

# **Guideline on Influenza A (H1N1)**

Issued by Department of Public Health, Ministry

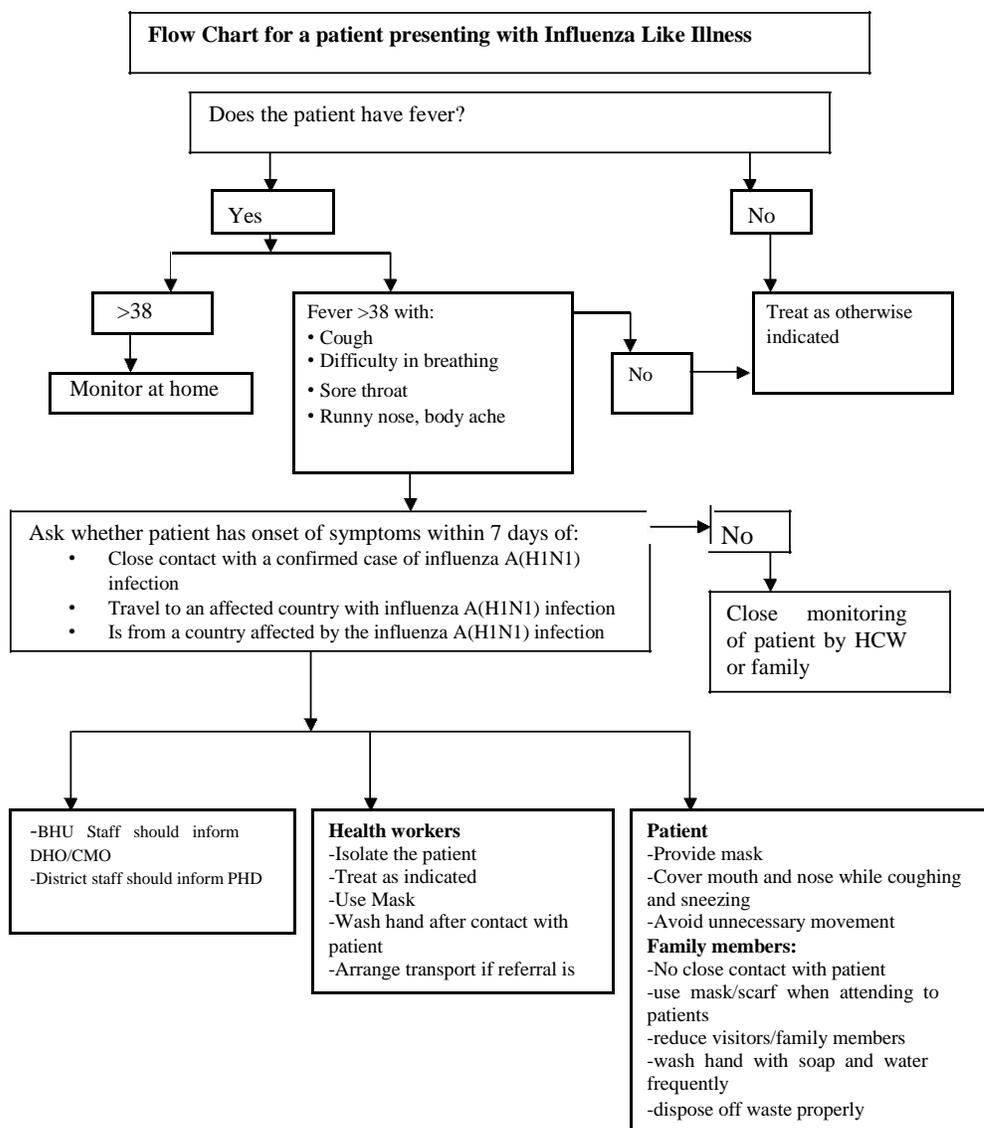
This document basically provides guideline for Health Workers and District Health Officers in preventing and controlling Influenza A(H1N1) and in managing the patients with influenza like symptoms. In view of the outbreak of influenza A (H1N1) infection in other countries, all health care facilities should plan for possible outbreak of the disease.

### **Background**

The outbreak of influenza A (H1N1) infection is evolving rapidly and many countries have been affected. Based on epidemiological data, human-to-human transmission has been demonstrated along with the ability of the virus to cause community-level outbreaks which together suggest the possibility of sustained human-to-human transmission.

Human- to-human transmission of influenza A (H1N1) virus appears to be mainly through droplets. Therefore, the infection control precautions for patients presenting with influenza like symptoms should focus on the control of the spread of respiratory droplets.

**Patient with influenza like illness presents to a health facility**



## **Roles and Responsibilities of the DHO and CMO**

All health care facilities should be reporting ARI cases as per the normal reporting channel. Those centers that are not reporting should be made to report. The DHO should compile and analyze the report to see the trend of ARI in the district before submitting to the PHD and take fact finding action if a center is reporting unusual number of cases.

1. In the district hospital the CMO should ensure that the weekly ARI reporting to the HMIS is diligently carried out. In view of the serious public health nature of the influenza A (H1N1) infection the CMO should designate a focal person who will see to the reporting, screening at the OPD and ED, collection and transport of samples if it is required.
2. In the out-patient department, a separate room should be arranged for the examination of all patients presenting with influenza like illness. A health worker should be posted to this room to take temperature and provide health messages regarding cough etiquette, hand washing and care of the sick at home.
3. The health worker should ensure that appropriate personnel protective equipments are kept in the room. There should be medical mask, gloves, soap, sink with running water for hand washing, bins with plastic bags for disposal of waste, eye shield and gowns.
4. Instruments like thermometer, blood pressure equipment, stethoscope, tongue depressor should not be taken out of the room for use on other patients.
5. All equipments in the room should be disinfected using spirit, including the tables, chairs etc. The floor should be mopped daily using wet mopping method.
6. The room should have all the windows opened to keep the space well ventilated.
7. Limit the number of staff in the room to a minimum.
8. Monitor health staff working in such places for symptoms of influenza like illness.
9. The CMO should identify a room in the hospital for admission of patients with influenza like illness. This should be done on priority basis and all the essential equipments, drug, PPE should be made ready to be placed in the room when the need arises. These equipments cannot be shared with the general patients. Nurses, sweepers and ward boys should be identified from now. You should plan how food will be provided to the patients and their attendants. If possible, the route to the room should not be the same with that used by the general patients. The main idea is to isolate the patient in order to minimize the spread of the infection.
10. Minimize visitors to the room if you have patient admitted.
11. The focal person or the receptionist should ask the complaint of the patient and if the symptoms are of respiratory in nature, like fever, cough, sore throat, runny nose, and then the patient should be guided to the identified OPD room for check up.
12. The other alternative is to direct all patients with such complaints to the room identified for influenza like illness. This can be helpful especially when there are a lot of patients coming with such symptoms. The health worker in the separate room can then enquire about the nature of illness and do the necessary check up of the patient.
13. In the event of an outbreak of influenza A (H1N1), a triage system should be implemented in the OPD. This will ensure that patients presenting with influenza like illness are separated from the general patients in the OPD. In such an event, the focal person can be the triaging officer who will direct all patients presenting with ILI symptoms to the designated room for examination.

14. Conduct meeting in the health care facility and assign role and responsibilities for all the staff and make sure that each person knows his or her task.
15. Conduct infection control meeting among the staff and make sure that your sweepers and ward boys know about the infection control measures in the hospital. They should know how to do wet mopping, what disinfectant to use, how to clean soiled surfaces followed by disinfection, where to dispose of the hospital waste and how to do it properly. If you do not have any idea about the disinfection methods, contact the infection control program at MoH or look into the infection control book supplied by the infection control program.
16. Make sure that your hospital has adequate supply of alcohol based hand rub (spirit) and bleaching powder. Make sure that your staff know how to make the appropriate bleaching solution and your sweepers know how to clean various surfaces, blood, secretion and spills. Spirit can be used to clean instruments like stethoscope, BP instrument, ventilator, ECG machine etc.
17. Prepare your health care facility for an outbreak of influenza A(H1N1) from now. Assign staff roles and responsibilities and conduct drill in the OPD routinely to prepare your facility for an outbreak.
18. Preparing for and making a plan will definitively help during an outbreak of disease.

### **Emergency and Outpatient Department**

The following should be carried out at the ED and OPD immediately while preparing your health care facility for an outbreak of influenza A (H1N1):

1. Post signage to alert persons with severe acute febrile respiratory illness to notify staff immediately and to use respiratory hygiene and cough etiquette.
2. Evaluate patients with acute febrile respiratory illness as soon as possible. If possible, isolate patients with acute febrile respiratory illness from other patients in the OPD or the ED.
3. Mask person with acute febrile respiratory illness if possible.
4. Minimize touching of environmental surfaces in waiting and patient-care areas by a person with acute febrile respiratory illness.
5. Clean and disinfect environmental surfaces in the waiting and patient-care areas at least once daily.
6. Ensure that patient-care equipment is cleaned and disinfected between patients.
7. Health care providers should use standard and droplet precautions when providing care, in close contact for patients with acute febrile respiratory illness.
8. If the patient with acute febrile respiratory illness needs admission, the patient should be isolated from other general in-patients.

### **Patient with influenza like illness presents to the district hospital OPD**

The health care provider (focal person or receptionist) should guide the person with influenza like illness to the room which has been designated for such a case. The health worker working in the room should use a medical mask when caring for such patients. The health care worker (medical officer/ACO) should look for clinical and epidemiological clues:

1. Does the patient have an unexplained severe acute respiratory illness (e.g. fever >38 °C, cough, sore throat, runny nose, shortness of breath and body aches)?

2. Does the patient have a history of travel within the last 7 days to countries affected with swine flu (H1N1 virus)?
3. Is the patient coming from a country affected with influenza A(H1N1)?
4. Did the patient have close contact with a confirmed case of influenza A (H1N1) within the last 7 days?

From the above clinical clues, the patient may be a suspected case for infection with influenza A (H1N1) virus.

#### **Clinical symptoms of Influenza like illness (ILI)**

If a person presents with **fever** with any of the following symptoms:

Sore throat  
Cough  
Headache  
Malaise/Fatigue  
Coryza  
Generalized body pain  
Chills

#### **Case definition for Influenza like illness (ILI)**

Patients presenting with fever  $\geq 100.5^{\circ}\text{F}$  (or  $\geq 38^{\circ}\text{C}$  to be confirmed by measuring oral/axillary temperature) or history of fever within 48-72 hours of the date of onset of cough or sore throat.

(Note: temperature measurement is not mandatory if patient has history of high fever)

#### **Interim Case Definitions for Infection with Influenza A (H1N1) Virus**

**Confirmed case:** A person with an acute febrile respiratory illness with laboratory confirmed Influenza A(H1N1) at a reference lab by one or more of the following tests:

- real-time RT-PCR
- viral culture

**Probable case:** A person with an acute febrile respiratory illness who is positive for influenza A, but negative for H1 and H3 by influenza RT-PCR

**Suspected case:** A person with acute febrile respiratory illness with onset

- within 7 days of close contact with a person who is a confirmed case of Influenza A(H1N1) infection, or
- within 7 days of travel to/from an affected country where there are one or more confirmed cases of Influenza A(H1N1) infection, or
- Resides in a community where there are one or more confirmed cases of Influenza A(H1N1) infection.

If the patient is a suspected case of infection with influenza A (H1N1), the patient should be provided with surgical mask and asked to use it.

The patient should be admitted in the isolation room which has been identified and treatment should be given. The health care workers should follow standard infection control measures when providing care for the patient.

The following information should be provided to the patient and also the attendant. Medical mask and hand washing facility should be provided to both the patient and the attendant.

1. Instruct on cough etiquette and hand hygiene
2. Use a medical mask if it can be tolerated (patient)
3. Restrict patient movement (unnecessary)

If the patient is very serious and require referral to higher center, the CMO may do so after consulting the referral center, especially if the patient requires ICU admission.

### **Patient with influenza like illness presents to the BHU**

One room in the BHU should be identified for admitting such cases. Usually there are no patients admitted in the BHU and also the OPD attendance is low.

The room should have the necessary bed, PPE and instrument for examining the patient.

The health worker in the BHU should guide the patient to the room for examination and also to look for epidemiological and clinical clues as mentioned above. If from the clinical and epidemiological clues the patient fit the case definition for infection with influenza A (H1N1), then a mask should be provided to the patient for use. The patient can be admitted to the BHU for treatment if the patient is not very serious.

**Comment [R1]:** Should BHU admit and treat patient?

If the patient is serious or the patient needs to be referred to the district hospital, the health worker should inform the district medical officer about the case and ensure that the patient does not have contact with other people on the way when traveling by foot. If the patient is being transported by ambulance, the vehicle's windows should be opened for air exchange. The driver should use medical mask and perform hand washing frequently. The vehicle should be cleaned and disinfected after the patient has been transferred.

If a tourist or a foreigner present to the BHU with complains of influenza like illness, the above mentioned procedures should be followed. Limit contact with local person and the patient should be referred to the district hospital. The district medical officer will inform the Department of Public Health and appropriate action will be taken.

### **Paro International Airport**

The District Health team should work in close collaboration with other agencies at the airport. The airport health team should update airport authorities and other agencies on health activities and other developments during their regular meetings. Help of relevant agencies should be sought.

The health workers at Paro International Airport will monitor the passengers arriving at the airport without hindrance to them.

1. The health workers will check the temperature of each passenger using the skin thermometer and any passenger having fever will be guided to the examination room.
2. The health worker will collect the cards from the passengers and see if any symptoms have been ticked by the passenger. If any passenger has ticked the symptoms, then the passenger is guided to the examination room.
3. The other passengers who have no temperature and no symptoms will be allowed to leave the airport.
4. A passenger presenting with temperature and influenza like illness, look for epidemiological and clinical clues:
  - Does the patient have an unexplained severe acute respiratory illness (fever >38C, cough, shortness of breathing, sore throat, runny nose and body aches)?
  - Does the patient have a history of travel within the last 7 days to/from a country affected by influenza A (H1N1) virus?
  - Did the patient have close contact with a confirmed case of influenza A (H1N1) virus?

Based on clinical and epidemiological findings, the passenger may be a suspected case of infection with influenza A(H1N1). This patient should be examined by a doctor from Paro Hospital at the airport without delay. If the patient fits the case definition of suspected case for infection with influenza A (H1N1) virus the patient should be counseled and transferred to Paro Hospital for observation by ambulance only. The hospital authorities should be informed prior to transport of the case. The other passengers who had been sitting close to the suspected case should be identified and possible contact address should be obtained.

These passengers should be informed to monitor their health for fever, cough, sore-throat, runny nose and body ache for 7 days and to report to health facility if they get ill.

#### **Monitoring at Border Entry Points** (Phuntsholing, Gelephu, Samtse, SamdrupJonkhar)

The DHO and CMO/ Superintendent should liaise with other agencies at district level to develop mechanisms for screening visitors at entry points.

The health workers at these entry points will monitor visitors who pass through the Immigration checkpoints, especially visitors whose travel originated from a third country. Monitoring of Indian visitors will be reviewed based on reports of influenza A(H1N1) situation in India.

These protocols will be followed:

1. The health workers will check the temperature of each visitor using the digital thermometer provided. Any passenger having fever will be guided to the examination room.
2. The health worker will collect the cards from the visitors and see if any symptoms have been ticked. If any symptom has been ticked, then the passenger is guided to the examination room.
3. If anyone presents with temperature and influenza like illness, look for epidemiological and clinical clues:

- Does the patient have an unexplained severe acute respiratory illness (fever >38C, cough, shortness of breathing, sore throat, runny nose and body aches)?
- Does the patient have a history of travel within the last 7 days to/from a country affected by influenza A (H1N1) virus?
- Is the patient from a country affected by influenza A (H1N1) virus?
- Did the patient have close contact with a confirmed case of influenza A (H1N1) virus?

Based on the investigation, if the person fulfills the definition of a suspect case of infection with influenza A(H1N1), the patient should be counseled and transferred to the Hospital for observation by ambulance only. Inform the hospital authorities of arrival of the patient.

The other close contacts of the suspected case should be identified and possible contact address should be obtained.

These visitors (and their local hosts) should be advised to monitor their health for fever, cough, sore throat, runny nose and body ache for 7 days and to report to a health facility if they get ill.

#### **Advice to travelers**

- Closely monitor your health for 7 days.
- If you become ill with fever and other symptoms of Influenza A(H1N1) infection like cough and sore throat, seek medical care immediately from the nearest hospital. At the hospital inform the health worker about your travel history and contact with person/s infected with Influenza A(H1N1), if any.

#### **Advice to persons with ILI if they have not traveled to/from an affected country**

- If you are ill with fever and other symptoms of swine flu such as cough and sore throat, visit a hospital, especially if you think you may have had contact with someone with swine flu or severe respiratory illness in the past 7 days before becoming ill.
- Do not travel while you are sick, except to get local medical care.
- Try to limit contact with others as much as possible. By limiting your contact with other people, you can help prevent the spread of Influenza A(H1N1).

#### **Advice on personal protection**

To protect yourself, practice general preventive measures for influenza.

- Avoid close contact with people who appear unwell and who have fever and cough (Influenza is spread mainly person-to-person through coughing or sneezing of infected people).
- Wash your hands with soap and water frequently and thoroughly, especially after coughing or sneezing.

- Cover your mouth and nose with disposable tissues when coughing and sneezing and dispose of the used tissues properly.
- Take care to cover your nose and mouth during travel.
- Practice good health habits including adequate sleep and eating nutritious food

### **Infectious Period**

Persons with influenza A (H1N1) virus infection should be considered potentially infectious from one day before to 7 days following illness onset. Persons who continue to be ill longer than 7 days after illness onset should be considered potentially contagious until symptoms have resolved. Children, especially younger children, might potentially be contagious for longer periods.

### **Interim recommendations for assessing patients**

Step 1: Medical personnel should stay more than 6 feet away from patients with symptoms and exercise appropriate routine respiratory droplet precautions while assessing patients for suspected cases of influenza A (H1N1) infection.

Step 2: Assess all patients for symptoms of ILI

If no ILI, proceed with normal care.

If symptoms of ILI, then assess all patients for travel to a geographic area with confirmed cases of influenza A (H1N1) within the last 7 days or close contact with someone with travel to these areas.

If history of travel exposure, then wear appropriate PPE for suspected case of influenza A (H1N1) virus infection.

If no travel exposure, place a standard surgical mask on the patient (if tolerated) and use appropriate PPE for cases of ILI without suspicion of influenza A(H1N1) infection (as described in PPE section).

### **Interim recommendations for personal protective equipment (PPE)**

When treating a patient with a suspected case of influenza A(H1N1) infection as defined above, the following PPE should be worn:

- Fit-tested disposable N95 respirator and eye protection (e.g., goggles; eye shield), disposable non-sterile gloves, and gown, when coming into close contact with the patient.
- When treating a patient that is not a suspected case of influenza A(H1N1) infection but who has symptoms of ILI, the following precautions should be taken:

Place a standard surgical mask on the patient, if tolerated. If not tolerated, medical personnel may wear a standard surgical mask.

Use good respiratory hygiene – use non-sterile gloves for contact with patient, patient secretions, or surfaces that may have been contaminated. Follow hand hygiene including hand washing or cleansing with alcohol based hand disinfectant after contact.

- Encourage good patient compartment vehicle airflow/ ventilation to reduce the concentration of aerosol accumulation when possible.

### **Case handling**

Transportation of a suspected case from BHU to district/referral hospital or from a district hospital to a regional referral hospital

1. Notify the receiving facility as soon as possible prior to arrival that a patient with suspected influenza A (H1N1) infection is being transported to the facility and the necessary precautions that should be taken on receiving the patient.
2. During transport optimize the vehicle's ventilation to increase the volume of air exchange
3. Driver should use medical mask when transporting such a patient and to wash hand with soap and water frequently
4. HCW should use appropriate PPE if care is being provided during transport of patient suspected for influenza A (H1N1) infection
5. The inner part of the ambulance should be disinfected with a solution of 0.1% bleaching powder properly and other equipments like the oxygen mask, door of the ambulance, seat, and windows should be cleaned with spirit. The linens should be washed with soap and water.
6. The driver must wear gloves, mask, eye shield, and apron when cleaning the ambulance after transporting a patient suspected for influenza A (H1N1) infection.

### **Patient transport within health care facilities**

1. Limit the movement and transport of the patient from the isolation room/area for essential purposes only. Inform the receiving end about the diagnosis of the patient and the necessary precautions required before the arrival of the patient.
2. If transport outside the isolation room/area is required, the patient should wear medical mask. The patient should be taken through a route where there are less people standing or walking.
3. The person transporting the patient should wear medical mask and gloves and perform hand washing with soap and water if he has contact with the patient.
4. If the patient has contact with any surface, it should be cleaned and disinfected after the patient has left. Use sodium hypochlorite 0.1% for cleaning and disinfecting surfaces.
5. HCW cleaning and disinfecting the surfaces after the patient has left should wear appropriate PPE. ( mask, gloves, eye shield, gown and shoe cover)
6. Perform hand hygiene after removing the PPE and dispose PPE in appropriate waste bins

### **General guidelines for cleaning vehicles after transporting a suspected or confirmed influenza A(H1N1) infection patient**

Routine cleaning with soap or detergent and water to remove soil and organic matter, followed by the proper use of disinfectants, are the basic components of effective environmental management of influenza. Reducing the number of influenza virus particles on a surface through these steps can reduce the chances of hand transfer of virus. Influenza viruses are susceptible to inactivation by a number of chemical disinfectants readily available from consumer and commercial sources.

After the patient has been removed and prior to cleaning, the air within the vehicle may be exhausted by opening the doors and windows of the vehicle while the ventilation system is running. This should be done outdoors and away from pedestrian traffic. Routine cleaning methods should be employed throughout the vehicle and on non-disposable equipment.

### **Preparation of the isolation room**

1. Place signage on the door and a record book or sheet at the entrance for health workers or visitors to enter their relevant details on the record book or sheet in case follow-up or contact tracing need to be done.
2. Remove all non-essential furniture from the room. The furniture in the isolation room should be easy to clean and should not retain or conceal dirt or moisture, either within or around it.
3. There should be facility for hand washing and essential items like soap and towel should be provided. (if no wash basin, provide bucket with water and another bucket for waste water)
4. Place waste bags in the room on a foot-operated bin.
5. Keep the patient's personal belongings to a minimum.
6. Place puncture-proof container for sharps in the room.
7. The patient care equipments in the room should be used for the patient only and should not be taken out of the room for use on other patient. (stethoscope, BP apparatus, thermometer etc)
8. Set up trolley outside the door to hold personal protective equipments. A check list may be useful to ensure that all equipments are available.
9. Keep adequate equipments for cleaning the room. ( mop, disinfectant, bucket)
10. Patient's utensils should be cleaned in hot soapy water.
11. Collect linen as needed.
12. The windows in the isolation should be opened to let in breeze or wind into the room for ventilation.

### **Infection Control**

Always practice basic infection control procedures including vehicle/equipment decontamination, hand hygiene, cough and respiratory hygiene, and proper use of authorized medical personal protective equipment (PPE).

All patients with ILI should wear a surgical mask, if tolerated.