

# Pandemic Preparedness Plan Exercise Program

## Module 2: Surveillance

### Introduction

These tabletop exercise materials are part of a series based on the WHO checklist for influenza pandemic preparedness planning<sup>1</sup>. The materials in this module are designed to test elements of preparedness outlined in section 2 of the Checklist- Surveillance.

These materials include a definition of the scope of the exercise, objectives the scenarios to be acted upon, questions for the controller/facilitator to pose and a general description of the actions expected as a result of those questions. The players in the exercise should only be given the scenario on the day of the exercise.

A tabletop exercise, while simulating an emergency situation, is a discussion guided by the exercise controller. There are no "real" actions carried out during the exercise. Players explain and discuss among the group how they would react to the scenario, but do not actually execute those actions.

There are no right or wrong responses during the exercise. There are no consequences for exploring alternative solutions as part of the discussion. The success of a tabletop exercise is determined by the full and honest participation of the players and the impact the lessons learnt during the exercise have on the revision and enhancement of plans, policies and procedures.

It is not unusual during the course of a tabletop exercise discussion to learn that important policies or procedures are not clearly defined, not familiar to all those involved, or simply less efficient than a procedure used by a different group. Events such as this should not be seen as a failure of any particular agency or group, but an opportunity for all involved to learn from the strengths of others.

The virus in the exercise is (A) HxNy.

### Scope

As it is impossible to test all elements of any plan under all circumstances in a single exercise, the scope of these exercise materials is to facilitate an exercise based on the following:

Type of emergency: Pandemic Influenza

Location: Within the exercising Member State's borders.

Functions: Outbreak investigation and influenza surveillance practices during the pandemic alert and pandemic periods.

Participants: Focal points or decision makers from all entities involved in surveillance aspects of the pandemic plan. These individuals may include but is not limited to persons from the Ministry of Health, District Health Care managers, laboratory and other virological surveillance workers, health care worker labour organizations, and mortuary/morgue authorities.

Exercise Type: Tabletop exercise

<sup>1</sup> [http://www.who.int/csr/resources/publications/influenza/WHO\\_CDS\\_CSR\\_GIP\\_2005\\_4/en/](http://www.who.int/csr/resources/publications/influenza/WHO_CDS_CSR_GIP_2005_4/en/)

## Objectives

The main objectives of this exercise are:

1. To evaluate readiness of public health and animal health authorities for surveillance and investigation of cases or outbreaks of human and animal infection with an influenza virus of pandemic potential during pandemic alert and pandemic periods
2. To evaluate capacity to rapidly detect avian influenza A infection in high risk groups during the pandemic alert period
  - a. Individuals at occupational risk of exposure to infected animal, humans or their secretions/excreta or specimen
  - b. Incoming travelers from affected areas
3. To evaluate the use of surveillance data for action (policy making, planning, investigation, prevention and control, service provision).
4. To evaluate the capacity for pandemic vaccination and related monitoring procedures.

## Scenario A

The WHO pandemic alert phase is 3. There have been isolated outbreaks of (A) HxNy influenza in both wild birds and commercial poultry worldwide. A die off of wild birds is reported in a region with significant commercial poultry activity. There is fear and uncertainty among many producers about reporting sick birds for fear of lost income. Seasonal influenza outbreaks are ongoing.

A poultry vendor at a market falls ill with a severe respiratory illness and dies two days after hospitalization. He is buried before samples can be taken. Four other members of his family fall ill, three are hospitalized and two die. Samples confirm (A) HxNy infection.

A community doctor in a remote region sees a patient with a high fever and respiratory distress. The patient claims to not have had contact with any poultry, but it is common in the area to keep birds.

There are several outbreaks in the region, including one in the capital of a nearby country that is an important trading partner.

## Scenario B

The influenza virus (A) HxNy has mutated into a novel virus easily transmitted from human to human and has spread to several regions of the world. The WHO have announced level 6, indicating pandemic. Your country is in the first wave of infection, and there are high rates of infection within your borders and throughout the region. Approximately 20% of the population shows clinical signs of infection and nearly 1/5 of them requiring hospitalization. The fatality rate from pandemic strain influenza is approximately 7%.

The health care sector is under the same stress from absenteeism as other industries, with high portions of the workforce either ill or caring for sick family members.

## Scenario C

The WHO pandemic alert level has been at 6 for six months. Absenteeism among health care workers and other essential services continues to be high as they either become infected or are absent to care for sick family members. The economic impact has been severe due to the high levels of absenteeism in non-production industries such as finance and communications as well as in the production and transport sector. Security forces, also suffering from high absenteeism, report that sustaining public order may become difficult.

A pandemic strain influenza vaccine has just been released by two manufacturers, but you can only obtain 150,000 doses total in a combination of the two vaccines.

## For facilitators and evaluators

The following questions can be used to guide the discussions. Questions are divided by scenario, as different levels of surveillance should be in place for different Pandemic Alert levels. The expected result is given to assist evaluators in assessing the response.

### Scenario A

#### To evaluate readiness of public health and animal health authorities for surveillance and investigation of cases or outbreaks of human and animal infection with an influenza virus of pandemic potential during pandemic alert and pandemic periods

- Will assistance from WHO be requested? When? Who makes the decision to allow WHO teams into the field?  
*A decision maker should be known to all who will be the authority on requesting assistance from WHO.*
- How do the agricultural and human health authorities interact?  
*There should be communications and reporting mechanisms between the two ministries, especially during the pandemic alert period when human infection sometimes is detected prior to detection of animal infection if veterinarian surveillance is not in place or insufficient.*
- Does an investigation of an animal outbreak launch a search for human cases? Does a human case spark a search for animal cases?  
*Currently, an outbreak in either people or animals is a sign of the virus in the other. The animal and human health sectors need to closely cooperate in order to follow up outbreak reports with investigations of related cases on the other side of the species barrier.*
- Does the country have the capacity to carry out multiple investigations in different regions?  
*The country should ensure that there is a capacity to carry out investigations. This can include procedures for requesting assistance from outside authorities (WHO, CDC, FAO, OIE, etc.) if sufficient capacity is not present internally. Also can include RRTs at all levels. A plan and process should be in place on how to assemble and deploy teams.*
- How will healthy close contacts of suspected cases be monitored?  
*The surveillance system should include a procedure for keeping contacts of suspected cases under surveillance. The list of contacts should be provided with appointments for reporting (by phone, visiting health facility daily, health care worker visiting them at home, or other methods etc...) and an individual form recording outcome of daily monitoring is being kept for documentation. Close surveillance should be continued for 7 days after last exposure to the case or to an infected poultry, or as per prevailing WHO guidelines.*
- What precautions should be taken when handling the specimens in order to minimize risk of specimen contamination?  
*Protection from contamination should be an everyday part of laboratory operation. Given an unknown pathogenicity, maximum care should be taken in handling samples. Laboratory workers should be aware of how to pack and unpack shipments of samples, and in the proper use of appropriate protective equipment. They also should be aware of standard operating procedures for specimen storage and transport including timeline requirements. Finally they should be taught to separate human specimens from animal specimens which should be further tested in different laboratories to prevent contamination and reassortment. As with other exposed or potentially exposed persons, if the national plan includes antiviral prophylaxis, the details of its use need to be clear.*

- How does a doctor in a community report a suspected infection?  
*Knowledge of procedures from the grassroots level is important in interpandemic surveillance. The earlier suspect cases are identified and their contacts put under surveillance, the better chance of containing any outbreak, including that of potential pandemic strain of influenza.*

**To evaluate capacity to rapidly detect avian influenza A infection in high risk groups during the pandemic alert period**

**Individuals at occupational risk of exposure  
Incoming travelers from affected areas**

- What kind of surveillance is exercised on those involved with culling the infected birds?  
*Local level surveillance should be alert for high risk groups such as cullers, wet market workers, veterinarians, etc. Cullers, whenever possible, should have adequate protective equipment and be instructed to report any signs of illness immediately.*
- What about the farmers and veterinarians involved in the outbreak?  
*Local level surveillance should be alert for possible contact with infected poultry. Again, if the national plan involves the use of antiviral prophylaxis, there should be a plan for its use.*
- What kinds of restrictions on trade or travel may be imposed on travelers arriving from infected countries?  
*Any restrictions taken need to be weighed against effectiveness and efficacy in addition to compliance with the International Health Regulations.*

**To evaluate the use of surveillance data for action (policy making, planning, investigation, prevention and control, service provision).**

- How does the surveillance data and other scientific information influence public health and government policy?  
*Policy, planning, prevention and control and provision of service should all be re-examined frequently as new information becomes available. The government should have a scientific advisory body to give advice for measures based on the surveillance data and other scientific information.*
- Are those responsible for the social mobilization and risk communication messages informed about surveillance results?  
*Those responsible for crafting and dissemination of information to the public need to be kept informed as to the current threat level based on surveillance information. Communications with the public need to be revised quickly as new information becomes available in order to maintain confidence that the government is being transparent in how it deals with the potential crisis.*

## Scenario B

### To evaluate readiness of public health and animal health authorities for surveillance and investigation of cases or outbreaks of human and animal infection with an influenza virus of pandemic potential during pandemic alert and pandemic periods

- What kind of monitoring is anticipated during the pandemic for hospital admissions of suspected or confirmed cases of pandemic influenza?  
*Surveillance will need to be adjusted during the pandemic phase. The country needs to consider what kind of resources are expected to be available for surveillance once in a pandemic wave.*
- What about deaths from suspected or confirmed cases of pandemic strain influenza?  
*Pandemic level death reporting should factor into the plan. The process should be different for interpandemic monitoring, taking into consideration the stress it would place on resources. Does the country have capacity for dealing with the mass morbidity rate that could be expected in a pandemic wave?*
- How will absenteeism be tracked in areas like healthcare workers, police, and other services designated as essential in the plan? What about recovered workers?  
*A clear plan for tracking illness among workers in essential services should exist. In addition, consideration should be given to creating a roster of recovered staff from essential services who would presumably be immune.*
- How is surveillance data communicated within the country? Is the data communicated to any regional bodies? WHO?  
*The reporting mechanisms should be clearly defined from the local to national levels.*

### To evaluate capacity to rapidly detect avian influenza A infection in high risk groups during the pandemic alert period

#### Individuals at occupational risk of exposure Incoming travelers from affected areas

- What measures, if any, will be imposed on travelers arriving from other infected countries?  
*During a pandemic, any measures taken to screen incoming travelers must be examined for efficiency, efficacy and effectiveness.*
- What measures will be taken for workers at high risk of occupational exposure like healthcare workers and laboratory personnel?  
*Biosafety should be an everyday habit of laboratory and healthcare staff. Individual countries will need to look at what measures can be taken within their means to protect workers.*

### To evaluate the use of surveillance data for action (policy making, planning, investigation, prevention and control, service provision).

- What impact will surveillance data gathered during the interpandemic and pandemic period have on preparedness and response plans?  
*Information gathered should be channeled back into the planning process to enable the revision of plans, policies and procedures to more accurately reflect the impact of the virus.*

## Scenario C

### To evaluate the capacity for pandemic vaccination and related monitoring procedures.

- Is there a system in place to monitor vaccine usage?  
*The country should consider how to monitor who has been vaccinated and the designation of a non-vaccinated control group to determine levels of efficacy.*
- Who will be vaccinated?  
*With limited access to pandemic strain vaccine, the country should have a plan on which groups will be vaccinated first. This plan should be part of the public communications strategy and have an ethical justification.*
- How will the logistics issues of a vaccination campaign be addressed?  
*The country should examine how it plans to approach issues related to pandemic strain vaccination, including transport and security.*
- There are severe side effects in people with high blood pressure who have been vaccinated with the pandemic strain vaccine from one manufacturer, but not from the other. How will vaccination surveillance deal with this?  
*There need to be provisions in vaccination tracking for manufacturer and lot information.*
- How is data collected for use in the calculation of vaccine effectiveness for the pandemic strain vaccine?  
*Research institutes and clinical sentinel posts should collect vaccination history and blood samples before and after vaccination. If this is not feasible within the country's situation, an evaluation of reasonable surveillance methods should be implemented.*