

MODULE FOR HEALTH FACILITIES DURING COVID-19:

Generic Low-middle income country

Version of 140720

Read together with the 'Health Facility Deskguide in COVID-19'



Sign outside the reception to the health facility

This training module is for the management of people ill with possible COVID-19, while continuing other essential care and prevention.

Table of Contents

Introduction	2
1. Key points on COVID-19	3
2. Screening and Isolation Area Management	4
The Reception	6
3. Clinically assess, diagnose, care and educate	9
Education of patients	10
4. Maintaining other essential services during COVID	11
5. Healthcare Staff Management	12
6. Infection Prevention and Control (IPC) for COVID	14
See the national or WHO IPC standard operating procedures for COVID.	14
WHO's 5 points of hand hygiene - keep safe and not spread infections, so:.....	15
7. Disinfection Procedures for COVID Isolation Areas	17
8. Management Supplies	17
9. Managing Change	18
Conclusion	18

Introduction

This module is for health workers in healthcare facilities. Read this module together with the 'Health facility deskguide in the context of COVID-19'. These are based on COVID-19 guidelines from WHO, China, UK and published evidence.

Please send your comments and track changed proposed edits for improvements to this guideline to Professor John Walley, Clinical Professor of international public health, Nuffield Centre for Health and Development, LIHS, University of Leeds j.walley@leeds.ac.uk.

Details will change as the epidemic progresses in the country and more scientific and public health evidence emerges. The aim is to manage and investigate ill people with possible COVID-19, while continuing other essential care and prevention.

1. Key points on COVID-19

The COVID-19 ('COVID') epidemic is now spreading, everyone is susceptible and needs education about the virus. Children and young adults may not know they have the disease, but can still spread it. Adults over 40 are more likely to get very ill. About 20% require oxygen etc. in hospital – usually the elderly or those with chronic diseases such as diabetes. There is now a steep climb in cases and deaths. After a few months the numbers stop rising and slowly decline, but later another epidemic can follow – until a vaccine is developed and provided.

- **Know the risk of disease severity:**
 - 100% are susceptible to getting infected.
 - Of 100 people infected, 98 will recover. Half or more have mild symptoms - especially children and young people. While 15 or 20 will develop severe difficulty breathing, during week two of symptoms, needing hospitalisation and oxygen. Some will need intensive care on ventilators.
 - Of all ill COVID patients, 2 out of a 100 die - generally older people and/or with cardiovascular diseases, hypertension, diabetes, chronic kidney or lung diseases.
- **Prevention** includes community engagement and dialogue on stopping smoking, reduce salt (high BP) and fat and sugar – so to lose weight. Also promoting regular hand washing, keeping 2 metres away from others, not touching your face with unwashed hands, covering coughs with tissues, isolating those with symptoms.
- **Continue** services for non-COVID diseases to avoid preventable death and illness eg Maternal and Child health programs, Family Planning, Immunisations, Malaria, HIV and TB testing. Severe disease related to COVID is higher in those with chronic health conditions such as diabetes and heart disease, therefore it is even more important to detect, monitor and treat these conditions.
- **Communicate** to patients clearly what the patient pathway for suspected COVID involves, to reduce confusion and stress, they will feel when coming to the health centre.
 - **Separate** patients with symptoms of COVID from others. This is done through screening and directing to separate parts of the health centre. In 'suspected COVID'

areas, strictly enforce 2 meter distancing and IPC measures, to prevent infecting those that are not yet confirmed COVID positive. Treat all as possible COVID until otherwise proved. Testing may take about 4 days. Also look for other, non COVID infective causes of their symptoms eg bacterial pneumonia or TB. Continue to detect and treat chronic disease eg CVD, hypertension, diabetes and COPD in these patients.

- In the non COVID areas everyone must still be 2 meters apart as there may be patients who have COVID that are asymptomatic or have mild symptoms. Diagnose and treat as usual, using standard treatment guidelines.
- **Educate** staff, patients and relatives to keep 2 meters (m) apart at all times in all places in the health facility. Use visual aids eg posters and 2m marks on the floor. Restrict visitors and relatives access to hospital to reduce their infection risk.
- **Enforce** strict hygiene: Follow the WHO “my five moments of hand hygiene”, including washing hands with soap and water before and after seeing each patient.
- **Allocate** staff at high risk of complications from COVID (older age, chronic diseases) to do roles not involving contact with possible COVID patients, preferably in a well ventilated space, and strictly social distancing 2m at all times.
- **COVID test.** Patients and staff who develop symptoms are to be tested and home isolated, call the helpline number and arrange for a test.
- **Have clear guidelines** on IPC, isolation, management of possible COVID separately from regular diseases.

2. Screening and Isolation Area Management

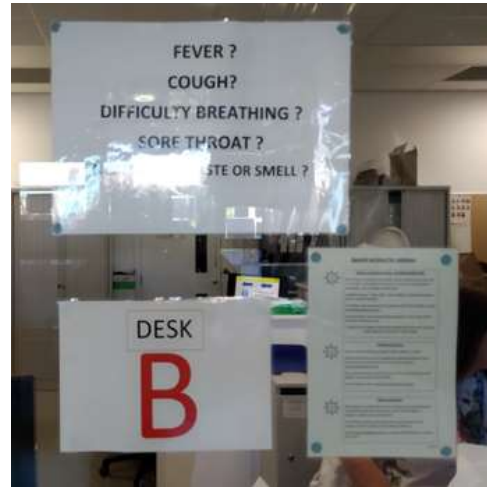
Read the following:

Identify all COVID suspects immediately! At the first point of entry into the health facility all patients who may have COVID should be separated from those who are unlikely to have COVID.

- 1) Identify a separate waiting area for people with *any* COVID symptoms
 - Waiting area should be well ventilated (open windows)
 - Patients should be able to sit 2 metres apart from each other
 - This can be a temporary structure like a tent, or repurposing of a room

2) Establish a system to identifying patients with symptoms **before** they see a healthcare worker:

- Use signs to direct patients to waiting area 'A' (non COVID 'cold') and B possible COVID 'hot')
- Have a staff member to triage patients before entering the health centre. The staff member should wear a mask, and remain more than 2 metres away from patients at all times, ideally they should work behind a plastic/ glass screen.



- 3) Limit the number of entrances to the health facility to ensure that all patients are triaged and no patient with COVID symptoms is missed
- 4) Use signs and tell patients they are being separated to prevent the spread of COVID
- 5) Once screened, keep patients with suspected COVID symptoms separate from those without COVID symptoms at all points of care.
- 6) Patients with COVID symptoms should be provided with a mask (if enough available) to be worn whilst in the health centre. If masks are in short supply, save for staff use.
- 7) When reviewing patients with COVID symptoms, staff should wear appropriate personal protective equipment (PPE), ie, mask etc. as below.

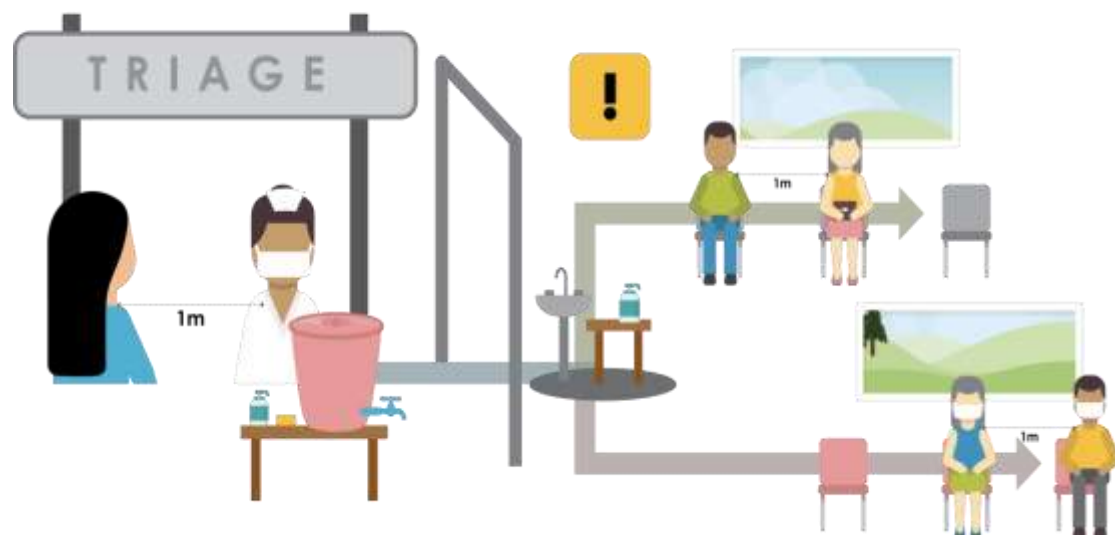
The Reception

At the reception screeners ask patients and visitors entering if they have any of: fever, cough, difficulty breathing, loss of smell or taste, and take the temperature ($>37.6^{\circ}\text{C}$?)

⇒ If any of the above, (or close contact with someone with COVID) then provide a face mask and direct the patient to desk B ('hot' area) for further assessment.

Separate patients with suspected COVID symptoms from those with non-COVID symptoms throughout the entrance, reception, waiting and consultation rooms.

In area A the 'cold' non-COVID patients are triaged and consulted as usual, however staff still observing social distancing and transmission precautions. Educate on signs of possible COVID and told who to phone call if they develop symptoms.



However, some patients may not report COVID symptoms but later mention symptoms of possible COVID or are found to have signs (eg fever, rapid pulse, low oxygen saturation or chest signs) – if so manage as possible COVID, transfer to a COVID observation room (and if feasible arrange for a COVID sample for testing). Allocate your younger staff to the possible COVID 'hot' areas. Allocate your older staff, and those with obesity or Non Communicable Diseases eg hypertension to the area A non-COVID 'cold' areas, as they are more likely to get severely ill with COVID.

Designate COVID consultation room

Any patients that attends the facility as an outpatient who has possible COVID symptoms (of any severity) should be seen in a separate consultation room to those who have no symptoms. This room needs to be equipped with PPE, a sink (or alcohol gel), and an infectious waste bin. It should have windows that can be opened.

Consider how many staff members and rooms need to be assigned to this purpose.

Remember, not all of these patients will have COVID, but anyone with flu like symptoms should be seen in these rooms to prevent possible COVID spread.

Designated COVID Isolation Area

This is an room, building or tent for interim care and monitoring of possible COVID patients with **moderate symptoms**, or severe prior to transfer to hospital. Monitor for:

- Increased difficulty breathing
- Can't easily speak in sentences without taking extra breaths
- Can't manage basic things like eating and washing
- Monitor patients for vital



signs and record: respiratory rate, cyanosis or a low oxygen saturation <95% on a pulse oximeter, pulse, blood pressure and temperature. Inform the CHO or Doctor urgently if abnormal vital signs - eg a high respiratory rate >25/ minute

(3) Enforce a strict no visitor policy and confine patient's activity to the isolation area

(4) Educate patients on use of masks, washing hands etc. Note wearing a mask may not always be possible, especially if the patient is having difficulty breathing.

Decide if they need to go urgently to hospital (where oxygen etc. care is available).

Layout

The isolation area needs to be separate from spaces where patients with no COVID symptoms may be. This may require re-purposing of existing space or erecting a temporary structure (tent). This area should:

- Be physically separated from non-COVID patients by walls/doors/tent sides
- Be well signposted and have a clear entrance
- Be equipped with medical supplies needed to care for COVID patients such as beds, pulse oximeters, PPE and infectious waste bins
- Provide patients with their own room however, but if required, 'cohort' together those with similar symptoms, and don't mix possible with confirmed cases.
- Ensure COVID patients can wash/toilet separately from non-COVID patients
- Provide space for staff to work/monitor patients outside of the patients room
- No visitors should be allowed in the COVID isolation area
- COVID patients to be strictly confined to the isolation area



Contaminated items to be stored separately and disposed of carefully.

Have adequate infection control procedures in place.

Prepare now.

As the epidemic progresses the numbers of ill patients may overwhelm the hospital/ treatment unit capacity. The moderately ill patients(ie, without very difficult breathing), but with chronic disease such as diabetes/ hypertension, may need to be monitored and care for at the health facilities.

Pause a moment, think and write a few notes about how you could implement these changes in your health centre. Who do you need to meet with? Where and what needs to be done?

3. Clinically assess, diagnose, care and educate

The 'Health Facility 'deskguide' in the context of COVID-19' is to be used alongside other (pre COVID) guides for the treatment of common illnesses, and with your Deskguides for noncommunicable diseases (NCDs). If a suspected COVID case arrange to get a test, also diagnose and treat the most likely regular illness. Eg another cough or cough or difficult breathing; and if fever do a rapid diagnostic test (RDT) and if positive treat for malaria.

Read the clinical 'Deskguide in COVID' pages 1 and 2 'Assess, diagnose and care'.

Think about this case, while reading through the deskguide.

Scenario: Emmanuel is 50 years old and has a small shop. He presents to your health center. You've seen him recently and you found him to be overweight, have high blood pressure and diabetes - not as yet controlled.

He complains of a mild fever, dry cough and is concerned he no longer tastes or smells his food. He is tired, but not breathless. The symptoms started a couple of days ago. He is worried because his brother had similar symptoms starting a week ago, and is now breathless.

What should you do now? (think, write a note, then read again the Deskguide p1 and 2).

Then read on:

Children often have no or mild symptoms. Severe COVID is rare under 40 years of age, while people over 65 are most at risk. Most adults experience fever (90%), cough (70%), fatigue and/or anorexia (60%), shortness of breath (35%) and muscle ache (20%).

Other non-specific symptoms, such as sore throat, nasal congestion, headache, diarrhoea, nausea and vomiting, have also been reported. Loss of smell or loss of taste is present in half of people, and may precede the onset of respiratory symptoms.

Older people and immunosuppressed patients in particular may present with atypical symptoms such as fatigue, reduced alertness, reduced mobility, diarrhoea, loss of appetite, delirium, and absence of fever.

Underlying noncommunicable diseases (NCDs) contribute to higher mortality: diabetes, hypertension, cerebrovascular disease (CVD), COPD, kidney disease, unsuppressed HIV.

Education of patients

Education of patients and family members on COVID, home isolation and infection prevention is very important. Read the Deskguide section on the deskguide to **Educate** the patient and family members **on the COVID illness and home isolation**.

As you read, think about how you would counsel Emmanuel on these points. Think how he might respond, and what questions he might ask, and how you would reply.

Consider how you would warn the Emmanuel or other patients about the 1 in 5 patients that develop very difficult breathing in the second week of the illness – and where to go if this occurs. Read again the 'Education' in the deskguide.

Think about how you best communicate with your patients about hand washing, home isolation, and quarantine of their contacts - in the context of their life circumstances and beliefs.
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4. Maintaining other essential services during COVID

Continue regular essential services, otherwise more people will die due to excess deaths from these conditions (perhaps even more than by COVID). Priority categories include:

- Common acute presentations eg pneumonia and malaria, as above
- Child health care, including vaccination
- Maternal health, including family planning and care during pregnancy and childbirth
- Chronic disease care in adults, including HIV, TB, diabetes/ hypertension, COPD and other chronic conditions.
- Arrange for patients to continue to get re-fills of their drugs.
 - Give patients and their treatment supporters a telephone number to call if there are symptoms (treatment side effects, Covid or other) for advice.

Sign post/ screen/ triage for possible COVID symptoms, so keeping them separate from other ill patients and those eg with diabetes attending for prevention - while maintaining hand hygiene and social distancing of 2m in all areas.

Maternity, surgery and COVID:

Patients with suspected COVID may present with more than one problem, for example, a woman may be in labour, or have an injury while also have possible COVID symptoms. It may not always be immediately possible to isolate these patients in a COVID isolation area. Establish protocols in your key areas e.g. maternity and operating theatres, with packs of PPE etc. Ensure that non-essential staff stay clear of the area whilst the COVID patient is there. Also consider:

- a) how to separate COVID suspects from other patients eg keeping them 2 m, in a separate room or temporary screen, moving non-COVID patients elsewhere.
- b) providing masks to other patients in the area
- c) Educating staff to ensure they know how to act in the case of this scenario.

5. Healthcare Staff Management

Support all health workers to continue to deliver regular services. For example the nurse-midwife to continue antenatals and family planning and child health services. She may continue to link with CHWs eg by a WhatsApp group.

Support to the health facility staff from the district health office will continue to be important, but travel difficult. So this maybe done on zoom meetings. These may involve the CHO/in-charges or nurses being in 'peer groups' with their counter parts from other health facilities. The meetings can be telementoring meetings over zoom on their smart phones. The aim being to share problems, experiences, solutions and support each other through these difficult times. For example, sharing experience on continuing to provide the regular services - while as well changing the flow of patients that have symptoms of possible COVID.

Mental health of staff



It is normal to feel sad, stressed or overwhelmed when faced with a crisis. Some of these things can help:

- Maintain a healthy lifestyle: proper diet, sleep, exercise and contact with friends and family; don't use tobacco, alcohol or other drugs to deal with your emotions.
- If you have concerns, talk with your supervisor or talk with a trusted counsellor
- If you start feeling unwell tell your doctor immediately (go home, or phone in sick).
- If possible COVID symptoms eg cough or fever, then home isolate for 7 days and follow the guidance on the Deskguide page 'Educate on COVID and home isolation.

Assigning staff according to health risks:

- Some staff are at risk for severe COVID. This includes older staff and those with chronic heart, lung and other chronic diseases. They should work on prevention eg follow up care of NCDs, and acutely ill patients with symptoms unlikely COVID.

Training on Guidance on:

- for medical staff on fever and respiratory symptoms, and possible COVID
- COVID IPC in the health facility eg in outpatient rooms and corridors
- Maternity, antenatal, family planning etc. care in the COVID context
- How to screen for fever, cough, sore throat, loss of taste or smell and difficulty breathing, and direct patients to either non or possible COVID consultation areas.

Who else should you need to discuss these issues with, the in-charge of your health facility?
Do you need a meeting with the health facility staff to pass on key points on COVID, and discuss what needs to be done?

Read on about infection prevention and PPE.

6. Infection Prevention and Control (IPC) for COVID

See the national or WHO IPC standard operating procedures for COVID.

Minimise crowding

To ensure that staff and patients can maintain physical distance (of 2 metres) you should consider minimising crowding at the facility. There are multiple ways this can be achieved:

- Providing stable chronic disease patients with prescriptions and appointments for longer eg 3 months time - where safe to do so eg for stable hypertensive patients
- Conduct some follow up appointments by telephone
- Erect tents/shade for additional waiting room space to allow patients to sit 2 metres apart
- Restrict the number of visitors entering the facility (1 per patient, or essential only to bring food or provide care).

Patient Instructions

- (1) Give a 'suspected COVID' patient a medical mask and direct patient to an isolation area
- (2) Keep at least 2 m distance between all other patients
- (3) Instruct all patients to cover nose and mouth during coughing or sneezing with tissue, or at least a flexed elbow, and wash hands with soap straight away
- (4) All visitors should perform hand hygiene whenever indicated
- (5) Limit patient movement and ensure patients wear masks when outside their rooms

Healthworker instructions

- (1) Health Care Workers should apply the WHO's **My 5 Moments for Hand Hygiene** approach as above, with soap and water or with alcohol based hand rubs/ gel.
- (2) If possible, in the COVID isolation area use equipment (e.g. stethoscopes, blood pressure cuffs, pulse oximeters and thermometers) dedicated to that area. Clean and disinfect shared equipment between each patient use.

WHO's 5 points of hand hygiene - keep safe and not spread infections, so:

Wash hands with soap and water (or alcohol rub)

1. Before touching a patient
2. Before engaging in clean/aseptic procedures
3. After body fluid exposure risk
4. After touching a patient
5. After touching patient surroundings



The Levels of Protection:

Level 1: Patients with no symptoms of COVID

- Wash hands regularly
- Encourage patients to practise cough hygiene
- Apply standard precautions as usually needed to deliver care

Level 2: Patients with symptoms of COVID (non-touch care)

When you do not touch a patient or their environment, for example talking:

- Wear a medical mask
- Wear a goggles/eye shield
- Wear clothes such as uniform or scrubs that are washed at the end of each day.
- Wash hands regularly

Level 3: Patients with symptoms of COVID (touch care)

When you need to touch a patient or their environment including physical examination and taking COVID test swabs

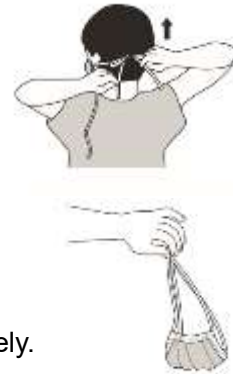
- Wear a medical mask
 - Wear goggles/eye shield
 - Wear a long sleeved gown
 - Wear gloves (1 pair)
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How to safely use PPE and prevent wastage of PPE when resources are scarce

Always wash your hands before and after putting on or taking off PPE.

Medical/surgical Masks:

- Can extend use of mask for up to 6 hours
- Remove if wet, damaged, soiled or if it becomes difficult to breathe
- If you touch front of the mask accidentally- wash hands immediately
- Do not reuse medical masks
- Remove touching only the straps/string as shown. Dispose immediately.



Eye protection (goggles or a face shield)

- One pair of goggles or a single eye shield can be worn all day
- If you touch the front of the goggles/shield, wash hands immediately.
- Remove if it becomes difficult to see clearly
- Can be decontaminated after use and reused
- Remove touching only the straps (as shown)



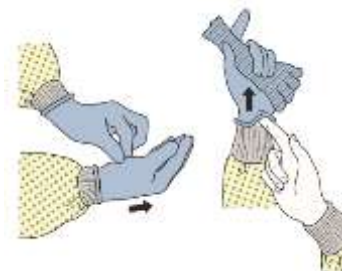
Long sleeved gown

- Cotton gowns can be washed and re-used
- Plastic aprons are an alternative
- Cotton work clothes an alternative if washed each day
- Wear only when touching patients with suspected COVID
- Do not touch the outside of the gown/clothing when removing



Gloves

- Gloves should be changed between patients
- Only wear when touching a patient or their environment
- Do not re-use gloves. Double gloving not required
- Remove first. Remove and dispose immediately.



7. Disinfection Procedures for COVID Isolation Areas

Disinfection for Floor and Walls

- (1) Visible pollutants e.g. blood and bodily fluid spills should be completely removed before disinfection and handled in accordance with disposal procedures.
- (2) Disinfect the floor and walls with 1000 mg/L chlorine-containing disinfectant through floor mopping, spraying or wiping.
- (3) Make sure that the disinfection and cleaning procedure lasts for at least 30 minutes.
- (4) Disinfect three times a day and repeat the procedure whenever there is contamination.

Disinfection of Object Surfaces

- (1) Visible pollutants should be completely removed before disinfection.
- (2) Wipe the surfaces of objects with 1000 mg/L chlorine-containing disinfectant or wipes wait for 30 minutes and then rinse with clean water. Perform disinfection procedure daily. Repeat at any time when contamination is suspected.
- (3) Wipe cleaner regions first, then more contaminated regions: first wipe infrequently touched object surfaces, and then wipe more frequently touched object surfaces. (Once an object surface is wiped clean, replace the used wipe with a new one).

As above, follow your national IPC guidelines or see the more detailed WHO IPC guide.

8. Management Supplies

Supply, procurement and management is critically important during the COVID pandemic and other healthcare emergencies. The COVID epidemic evolves rapidly with a steep climb in cases and deaths, to peaking in the number of cases to eventual decline. Getting supplies takes time, and needs advance planning and procurement.

Personal Protective Equipment (PPE):

- Gloves (examination, surgical)
- Goggles, protective or face shield
- Gown, protective
- Surgical masks.

Diagnostic Equipment

- Pulse oximeter
- BP machine, etc.

9. Managing Change

There are multiple changes you may need to make at your facility to ensure staff and patients remain safe during the COVID pandemic – better start soon to make the changes. Consider having health facility team meetings to help plan and implement this change. This team can meet regularly, eg weekly, to plan and undertake actions to make the health facility a safer place.

It is helpful to give each person in the team to take a lead on specific job/duties. You should ensure that tasks assigned to that person are undertaken promptly. Potential roles include:

- screening and triaging for COVID
- clinical care for COVID
- infection control and PPE
- logistics and supplies
- continuity of regular/ essential services.

Conclusion

Use this guide together with clinical guidelines and your judgement. Please send your comments and proposed edits to improve this guideline to Professor John Walley at j.walley@leeds.ac.uk. These are difficult times, but together we need to tackle the COVID epidemic, while maintaining the essential other services at our health facilities. Patients with cardiovascular disease, hypertension, diabetes and COPD are at risk from COVID. Start soon. Discuss with your in-charge and other health workers. Do actions such as provide soap and water, put up signs, screen for possible COVID symptoms, separate from other patients, and in other ways prepare for when the epidemic gets worse. Look after the health of yourselves as well as your patients.

Acknowledgements

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