Annex 21: MANAGEMENT OF HEALTHCARE WORKER (HCW) DURING THE COVID-19 PANDEMIC

A) GENERAL CONSIDERATION

Healthcare workers (HCWs) play a vital role in the management of the COVID-19 pandemic such as in testing, patient care, field investigations, data management, administrative measures etc. Patient care involves management of cases in the health clinics, hospitals, *Pusat Kuarantin dan Rawatan COVID-19 Berisiko Rendah* (PKRC) and COVID-19 Assessment Centres (CAC) as well as follow-up of positive cases who are being managed at home.

There was an increase of cases among HCWs during this 3rd wave which accounted for **more than 90%** of the total number of HCWs with COVID-19 as compared to the 2nd wave. As a whole, 1.2% of the Ministry of Health (MOH) HCWs in Malaysia have been infected and the number is increasing day by day. Cumulatively, **53% of the possible source of infections was due to exposure from the community** which included family members and friends, 29% of the transmission occurred among HCWs at the workplace, 11% contracted the illness from patients and 7% linked to other causes.

During this third wave of pandemic, there has been an emergence of new SARS-CoV-2 variants due to viral mutations. These variants have been categorized into variants of concern (VOC) or variants of interest (VOI) based on variant characteristics and public health risks by the World Health Organization (WHO). As of 23 July 2021, Malaysia reported a predominance of the Beta variant (VOC) across the country, however currently the Delta variant (VOC) is predominant. The presence of VOCs in the community has contributed to the exponential rise in the number of cases, hospitalizations and deaths.

Given the evidence of on-going COVID-19 infections among HCWs and the critical role they play in caring for others, their continued protection at work, home and in the community remains a priority. Therefore, vaccination is a critical addition to ensuring the health and safety of this essential workforce, protecting not only them but also their patients, families and communities. As of the 9th September 2021, 96% of the MOH health workers have been fully vaccinated. However, despite being fully vaccinated there have been reported cases of breakthrough infections. Therefore, it is pertinent for all HCWs to **strictly follow the**

Standard Operating Procedure (SOP) as highlighted in this document despite being fully vaccinated. Adherence to SOP must be **practiced at workplace and outside the workplace**. These principles of management of HCWs apply to all MOH facilities and may also be used by non-MOH medical and health facilities.

In general, the new norms at workplace and out of the workplace for HCWs includes the following:

1. **Practice 3C, 3W and additional measures**
   i) Avoid crowded places
   ii) Avoid confined spaces
   iii) Avoid close conversations
   iv) Wash your hands with soap and water or use hand sanitizer
   v) Practice physical distancing
   vi) Wear a mask
   vii) Warn others on adherence to SOPs
   viii) Do not shake hands and avoid physical contact
   ix) Practice cough and sneezing etiquette
   x) Regular disinfection
   xi) Get treatment if symptoms occur

2. **The Practice of Physical Distancing (at least 1 meter apart)**
   i) By limiting the number of personnel at counters at any one time
   ii) While taking history or when talking to a patient or family member
   iii) While at the nurse's station/ registration counter
   iv) While on break, purchasing food or having a meal at the pantry
   v) While at the waiting or common area
   vi) While at a workstation or in the on-call room
   vii) While praying at the designated room or prayer room
   viii) While in the toilet
   ix) During discussions or meetings
   ix) While on home visits or contact tracing
   x) While using social media platform for any meetings or training etc. where possible

3. Hand Hygiene:

i) Practice the 5 Moments of Hand Hygiene in patient management
   - Before touching a patient
   - Before clean/aseptic procedures
   - After body fluid exposure/risk
   - After touching a patient
   - After touching patient's surroundings.

ii) Frequent hand hygiene while at the workplace
   - Upon entering the workplace
   - After coughing and sneezing
   - After coming in contact with high touch surfaces (door handle, railing, elevator buttons, IV drip stands, trays etc.)
   - After using the washroom

4. Use of 3 Ply Surgical Mask

i) If doing additional work shifts, the mask should be changed at the beginning of the shift.

ii) Use of 3 ply-surgical mask and eye protection in non-clinical and common areas as far as practicable, e.g. pantry, surau, canteen, rest areas, etc.

iii) Additional measures in non-clinical settings may include double masking (fabric mask on top of 3 ply surgical mask) to achieve better fit and extra protection.

5. Use of Personal Protective Equipment (PPE)

i) Use of PPE as per recommendations

ii) Use of a 3-ply surgical mask and eye protection in all clinical areas even when managing or handling patients NOT diagnosed with COVID-19

iii) Use of gloves as required, e.g. during clinical procedures, handling clinical waste etc. Gloves should be used when warranted only. Do not wear the same pair of gloves for the care of more than one patient.

iv) Ensure proper donning and doffing methods are followed

v) Emphasis on fit testing and seal check for respirator use e.g. N95, KN95 etc.

vi) Avoid unnecessary use of full PPE (Refer to Annex 8 for further elaboration on Infection Prevention and Control Practice).

6. Screening, testing and follow-up of healthcare workers

i) Strict gatekeeping should be practiced at entrance to the premise with:

i. Daily temperature check and symptoms screening before entering the premise. HCWs with temperature > 37.5 or symptomatic should not be allowed to enter the premise and immediately report to the OSH unit.

ii. MySejahtera must be scanned before entering the premise.

ii) HCW Declaration Form for COVID-19 (Refer Appendix 6)

iii) **COVID-19 screening of HCW is carried out in selected target groups** and **mass screening need not be done routinely**. The need for screening of selected target groups will be based on risk assessment carried out.

iv) **HCW should be tested using RT-PCR.**

v) **HCW tested positive using RTK Antigen including self-test kit should be confirmed with RT-PCR.**

vi) HCW with acute symptoms compatible with COVID-19 should inform their supervisor and get tested.

vii) Priority for testing should be given to HCW with COVID-19 compatible symptoms or close contacts to COVID-19 confirmed cases e.g. priority lane, walk-in

7. Risk Communication

i) Daily compulsory 10-minute risk communication session lead by supervisor **(Health Toolbox Sessions)** for HCW should be done **before starting work**. This health toolbox session will include the following components:

- Provide updated information or policies, information on incidences
- Reminder of precautions and safety and health measures:
    a) Adherence to SOP among HCWs at all times and all areas of the workplace (including pantry, canteen, prayer room, rest areas) as well as out of the workplace (when interacting with family and friends) even though they have been fully vaccinated.
    b) Importance of maintaining their health status at an optimal level especially for those with chronic diseases.
- Information on early signs and symptoms of mental distress and burnout and coping mechanisms (Refer Appendix 1):

a) Using the mental health self-check for HCWs from the Mental Health and Psychosocial Support (MHSPSS) Guideline - Annex 9.
b) Advocacy of the buddy system according to work sections for support and monitoring of mental distress among co-workers.
c) Encourage deep breathing technique for management of stress using the 4-4-8 technique.

ii) Regular technical update sessions for staff e.g. Continuous Medical Education, Continuous Nursing Education, online notification, notice board etc.

iii) Consultation on a daily basis by Occupational Safety & Health (OSH)/ liaison officer should be readily available.

8. Integrated Services Strategy

i) Identify Liaison Officers for Hospital and District Health Office (PKD) for daily communication of cases.

ii) Integrated contact tracing and investigations of HCWs exposed or infected with COVID-19 by the OSH and PKD surveillance teams.

9. Specific Needs of Healthcare workers (OSH in coordination with supervisors)

i) OSH to identify HCW with pre-existing illnesses/ co-morbidities (e.g. obesity, uncontrolled chronic diseases), high-risk HCW (e.g. immunocompromised).

ii) Reschedule/ reorganize work tasks of the above groups accordingly to the risk assessment and needs.

iii) Refer Annex 23a (Guidelines on the Management of COVID-19 in Obstetrics) for Pregnant HCWs providing essential services.

10. HCW compliance with SOP

i) Adherence to SOP is mandatory and applies to all HCW regardless of their job position and irrespective of their vaccination status.

ii) Healthcare workers with uncontrolled comorbidities or are immunocompromised should take extra precautions.

iii) If there is any violation or non-compliance, further action can be taken under the Prevention and Control of Infectious Disease Act 1988 (Act 342).

11. Safe workplace environment

i) The management must ensure that cleaning and disinfection is carried out frequently and regularly especially for high touch areas (eg, door handles, railings, counter tops).

ii) Ideally, natural ventilation is recommended, however wherever not possible, it should follow the Guidelines on Ventilation in the Healthcare Setting to Reduce The Transmission of Respiratory Pathogens available at: https://covid-19.moh.gov.my/garis-panduan/garis-panduan-kkm/ANNEX_52_GUIDELINES_ON_VENTILATION_IN_HEALTHCARE_SETTING_TO_REDUCE_THE_TRANSMISSION_OF_RESPIRATORY_PATHOGENS_05082021.pdf. Use of portable air cleaners such as high-efficiency particulate air (HEPA) and ultraviolet germicidal irradiation (UVGI) may be considered as an **additional measure** taken to improve indoor air quality.

B) SPECIFIC ACTIONS TO BE TAKEN

1. HCW Providing Care to Patients with ILI/ SARI/ Suspected/ Probable/ Confirmed COVID-19

i) HCWs who are providing care to patients with ILI/ SARI/ Suspected/ Probable/ Confirmed COVID-19 should be monitored daily for symptoms by the OSH Unit or Safety and Health Committee of the healthcare facility.

ii) HCW with uncontrolled chronic diseases/ severely immunocompromised conditions should not be allowed to manage and provide care for SARI/ Suspected/ Probable/ Confirmed COVID-19 cases.

2. HCW confirmed positive COVID-19

2.1. All HCW confirmed to be positive COVID-19 must be reported using 3 reporting systems:

i) Communicable Diseases Notification using the Communicable Diseases Notification Form (Annex 7: Notification form).

ii) Occupational Health Notification using WEHU L1/L2 form (Refer Appendix 2 & 3) for all cases of work-related COVID-19 infections irrespective of symptoms

and systems (respiratory or non-respiratory).

iii) Investigation Form of Healthcare Worker with COVID-19 Infection (Refer Appendix 4).

2.2. The list of COVID-19 positive HCWs should be kept in one register (Refer Appendix 5) which should be sent to State KPAS as per instructions. State KPAS should send this appendix to the Occupational and Environmental Health Sector, Disease Control Division, MOH.

2.3. Contact Tracing Purpose and Responsibility

i) Once a HCW becomes positive, identification of close contacts should be initiated immediately.

ii) The purpose of contact tracing is to identify and monitor those who have been in close contact with the COVID-19 case.

iii) This will lead to early identification and management of close contacts who themselves may become cases and thereby leading to better clinical outcomes and also to prevent onward transmission to others.

iv) Contact tracing is carried out in the following way:

a) Contacts of HCW out of the workplace – by the Public Health team from PKD

b) Contacts of HCW at the workplace - by OSH Unit and Public Health team together

c) Contacts of HCW who are hospital in-patients - by infection prevention and control personnel in collaboration with Public Health team

2.4. Positive HCW who are under home isolation/ monitoring will be issued a Home Surveillance Order (HSO) with wrist band or digital HSO by the relevant authority. They should follow the order strictly and stay at home until they are given a release order. They should isolate in a separate room, avoid contact with other members of the residence and wear a face mask if need to come out from the room while maintaining good hygiene practices. The HCW should conduct their daily health assessment using the MySejahtera app. OSH unit should monitor the HCW who are

under HSO on a daily basis and keep track of HCW who are admitted or released from HSO. If there is worsening of symptoms, the HCW should seek treatment immediately.

3. HCW with Exposure to a Patient with COVID-19 in a Healthcare Facility

The OSH unit or the Safety and Health Committee should conduct an Exposure Risk Assessment on HCWs where breach in prevention and control measures/ SOP is suspected on contact/ managing confirmed COVID-19 cases.

3.1. Exposure Risk Assessment

When assigning the risk status, factors to be considered include:

i) whether the HCW involved had an **Unprotected Exposure**

-An **Unprotected Exposure** is considered when the HCW was not using the recommended PPE* for the activity or situation when the exposure occurred.

**Refer Annex 8: The Infection Prevention and Control (IPC) Measures in Managing PUS/ Suspected/ Probable/ Confirmed COVID-19*

ii) whether the HCW was in **Close Contact** with the case (refer below: Close Contact Definition)

Close Contact Definition:

a. HCW who are exposed to positive patients:
   - Have any unprotected exposure of their eyes or mouth or mucous membranes, to the bodily fluid (mainly respiratory secretions e.g. coughing, but also includes blood, stools, vomit and urine) of a case, **OR**
   - Have a cumulative unprotected exposure during one work shift (i.e. any breach of PPE) for more than 15 minutes face to face (<1 metre distance) to a case

     OR
   - Have any unprotected exposure (i.e. any breach in the appropriate PPE) while present in the same room when an Aerosol Generating Procedure (AGP) is undertaken on the case

b. Laboratory workers who have not fully adhered to good laboratory practice for cumulatively more than 15 minutes in one work shift, while testing positive patients' samples.

c. Exposure without appropriate PPE (including providing direct care for COVID-19 patients, working with health care workers infected with COVID-19, visiting patients or staying in the same close environment of a COVID-19 patient, traveling together with COVID-19 patient in any kind of conveyance, living in the same household as a COVID-19 patient

iii) whether an aerosol generating procedure (AGP)** was performed

***cardiopulmonary resuscitation, intubation, non-invasive ventilation, extubation, bronchoscopy, nebulizer therapy or sputum induction*

iv) **source patient's control** (i.e. whether patient was on 3-ply surgical mask during the exposure which can efficiently reduce risk of droplet transmission)

v) clinical symptoms of the patient (e.g., coughing likely increases exposure risk)

vi) the place where exposure occurred (e.g., a closed room with air conditioning such as an on - call or meeting room will increase the exposure risk)

vii) whether the exposure occurred while the case was in the **Infectious Period** ***(****an exposure during the* ***infectious period*** *is more likely to result in transmission)*

Infectious Period is defined as:

- from 48 hours before the onset of symptoms until 10 days after the onset of symptoms for symptomatic cases, **OR**
- before the first positive test date until 10 days after the first positive test date for asymptomatic cases

viii) **Incubation period** of COVID-19 is 14 days from last exposure date to onset of symptoms. This period of time can be taken into consideration for the purpose of symptoms monitoring and contact tracing.

3.2. Management

3.2.1 Category risk

Depending on the exposure risk assessment, an exposed HCW shall be categorized as follows:

i) High-risk exposure

- **Unprotected exposure** where HCW nose and mouth were exposed and close contact occurred with a COVID-19 patient during the infectious period with **no source control** (the patient was NOT on a 3-ply surgical mask), ***OR***
- **Unprotected exposure** while present in the room when **AGP was performed** on a COVID-19 patient during the infectious period

ii) Medium-risk exposure

- **Unprotected exposure** where HCW nose and mouth were exposed and close contact occurred with a COVID-19 patient during the infectious period with **good source control** (the patient was wearing a 3-ply surgical mask)
- Interactions (> 15 minutes AND/OR less than 1 meter distance) with a COVID-19 patient during the infectious period

iii) Low-risk exposure

- **Brief interactions** (< 15 minutes, more than 1 meter distance) with a COVID-19 patient during the infectious period
- **Protected exposure** while in close contact with a COVID-19 patient during the infectious period with **good source control** (the patient was wearing a 3-ply surgical mask)
- The use of **eye protection** in addition to a 3-ply surgical mask or respirator would further lower the risk of exposure.

3.2.2 Recommended monitoring

i) HCW with medium and high-risk exposure will undergo active follow-up by the OSH Unit or Safety and Health Committee as well as passive follow-up

- Daily surveillance by OSH unit or Safety and Health Committee (temperature and symptoms monitoring by phone) for 10 days during HSO period
- Exclusion for work for 7 days if fully vaccinated OR 10 days if not fully vaccinated/ unvaccinated from exposure date.
- On home surveillance order and given a wrist band
- To inform during active follow up of any symptoms that develop
- Continue self-monitoring of symptoms after completing HSO till complete 14 days and inform if any symptoms develop

ii) HCW with low-risk exposure will undergo passive follow-up where they will monitor themselves for symptoms.

- Self-monitoring of symptoms for 14 days after exposure
- Asymptomatic HCW to continue to work
- Symptomatic HCW excluded from work for 7 days if fully vaccinated OR 10 days if not fully vaccinated/ unvaccinated from exposure date.
- To contact the OSH unit or Safety and Health Committee if any symptoms develop

3.2.3 Risk Assessment and Management of Healthcare workers With Exposure to A Person with Confirmed COVID-19

Table 1 & 2 summarizes the category risks, recommended monitoring and outline of management for HCW in different scenarios of exposure which may occur at a healthcare facility.

MINISTRY OF HEALTH MALAYSIA

RISK ASSESMENT AND MANAGEMENT OF HEALTHCARE WORKER WITH EXPOSURE TO A PERSON WITH CONFIRMED COVID-19 (TABLE 1)

STEP 1: Determine Exposure Scenario During Contact	**STEP 2: Determine Exposed HCW PPE Level**	**STEP 3: Determine Exposure Risk Category**	**STEP 4: Implement Recommended Management**	
			ASYMPTOMATIC HCW	**SYMPTOMATIC HCW**
***Source person* with confirmed COVID-19 wearing mask**				
1. Within 1 meter distance **AND/OR**	Wearing 3-ply surgical mask with/without eye protection.	**LOW (protected exposure)**	1. Continue to work. 2. No test required. 3. Self-monitor symptoms for 14 days from exposure date, test immediately if symptoms occur. 4.	1. Re-evaluate risk and symptoms. 2. RT-PCR immediately. 3. Exclude from work with MC until test result available and/or until acute symptoms improve.
2. Cumulative exposure more than 15 min during one work shift.	Not wearing 3-ply surgical mask.	**MEDIUM (unprotected exposure)**	1. Exclude from work with HSO for 7 days if fully vaccinated OR 10 days if not fully vaccinated/ unvaccinated from exposure date. 2. RT-PCR at D3 post-exposure, repeat at D5 if 1st test negative (for fully vaccinated) and D8 (for not fully vaccinated/ unvaccinated). 3. **In the event of crisis and staff shortage**, RTW may be allowed as soon as 1st test (D3 post-exposure) is negative with strict daily monitoring by OSH/ authorized personnel and adherence to RTW practice. 4. Self-monitor symptoms for 14 days from exposure date, test immediately if symptoms occur.	1. Exclude from work with HSO for 7 days if fully vaccinated OR 10 days if not fully vaccinated/ unvaccinated from exposure date. 2. RT-PCR immediately. 3. If 1st test negative and still symptomatic, repeat test after 48 hours. 4. If symptoms have resolved, repeat test at D5 (for fully vaccinated) and D8 (for not fully vaccinated/ unvaccinated). 5. Strict daily monitoring by OSH/authorized personnel.

***Source person** = A person who is a confirmed case of COVID-19; **RTW** = Return To Work ; **RTK-Ag** can be used in pre-determined areas/locality with prevalence of COVID-19 > 10%*

MINISTRY OF HEALTH MALAYSIA

RISK ASSESMENT AND MANAGEMENT OF HEALTHCARE WORKER WITH EXPOSURE TO A PERSON WITH CONFIRMED COVID-19 (TABLE 2)

STEP 1: Determine Exposure Scenario During Contact	STEP 2: Determine Exposed HCW PPE level	STEP 3: Determine Exposure Risk Category	STEP 4: Implement Recommended Management	
			ASYMPTOMATIC HCW	SYMPTOMATIC HCW
***Source person* with confirmed COVID-19 NOT wearing mask**				
1. Within 1 meter distance. **AND/OR** 2. Cumulative exposure more than 15 min during one work shift.	Wearing 3 ply surgical mask with eye protection (face shield/goggle).	**LOW (protected exposure)**	1. Continue to work. 2. No test required. 3. Self-monitor symptoms for 14 days from exposure date, test immediately if symptoms occur.	1. Re-evaluate risk and symptoms. 2. RT-PCR immediately. 3. Exclude from work with MC until test result available and/or until acute symptoms improve
	Wearing 3 ply surgical mask without eye protection.	**MEDIUM (unprotected exposure)**	1. Exclude from work with HSO for 7 days if fully vaccinated OR 10 days if not fully vaccinated/ unvaccinated from exposure date. 2. RT-PCR at D3 post-exposure, repeat at D5 if 1st test negative (for fully vaccinated) and D8 (for not fully vaccinated/ unvaccinated). 3. **In the event of crisis and staff shortage**, RTW may be allowed as soon as 1st test (D3 post-exposure) is negative with strict daily monitoring by OSH/ authorized personnel and adherence to RTW practice. 4. Self-monitor symptoms for 14 days from exposure date, test immediately if symptoms occur.	1. Exclude from work with HSO for 7 days if fully vaccinated OR 10 days if not fully vaccinated/ unvaccinated from exposure date. 2. RT-PCR immediately. 3. If 1st test negative and still symptomatic, repeat test after 48 hours. 4. If symptoms have resolved, repeat test at D5 (for fully vaccinated) and D8 (for not fully vaccinated/ unvaccinated). 5. Strict daily monitoring by OSH/authorized personnel.
	NOT wearing 3 ply surgical mask.	**HIGH (unprotected exposure)**	1. Exclude from work with HSO for 7 days if fully vaccinated OR 10 days if not fully vaccinated/ unvaccinated from exposure date.	

3. Performing AGP.	NOT wearing full PPE with respirator (N95/PAPR).		2. RT-PCR at D3 post-exposure, repeat D5 if 1st test negative. 3. Strict daily monitoring by OSH/ authorized personnel for 7 OR 10 days 4. Self-monitor symptoms for 14 days from exposure date, test immediately if symptoms occur.	

***Source person** = A person who is a confirmed case of COVID-19; **RTW** = Return To Work ; **RTK-Ag** can be used in pre-determined areas/locality with prevalence of COVID-19 > 10%*

4. **HCWs who are identified as close contacts and issued Home Surveillance Order (HSO)**

   HCWs who are issued with a HSO with wrist band or digital HSO by the relevant authority, should follow the order strictly be it at home or at a quarantine station until they are given a release order. They should avoid direct contact with other individuals and maintain good hygiene practices. They **should conduct the daily health assessment using the MySejahtera app.** OSH or the Safety and Health Committee should monitor the HCW who are under HSO on a daily basis and keep track of HCWs who are admitted or released from HSO by using the format as in Appendix 7. KPAS JKN should send Appendix 7 to the Occupational and Environmental Health Sector, Disease Control Division, MOH.

5. **Asymptomatic HCW Having Close Contact with A Suspected/ Probable Case or Person Under Surveillance (PUS)**

   i) An asymptomatic HCW **having close contact with a Suspected or Probable Case of COVID-19 (including members of the household or community)**, should inform the supervisor immediately. Exposed HCW shall be excluded from work until RT-PCR result of the Suspected/ Probable case of COVID-19 is available. If the RT-PCR result of the Suspected/ Probable case of COVID-19 is negative, the HCW may return to work. Should any symptoms consistent with COVID-19 appear, the HCW should get tested immediately. If the RT-PCR test result is negative, they need to be issued medical certificate and excluded from work until symptoms are resolved. If the RT-PCR result of the Suspected/ Probable case of COVID-19 is positive, refer Annex 12 (Management of Closed Contacts of Confirmed Case) and testing should be carried out for the HCW.

   ii) Asymptomatic HCW **having close contact to PUS** may continue working however the HCW needs to follow the instructions below;

   - Strictly wear a surgical mask and eye protection at all times in clinical areas
   - Adhere to hand hygiene, respiratory hygiene, and cough etiquette
   - Movement should be restricted, continue self-isolation at home upon returning from work, avoid 3C and practice 3W
   - Ensure physical distancing while in closed and confined areas such as the pantry, on-call room or prayer room

- **If symptoms (even mild) develop and are consistent with COVID-19**, immediately stop patient care activities and notify supervisor for further action.

6. HCW with Acute Symptoms that are Compatible with COVID-19 without any Identifiable Cause

An HCW with new onset of acute respiratory infection (ARI) or other symptoms compatible with COVID-19 **without any identifiable** exposure to suspected or confirmed COVID-19 patients, should be screened.

7. Additional Testing under Special Circumstances

HCWs are also recommended to test using the COVID-19 self-test kit under special circumstances such as after traveling across state borders, attending large gatherings/ social functions, attending work related matters involving large groups of people, participating in large sports events etc following the National Testing Strategy Policy.

8. HCW with History of Recovered COVID-19 Infection

i) **HCW infected with SARS-CoV-2 and remain asymptomatic.**

For HCW previously diagnosed with symptomatic COVID-19 and who remain asymptomatic after recovery, retesting is not recommended within 90 days (3 months) after the date of onset of illness.

ii) **HCW infected with SARS-CoV-2 and develops new symptoms.**

For HCW who have recovered from symptomatic COVID-19 and develop new symptoms within 90 days, it is recommended that investigations be done to look for other causes for the symptoms. If alternative causes cannot be found, isolate the HCW and test for SARS-CoV-2 infection.

9. Crisis Strategies to Mitigate Staffing Shortages

In the event of a critical shortage of staff, an exception to the recommended approach **may be** made for HCW who are required to return to work for essential services where there are no other HCW who can carry out the duties. This should only be decided by

the relevant health authorities after discussion with OSH at state level. Risk assessment must be carefully done by an OSH Officer/ authorized personnel. In such scenarios:

i) HCW should be evaluated to determine fitness to work.
ii) **Asymptomatic** HCWs with **Medium Risk Exposure** may be allowed to return to work if their 1st RT-PCR samples **(Day 3 post exposure)** is negative.
iii) HCWs who return to work should adhere to **Return to Work Practices and Work Restrictions recommendations**.
iv) For HCW involved with management of immunocompromised patients such as cancer patients or patients on chemotherapy, the job description should be discussed with the relevant consultant and hospital director.
v) HCWs are only allowed to attend work and return home and are restricted from any social activities.

10. Return to Work Practices and Work Restrictions

The following guideline should be adhered to by HCW returning to work after completion of the HSO period:

i) OSH should be notified upon returning to work
ii) Staff Declaration Form should be filled upon returning to work (Appendix 6)
iii) Strictly wear surgical mask and eye protection at all times in clinical areas
iv) Adhere to hand hygiene, respiratory hygiene, and cough etiquette
v) Movement should be restricted, continue self-isolation at home upon returning from work, avoid 3C and practice 3W
vi) Ensure physical distancing while in confined closed areas such as pantry, on-call room or prayer room
vii) Restricted from taking care of immunocompromised patients for the period of monitoring
viii) Strict daily monitoring of temperature and symptoms compatible with COVID-19 by OSH Officer/authorized personnel
ix) If develop new onset of symptoms (even mild) or worsening of symptoms and consistent with COVID-19, immediately stop patient care activities and notify supervisor or OSH officer

11. HCWs with a household member who is under Home Surveillance Order (HSO)

HCWs with household members (family, friends, colleagues, and housemates) who are under HSO should attend work as usual however should strictly adhere to preventive measures while at home such as;

i) Avoid being in close proximity to those under HSO and ensure physical distancing of at least 1 meter
ii) Wear surgical mask when interacting with them
iii) Adhere to hand hygiene, respiratory hygiene, and cough etiquette

12. Psychosocial Support and Counseling

Psychological support and counselling are to be provided for HCW when the need arises. Mental health assessment and psychological first aid shall be conducted by the Mental Health and Psychosocial Support Team (MHPSS). Counselling services are to be provided upon request. All HCWs should be given mental health preparedness briefing including pre-deployment and post-deployment.

13. COVID-19 Vaccination among HCWs

i) All healthcare workers are encouraged to get vaccinated as soon as possible.
ii) Healthcare workers whom are temporarily unfit to be vaccinated will be managed according to national vaccination guideline (refer to National COVID-19 Immunization Guideline).
iii) Fully vaccinated for COVID-19 is defined as:
    - ≥ 14 days after they have received the second dose of a 2-dose series; or
    - ≥ 28 days after they have received a single dose vaccine
iv) Vaccination among pregnant healthcare workers will follow recommendations in Guidelines on COVID-19 Vaccination in Pregnancy and Breastfeeding.
v) Management of HCW who are fully vaccinated and are subsequently exposed to a person with COVID-19 follows management as stated in Table 1 and 2 above.
vi) In the event of a critical shortage of staff, healthcare workers may be allowed to return to work (Refer to Annex 21 clause 8: Crisis Strategies to Mitigate Staffing Shortages).
vii) COVID-19 Vaccination and sample testing for HCWs;

For a HCW who is already fully vaccinated and tests positive for COVID-19, the following additional measures need to be undertaken;

I. Case Investigation

Detailed investigations need to be carried out to determine susceptibility to infection and history of vaccination such as;

- Risk factors for diseases/ co-morbid conditions
- Severity of disease (clinical category)
- Date of exposure
- Date of COVID-19 PCR swab taken
- COVID-19 positive among close contacts
- SOP compliance
- Type of vaccine received
- Vaccine batch number
- Vaccination Center (Pusat Pemberian Vaksin-PPV)

II. Virus isolation and sequencing for viability testing and genetic characterization

Samples should be sent for viral isolation and genomic sequencing to determine the viability of SARS-CoV-2 as well as genetic characterization of the virus. Genomic characterization of the virus is needed to rule out possible infection with Variants of Concern (VOC) which is known to have mutations that confer some level of resistance to neutralizing antibodies. Samples required are:

Samples [nasopharyngeal swab (NPS) and oropharyngeal swab (OPS)] that was initially positive for COVID-19, of fully vaccinated HCW and fresh NPS and OPS should be collected. Samples must be sent to COVID Samples Receiving Counter, Tingkat 1, Blok C, Unit Virologi, Institut Penyelidikan Perubatan, Kompleks Institut Kesihatan Negara, No 1, Jalan Setia Murni U13/53, Seksyen U13, Setia Alam, 40170, Shah Alam, Selangor.

III. Blood sample for seroconversion test

For the purpose of ensuring the development of neutralizing antibodies towards SARS-COV2 virus in a fully vaccinated HCW, a seroconversion test is required. The test is able to detect and quantify SARS-CoV-2 neutralizing antibodies in vaccinated or infected person. Below are the requirements of sampling for the seroconversion study:

- Sample should be taken **within two to three weeks post 2nd dose of vaccination**
- Type of sample; blood serum
- Sample volume; 3 ml
- Container; gel tube or plain blood tube

Samples (blood or serum) must be sent to COVID Samples Receiving Counter, Tingkat 1, Blok C, Unit Virologi, Institut Penyelidikan Perubatan, Kompleks Institut Kesihatan Negara, No 1, Jalan Setia Murni U13/53, Seksyen U13, Setia Alam, 40170, Shah Alam, Selangor.

IV. Audit of vaccine cold chain and injection procedures

An audit using existing audit format for cold chain and injection procedures should be carried out to determine any elements that could reduce the potency of the vaccine. At the same time, vaccine delivery method must be assessed to ensure that standard injection procedures were followed.

14. HCW with Relevant Travel History

HCW, who intend to travel internationally or have returned from overseas, should declare their travel to their respective Heads of Departments promptly. All current policies related to travelers during COVID- 19 pandemic are applicable (Refer Annex 2). Meanwhile all domestic travel is subject to current state policies.

Appendix 1

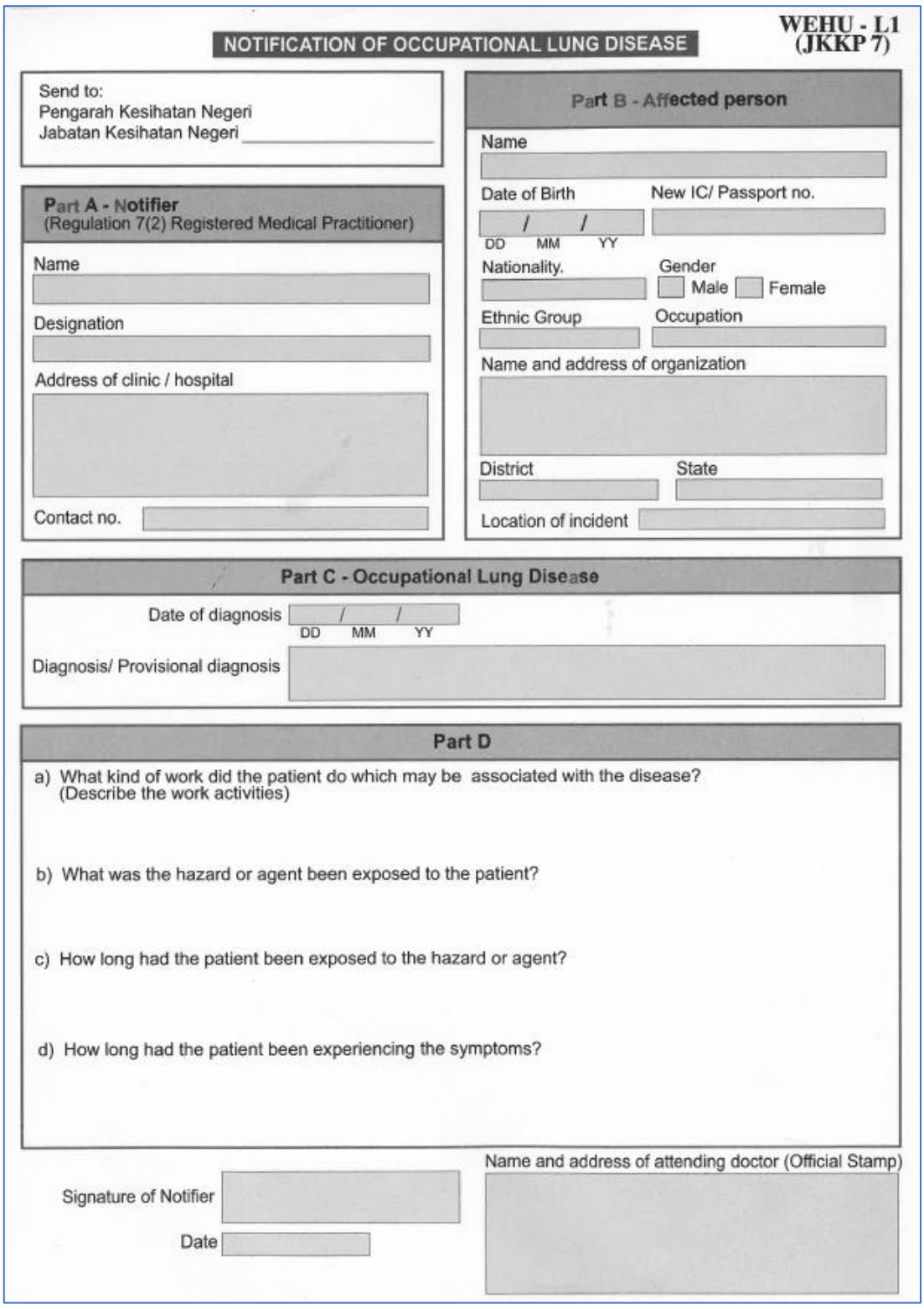
Information on early signs and symptoms of mental distress and burnout:

Symptoms of mental distress:	Signs of burnout:
• Easily anxious/excessively anxious • Feeling extremely sad/hopeless/helpless • Feeling guilt • Easily irritated/angry • Extremely tired • Difficulty in sleeping • Crying without any specific reasons	• Frequent mistakes • Easily upset/ irritable • Difficulty in sleeping • Hopelessness • Being sceptical to others/organization • Poor work performance

Coping mechanisms for mental distress and burnout:

a) Create a buddy system according to work sections for support and monitoring of mental distress among co-workers. The buddy system should be made up of a minimum of two-person teams and they are responsible for looking out for mental distress symptoms among co-workers. If any HCW experiences any of the signs and symptoms listed above, they should be advised to talk to MHPSS Team Members for further evaluation and action. Co-worker from the buddy system should also alert the MHPSS team member if any prolonged condition is observed.
b) Practice deep breathing technique for management of stress using the 4-4-8 technique following the steps below:
    i. Breathe in through your nose for a count of 4, taking the breath into your stomach.
    ii. Hold your breath for a count of 4.
    iii. Release your breath through your mouth with a whooshing sound for a count of 8.
    iv. Without a break, breathe in again for a count of 4, repeating the entire technique 3-4 times in a row.
    v. Focus on counting when breathing in, holding the breath, and breathing out.

Appendix 2



WEHU - L1
(JKKP 7)

NOTIFICATION OF OCCUPATIONAL LUNG DISEASE

Send to:
Pengarah Kesihatan Negeri
Jabatan Kesihatan Negeri _____

Part A - Notifier
(Regulation 7(2) Registered Medical Practitioner)

Name

Designation

Address of clinic / hospital

Contact no.

Part B - Affected person

Name

Date of Birth / / (DD MM YY)

New IC/ Passport no.

Nationality.

Gender ☐ Male ☐ Female

Ethnic Group

Occupation

Name and address of organization

District

State

Location of incident

Part C - Occupational Lung Disease

Date of diagnosis / / (DD MM YY)

Diagnosis/ Provisional diagnosis

Part D

a) What kind of work did the patient do which may be associated with the disease? (Describe the work activities)

b) What was the hazard or agent been exposed to the patient?

c) How long had the patient been exposed to the hazard or agent?

d) How long had the patient been experiencing the symptoms?

Signature of Notifier

Date

Name and address of attending doctor (Official Stamp)

* Softcopy is available online at: https://www.moh.gov.my/index.php/pages/view/994

Appendix 3

WEHU - L2

1 Duration of symptoms _____ (by years, months or days)

2 Type of occupational lung disease

- ☐ Occupational asthma
- ☐ Inhalation incident
- ☐ Hypersensivity pneumonitis
- ☐ Bronchitis/ Emphysema
- ☐ Infectious diseases (e.g. TB)
- ☐ Pneumoconiosis (incl. asbestosis, silicosis)
- ☐ Other occupational lung disease (please specify) : _____
- ☐ Lung cancer
- ☐ Mesothelioma
- ☐ Non - malignant pleural disease
- ☐ Byssinosis
- ☐ Building related respiratory illness
- ☐ Fibrotic lung disease

Suspected causal agent : _____

3 Source of case

- ☐ Chest clinic
- ☐ Occupational Health Clinic
- ☐ Health Clinic (*Klinik Kesihatan*)
- ☐ Other Specialist Clinic (please specify) : _____
- ☐ Others (please specify) : _____

4 Is patient a smoker ?

☐ Current ☐ Ex-smoker ☐ Never smoked

5 Is patient atopic ?

☐ Yes ☐ No ☐ Unsure

6 Relevant job(s)

Type of work/ industry	Job title	Duration of employment (by years, months or days)

7 Outcome on DD - MM - YY

- ☐ Still expose to the agent at the workplace but using personal protective equipment
- ☐ Still expose to the agent at the workplace but not using personal protective equipment
- ☐ Same place of work but no longer expose to agent
- ☐ Changed job/ alternative employment
- ☐ Away from work due to illness
- ☐ Early retirement
- ☐ Unemployed

8 Existing control

- ☐ Engineering Control
- ☐ Standard Operating Procedure (SOP)
- ☐ Training / Education / Work Schedule / Rotation
- ☐ Personal Protective Equipment (PPE)
- ☐ Other (please specify) : _____

* Softcopy is available online at: https://www.moh.gov.my/index.php/pages/view/994

Appendix 4

INVESTIGATION FORM OF HEALTHCARE WORKER WITH COVID-19 INFECTION

1. Name:
2. IC Number:
3. Contact Number: Home: Mobile:
4. COVID-19 ID (case number):
5. Age:
6. Gender:
7. Race:
8. Job Designation:
9. Job description:
10. Department:
11. Institution/ Hospital:
12. Vaccination status:
    a. Non-vaccinated/ 1st Dose: date received_____/ 2nd dose: date received____/ Booster dose: date received _____
    b. Type of Vaccine received: _____
    c. Vaccine batch number: _____
    d. Vaccination center (SPV/PPV) : _____
13. Risk Factors: YES / NO (if yes please specify):
    Hypertension/ Diabetes / Pregnancy / Obesity / Smoker / Vaper / COPD Heart Disease / Asthma / Malignancy / HIV / CKD / Chronic Liver Disease Bed bound / Others
14. Reason for COVID-19 screening (tick where appropriate)
    a. Close contact with positive COVID-19 (patient/other staff/family/friends)
    b. Attended an event which was related to a cluster
    c. Screening at work
    d. Travelled from foreign countries/ identified red zones
    e. Acute symptoms compatible with COVID-19 without identifiable cause
    f. Pre-procedure/ pre-operation/ pre-transfer
    g. Self-initiative

15. Date of exposure (if known):

16. If symptomatic, date of onset of symptoms:

17. Specify the symptoms at presentation: (√)

Fever	
Chills	
Rigors	
Myalgia	
Headache	
Sore throat	
Nausea or Vomiting	
Diarrhea	
Fatique	
Nasal Congestion / Running Nose	
Cough	
Shortness of Breath	
Difficulty in Breathing	
Anosmia (loss of smell)	
Ageusia (loss of taste)	

18. COVID-19 Test:

No.	Date (sampling date)	Day from Exposure	Type of Test (RT-PCR/RTK-Ag)	Result
1.				
2.				
3.				

19. Date of diagnosis (sampling date of first positive result):

20. Duration (in days) of exposure/ symptoms before date of diagnosis:

21. Source of infection, (select the appropriate answer)

    a. Healthcare associated (most likely from patients)

        i. Work/ activity during exposure:

        ii. PPE used during exposure:

Head cover / Nursing cap / 3-ply surgical mask / N95 / Eye protection Isolation gown / Apron / Gloves / Boot cover / Shoe cover

iii. Is PPE used appropriate for the work or activity conducted: YES / NO

iv. Level of exposure risk: High / Medium / Low

b. Staff to staff transmission (close contact)

i. Possible reason/activity for transmission of COVID-19 (please specify): pantry / prayer room / on-call room / rest room / others

ii. Was PPE (3-ply surgical mask) used by both HCWs during interaction: YES / NO

iii. Level of exposure risk: High / Medium / Low

c. Community acquired: family members / housemates / social interaction

22. Is the source of infection related to any cluster: YES / NO

23. If yes, which cluster:

24. Actions taken immediately after screening, while waiting for the result (tick where appropriate)

a. Exclude from work and home quarantined - duration in days:
(start and end dates):

b. Exclude from work and quarantined at quarantine center - duration in days:
(start and end dates):

c. Allowed return to work with “Return to Work Practices And Work Restriction” (date):

25. Actions taken following positive COVID-19 result:

26. Treatment received:

27. Risk reduction strategies at workplace:

Please complete the details as below:

Details of Case Movement

	DATE	**DAILY ACTIVITIES / PLACE VISITED** Descried as details as possible, including adherence to SOP, wearing suitable PPE or any other related matters	**CONTACT DETAILS** (NAME & HP NO)
14 days before onset			
13 days before onset			
12 days before onset			
11 days before onset			
10 days before onset			
9 days before onset			
8 days before onset			
7 days before onset			
6 days before onset			
5 days before onset			
4 days before onset			
3 days before onset			
2 days before onset			
1 day before onset			
ONSET OF SYMPTOMS			

1 day after onset			
2 days after onset			
3 days after onset			
4 days after onset			
5 days after onset			
6 days after onset			
7 days after onset			

Close Contact Details

NO.	NAME	RELATION	DATE OF SWAB TEST	SWAB TEST RESULT

Signature:

Stamp of OSH Officer:

Date :

* Softcopy is available online at: https://drive.google.com/drive/folders/1tfetPYf4TSmKXWwpt00RpsdiLJ3M_DVz

Appendix 5

FORMAT PEMANTAUAN PETUGAS KESIHATAN POSITIF COVID-19 DI FASILITI KEMENTERIAN KESIHATAN MALAYSIA

NEGERI: ____________________

Tarikh: ____________________

Bil	Nama	No. Kad Pengenalan	No. Telefon	Umur	Jantina	Bangsa	Co-morbid	Jawatan	Jabatan/ Unit	Nama Fasiliti	Penglibatan Dalam Pengurusan Pesakit COVID-19 (Ya/ Tidak), Jika Ya nyatakan tarikh terakhir	Tarikh Onset (Gejala)	Nyatakan setiap Gejala (sekiranya bergejala seperti demam, batuk, anosmia, loss of taste etc)	Tarikh Mendapat Rawatan	Tarikh Positif	Jenis Ujian (PCR/RTK Antigen)	Nilai CT (bagi Ujian PCR sahaja)	Hospital Tempat Rawatan	Jenis (Ward, ICU dll)

Status (Stabil/ VentiMask/ Nasal Prong/ Ventilator dll.)	Tarikh Keputusan Negatif	Rawatan AntiViral (Ya- nyatakan Jenis/ Tidak)	Hasil Rawatan (Dalam Rawatan/Sembuh & Discaj/ Meninggal)	Tarikh discaj (Sembuh/ Meninggal)	Tarikh Mula bertugas semula di PTJ	Kemungkinan Punca Jangkitan (Work Related/ Non-work Related)	Catatan (kaitan dengan kluster sedia ada, sejarah berada atau melawat zon merah, kontak dengan kes positif atau lain-lain)	Detail mekanisma dan tempat berlakunya jangkitan (pantri, ruang solat, changing room, car pool, kaunter, lif, toilet atau ruang gunasama lain, housemate dan lain-lain)	Total	+ve	-ve	pending	Kesan kepada perkhidmatan (servis ditutup/buka)	Tarikh dekontiminasi

* Softcopy is available online at: https://docs.google.com/spreadsheets/d/1u1Wd_seoR86KMrCbtbjJ8-KjkC96Ji8x/edit?usp=sharing&ouid=117559942981743755531&rtpof=true&sd=true

Appendix 6

Version 4/2021

COVID-19 DECLARATION FORM (HEALTHCARE WORKER)

(Individual facility may amend the form according to the need of local setting)

ANSWER ALL QUESTIONS (TICK √ WHERE APPROPRIATE)

A. EPIDEMIOLOGICAL LINK		**Yes**	**No**
1	Residing or working in an area/locality with high risk of transmission of virus: closed residential settings, institutional settings such as prisons, immigration detention depots ; anytime within the 14 days prior to sign and symptom onset If yes, please specify the area:_____		
2	Residing or travel to an area with community transmission anytime within the 14 days prior to sign and symptom onset If yes, please specify the area: _____		
3	Working in any health care setting, including within health facilities or within the community; any time within the 14 days prior to sign and symptom onset. If yes, please specify the health care setting: _____		
4	Linked to a COVID-19 cluster within the past 14 days prior to sign and symptom onset.		
5	Close contact to a confirmed case of COVID-19, within 14 days before onset of illness. If yes, please answer questions **a** to **d**:		
	a. Health care associated exposure without appropriate PPE (including providing direct care for COVID-19 patients, working with health care workers infected with COVID-19, visiting patients or staying in the same close environment of a COVID-19 patient).		
	b. Working together in close proximity or sharing the same classroom environment with a with COVID-19 patient		
	c. Traveling together with COVID-19 patient in any kind of conveyance		
	d. Living in the same household as a COVID-19 patient		

B. SYMPTOMS							
		Yes	**No**			**Yes**	**No**
1	Fever			8	Dyspnea		
2	Cough			9	Anorexia / Nausea / Vomiting		
3	General weakness /Fatigue			10	Diarrhea		
4	Headache			11	Altered mental status		
5	Myalgia			12	Sudden loss of smell (Anosmia)		
6	Sore throat			13	Sudden loss of taste (Argeusia)		
7	Coryza				**TEMPERATURE**	_____	^{0}C

Signature of Healthcare Worker:

Name: _____

IC Number: _____

Date: _____

Signature of Screening Officer:

Name: _____

IC Number: _____

Date: _____

STOP COVID-19!

YOUR HONESTY CAN SAVE MANY LIVES INCLUDING HEALTH CARE WORKERS.
MAKE SURE YOU REGISTER IN MySejahtera

* Softcopy is available online at: https://drive.google.com/file/d/1iDTClr3RQr5ODLjqZHKZ_5OC1ka3oo3S/view?usp=sharing

Appendix 7

SENARAI PETUGAS KESIHATAN KKM YANG MENJALANI *HOME SURVEILLANCE ORDER* (HSO)

NEGERI:

TARIKH:

Bil.	Nama Anggota	No Kad Pengenalan	No. Telefon Bimbit	Umur	Jantina	Jawatan	Unit/ Jabatan/ Klinik Kesihatan	Pejabat Kesihatan Daerah/ Hospital/ Jabatan/ Institusi	Jenis Kuarantin (Rumah/ Stesen Kuarantin/ Hotel)	Alamat Tempat Kuarantin	Co-morbid	Bergejala atau tidak bergejala (sekiranya bergejala masukkan tarikh onset)	Kategori risiko (high/medium/low/non identifiable)	Jenis Sampel diambil PCR/ RTK Ag/ Antibody (1st Sample)	Tarikh Sampel Diambil (1st sample)	Keputusan Sampel (1st sample)

Jenis Sampel diambil PCR/ RTK Ag/ Antibody (2nd Sample)	Tarikh Sampel Diambil (2nd sample)	Keputusan Sampel (2nd sample)	Jenis Sampel diambil PCR/ RTK Ag/ Antibody (3rd sample)	Tarikh Sampel Diambil (3rd sample)	Keputusan Sampel (3rd sample)	Tarikh Mula Kuarantin	Tarikh Tamat Kuarantin	Sebab staf dikuarantin (kontak rapat / saringan ILI /pulang dari Sabah/TEMCO/ etc nyatakan)	Nama Kluster (jika berkaitan)	Tarikh Kembali Bekerja	NOTA

References:

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4. US CDC: Criteria for Return to Work for Healthcare Personnel with Suspected or Confirmed COVID-19 (Interim Guidance), updated April 30, 2020
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8. Zhou F, Yu T, Du R, et al. Clinical course and risk factors for mortality of adult inpatients with COVID-19 in Wuhan, China: a retrospective cohort study [published correction appears in Lancet. 2020 Mar 28;395(10229):1038]