

Indonesia



Capital: Jakarta

Infant Mortality Rate: 26.06/1,000 live births

Population: 251,160,124 (July 2013 est.)



Overview

The overall goal of the influenza program in Indonesia is to establish a sustainable, comprehensive surveillance system that can identify and respond to seasonal, avian and pandemic influenza. CDC funding has supported routine influenza surveillance, the National Influenza Center laboratory and pandemic preparedness. In 2011, the Indonesia MoH, in collaboration with CDC and USAID, began piloting an enhanced surveillance project to better understand the burden of seasonal and avian influenza in the East Jakarta District. In addition to the ongoing influenza-like illness (ILI) surveillance, a national severe acute respiratory infection (SARI) surveillance system was established with CDC and Government of Indonesia (GOI) funding in 2013. Together these systems help identify circulating influenza viruses, and monitor severity and trends in several provinces in the country.

Highlights

- Established SIBI (Surveilans ISPA Berat Indonesia), the new national severe acute respiratory infection (SARI) surveillance system, in six hospitals in six provinces.
- Provided a model for harmonization of virologic and epidemiologic surveillance in one district, (East Jakarta Project).
- Integrated surveillance for the emerging influenza A (H7N9) virus and MERS-CoV via the SIBI platform and East Jakarta Project.

Surveillance

For SIBI surveillance, a protocol was developed based on the 2012 WHO Influenza Surveillance Standards. The system, which collects data on SARI cases, is used to determine the proportion of cases with influenza virus infection and those with severe illness, including pneumonia and death.

Since August 2011, the East Jakarta Project has provided rapid information about the epidemiology, clinical presentation and virus subtypes circulating in an urban area in one province in Indonesia. As of September 2013, 5,150 ILI cases and 3,200 SARI cases had been detected and tested for influenza.

Data from ILI surveillance, the East Jakarta Project and SIBI are routinely reported to the Global Influenza Surveillance Response System (GISRS).

Surveillance Activities

- **SIBI**— Selected six sentinel hospital sites in December 2012. All sites established a five-person SIBI team comprised of coordinating doctor, surveillance doctor, screening nurse, medical records officer and laboratory technician. Data collection began in April 2013 and 200 SARI cases were identified between April and September.
- **East Jakarta Project**— Conducted a health care utilization survey with partners (USAID, Strategies Against Flu Emergence Project, and Johns Hopkins) to help understand the health care utilization patterns and respiratory disease burden in communities.
- **ILI Surveillance**— Continued national ILI surveillance in 26 health care centers in 25 provinces. Uploaded data from ILI surveillance on the National Institute of Health Research and Development (NIHRD) website.

Laboratory

As of September 2013, the national outbreak detection surveillance system, (known as EWARS), was strengthened in 21 provinces. The system enables surveillance for 24 syndromes/diseases. Reporting is streamlined through the addition of electronic data reporting and feedback. Further, a situational analysis of laboratory involvement in outbreak detection, verification and investigation was conducted.

For the East Jakarta Project, an additional regional diagnostic laboratory, the Regional Environmental Health Laboratory (known as BTKL), was added to the surveillance system to test SARI specimens from the six sentinel hospitals. Training was provided to BTKL and the laboratory's RT-PCR capacity and protocols were upgraded. CDC provided technical support to NIHRD to strengthen influenza surveillance logistics, including cold chain management.

Laboratory Activities

- **EWARS**— Developed a laboratory mapping tool to determine Provincial Health Office utilization of laboratories in supporting outbreak verification and investigation with CDC technical assistance. A similar tool to assess laboratory capacity for diagnosing diseases under EWARS surveillance was developed.
- **East Jakarta Project**— Detected 5,150 ILI cases, of which 31% were influenza-positive; 3,200 SARI cases were detected and 14% were influenza-positive.
- **ILI Surveillance**— Detected 1,867 ILI cases, 525 (28.1%) samples were influenza-positive during October 2012–July 2013. Of the influenza-positive samples, 351 (18.8%) were influenza A and 174 (9.3%) were influenza B. The influenza A subtype most commonly detected as A (H1N1)pdm09. The GOI funded laboratory supplies for influenza testing.

Preparedness

CDC provided emergency response funds specifically for A (H7N9) and MERS-CoV preparedness in July 2013. Funds are being used to enhance existing surveillance systems' capacity for the detection of these emerging diseases.

Preparedness Activities

- Integrated travel history questions and surveillance for emerging influenza A (H7N9) and MERS-CoV diseases into both SIBI and the East Jakarta Project.
- Conducted a meeting in September 2013 with provincial health offices, SIBI coordinators and national stakeholders to discuss the latest A (H7N9) and MERS-CoV findings, review surveillance system data, and discuss how to use information arising from the system to inform policy.
- Funded reagents and supplies to enable additional RT-PCR, virus isolation and virus sequencing for these emerging infections.
- Established a web-based platform for SIBI to enable real-time reporting and feedback of data.

Training

- Conducted trainings on SARI surveillance in March 2013 for the six SIBI teams and the provincial/district health offices.
- Conducted refresher trainings for laboratory, hospital and health care center staff working on the East Jakarta Project in July 2013.
- Conducted scientific writing workshop for lecturers and researchers at Respati University, Jogjakarta.
- Conducted training in March 2013 on cold chain methods and RT-PCR machine maintenance for ILI surveillance regional laboratories.
- Conducted a Laboratory Management Information System Data Analysis and Quantification Workshop in November 2012.

Publications

Pane M, Imari S, Alwi Q, Nyoman Kandun I, Cook AR, et al. (2013) Causes of Mortality for Indonesian Hajj Pilgrims: Comparison between Routine Death Certificate and Verbal Autopsy Findings. *PLoS ONE* 8(8): e73243. doi:10.1371/journal.pone.0073243.

Samaan G, McPherson M, Partridge J (2013) A Review of the Evidence to Support Influenza Vaccine Introduction in Countries and Areas of WHO's Western Pacific Region. *PLoS ONE* 8(7): e70003. doi:10.1371/journal.pone.0070003.