

*If the HCW answers yes for questions 1 D – 1E it is considered a community exposure to COVID-19 virus and health workers should be managed as such. The management recommendations in Part 2: Management of health workers exposed to COVID-19 virus apply only to health care-related exposure.*

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?	<i>Tick all that apply:</i> <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:
<b>3. Health worker interactions with COVID-19 patient information</b>	
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):

<b>4. Health worker activities performed on COVID-19 patient</b>	
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 (AGP) was performed on the patient? <i>See below for examples</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown
- If yes, what type of AGP 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

#### Exposure of health workers to COVID-19 virus

If the health worker responds 'Yes' to any of the Questions 4A – 4C, 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	<input type="checkbox"/> Always, as recommended <input type="checkbox"/> Most of the time

before and after any clean or aseptic procedure was performed (e.g. inserting: peripheral vascular catheter, urinary catheter, intubation, etc.)?	<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: peripheric 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

### 7. Accidents with biological material

A. During the period of a health care interaction with a COVID-19 infected patient, did you have any episode of accident with biological fluid/respiratory secretions? <i>See below for examples</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No
- 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

### High risk for COVID-19 infection

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

- 5A1 – 5G, 6A – 6F
- AND/OR responded 'Yes' to 7A.

All other health workers should be considered **low risk for COVID-19 virus infection**.

## Part 2: 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 of health workers exposed to COVID-19 virus, as determined in Part 1.

### 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;
- Be tested for COVID-19 virus infection;
- Quarantine for 14 days in a designated setting.<sup>1</sup>

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 infection prevention and control 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.

### 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 illness<sup>2</sup> and standard precautions to take care of all patients;
- Reinforce airborne precautions for aerosol generating procedures on all suspect and confirmed COVID-19 patients;

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<sup>1</sup> WHO Considerations for quarantine of individuals in the context of containment for coronavirus disease (COVID-19): Interim guidance 28 February 2020 ([https://www.who.int/publications-detail/considerations-for-quarantine-of-individuals-in-the-context-of-containment-for-coronavirus-disease-\(covid-19\)](https://www.who.int/publications-detail/considerations-for-quarantine-of-individuals-in-the-context-of-containment-for-coronavirus-disease-(covid-19))).

<sup>2</sup> WHO Infection prevention and control during health care when novel coronavirus (nCoV) infection is suspected: Interim guidance 25 January 2020 ([https://www.who.int/publications-detail/infection-prevention-and-control-during-health-care-when-novel-coronavirus-\(ncov\)-infection-is-suspected-20200125](https://www.who.int/publications-detail/infection-prevention-and-control-during-health-care-when-novel-coronavirus-(ncov)-infection-is-suspected-20200125)).

- Reinforce the rational, correct and consistent use of personal protective equipment when exposed to confirmed COVID-19 patients;<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 patient's surroundings;<sup>4</sup>
- Practice respiratory etiquette at all times.

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<sup>3</sup> WHO Infection prevention and control during health care when novel coronavirus (nCoV) infection is suspected: Interim guidance 25 January 2020 ([https://www.who.int/publications-detail/infection-prevention-and-control-during-health-care-when-novel-coronavirus-\(ncov\)-infection-is-suspected-20200125](https://www.who.int/publications-detail/infection-prevention-and-control-during-health-care-when-novel-coronavirus-(ncov)-infection-is-suspected-20200125)).

<sup>4</sup> WHO guidelines on hand hygiene in health care: first global patient safety challenge – clean care is safer care. Geneva: World Health Organization; 2009 (<https://apps.who.int/iris/handle/10665/44102>).