

# Indonesia

## Simulation Exercise for the Containment of a Pandemic Influenza Outbreak

### 1. Background

In preparation for the next influenza pandemic, Indonesia has developed an operational plan to respond to a cluster of human cases caused by a new influenza virus. This first cluster of cases is termed the 'epicentre' and the objective of the plan is to stop (or contain) the spread of the virus. The Indonesian plan is therefore called the *Epicentre Containment Protocol*. The protocol encompasses all the required technical and operational elements and involves relevant governmental sectors at different organizational levels, nongovernmental organizations and communities.

A full-scale simulation exercise was carried out in Bali from 25 to 27 April 2008 to test the protocol. The simulation involved multiple ministries and agencies across the central, provincial and district levels of government.

### 2. Objectives

The aim of the simulation was to test and later revise the protocols and operational capacity of Indonesia to promptly and effectively contain an epicentre of human-to-human transmission of a novel influenza virus. Nine operational areas were covered: command and coordination, risk communication, logistics, surveillance, pharmaceutical intervention, non-pharmaceutical intervention, medical response, perimeter control and port control.



Active surveillance in containment area.

### 3. Participating agencies and organizations

The simulation exercise involved multiple agencies and ministries from the Government of Indonesia, the Bali provincial government, Jembrana and Tabanan district governments (in Bali), the airport authorities, the police and the military.

Simulation participants were relevant individuals at village, subdistrict, province and central levels, all health facilities and all supporting sectors, including those listed in Table 5.

The exercise involved almost 1000 planners and participants from all government levels and sectors. In addition, there were more than 50 observers from international organizations and more than 150 local observers at the event.

**Table 5**  
Participating agencies and organizations

National Commission for Avian Influenza and Pandemic Influenza
Ministry of Health
Coordinating Ministry for People's Welfare
Ministry of Social Welfare
Ministry of Research and Technology
Ministry of Environment
Ministry of Internal Affairs
Ministry of Foreign Affairs
Ministry of Transportation
Ministry of Communication and Information
Ministry of Agriculture
Ministry of Finance
Ministry of Education
Armed Forces
Police Forces

### 4. Type of exercise

Full-scale exercise. This was the first full-scale containment exercise of its kind in the world, distinct from sev-

eral functional exercises that had been conducted in other countries.

## 5. Preparation for the exercise

Preparation for the Bali exercise took more than eight months and was divided into seven steps:

1. approval from the Minister of Health
2. identifying and notifying partners
3. forming the working groups (based on nine key areas)
4. identifying and mobilizing resources
5. training and orientation of field officers
6. implementation of the exercise
7. evaluation and final reports (in progress).

The working group assignments were:

- collecting and reviewing relevant guidelines
- finalizing the objectives
- drafting the scenario
- calculating the budget
- creating an implementation plan.

Preparations for the simulation exercise over the previous year had included the following activities:

- finalizing the overall guidelines for outbreak

*The Bali simulation exercise highlighted Indonesia's intersectoral capability and capacity to mount an epicentre containment operation.*

containment;

- finalizing the draft protocols and standard operating procedures (SOPs) across the nine working groups (corresponding to nine key areas identified and elaborated below) at the central government level;
- central-level TTX to test the relevance of the protocols and SOPs across different scenarios;
- training the local participants on the protocols and SOPs;
- TTX for local participants to test the adaptation of the generic central-level protocols and SOPs to the local context;
- field assessment with local participants to test the implementation of the contextualized protocols and SOPs;
- dry run and final preparations;

- simulation exercise proper;
- evaluation and integration of lessons learnt into the final documents.

## 6. Conduct of the exercise

The three-day exercise took place in multiple locations in Bali. The exercise scenario illustrated the Government of Indonesia's operational plans for rapid response and containment of early human-to-human transmission of H5N1 avian influenza.

The exercise covered nine key areas identified by the Government of Indonesia as key to the containment of an outbreak:

1. Command and coordination: delineates the command structure at the central, provincial, district and field levels, including communications within the different command levels.
2. Risk communication: provides a guide to the communication of messages to the population to ensure public compliance, and to media communications to ensure the right messages are portrayed within and outside Indonesia.
3. Logistics, including essential supplies and services: delivery of supplies necessary for the containment effort, and ensuring the continued presence of essential supplies and services for the population within the containment area.
4. Surveillance: early detection of human-to-human transmission, and increased surveillance (active and passive) to detect additional cases for early isolation and treatment. Also includes contact tracing, especially for cases outside the containment area for quarantine and antiviral prophylaxis.
5. Pharmaceutical intervention, including antivirals, PPE, vaccines: the distribution of adequate quantities of antivirals (oseltamivir) for treatment and prophylaxis; personal protection and infection control in the containment area, health centres and hospitals; and priority for vaccination when vaccines are available.
6. Non-pharmaceutical intervention: social distancing measures, including the closure of schools, public gathering places and workplaces, and home quarantine for close contacts.
7. Medical response: case management and isolation of cases, infection control procedures and segregation of influenza patients from other patients, including the closure of hospitals.
8. Perimeter control: quarantine of the containment area and other similarly affected areas (e.g. hospitals), and the screening and decontamination of visitors entering or leaving the area.



*Field hospital in containment area.*

9. Port control: exit screening and border controls to prevent the exportation of cases outside Indonesia, including the use of health alert cards and thermal imaging.

The scenario for Day One of the exercise simulated epidemiological investigations in the community, case management and referral to the influenza referral hospital, district command and coordination activities and reports to provincial and national levels.

Day Two of the exercise simulated initiation by the Regent (head of district) and related stakeholders of necessary preventive measures in the face of epidemiological evidence of early human-to-human transmission, and full epicentre containment and quarantine efforts when virological results indicated that the H5N1 virus had mutated to a form that allowed efficient human-to-human transmission.

Day Three of the exercise simulated containment activities in full swing, encompassing all components of the nine key areas detailed above. During this time the airports were actively controlling human and logistic traffic from the containment area. The simulation exercise ended with the lifting of the area quarantine and announcement by the Minister of Health of the successful containment of the pandemic influenza outbreak.

## 7. Evaluation

The more than 50 international and over 150 local observers provided feedback and shared their observations on the conduct of the simulation and activities undertaken. An evaluation meeting discussed this feedback and considered appropriate next steps for pandemic preparedness.

The simulation report will be prepared and key lessons included in the final outbreak containment documents. In addition to the final report, a video of the simulation will be produced, including the planning process and evaluation.

There are also plans to produce final guidelines, protocols and operational procedures for outbreak containment in Indonesia based on the feedback and evaluation. These will then be packaged into a training programme for all provinces and districts. Train-the-trainer sessions will be conducted whereby master trainers will be trained to perform advocacy and conduct pandemic preparedness training and simulations in the various provinces and districts.

There are also plans for the development and testing of similar operating procedures for a full-scale pandemic, as this will be synergistic with outbreak containment.

## 8. Lessons learnt

The Bali simulation exercise highlighted Indonesia's intersectoral capability and capacity to mount an epicentre containment operation. Participants applied the protocols and developed innovative solutions to problems that arose during the simulation. There was universal agreement from all international observers that the exercise was extremely well planned and conducted, and that it will make a significant contribution to local preparedness planning, as well as planning efforts at regional and global levels.

Implementing epicentre containment is a cross-cutting, intersectoral activity that necessitates clear technical guidance, clear chains of command, and clear roles and responsibilities. In general, the Bali simulation exercise highlighted the need to have protocols that are practical and adaptable to unfolding situations, and that can succinctly communicate the advised courses of action.

Specific lessons learnt for each of the nine areas in the protocol are shown in Table 6 below.

The Government of Indonesia is now revising the protocols to incorporate the lessons learnt from the Bali simulation exercise. A second edition of the protocol is expected by September 2008. The next steps include the development of a training manual and programme to inculcate the practices across the country.

<b>Table 6</b> Lessons learnt	
<b>Protocol area</b>	<b>Lessons learnt</b>
1. Command and coordination	Further detailing on the different levels of the command structure, and integration into existing disaster-response mechanisms is needed.
2. Risk communication	Multiple modalities should be used to communicate messages to the public (loudspeaker, flyers). Messages should be developed that are both clear and acceptable.
3. Logistics	A rapid needs assessment should be conducted by the trained rapid response team. Resource and fund management should be included in the protocol.
4. Surveillance	Specific criteria for when to escalate containment activities should be developed. Infection control needs of surveillance officers should be reviewed.
5. Pharmaceutical intervention	Provision of antiviral supplies to households at the beginning of containment is more feasible than daily directly observed therapy.
6. Non-pharmaceutical intervention	Specific protocols are required for relatives of quarantined individuals who reside outside containment zones (e.g. children at boarding schools). Measures should be put in place to enhance compliance of children with quarantine orders.
7. Medical response	Establishment of a field hospital within the containment zone and the criteria for when such a measure is feasible should be considered. Feedback should be provided to health-care centres about suspected cases for appropriate infection control measures to be instigated.
8. Perimeter control	The needs and ratios of personnel required to enforce the containment zone should be considered.
9. Port control	Details for infection control and triage procedures are important.