Dhulikhel Hospital Kathmandu University Hospital COVID 19 Guideline

Healthcare Personnel Work Restriction and Return to Work Post COVID19 Infection

Key Points

Asymptomatic Health Care Worker (HCW) who had high-risk exposure do not require work restriction if they have received all COVID-19 vaccine doses, including the booster dose as per the vaccines updates provided by WHO and CDC

This interim guidance is intended to assist with the following:

1. Determining the duration of restriction from the workplace for HCW with SARS-CoV-2 infection

2. Assessment of risk and application of workplace restrictions for asymptomatic HCW with exposure to SARS-CoV-2

Symptoms and testing of Healthcare Workers:

- HCW with even mild symptoms of COVID-19 should undergo PCR testing

- For HCW who were initially suspected of having COVID-19 but following evaluation another diagnosis is suspected or confirmed, return to work decisions should be based on their other suspected or confirmed diagnoses

- Mild Illness: Individuals who have any of the various signs and symptoms of COVID-19 (e.g., fever, cough, sore throat, malaise, headache, muscle pain) without shortness of breath, dyspnea, or abnormal chest imaging

- Moderate Illness: Individuals who have evidence of lower respiratory disease, by clinical assessment or imaging, and a saturation of oxygen (SpO2) ≥94% on room air at sea level

- Severe Illness: Individuals who have respiratory frequency >30 breaths per minute, SpO2 <94% on room air at sea level (or, for patients with chronic hypoxemia, a decrease from baseline of >3%), ratio of arterial partial pressure of

oxygen to fraction of inspired oxygen (PaO2/FiO2) <300 mmHg, or lung infiltrates >50%

- Critical Illness: Individuals who have respiratory failure, septic shock, and/or multiple organ dysfunction

Return to Work Criteria for HCW with COVID-19 Infection

1. HCP with mild to moderate illness who are not moderately to severely immunocompromised:

   7 days have passed since symptoms first appeared

   and

   At least 24 hours have passed since last fever without the use of fever-reducing medications

2. HCP who were asymptomatic throughout their infection and are not moderately to severely immunocompromised:

   5 days have passed since the date of their first positive viral test

3. HCP with severe to critical illness and are not moderately to severely immunocompromised:

   In general, when 20 days have passed since symptoms first appeared, and

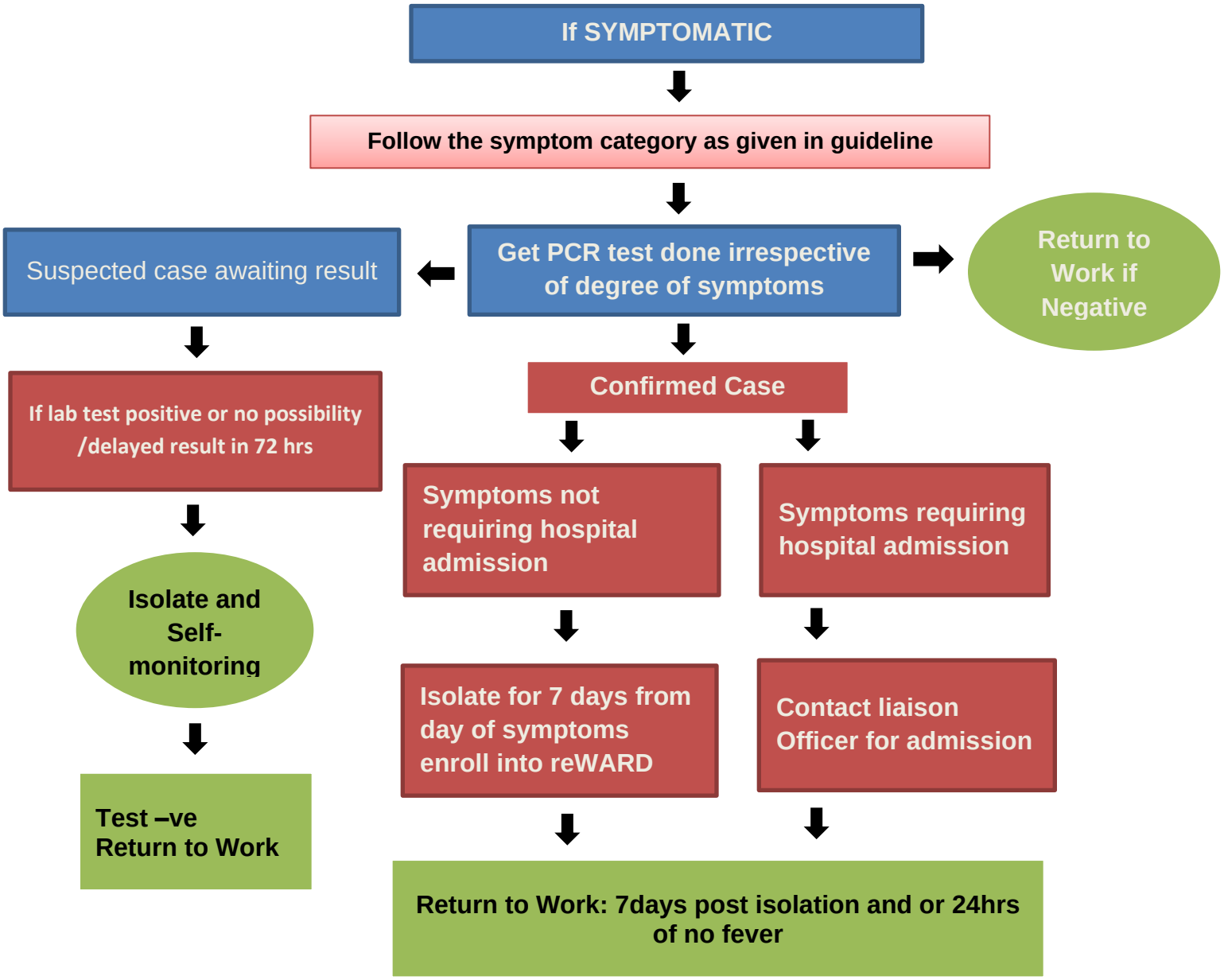
   At least 24 hours have passed since last fever without the use of fever-reducing medications, and

   Symptoms (e.g., cough, shortness of breath) have improved

   The test-based strategy as described for moderately to severely immunocompromised HCP below can be used to inform the duration of isolation

HCP who are moderately to severely immunocompromised may produce replication-competent virus beyond 20 days after symptom onset or, for those who were asymptomatic throughout their infection, the date of their first positive viral test

Healthcare Personnel Testing, Work Restriction and Return to Work Framework



Recommended Work Restrictions for HCP Based on Vaccination Status and Type of Exposure

Exposure	Personal Protective Equipment (PPE) used	Work Restriction for HCP who have received all COVID-19 vaccine and booster doses	Work Restriction for HCP who have not received all COVID-19 vaccine and booster doses
Higher-risk: HCP who had prolonged OR close contact with a patient, visitor, OR HCP with confirmed SARS-CoV-2 infection	HCP not wearing a respirator (or if wearing a facemask, the person with SARS-CoV-2 infection was not wearing a cloth mask or facemask) HCP not wearing eye protection if the person with SARS-CoV-2 infection was not wearing a cloth mask or facemask HCP not wearing all recommended PPE (i.e., gown, gloves, eye protection, respirator) while performing an aerosol-generating procedure	In general, no work restrictions. Perform SARS-CoV-2 testing immediately (but generally not earlier than 24 hours after the exposure) Follow all recommended infection prevention and control practices, including wearing well-fitting source control, monitoring themselves for fever or symptoms consistent with COVID-19, and not reporting to work when ill or if testing positive for SARS-CoV-2 infection. Any HCP who develop fever or symptoms consistent with COVID-19 should immediately self-isolate and contact their established point of contact (e.g., occupational health program) to arrange for medical evaluation and testing.	Exclude from work. HCP can return to work after day 10 following the exposure (day 0) if they do not develop symptoms Although the residual risk of infection is low, healthcare facilities could consider testing for SARS-CoV-2 within 48 hours before the time of planned return. In addition to Options above: Follow all recommended infection prevention and control practices, including wearing well-fitting source control, monitoring themselves for fever or symptoms consistent with COVID-19, and not reporting to work when ill or if testing positive for SARS-CoV-2 infection. Any HCP who develop fever or symptoms consistent with COVID-19 should immediately contact their established point of contact (e.g., occupational health program) to arrange for medical evaluation and testing.
Lower-risk: HCW with exposure risk other than those described as higher-risk above		No work restrictions or testing. Follow all recommended infection prevention and control practices, including monitoring themselves for fever or symptoms consistent with COVID-19 and not reporting to work when ill. Any HCW who develop fever or symptoms consistent with COVID-19 should immediately self-isolate and contact their established point of contact (e.g., occupational health program) to arrange for medical evaluation and testing.	No work restrictions or testing. Follow all recommended infection prevention and control practices, including monitoring themselves for fever or symptoms consistent with COVID-19 and not reporting to work when ill. Any HCW who develop fever or symptoms consistent with COVID-19 should immediately self-isolate and contact their established point of contact (e.g., occupational health program) to arrange for medical evaluation and testing.

Fever Clinic

Fever/Acute Respiratory Illness

Clinic Instructions

1. Receive febrile or Acute Respiratory Illness (ARI) patient
2. Follow safety precautions as mentioned
3. Send nasopharyngeal swab in ARI patient for COVID 19 as per lab diagnosis criteria
4. Maintain OPD record
5. Record temperature from Infrared non touch thermometer and Spo2 after sanitizing the finger with alcohol sanitize.
6. Send NP swab for PCR of SARS Cov-2 to all patients presenting with fever unless Covid-19 is extremely unlikely and alternative diagnosis is evident.
7. For suspected Covid-19 with SpO2>94% and no signs of respiratory illness, minimize or defer the investigations (Blood test and Chest Xray) and treat symptomatically.
8. Ask the patient to stay isolated from the crowd until the PCR report is available. PCR report to be consulted only at the fever clinic.
9. If Patient is COVID 19 confirmed send for home isolation or admission according to criteria
10. If confirmed case needing admission- send to COVID-19 Center Emergency Zone (Birthing Center Emergency)

11. If patients are sent for home isolation, please share the following number to enroll themselves for remote ward care

Safety Precautions

- Do not entertain any patient or patient party without face mask
- Hand Hygiene must be practiced between patient care or as needed

Setting	Target person	Activity	Procedure
Fever Clinic	**Doctor**	For patient examination	- Surgical mask - water resistant gown gloves - Eye protection (goggles or face shield) - Surgical cap
	Nurse	Recording and others	- Surgical mask - Gown/scrub dress gloves - Eye protection (optional) - Surgical cap (optional)
	Hygiene Staff	Cleaning	- Mask - Heavy duty gloves - surgical cap (optional) - eye protection (optional)
	Lab Technician	Collecting pharyngeal /nasal sample at booth	- Surgical Mask - Gown (optional) - Gloves - surgical cap (optional) - eye protection (optional)

Out Patient Department

1. Receive only afebrile or non-Acute Respiratory Illness(ARI) or not suspected COVID patient
2. Secondary screening for fever, cough, shortness of breath, contact or travel history (if there is fever, cough, shortness of breath, then refer them to ARI/fever zone)
3. Please maintain the register for OPD patients and above mentioned
4. Fever screening should be done at all the OPDs with Infrared non touch thermometer and any patient or accompanying friend having recorded temperature more than 100.4-degree F should be sent to the fever clinic for further assessment.
5. Follow safety precautions as mentioned.
6. Please allow only one visitor

Safety Precautions

- Please wear scrub dress while working in opd and wards
- Before going home at the end of shift: please take shower, change the dress
- All Patient/patient party must wear face mask (clothes or any) (please do not entertain patient without mask)
- Hand Hygiene must be practiced between patient care or as needed
- Maintain at least 1-meter distance
- Wear appropriate PPE as follows

Setting	Target person	Activity	Procedure
ENT/Dental	**Doctors**	Providing direct care, examination	- Surgical mask - Gown - Gloves - Frequent hand washing - surgical cap (optional) - eye protection (optional)
	Doctors/Nurses/ Paramedics	Aerosol generating procedure	- N-95 mask (please consider Reuse/extended use) - Water resistant gown Gloves - Eye protection (goggles or face shield) Surgical Cap - Covered shoes with fluid resistant
	Nurses/Paramedics	Registration/Secondary	- Surgical mask - gown - gloves - surgical cap (optional) - eye protection (optional)

Setting	Target person	Activity	Procedure
Other OPD	**Doctors**	Providing direct care, examination	- Surgical mask - Gown/scrub Dress - Frequent hand washing - surgical cap (optional) - eye protection (optional)
	Doctors/Nurse/ Paramedics	Non- Aerosol generating procedure	- Surgical mask - Gown - Gloves - Eye protection (goggles or face shield) - Surgical Cap
	Nurse/Paramedics	Registration/secondary triage	- Surgical mask - gown /scrub dress - surgical cap (optional) - eye protection (optional)
Radiology	**Doctors**	USG/ECHO	- Surgical mask - Gown/scrub Dress] - Frequent hand washing - surgical cap (optional) - eye protection (optional)
	Doctors/Nurse/ Paramedics	Non- Aerosol generating procedure	- Surgical mask - Gown - Gloves - Eye protection (goggles or face shield) - Surgical Cap
	Nurse/Paramedics	XRay/CT scan/MRI /Registration	- Surgical mask - Gown /scrub dress - Gloves
Procedure/OT	**Doctors**	Non- Aerosol generating procedure	- Surgical mask - Gown - Glove - Eye protection (Optional) - Surgical Cap
	Doctors/Nurse/ Paramedics	Aerosol generating procedure	- N 95 mask - Fluid resistant gown - Gloves - Eye protection (goggles or face shield) - Surgical Cap - Covered shoes with fluid resistant
	HCW	Assistance in procedure	- Surgical mask - Gown /scrub dress - Gloves - Surgical cap(optional) - Eye protection (optional)

Optimal use of N95 Filtering Facepiece Respirator and Ultraviolet Germicidal Irradiation (UVGI) Process for Decontamination and Reuse (12/05/2020)

Overview:

The recommendations in this guidance are temporary while there are national and international shortages of personal protective equipment. Face masks include disposable procedure masks and surgical masks. Respirators include powered air purifying respirators (PAPRs) and disposable N95 respirators. These guidelines apply to all health care personnel (HCPs) who need to wear respiratory protection during patient care or as a requirement of their work responsibilities.

Purpose:

- To prevent a shortage or exhaust our supply of facemasks, respirators protection

- To ensure that our staff have access to the necessary supplies to perform patient care safely

Definitions:

- **Extended** use refers to the practice of wearing the same respiratory protection (respirator, PAPR, facemask) encounters with more than one patient without removing the protective equipment between the encounters. Extended use may be implemented when caring for multiple patients and when patients are placed together in dedicated hospital units or clinics

- **Reuse** refers to the practice of using the same face mask for multiple encounters with patients but removing it ('doffing') between at least some of the encounters. The facemask and eye protection are stored between encounters and reused

Re-use of face masks will be permitted. Face masks may be stored safely between uses and reused

- **UV Decontamination** refers to the decontamination procedure involving the delivery of ultraviolet germicidal irradiation (UVGI) to used N95 respirators

Precautions

- Provide surgical mask to suspected case
- Avoid touching the N95 mask while delivering patient care
- Cover N95 with medical mask while doing aerosol generating procedure
- Clean hands with soap and water or an alcohol-based hand sanitizer **before and after** touching or adjusting the mask
- Use a cleanable face shield over an N95 mask

Storing N95 for Further Use

- Label your **name and start date of use** of N95 mask on its strap (Must be used by a single user ONLY)
- Follow the appropriate instructions for doffing of N95 mask.
- Store N95 mask in a **breathable paper bag** between uses (Do not use a plastic bag). Label the bag with name and department
- Please keep the strap of the N95 outside the paper bag
- Avoid touching **the inside** of the mask.
- Place the bag in designate place for reuse or decontaminatoin

Reuse of N95 after Store

- Hand Washing or use of sterilizer or Use non-sterile gloves when applying ("donning") a used N95 mask and performing a user seal check. Discard gloves after the N95 mask is donned.
- Tear the paper bag and discard it
- Take out the N95 and put it on
- Perform hand hygiene

When to Discard the N95 mask

- Discard N95 mask **contaminated** with blood, respiratory or nasal secretions, or other bodily fluids from patients
- Discard any mask that is obviously **damaged** or becomes hard to breathe through or the elastic straps are loose

When to decontaminate?

- Decontaminate N95 mask following use during **aerosol generating procedures** (suctioning of respiratory tract, bag and mask ventilation, intubation and CPR) if no use of medical mask over it in case of suspected/confirmed cases
- N95 respirators decontamination is done in Central Supply Sterilization Department.
- Send the paper with labelled with name and department to CSSD
- Staff carrying the all used respirators should wear gloves only
- Doff the gloves at CCSD and should perform hand hygiene

Decontamination Process at CSSD

- CSSD Staff should don PPE (gown, gloves, surgical mask) for contact precautions.
- Ensure the necessary paper bag required before taking back the mask.
- Thoroughly wipe empty chamber with Disinfection solution (0.4% Virex).
- Gently position the N95 respirators in the UV chamber. Ensure N95 respirators do not touch each other during any part of reprocessing.
- Press Start button on the UVGI chamber. The UV light will begin progressively faster for ~ 60 seconds. UV dosage should reach at least 300mJ/cm^2.
- The N95 respirators should be kept for 60 minutes (cycle time).A metallic smell is normal during UV Torch operation.
- Note elapsed time and total dosage on process log sheet. Note: Prolonged UVGI exposure may degrade elastic straps.
- Don gloves while handling the N95 respirators and make sure the new clean paper bag should be ready.
- Deposit N95 respirators into a new paper bag, indicating owner and return it to the concerned person. Staple bag shut.
- Indicate process finish time, number of respirators processed, and other notes as indicated on process log sheet.

Upon Completion of Decontamination Process

- The Decontamination unit calls contact person, provided on log sheet, to notify that department/unit decontaminated respirators are ready for pick up.
- Staff courier dons gloves and retrieves decontaminated respirators from the Decontamination Unit's designated clean pick up area.
- Decontaminated respirators are in new bags displaying HCP's and return location.

- Staff courier logs name and time of pick up on the log sheet
- New bags are returned to department/unit designated clean pick up location.

➢ **Time allocation: Collection time (11:00 to 12:00)**
Decontamination time is (13:00 to 14:00)
Return back time is (14:00 to 15:00)

Protocol for COVID-19 Home Isolation Management

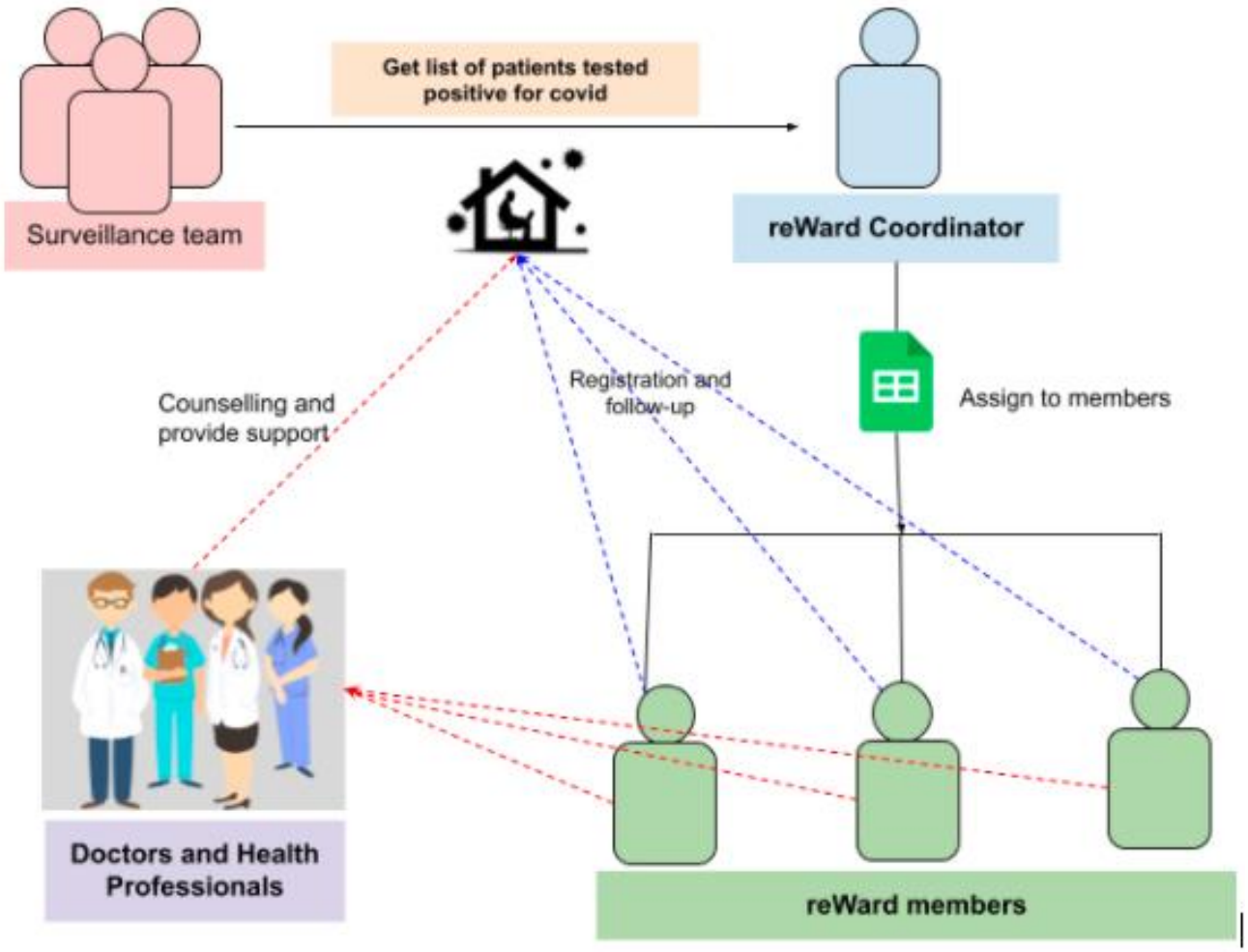


Figure: Work Flow of reWARD

FIRST CALL: REGISTRATION protocol

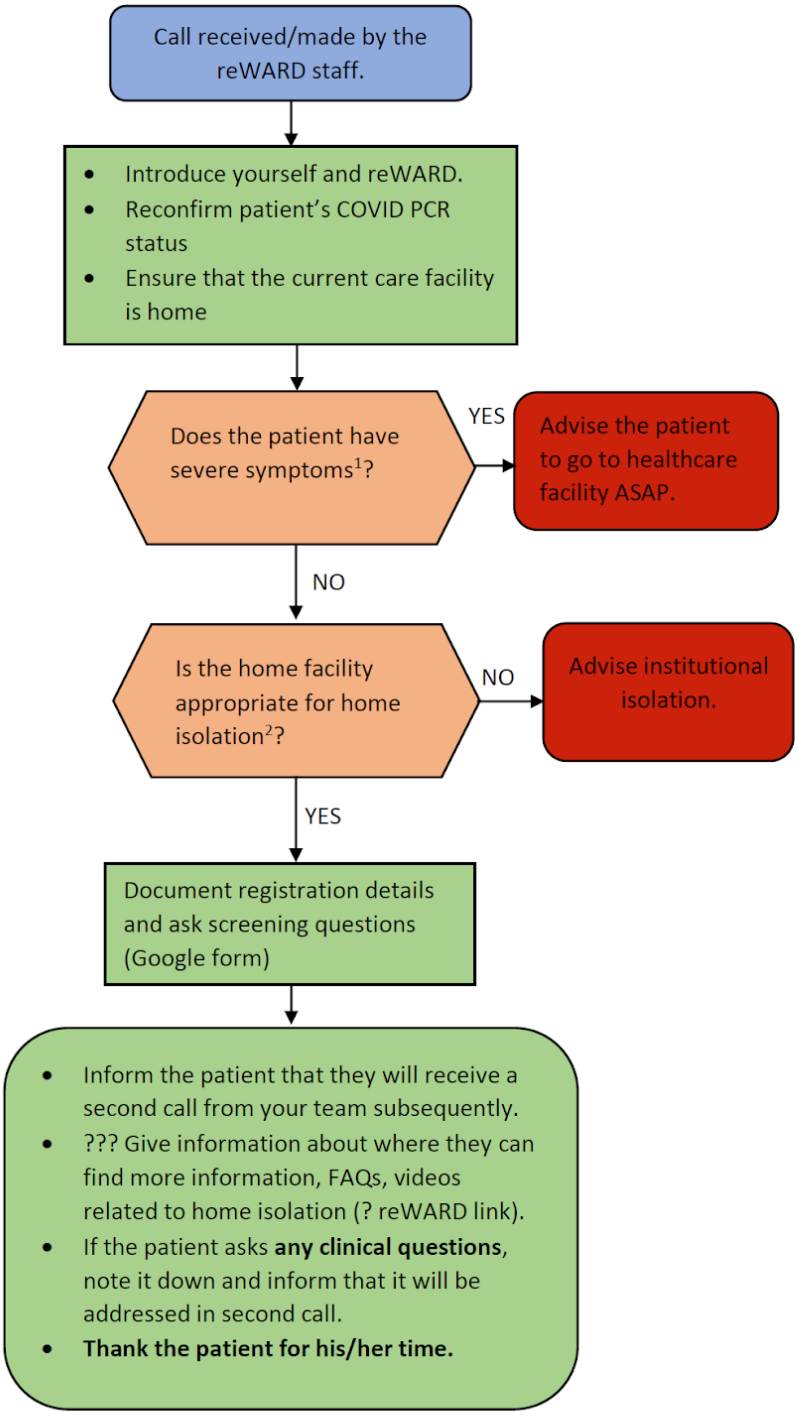
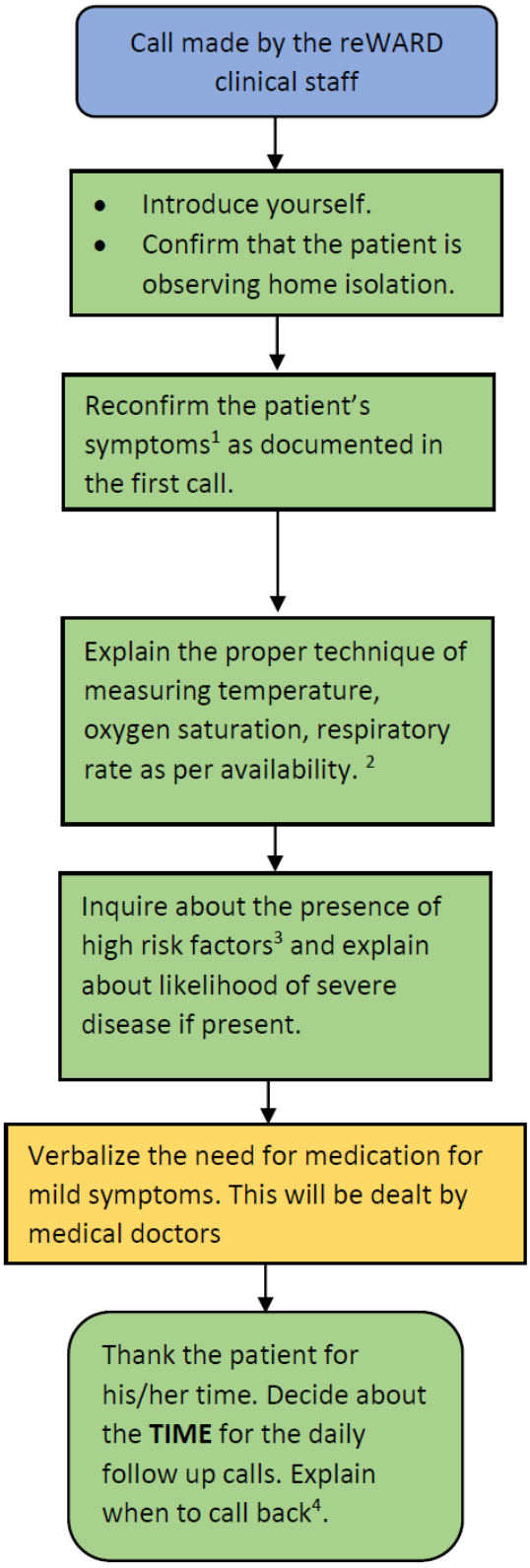


Table 1. Symptom categorization (WHO)	
Mild	**Severe**
Key symptoms: Fever, cough, sore throat, headache, body ache fatigue	Key symptoms: Shortness of breath, loss of appetite, confusion, persistent pain or pressure in the chest, high temperature (> 38 C)
Less common symptoms: Loss of taste or smell, nasal congestion/ runny nose, red eye, muscle or joint pain, skin rash, nausea/vomiting. Diarrhea, chills, dizziness	Less common symptoms: Irritabilty, confusion, reduced consciousness, seizures, anxiety, depression, sleep disorders, stroke, delirium

Table 2. Home facility evaluation
Are hand and respiratory hygiene supplies available?
Do the household have environmental cleaning supplies?
Is there a dedicated washroom available?
Can vulnerable groups like children, pregnant or elderly be segregated?

SECOND CALL: CLINICAL protocol



SECOND CALL: CLINICAL Protocol

Table 1. Symptom categorization (WHO}

Mild	Severe
Key symptoms: Fever, dry cough, sore throat, headache, body ache, fatigue **Less common symptoms:** Loss of taste or smell, nasal congestion, red eye, muscle or joint pain, skin, rash, nausea/vomiting, Diarrhea, chills, dizziness	**Key symptoms:** Shortness of breath, loss of appetite, confusion, persistent pain or pressure in the chest, high temperature (> 38°C) **Less common symptoms:** Irritability, confusion, reduced consciousness, seizures, anxiety, depression, sleep disorders, stroke, delirium

Table 2. How to measure vital signs?

How to measure respiratory rate?
• **Have a watch which shows seconds with you.** • **Take normal regular breaths. Do not take deep breaths. Do not record the respiratory rate after exercise. You should be well rested before recording it.** • **Record one normal breath count as a combination of one normal breath in and one normal breath out.** • **Count your breaths for 60 seconds and record the number as respiratory rate.** • **A normal adult has a respiratory rate of 10-12 breaths per minute.** • **A respiratory rate of 30 or more is worrisome and should be reported immediately to us or called to the hospital.**
How to measure temperature?
• **Every patient should have a dedicated thermometer.** • **Take your temperature in the axilla.** • **Record your temperature 3 times a day (8am-2pm-8pm).** • **Temperature can be checked frequently if the patient feels feverish as per necessary.** • **If the patient has persistently high-grade fever (>38°C or >100.4°F), the patient should call our staff or hospital for further advice.**
How to measure oxygen saturation?
• **Make a pulse oximeter available at your home.** • **Before measuring, make sure your hands are not too cold, you should apply the device with the red indicator of the device facing the nail. Do not apply any nail polish to avoid false records.** • **Record your oxygen saturation at least for 3 times (8am-2pm-8pm) and report back to us.** • **A saturation reading of 94% or more is satisfactory.** • **If your saturation is persistently less than 94%, report to us or call the nearest Hospital immediately for further advice.**

Table 3. High risk factors for disease severity

• **Age>60**
• **History of smoking**
• **Comorbidities**: Lung disease, including COPD, asthma, or bronchiectasis. Cardiovascular disease, including hypertension, Diabetes Mellitus
• **Other clinical factors**: Immuno-compromised states (e.g. chronic kidney or liver disease, taking chemotherapy, steroids, or other Immunosuppressants

Table 4. When to call back? Red flag signs of COVID-19

• **Blue lips or face**	• **Little or no urine output**
• **Cold, clammy, pale or mottled skin**	• **Non-blanching rashes**
• **Shortness of breath at rest**	• **HR> 110 bpm**
• **Coughing up blood**	• **Oxygen saturation <93%**
• **Difficult to arouse**	• **RR>22 breaths per min**

Reference:

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2. Retrieved from: Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health(NIOSH)
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4. Adopted from National guideline for use of PPE COVID 19_26_03_2020 and WHO rational

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