

## **Rapid Containment Operation Protocol during outbreak of AI (H5N1)**

Rapid containment is an extraordinary operation involving a group of activities intended to stop a potential development of Pandemic Influenza. The situation is considered extraordinary because of its global implications and also as it requires combined national and international response.

The rapid containment activities include the following:

- 1) A joint risk assessment by national authorities and WHO as to whether a local outbreak may be the first indication of an emerging influenza pandemic;
- 2) A decision by national authorities, in consultation with WHO, to begin containment measures; and
- 3) Application of both pharmaceutical and non-pharmaceutical interventions in potentially large populations to stop the spread of an emerging pandemic virus.

### **Purpose and scope**

This protocol broadly lays out "what" should be done and to a lesser extent, "how" the Containment operation would be undertaken.

### **Ethical considerations**

All measures employed during a containment operation should adhere to ethical principles set within a framework of international human rights.

### **The decision to launch a containment operation**

The decision to launch a containment operation should be under taken by the National Steering Committee based on the recommendation from National Incident Command Center.

Following factors are considered before launching the containment operation

### **Technical factors**

- *Virological*: Laboratory evidence of a novel virus will be critical. Certain aspects of such a virus, including whether it contains a mix of avian and human influenza virus genes or an increased number of mutations, may suggest newly advanced adaptation to humans.
- *Epidemiological*: Evidence of efficient and sustained human-to-human transmission (e.g. clustering of 5 or more cases closely related in time or space or two or more generations of transmission) is a second critical element. An epidemiological assessment that demonstrates sustained human-to-human transmission capable of supporting community level spread of the virus will strongly indicate the need to consider containment.

### **When to initiate containment: Key considerations**

- Novel influenza virus
- Influenza-like illness

- Sustained and efficient human-to-human transmission
- Limited spread of the novel virus
- Operational feasibility: Logistic, Security and Political
- Decision by national government with international assistance as needed

### **Conditions under which a rapid containment operation would not be initiated**

A decision to initiate a rapid pandemic containment operation might be deferred for several reasons, including the following:

- a novel influenza A virus could not be confirmed;
- it was not operationally feasible, including for security reasons, to rapidly implement pharmaceutical and non-pharmaceutical interventions at a level considered minimally acceptable;
- National authorities decide against supporting a containment operation;
- Evidence suggests that the novel influenza virus has already spread too far to make containment realistically feasible.

### **The containment strategy**

1. Identify the initial case (Index Cluster) as early as possible
2. Create a geographically defined containment zone around the cases where widespread anti-viral and non-pharmaceutical interventions should be used.

The Containment Zone should be the largest possible area that can be created and feasibly maintained and must be large enough to surround all known persons infected by pandemic influenza and as many of the people in frequent contact with them. While a circular Containment Zone is conceptually the simplest, the actual size and shape of the Containment Zone and the Buffer Zone is expected to be influenced by pragmatic considerations such as:

- known movements and geographical distribution of cases and contacts;
  - Important local or national administrative boundaries as well as important natural boundaries that may limit the movement of people;
  - infrastructure and essential services (e.g. power, water, sanitation, food supply, communications) considerations that may substantially affect the safety and health of people within the Containment or Buffer Zones
3. A Buffer Zone will be defined surrounding the Containment Zone. The Buffer Zone is an area where active and complete surveillance should be initiated to detect any possible cases of pandemic influenza.
  4. Follow-up of persons who have moved outside the Containment Zone: All possible measures should be taken to follow up persons who have left the containment zone before or after the start of the operation and who possibly could have come in contact with a person infected with AI (H5N1)

Once the Containment Zone and Buffer Zone have been identified the following Rapid Containment activities should be initiated.

### **Activities in the Containment Zone**

1. Pharmaceutical Intervention (Anti-viral prophylaxis and treatment)
2. Perimeter control
3. Non-Pharmaceutical Intervention: a) Isolation b) Voluntary Quarantine c) Social distancing
4. Infection control measures
5. Surveillance
6. Laboratory testing
7. Assessment of the Novel virus
8. Management of contacts.

### **Activities in the Buffer Zone**

1. Active and complete surveillance with laboratory testing of all suspect cases
2. Isolation and treatment of suspect cases
3. Antiviral prophylaxis and quarantine of contacts of suspect cases

### **Activities in the Containment Zone**

#### **Pharmaceutical interventions**

*Antiviral prophylaxis strategy:* All persons in the Containment Zone who are ill or not ill should be given 20 days of antiviral prophylaxis.

*Antiviral treatment:* Cases presenting with influenza-like illness should be clinically managed by giving anti-viral for 5 days.

#### **Perimeter controls**

- All non-essential movement of persons in and out of the Containment Zone should be discouraged.
- Physical signs of the boundaries should be evident and clear.
- Clear entry and exit points should be identified.
- Exit screening procedures should be put into place at these points.

Exit screening procedures would include: ask about symptoms of influenza; close contact with someone with influenza; and received and took antiviral prophylaxis; Performing a visual screen for signs of influenza; Temperature measurement (e.g. thermal scanning or ear-temperature).

#### **Non-pharmaceutical interventions: Following measures should be implemented as part of the NPI**

1. Isolation of ill persons.
2. Voluntary quarantine of contacts.
3. Social distancing measures.

**Isolation of ill persons:** Isolation is the separation and restriction of movement or activities of ill persons to prevent disease transmission to persons who are not ill. Isolation could be done in a hospital or other designated sites.

**Voluntary quarantine of exposed persons:** Quarantine is the separation and restriction of movement or activities of persons who are not ill but have been exposed to an infectious agent to prevent further transmission of disease. It can be applied at the individual, group or community level using individual homes or designated facilities.

**Social distancing:** This measure is expected to reduce further the risk of people getting infected and transmitting the disease to healthy individuals. Some of the social distancing measures that may be considered are closing schools, cancellation of mass gatherings and public events; closing workplaces or having non-essential workers stay at home; staggering work hours or access to market places; minimizing use of public transportation.

**Infection control measures in the containment zone:** Hand Hygiene, Cough etiquette, avoiding close contacts, use of face masks, disposal of sputums, disposal of dead bodies. (*Refer Infection control Guideline on AI*)

### **Surveillance**

Surveillance in the Containment Zone is needed to identify suspect cases of pandemic influenza. Surveillance will include

- 1) laboratory confirmation or exclude persons as cases of pandemic influenza;
  - 2) monitor the evolution of the outbreak;
  - 3) evaluate the effectiveness of the containment operation; and
  - 4) help guide decisions to modify, continue or end the containment operation.
- Active surveillance should be carried out and some times both active and passive surveillance system should be instituted.

### **Laboratory testing and preparedness**

Laboratory testing of all suspect cases is preferable, but may not be possible if there are large numbers of persons with an influenza-like illness. As patient numbers increase, it may be necessary to develop a sampling scheme. Once antiviral prophylaxis in the Containment Zone has ended, laboratory confirmation of any possible cases will be required.

### **Management of contacts:**

In the initial phase of RC all close contact of index case has to be identified and quarantined/Isolated. But once the Pharmaceutical and Non-pharmaceutical intervention are implemented through out the containment zone contact tracing should be discontinued. Once widespread antiviral prophylaxis in the Containment Zone has ended, contacts of any suspect cases should be traced, placed in voluntary home quarantine and given antiviral prophylaxis while laboratory testing is pending for the possible case.

### **Communication in Rapid Containment:**

The objectives of an effective communications response during rapid containment are :

- To provide the best information available in a timely and easily understood fashion;
- To promote compliance with containment measures, identify barriers and facilitating factors to compliance, and adapt approaches to the local context through a policy of transparent communication:
- Instill and maintain Public Confidence, prepare for a possible pandemic

#### **Activities in the Buffer Zone:**

1. Active and complete surveillance with laboratory testing of all suspect cases
2. Isolation and treatment of suspect cases
3. Antiviral prophylaxis and quarantine of contacts of suspect cases

#### **Surveillance and laboratory testing:**

The purpose of the Buffer Zone is to conduct Active and complete surveillance in a well defined area where new cases of pandemic influenza are likely to appear. It will guide about the effectiveness of the containment operation and helps to decide whether to modify, continue or end the containment operation.

#### **Management of suspect cases and contacts**

Persons who develop an influenza-like illness in the Buffer Zone should be isolated pending the outcome of laboratory testing. Depending on the clinical severity of illness, such persons should be isolated at home or be admitted to a hospital. Early treatment with anti-viral should be initiated before the result of laboratory testing for the emerging virus.

#### **Perimeter controls and non-pharmaceutical interventions**

Persons in the Buffer Zone would be restricted from entering the Containment Zone as described previously. However, there would be no restrictions on transit out of the Buffer Zone. Other NPIs, apart from the management of suspect cases and their contacts, would not be implemented.

#### **Duration of the containment operation**

The duration of the containment operation will depend to a large extent on how quickly, comprehensively and effectively the pharmaceutical and non-pharmaceutical measures were implemented after early recognition of the Index Cluster of cases. For planning purposes a minimum of 4–5 weeks for the containment operation may be required.

- Administration of antiviral prophylaxis for a total of 20 days in the Containment Zone.
- Continuation of NPIs in the Containment Zone for an additional 7–14 days (i.e. 1–2 estimated incubation periods) after completion of antiviral prophylaxis.
- Continued maintenance of the Containment Zone perimeter will be essential until the containment operation is formally ended.
- If containment is successful, enhanced surveillance should be maintained in the Containment and Buffer Zones and probably extended beyond these geographical areas for at least a few months after the containment operation has formally ended.

