

**Pandemic influenza preparedness and mitigation in
refugee and displaced populations
WHO training modules for humanitarian agencies**

Module 5

**Case management
at home and health care settings**



**World Health
Organization**

Objectives for module 5

- How to manage patients at home.
- How to manage patients in health care facilities.
- What to stockpile.
- How to prioritize resources such as antibiotics and antivirals.



Working assumptions for case management supply calculations

WITHIN A 2-MONTH PERIOD

- Attack rate, 15 to 35% of population may become sick
- Hospitalizations, 4 to 5% of population
- Secondary infections, 10 to 25% of sick people
- Case fatality rate, 1 to 2% of sick people

For 100,000 people

- 15,000 to 35,000
- 4000 to 5000 (limited by capacity)
- 1500 to 8750
- 150 to 700

Working assumptions

Essential staff /100,000 persons (1)

- **Health (300)**
- **Other essential services (460)**
 - Sanitation/environment
 - Water continuity
 - Food distribution
 - Shelter including the construction of temporary patient admission structures
 - Security
 - Communication, including social mobilization
 - Burial team
 - Camp management
- **Ensure enough people trained to be back-up for up to 30% of ill staff – e.g. buddy system (each worker trains 2-3 others in his/her task as back up)**
- **Use those who have recovered**



Working assumptions

Essential staff /100,000 persons (2)

- **Health: 300 people**
 - Community health workers: 100
 - Trained birth attendant/village midwives: 50
 - Health post/clinic nurse/midwife: 20
 - Health post/clinic health workers (including cleaner): 40
 - Health centre doctors/ medical assistants: 10
 - Health centre nurses: 20
 - Health centre midwife: 10
 - Health centre health workers (including cleaner): 30
 - Pharmacy attendant: 10
 - Laboratory technician: 10
- **Sanitation/environment: 220 people**
 - Main activities: waste disposal of infected people, avoid contact human/animals, improvement of hygienic measures, minimising gatherings
 - Sanitarians: 20
 - Sanitation assistants: 200



Working assumptions

Essential staff /100,000 persons (3)

- **Water: 50 people**
 - Main activities: protect water sources, establish maximum storage capacity, avoid gatherings.
 - Community workers: 40; Water leaders: 10
- **Food: 50 people**
 - Main activities: storage facilities, establish maximum storage capacity in camps, distribution of food, avoid gathering
 - Community workers: 40; Food leaders: 10
- **Shelter/infrastructures: 50 people**
 - Main activities: construction of isolation and fever centre, storage (warehouse construction), separation of human/animals.
 - Community workers: 40; Shelter leaders: 10

Working assumptions

Essential staff /100,000 persons (4)

- **Safety/security: 50 people**
 - Main activities: security of warehouse, security of water/food distributions, integration of hosted population.
 - Community workers: 40; Security leaders: 10
- **Communication: 20 people**
 - Main activities: communication/social mobilization.
 - Community workers: 10; Communication leaders: 10
- **Camp Management: 10 people**
 - Main activities: coordination.
 - Camp management leaders: 10

Patient care

Home-based care

- Most patients
- Most deaths
- Large impact in outcome

Facility-based care

- Capacity will be limited
- Some patients will be too sick to benefit from any treatment
- Triage necessary

Home-based care (1)

- During a pandemic, **large numbers** of patients will *only* receive home-based care
- Those who have **recovered** are **no longer infectious** and can help in care of others
- **Only one** caregiver should be identified if possible

Home-based care (2)

- Bed rest, oral fluids, medication for fever, and nutrition are the main measures
- Watch respiration for signs of shortness of breath or difficult breathing
- Watch for signs of dehydration
- Keep hydrated with liquids, ORS (oral re-hydration solution), and food as tolerated

Home-based care (3)

- Do not use aspirin/salicylate in children
- **Antibiotics** may be provided by health workers, when bacterial complications are suspected
- If the patient has severe **breathing difficulties** or is short of **breath**, further care could be provided in health facilities (if capacity exists)

Home-based care (4)

- The **patient** should **cover coughs** and sneezes **when in close contact** with others (preferably with a mask)
- If resources available, the caregiver should also wear a mask when in close contact with the patient to protect themselves
- **Tightly-fitting scarves or a re-usable mask made of cloth** covering mouth and nose can be used if masks are scarce. They should be washed daily.
- Patients and caregivers should be trained to wear and dispose of masks during the infectious period, if supplies are available
- Always **wash hands** after patient contact
- Open windows/allow **ventilation** of the room/tent

Treatment in health-care facilities (1)

- Admission should be reserved for those most likely to benefit from treatment
- Anticipate a very high inpatient demand, up to 4-5% of the population may need hospitalization
 - in population of 100,000 = 5000 people within 2-3 months.

Treatment in health-care facilities (2)

- Have available **criteria** for **triage**, for **admission** and for **discharge**
 - (criteria are likely to change depending on demand/capacity)
- Use **PPE** according to risk (see infection control module)
- Have case management **protocols in place**
- **Separate** patients with suspected pandemic influenza

Inpatient treatment includes:

- IV or oral **rehydration for dehydration**
- **Antipyretics** (non aspirin for children)
- **Nutritional** supplementation as needed
- Supplemental **oxygen** therapy (if available)
- **Antibiotic** treatment for secondary bacterial infections
- **Antiviral** medications, if available
 - Prioritization will be necessary if quantities are low and should be reserved for treatment of essential staff who fall sick

Antibiotics

- Till present, the majority of pneumonias associated with H5N1 have been viral and not secondary bacterial pneumonia

However

- Antibiotics could be life-saving if a secondary bacterial infection develops in a patient with pandemic influenza
- Recommended antibiotics will depend on type of bacteria and resistance pattern
- Possible antibiotics include **amoxicillin** or **cephalosporins**
- For planning purposes, expect **secondary bacterial pneumonia in 10% of sick people**

Patient referral

- Limit movement and transport of patient
- If necessary, inform receiving unit
- Place surgical mask on patient
- Staff should wear full PPE
- Outside: surgical mask and gown
- Ambulance: clean and disinfect surfaces



Discharging the patient

- Ensure patient and family have been educated as to what precautions are to be taken
- Patient should avoid close contact with others up to 7 days *after* symptoms have gone (children who have been sick need to avoid close contact for 21 days)
- Family members should monitor themselves for fever and cough
- Follow instructions for home-based care

Antiviral

- If feasible and if available, agencies should stockpile sufficient appropriate **antivirals** to **treat staff** who fall **sick** during a pandemic
- The stockpile amounts can be increased as resources allow and based upon specific agency considerations

Antiviral, priority for use

1. Treatment for **sick** healthcare and essential staff
2. Treatment of **sick** individuals
3. Antiviral prophylaxis for critical staff with frequent high-risk exposure

Care of staff

- **Self-monitor for fever** (twice daily temperature) and **cough** for 7 days from time of last exposure
- **Screen for symptoms of influenza-like illness** among staff reporting for duty (fever, cough)
- **If symptoms, limit contact with others**, notify infection control team / health coordinator
- Use **antiviral for treatment only** ie when staff member falls sick
 - 75mg 2 times per day for 5 days
- Only if stocks allow, consider antiviral prophylaxis for critical staff with frequent high risk or unprotected exposure

Therapeutic feeding

- **Therapeutic feeding** for severely malnourished populations **must continue** throughout the pandemic.
 - Supplementary feeding can be continued by advance collection of food
- Therapeutic feeding centres must **separate patients** with suspected influenza from others (1m between beds, head-to-toe)
- **"Home-based"** therapeutic feeding could be instituted for malnourished children that have no other severe medical illness

Preposition supplies according to capacity

- Health education materials
- Soap, disinfectants, cleaning equipment
- Antibiotics, intravenous (IV) fluids, other medical supplies
- PPE (masks, gloves, etc)
- Tents for additional isolation areas as needed with equipment (beds, linen,...)

Stockpile / pre-position

- During a pandemic, the response depends on preparations in advance.
- But pre-positioning costs money that may be diverted from other life saving sectors before a pandemic happens.
- Balance risk, costs, centralized stocks vs periphery stocks.
- Keep or open supply chains again as soon as possible
- Prioritize stocks for infection control measures (washing hands, respiratory etiquette, scarves) that can prevent other diseases too.