



THAILAND

OVERVIEW

In August 2014, the U.S. Centers for Disease Control and Prevention (CDC) funding for Thailand in support of routine influenza surveillance ended. Between September 2014 and September 2015, funding for influenza surveillance was provided by a collaboration between the Department of Medical Sciences (DMSc), Thai National Institute of Health (NIH) and the Bureau of Epidemiology. CDC continues to provide technical support to Thailand and the Thai Department of Disease Control (DDC) in the area of influenza with a shift in emphasis towards evaluation of vaccine effectiveness in high-risk groups.

SURVEILLANCE

Thailand has a long-standing sentinel surveillance system for influenza (since 2004). The system routinely collects clinical specimens from sentinel sites around the country and routinely performs influenza virus testing, drug resistance monitoring, and submits viral isolates and unsubtypeable isolates to WHO Collaborating Centers (CC). With Thai Ministry of Public Health (MOPH) funds, the Thai NIC, DMSc has continued to maintain surveillance in six sentinel hospitals situated throughout Thailand's four regions. Data from the systems are shared weekly with partners and sites in a report posted on a public website. Using the strength of the existing influenza surveillance system, the Thai NIC and Thai DDC have collaborated closely with WHO and CDC to expand the system to detect MERS-CoV and avian influenza A (H7N9) virus in SARI specimens.

In addition, educational messages/fact sheets were updated using data from unusual outbreaks in-country and globally and distributed to executives at the MOPH.

SURVEILLANCE ACTIVITIES

- Transitioned support for routine influenza surveillance to the MOPH by reducing the number of sentinel sites yet maintaining all the SARI sentinel hospitals.
- Received notification that one of the Thai viral isolates (B/Phuket/3073/2013-like) would be incorporated into the 2015 Southern Hemisphere influenza vaccine formulation.

HIGHLIGHTS

- Purchased approximately 3.5 million doses of influenza vaccine for use in the public sector.
 - Recommended seven high-risk groups for annual vaccination: health care personnel, persons with chronic disease, persons >65 years, pregnant women, obese persons, persons who are mentally disabled, children aged 6 months to 2 years.
 - Evaluated vaccine effectiveness in high-risk groups in collaboration with CDC.
- Completed a report on resistance of influenza isolates to antiviral treatment.

LABORATORY

Between September 15, 2013 and June 30, 2015, the Thai NIC tested 3,601 specimens from patients with ILI and 1,244 from patients with SARI. Among the specimens from ILI patients, 933 (25.9%) were influenza positive.

These included 251 influenza A (H1N1)pdm09, 316 influenza A (H3N2) and 366 influenza B viruses. Among the specimens from SARI patients, 158 (12.7%) were positive for an influenza virus. These included 41 influenza A (H1N1)pdm09, 75 influenza A (H3N2) and 42 influenza B viruses.

LABORATORY ACTIVITIES

- Attended the annual scientific meeting conducted by the Virology Association of Thailand (November 2014).
- Continued participation in WHO's External Quality Assurance Program (EQAP) twice yearly.
- Enhanced the proficiency testing (PT) program by including influenza A (H7N9) virus positive samples for the first PT panel of fiscal year 2015.
- Circulated a weekly situational report and posted publically-available data at <http://www.thainihnic.org/>.

PREPAREDNESS

In May 2015, the Thai MOPH co-organized the GHSA Meeting "Step towards Regional Strategic Collaboration in Asia-Pacific on Workforce

Development, National Laboratory System Strengthening & Antimicrobial Resistance Prevention to Respond Global Challenges” in collaboration with WHO, CDC, and APSED in Bangkok, Thailand. One of the outputs from the National Laboratory System Strengthening is to strengthen the regional diagnostic capacity of five priority diseases, including influenza. The Thai NIC will play a major role in supporting the training and diagnostic services for influenza for countries without this capability.

PREPAREDNESS ACTIVITIES

- Provided training and information to all responsible staff in DMS Centers.
- Organized the first and second workshops on the EID Laboratory Network (June 2014 and July 2015).
- Published an EID laboratory network manual which provides information of EID testing methods and guidelines on the specimen referral system.
- Organized the first and second workshops on Biosecurity and Biorisk Management (February 2014 and June 2015).

TRAINING

This past year saw the emergence of two new viral respiratory pathogens, avian influenza A (H7N9) virus and MERS-CoV.

To address these new concerns and educate the medical workforce, Thailand’s Influenza Foundation partnered with the MOPH for several trainings. In addition, the Thai NIC trained laboratory scientists in the diagnostics.

- Designated two MOPH staff to participate in the 8th Bi-regional SEARO/WPRO NIC Meeting in Jakarta (August 2014).
- Designated two staff to participate in a regional workshop on Virological Technique in Influenza and Other Emerging Viruses at the National Institute of Virology, in Pune, India (May 2015).
- Trained staff in the 14 regional medical science centers on new PCR diagnostics for avian influenza A (H7N9) virus and MERS-CoV.
- Conducted a two-day workshop to review the proficiency test program (June 2015).

INFLUENZA VACCINE ACTIVITIES

The Thai MOPH piloted a program to increase vaccine coverage among persons aged 65 years and older in Nakhon Phanom Province and increased coverage from 12% in 2014 to 35% in 2015.

RESEARCH

Thailand provides free influenza vaccination to high-risk groups but coverage is low. The CDC collaborates with the Thai Ministry of Public Health (MOPH) on research that can inform policy and program activities to improve vaccine coverage, through development of the evidence base for burden, cost-effectiveness and impact. Areas of research focus include knowledge, attitudes and practices that relate to influenza vaccination, burden of disease, vaccine effectiveness, surveillance methods and economic evaluations.

Research Activities:

- Followed 500 healthy and 500 chronically ill children aged 0 to 36 months at baseline for two years to compare the incidence of mild and severe influenza virus infection in the two groups.
- Determined the effectiveness of the southern hemisphere influenza vaccine to reduce influenza-associated acute respiratory infection in children using a test-negative design.
- Measured the knowledge, attitudes and practices of pregnant women and their providers towards the influenza vaccine.
- Evaluated the increase in influenza vaccine coverage and determinants of vaccination in persons aged 65 years and older.
- Determined the acceptability, feasibility and validity of self-swabbing for detection of influenza infection in a population of elderly.
- Established a cohort of pregnant women to measure the burden of influenza in pregnancy and the effect of maternal influenza vaccination on their offspring during their first six months of life.
- Established a cohort of persons aged 65 years and older to measure the effectiveness of the influenza vaccine to reduce the burden of influenza-associated acute respiratory infection.