

## Pandemic influenza prevention and mitigation in low resource communities

This summary guidance is derived from the WHO document *Pandemic influenza preparedness and mitigation in refugee and displaced populations: WHO guidelines for humanitarian agencies, Second edition, 2008*

### Key principles

1. Public health measures taken by individuals and communities, such as social distancing, respiratory etiquette, hand hygiene, and household ventilation, are at present the most feasible measures available to reduce or delay disease (morbidity) caused by pandemic influenza.
2. In the case of mild illness, patients should be provided with supportive care at home by a designated caregiver and only referred to health care facilities if they deteriorate or develop danger signs. Separation of sick from well individuals, with rigorous respiratory etiquette and hygiene measures should be practised.
3. In health-care settings, a system of triage, patient separation, prioritization of use of antiviral medicines and personal protective equipment (PPE) according to risk of exposure, and patient management should be in place to focus efforts on the most effective interventions to reduce mortality and any further morbidity.

### 1. Key prevention measures for individuals and communities

**Social distancing** (keeping at least an arm's length distance from others, minimizing gatherings), **respiratory etiquette** (covering coughs and sneezes), **hand hygiene**, and household **ventilation**, are likely to be the most effective public health measures and are highly recommended.

Once cases of pandemic influenza in a community are widespread, evidence and experience suggest that interventions to isolate patients and quarantine contacts would probably be ineffective, not a good use of limited health resources, and socially disruptive.

Ill people should as far as possible be cared for at home by a designated caregiver (with appropriate home-care instructions communicated in advance) and advised not to attend health-care facilities unless they deteriorate or develop danger signs so as not to overwhelm health facilities (see guidance note below). Supportive care entails bed rest, fluids, medication for fever, antibiotics if prescribed, and good nutrition.

WHO recommends that mask use should be based on risk, including frequency of exposure and closeness of contact with potentially infectious people. Recommendations for mask use by health and other essential staff, and for home care are described in parts 2 and 3 below. Routine mask use in public places should be permitted but is not expected to have an impact on disease prevention.

### 2. Management of patients

- The objectives of patient management are to provide supportive health care to decrease mortality and to minimize disease transmission.

- Given limited resources, it will be necessary to triage patients for treatment during a pandemic to maximize the impact of available treatment capacity.
- Essential medical services should be continued, while elective and non-essential medical services should be temporarily suspended.
- Patients are most likely to be managed in two distinct settings: in the health-care facility and at home.

### **Patient management in the health-care facility**

- Admission criteria may change depending on bed availability, but should be reserved for severe cases most likely to benefit from treatment.
- For milder cases presenting to the outpatients department, a caregiver, preferably an available family member, should be identified if possible to manage care of the ill patient in the home if the patient is being discharged.
- Health facilities should anticipate a very high demand for treatment with supportive care, and should plan accordingly. Based on current estimates, agencies should anticipate that up to 10% of those who fall ill may require inpatient treatment. In a population of 10 000, this could mean 500–600 persons requiring inpatient care for influenza alone over a period of 2–3 months, or approximately 6–10 patients per day. These figures are an average to assist calculations. Note that the number of patients affected per week may not be constant over the pandemic period: it is likely that there will be increasing numbers affected per week, reaching a peak in the middle of the pandemic (weeks 4–8) with decreasing numbers thereafter.

### **Ensure:**

- separation of patients with respiratory symptoms from those presenting with other symptoms at both the outpatient and inpatient level;
- availability of admission and discharge criteria (these may change depending on treatment capacity);
- availability of case-management protocols;
- referral protocol, if feasible (with appropriate infection control during the transfer);
- confinement in a separate respiratory ward for patients admitted with suspected pandemic influenza;
- maximum separation of beds and head-to-toe positioning of patients in inpatient wards if space is limited;
- good ventilation of outpatient and inpatient areas;
- adherence to Standard and Droplet Precautions;
- use of PPE according to risk of exposure.

### **Inpatient treatment** in low resource settings should include:

- treatment of dehydration with IV or oral rehydration fluids;
- supplemental oxygen therapy (if available) by face mask rather than nasal prongs;
- antibiotics (oral or parenteral) for secondary bacterial infections;
- non-aspirin antipyretics for pain and fever;
- nutritional supplementation as needed.

Note: in HIV-infected individuals, a distinction between opportunistic pneumonia and secondary pneumonia from pandemic influenza may be difficult.

**Antiviral medicines** decrease the duration of virus excretion and the severity of illness when used for treatment of ill patients, and may also prevent illness when used for prophylaxis. If only limited quantities are available, prioritization of use should be in place according to national protocol.

In general, the order of priority for antiviral use should be:

- treatment of sick health-care and other essential staff;
- treatment of sick individuals from the community;
- post-exposure prophylaxis for essential staff with unprotected, high-risk exposure;
- pre-exposure prophylaxis for critical staff with anticipated high-risk exposure.

### **Patient management at home**

- During a pandemic, very high numbers of patients presenting to the health-care facility will necessitate home treatment. Trusted community leaders should be identified in advance for crowd control at the health-care facility and to address concerns among health-seekers and their caregivers.
- Ill people not exhibiting severe symptoms and signs of influenza should be encouraged (through health messaging) to stay at home, institute respiratory etiquette (cover coughs and sneezes or cough/sneeze into sleeve) and hand hygiene, and restrict close contact (within approximately 1m) with others as much as possible.
- Home confinement of ill people in crowded settings may not be practicable. However, restricting contact with others should be encouraged as much as possible.
- Adequate supervision within the household of the ill person should be ensured with preferably only one caregiver to limit potential exposure.
- Patients and caregivers should be trained to wear and dispose of masks during the infectious period of the patient, if supplies are available. Where supplies are limited, it is more important in the home that the patient wears the mask than the caregiver. The mask need not be worn all day and only when close contact (within approximately 1m) with the caregiver or others is anticipated. Masks should be disposed of safely if wet with secretions. Tightly-fitting scarves or a reusable mask made of cloth covering the mouth and nose could be used if masks are unavailable. They should be changed if wet and washed with soap and water.
- If enough masks are available, caregivers should also use them to cover their mouth and nose when in close contact with ill persons.
- The caregiver should always wash hands after patient contact.
- General support and advice should be given to caregivers on the use of antipyretics (acetylsalicylic acid should be avoided in children), oral fluids, nutrition and bed rest.
- Instructions must be provided on the use of antibiotics (if necessary) for bacterial complications of influenza when prescribed.
- Instructions for further care in case of deterioration (if capacity exists) should be given (i.e. when there are symptoms of severe illness or dehydration – see guidance note below).
- Those who have recovered are no longer infectious and can be considered immune (usually 2–3 weeks after the onset of illness).
- Proper respiratory etiquette and hand hygiene must be promoted for all household members.

- Keep windows open and allow ventilation of the room/tent.
- Household surfaces should be cleaned regularly with soap and water or disinfectant.

### **GUIDANCE NOTE**

#### **Referral to health-care facilities**

- The majority of influenza cases may be cared for at home with the simple supportive care outlined above.
- However, if there is deterioration or severe symptoms, then patients may need to access a health-care facility.
- These symptoms may include: weakness/not able to stand, lethargy, unconsciousness, convulsions, very difficult/obstructed breathing or shortness of breath, inability to drink fluids and dehydration, high fever.
- It is important that specific instructions are provided according to the local context.

### **3. Protection of staff**

Rigorous attention to Standard Precautions (basic measures to minimize direct unprotected exposure to blood and body fluids) and Droplet Precautions (medical masks when close to patients with respiratory symptoms) is required to reduce the opportunities for transmission in the health-care setting. Mechanisms for procuring (and/or stockpiling) antibiotics, PPE, antiviral medicines and vaccines (when/if available) should be considered, with protocols and prioritization for their use.

Priority recipients will include those involved in direct clinical contact with patients, and those staff required to maintain essential functions who anticipate close contact with potentially ill people.

Source control (i.e. of the ill person) is crucial, as this can prevent opportunities for transmission; the patient must be encouraged at all times to cough/sneeze into a tissue/cloth or into their sleeve and to practice frequent hand hygiene.

#### **Masks**

Use of masks should be prioritized to ensure that those at highest risk of exposure have access to available protection. Masks do not have to be worn at all times as they may become uncomfortable, particularly in hot climates. They should be worn as a priority by health-care workers and caregivers, and other essential staff when in close contact (within approximately 1m) with sick patients.

#### **Antibiotics and antivirals**

*Antibiotics.* Consideration should be given to stockpiling quantities of antibiotics sufficient to treat secondary bacterial pneumonia in at least 5–10% of total staff and dependents.

*Antivirals.* If feasible and where quantities are available, agencies should stockpile sufficient oseltamivir to provide treatment of ill staff and post-exposure prophylaxis of essential staff.

#### **Self-monitoring**

Health staff should monitor their temperatures twice daily. Fevers should be reported and the staff member should confine themselves at home. If a staff member becomes unwell, treatment with antivirals as well as supportive care as for other patients should be provided at home by a caregiver.