

Primary care health worker deskguide in the context of COVID-19:

Nigeria public and private PHC facilities and district hospital OPDs

Version 120520

Introduction to COVID-19

COVID-19 is a respiratory infection caused by a new virus, which crossed to people from a wild animal caught when sold in a live animal market. It is similar to the SARS virus of the 2003 epidemic also originating from wild animals/ live animal markets in China. The COVID-19 epidemic evolves rapidly from the initial few cases and their contacts, with cases doubling every 3 days and rapid spread within the community. Everyone is susceptible to the infection.

The symptoms of COVID are fever, cough, difficult breathing etc. which are also the symptoms of other common infections. A COVID test takes days, or is not available, so we need to treat the likely common infection AND manage as a possible COVID.

Everyone needs education on what to do. Symptoms in at least half of the cases are very mild, especially in children and young adults. As such, they continue their activities and spread the infection, unless social distancing – staying at home or keeping 2m apart – are implemented.

People can transmit the virus two days before being ill. Patients who are ill, but not severely, can pass on the infection to family and carers, unless the whole family are home isolated for 14 days. Other patients, especially the elderly and/or those with chronic diseases, may get very ill (around the end of the first week of symptoms) and require oxygen or ventilator support. Within a few weeks of the epidemic, there is a steep climb in cases and deaths. After a few months the numbers stop rising and then start to decline. But after this first peak of cases, other epidemics with peaks of cases are likely to follow until a vaccine is available and provided eg late 2021.

Meanwhile it is important to continue with your normal care and prevention activities, or excess deaths will occur. While also arrange to screen in a well- ventilated area for symptoms of possible COVID and separate them from other patients.



Diagnosis and management

Assess sick adults, 'walk-in' outpatient in the context of possible COVID as follows:

1. **Ask** them to tell you about their symptoms and concerns, in all ask about:
 - **Fever?** (hot/cold, shivers or temperature > 38°C)
 - **Cough?** if so ask if: sore throat?, dry? (1/5 with sputum) new or worse than their usual?
 - If any, also ask about:
 - 'Flu' symptoms e.g. headache, muscle ache, or a 'cold' or loss of taste/ smell?
 - Shortness of breath or difficult breathing?
 - If any of above symptoms, also ask about travel, residence and contact history

2. **Assess** the severity of their disease, if very ill or breathless, best use eg below
CRB65: the score and urgency to refer (or if you have a pulse oximeter also see Annex 1)

Give 1 point for each of:

- raised respiratory rate (RR, 25 breaths per minute or more)
- low blood pressure (diastolic 60 or less, or systolic less than 90 mmHg)
- age 65 years or more.
- confusion (a new disorientation in person, place or time)

In any patient, **if or not COVID:**

Severity	Standard	Actions
Severe	CRB65 total score = 3-4, or simply have raised RR>25/min	Urgently transfer to a hospital/ward with oxygen
Moderate	CRB65 total score = 1-2	Transfer to hospital for future assessment
Mild	CRB65 total score = 0	advise and treat, at home

3. **Identify** a COVID suspect **edit according to the country case definition**

Is a COVID suspect if fever, cough or other symptoms listed in step 1 AND also any one of the three standards below: (see details for case definition in Annex 2)

- 1) Patients assessed as severe in step 2.
- 2) Patients had travel, residence or contact history as below:
 - Travel to or residence in a country/ state with local transmission of COVID.
 - Contact history: *close contact** with a confirmed/probable COVID (see* below)?
- 3) Patients have **high risk**, including any of the below:
 - Aged 60 years and above
 - With a chronic disease *comorbidity** (see* below)
 - High-risk pregnancy
 - Health worker*.

**Definition of close contact with a possible or confirmed COVID case: if any of the following*

- Providing direct care to a COVID patient, if without personal protective equipment
- Staying in the same close environment (incl. workplace, classroom, household, gatherings)
- Travel in close contact, within 1 meter (3 feet), in any vehicle for more than 15 minutes.

*A *comorbidity* includes: chronic lung, kidney, liver disease, cardio-vascular, hypertension, diabetes, HIV, on steroid tablets or chemotherapy, or morbid obesity (BMI>40).

4. **Manage** COVID suspect

Manage COVID suspect according to their severity assessed in step 2:

If mildly ill – quarantine at home **and** treat other likely infection# and *general treatment* * below

If moderately ill, eg difficulty breathing – refer to hospital (urgently if elderly, or a chronic illness).

If severely ill – urgently to hospital, on oxygen if available

***General treatment**

Symptomatic treatment:

Advise extra fluids, and especially if dehydrated, best as rice water or oral rehydration solution (ORS).

If fever or head/ muscle aches, give Paracetamol max 8 tablets a day in adults (not Ibuprofen in COVID).

Differential diagnosis: Use your regular standard treatment guideline for more information on diagnosis and treatment of likely disease. Do this as well as advice etc. for possible COVID, as symptoms and signs overlap with the usual common diseases. Anyone with fever or a cough may actually have other febrile illness such as:

Cough or difficult breathing, ask and look for signs and symptoms of the common causes e.g.

- Upper respiratory infection (cold symptoms etc.) - symptomatic treatment
- Pneumonia, if difficult breathing/ rate is raised (more than 20 or more in an adult), and a raised pulse and fever, also consider an X-ray, and give an antibiotic, e.g. Amoxicillin
- Also, if past asthma and/or wheeze is worse, step up inhaler treatment
- If has a cough > 2 weeks, or night sweats, also send 2 sputum for a TB test.

Fever signs and symptoms of other common diseases causing fever including:

- Malaria (in affected areas/ seasons) do a rapid diagnostic test (RDT) and if positive give antimalarial ACT treatment
- Urinary tract infection if frequency or burning passing urine, do a urine test, if positive (or clear cut symptoms) start antibiotic eg Trimethoprim.
- Diarrhoea – advise extra fluids, best as rice water or oral rehydration salts (ORS).

Non-clinical care

A paramedic, LHV or trained health worker should carry out the doctor/ clinician assessment and are responsible for the below tasks:

1. Report and Collect specimen

- **Inform** the **state epidemiologist** of all the COVID suspect cases, **fill out** a **Case Investigation Form (CIF)**
- **Do nasopharyngeal and oropharyngeal swabs** for prioritized COVID suspects as listed below with **full** personal protective equipment (PPE).
 - Suspect cases who are assessed as severe;
 - Suspect cases who also meet any of the following:
 - Aged 60 years and above
 - With a chronic disease comorbidity
 - High-risk pregnancy
 - Health workers.
- **RT-PCR:** Transport specimens: can reach lab within 72 hours?
 - < 72 hours from collection to lab - store specimens in a fridge at 2°C to 8°C.
 - > 72 hours transported to lab - store the specimen in the freezer, and update **RESU** when test result is available.

2. Educate patients when home quarantine is needed

- **Key messages of COVID-19**
 - Incubation period/ infection to symptoms: usually 4-6 days (may be 2, or up to 14 days)
 - There is no cure for COVID-19 virus, we treat the symptoms, take plenty of fluids.
- **Hygiene and protection during home quarantine for 14 days:**

Patients (especially), and their family members, are to:

 - Wear masks if available. Cover the mouth and nose with your bent elbow or tissue when you cough or sneeze. Dispose used tissues immediately and clean hands.
 - Wash hands with soap under running water frequently; or by use of alcohol-based hand rub/sanitizer if water is not available. However, if hands are visibly soiled you need to wash hands rather than use a sanitizer.
 - Avoiding touching your eyes, nose, and mouth (especially with unwashed hands).
 - Use separate cutlery, plates, towels.
 - Double bag waste and leave aside 3 days then put in the waste bin.
 - Independent living area with frequent ventilation and disinfection;
 - Avoid being contact at home with the elderly and/or with a chronic disease, or with infants, pregnant women (Carers are best to be younger people);
 - Keep 2 meters (6 feet) distance from each other.
 - Do not have visitors at home, not family or friends

- Do not use public transport at this time
- Do not go to crowded places - churches, mosques, burials, weddings, markets, restaurants/bars, TV bars viewing football etc.
- **Monitoring and communication during home quarantine**
 - Go to a hospital/ doctor if very breathless/ difficult breathing (breathing rate > 20/min, urgently if is >25) or if the heart rate > 110, or temp > 38°C (despite Paracetamol), or is mentally confused. Tell patient how to measure these and to pay close attention to any changes especially in breathing. Say the difficult breathing may start about a week (6 – 10) days after illness started and occurs in 1 in 5 of adults. Seek help urgently as you may need oxygen and intensive care e.g. a ventilator.
 - Tell which hospital (one with oxygen) to go to plan on how to get there, if very difficult breathing.
 - Exchange telephone numbers with the health worker, and ring for advice, especially if becoming more ill/ breathless.

3. **Communicate** with health workers

(1) **Share COVID suspect information with other/ community health workers (CHW)**

Share the health record with the nearest PHC coordinator in the area where the COVID suspect lives) when they need home quarantine. Ask the local HWs to follow up patients and their family members who lived with them, in case they develop any symptoms or get worse. If referring someone to hospital use the referral form, marking it clearly as a possible COVID-19.

(2) **Advise local/ community health worker**

Help the health worker to know how to advise eg extra fluids and Paracetamol for fever and aches, and how to recognise deterioration in the medical condition of patients in home quarantine/isolation. Eg to refer to hospital if very breathless/ difficult breathing (breathing rate is > 20, and urgently if is >25/ minute), or if is mentally confused.

Protect yourself and others

COVID is spread by droplet sprays from coughs, sneezes or just talking - so keep 2 meters apart, also by direct contact (with nose secretions or contact with the droplets coughed out) when touching a surface. Don't touch your nose, mouth and eyes, and wash hands carefully and often with soap and running water.

Use standard precautions

These are measures taken together to limit the transmission of infections, including:

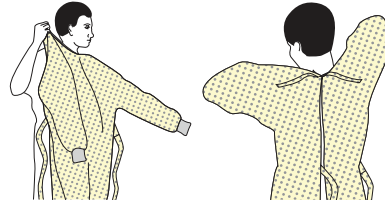
- Wash hands carefully, after any contact with people or surfaces
- Cough onto a tissue (or the elbow sleeve), bin tissues, and wash hands
- Put the patient in a room with good ventilation.
- Use personal protective equipment (PPE): gloves, mask and gown with suspect COVID *and* if taking a nasal or throat swab or if giving close care of a known COVID patient, add a second pair of gloves and visor/goggles, as in figure below).

SEQUENCE FOR PUTTING ON PERSONAL PROTECTIVE EQUIPMENT (PPE)

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

1. GOWN

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



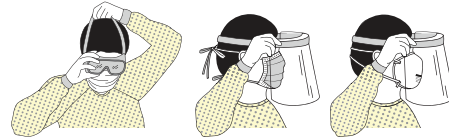
2. MASK OR RESPIRATOR

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



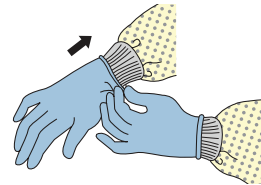
3. GOGGLES OR FACE SHIELD

- Place over face and eyes and adjust to fit



4. GLOVES

- Extend to cover wrist of isolation gown



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

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



CS250672-E

Also:

- Safe handling, cleaning and disinfection of patient care equipment
- Cleaning - items like beds, trolleys and other surfaces to be cleaned and decontaminated correctly.
- Safe handling with gloves and cleaning of soiled linen.
- Waste management - all contaminated gloves, masks etc. must be disposed of appropriately.
- Sharps – use safe injection practices and dispose of sharps appropriately.

Take care, with hand washing, removing PPE

HOW TO SAFELY REMOVE PERSONAL PROTECTIVE EQUIPMENT (PPE) EXAMPLE 2

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

1. GOWN AND GLOVES

- Gown front and sleeves and the outside of gloves are contaminated!
- If your hands get contaminated during gown or glove removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Grasp the gown in the front and pull away from your body so that the ties break, touching outside of gown only with gloved hands
- While removing the gown, fold or roll the gown inside-out into a bundle
- As you are removing the gown, peel off your gloves at the same time, only touching the inside of the gloves and gown with your bare hands. Place the gown and gloves into an infectious* waste container



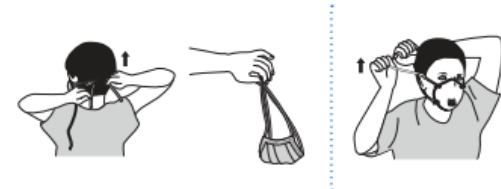
2. GOGGLES OR FACE SHIELD

- Outside of goggles or face shield are contaminated!
- If your hands get contaminated during goggle or face shield removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Remove goggles or face shield from the back by lifting head band and without touching the front of the goggles or face shield
- If the item is reusable, place in designated receptacle for reprocessing. Otherwise, discard in an infectious* waste container

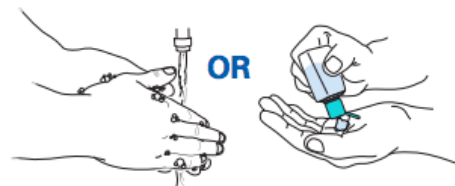


3. MASK OR RESPIRATOR

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



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



* An infectious waste container is used to dispose of PPE that is potentially contaminated with Ebola virus.

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



Primary care facility management

Layout of primary care facility

Incoming patients with fever, cough or difficult breathing (or other suspect as possible COVID-19) symptoms should be kept separate from those with non-COVID-19 symptoms at all points of care. All those with suspected COVID-19 symptoms should be directed either to a separate designated isolation area or a tent set up outside the health facility. The entire isolation area should include a reception and waiting area separate and disconnected to areas treating patients who are not suspected of having COVID-19. Isolation areas should be well ventilated and be strictly limited in access to designated and trained personnel. Signs and posters should be clearly posted inside and outside the health facility to distinguish COVID-19 from non-COVID-19 areas. Set up an independent tent or room with an exclusive one-way entry passage for patients with suspected COVID-19 symptoms with visible and clear signs, separating them from the no-fever/cough (clean zone) patients.

Put signs outside, and in the reception area (a covered but open sided/ well ventilated area). The signs ask patients 'Do you have fever, cough or difficult breathing' if 'no' go to go to desk A (eg to the Left) or if 'yes' go to desk B eg to the Right). These desks should be separate locations, eg B for fever or cough patients could be a tent outside of the health facility.

1. Instruct the registration staff to ask and confirm the presence of fever, cough or difficult breathing or other possible COVID-19 symptoms
2. Direct patients with non-COVID-19 symptoms to Waiting Area A and direct suspected COVID-19 patients to Waiting Area B.



- What changes are needed, eg including:
 - health education on COVID prevention, 2m and handwashing etc. for all waiting patients.
 - signs to say if you have 'fever, cough or difficult breathing, as above
 - ask for these symptoms in a well-ventilated area (triage/screening of patients and who is responsible for this (a younger, not at increased risk, health worker)?
- Where and who should consult patients, adapt the duty roster to accommodate this.

Facility management and 'buy-in' to changes needed

- Facility head and staff discuss the changes to be made in the facility to ensure seamless patient flow within the facility.
- Bring the facility head (Officer in charge) up to date on all the activities, eg:
- Work with the facility head to carry out a step-down training for other facility staff especially those who will be directly involved in managing patients.
- Emphasis is both i) screening for symptoms of 'possible' COVID and educating patients on this (or if very difficult breathing referring to hospital), and ii) adapt the facility service so to continue to provide care and prevention for other health issues - chronic patients, eg people with TB, HIV, hypertension or diabetes, and other services such as maternity care, family planning, child health and vaccination.



This is sitting too close!!

Keep 1-2 meters apart from patients.

Wear a mask, especially if possible COVID symptoms.

Examinations - wear gloves.

Then wash hands with soap.

- who does the COVID (and the most likely other disease) education and treatment.
- ensure the education on COVID with a patient and family member, giving time for a two-way counselling discussion.
- patients who are referred to hospital are told to phone or visit the PHC when they are discharged from hospital.

Agree measures to continue the usual services

- to book appointments eg for HIV or family planning, at times when the clinic is less busy, eg. when not large numbers of eg ANC and immunization patient clinic days.
- can chronic disease follow up be by phone, to reduce the numbers attending, and reduce COVID risk. Ask the patient/family member to save the facility phone number on their phone.

In summary: Make sure the patient flow from registration, to consultation room etc. is separated for those with fever or cough (as possible COVID) symptoms, and this should be clearly marked out and explained for patients. Explain about COVID and changes to the service with community and religious leaders. Create awareness especially among high risk groups (the elders and those with hypertension, diabetes and other chronic diseases).

Facility cleaning and Disinfection plan

- **What to use:** 1% sodium hypochlorite solution is recommended. For surfaces that do not tolerate bleach 70% ethanol can be used (phones, computer keyboards etc.)
- **Instructions for disinfection:**
 - Spray 1% sodium hypochlorite working solution on all the surfaces (protecting electrical points/appliances).
 - Then clean with a neutral detergent to remove traces of hypochlorite solution.
 - While cleaning, windows need to be open.
 - All frequently touched areas, such as all accessible surfaces of walls and windows, the toilet bowl and bathroom surfaces need to be carefully cleaned.
 - All textiles (e.g. pillow linens, curtains, etc.) should be first treated with 1% hypochlorite spray and then packed and sent to get washed in laundry using a hot-water cycle (90°C) and adding laundry detergent.
 - Mattresses / pillows after spraying with 1% hypochlorite should be allowed to get dry (both sides) in bright sunlight for up to 3 hrs each.
 - Site of collection of biomedical waste should be regularly disinfected with freshly prepared 1% hypochlorite solution.
- **Preparing 1% hypochlorite solution**

Most commonly used is bleaching powder which usually has 70% available chlorine. To prepare 1% hypochlorite solution, add 7g (roughly 2 teaspoons) in 1 liter of water. Prepare in an open area and always prepare immediately before use.
- **Routine disinfection plan:** Ensure twice a day disinfection of all common areas and frequently touched surfaces such as tables, rails, the arms of chairs, sinks, call bells, door handles and push plates, and any area/piece of equipment that may potentially be contaminated. This plan can be further revised depending on patient load and categorization of risk of cases.

Annex 1

CRB-65: Calculate the score

Feature	Measure	Score	<i>Confusion* mental state 1-8: Age, recognition of two persons (e.g. doctor, nurse), DOB, address recall (e.g. 42 West Street), time, date of first or second world war, year, monarch, surgery name, count backwards 20 → 1</i>
Respiratory Rate	>30/minute	1	
Blood Pressure	Systolic < 90 or Diastolic ≤ 60 mmHg	1	
Confusion	Abbreviated mental test* score ≤ 8	1	
65	Or older	1	

Act on the score

Score	Risk of death	Action
0	Low	Manage with local antibiotic protocol
1,2	Intermediate	Closely monitor response, if get worse admit
3,4	High	Call Ambulance/ admit urgently, give antibiotic and oxygen? if available before transfer. Risk of death increases with each hour.

Annex 2

Definition of COVID suspect or case

The definition **edit/ add according to the country at the current time** will change over the coming weeks, as COVID epidemic spreads, and community transmission (where a travel/ contact is unlikely). As of early May, the definition is:

Suspect case: A person who is presenting with any of the conditions below:

(Symptoms with international travel)

- Any person with acute respiratory illness (fever and either cough, difficulty breathing or shortness of breath) **OR** new respiratory symptoms without fever (cough, difficulty breathing or shortness of breath) and no other explanation,
- **AND** a history of travel to or residence in a country reporting COVID-19 within 14 days prior to symptom onset;

OR

(Symptoms with contact to confirmed case)

- Any person with new respiratory symptoms (cough, difficulty breathing or shortness of breath, with or without fever) **AND**
- Had contact with a confirmed or probable COVID-19 case in the last 14 days prior to symptom onset;

OR

(Acute respiratory illness in an area of moderate or high COVID-19 prevalence with no other explanation)

- Any patient with acute respiratory illness within the last 10 days (fever and either cough, difficulty breathing or shortness of breath); **AND in absence of an alternative diagnosis** that explains the clinical presentation **AND** residing or working in the last 14 days in an area identified by NCDC as a moderate or high prevalence region.

Probable COVID-19 case: A suspect case who fulfills any of the following conditions:

- Whom tested for COVID-19 is inconclusive;
- Whom tested positive for COVID-19 but whose test was not conducted
- Where samples were not collected before the demise of a suspect case

Confirmed COVID-19 case: Any person with laboratory confirmation of SARS-CoV-2 infection with or without signs and symptoms.

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:

1. Face-to-face contact with a probable or confirmed case within 1 metre and for more than 15 minutes;
2. Direct physical contact with a probable or confirmed case;
3. Direct care for a patient with probable or confirmed COVID-19 disease without using proper personal protective equipment; **OR**
4. Other situations as indicated by local risk assessments.

****Severe acute respiratory infection (SARI):***

An acute respiratory illness with onset during the previous 7 days requiring overnight hospitalization. A SARI case should meet the ILI case definition **AND** any one of the following:

- Shortness of breath or difficulty of breathing

- Severe pneumonia of unknown etiology, acute respiratory distress, or severe respiratory disease possibly due to novel respiratory pathogens (such as COVID-19).

References

1. Royal College of Physicians. National Early Warning Score (NEWS) 2: Standardizing the assessment of acute-illness severity in the NHS. Updated report of a working party. London: RCP; 2017. 77p.
2. Republic of the Philippines Department of Health. Algorithm for triage of patients with possible Covid-19 infection in health care facilities. Manila: DOHgovph; 2020. 1p.
3. China National Health Commission. Chinese Clinical Guidance for COVID-19 Pneumonia Diagnosis and Treatment (7th edition). Beijing: NHC; 2020. 12 p.
4. World Health Organization. Clinical management of severe acute respiratory infection when novel coronavirus (2019-nCoV) infection is suspected: interim guidance, 28 January 2020. World Health Organization; 2020.
5. Office of the Secretary Republic of the Philippines Department of Health. Revised Administrative Order No. 2020-0012 “Guidelines for the Inclusion of the Coronavirus Disease 2019 (COVID-19) in the List of Notifiable Diseases for Mandatory Reporting to the Department of Health” dated March 17, 2020. Manila: DOHgovph; 9 Apr 2020. 23p
6. Liang TB. Handbook of Covid-19 prevention and treatment. Zhejiang: Zhejiang University School of Medicine; 2020. 68 p.
7. Razai MS, Doerholt K, Ladhani S, Oakeshott P. Coronavirus disease 2019 (covid-19): a guide for UK GPs. BMJ. 2020 Mar 6;368.
8. World Health Organization. Home care for patients with suspected novel coronavirus (nCoV) infection presenting with mild symptoms and management of contacts. Updated February 4, 2020.
9. COVID-19-PHC Action Group. COVID-19 preparedness checklist for rural primary health care & community settings. Version 1.1 released on 3 Apr 2020.