



Rapid Response Team Leaders Train Abroad

Over 1,200 Surveillance and Rapid Response Teams (SRRT) in Thailand act as first responders to disease outbreaks in Thailand. This local and on-the-ground response system has proved invaluable in responding to public health emergencies like SARS and avian influenza.

To build management capacity for SRRT leaders, the Thailand Department of Disease Control, in consultation with IEIP, launched a project called Leadership Development in Public Health Emergency Preparedness and Response. Seventeen SRRT leaders have traveled to CDC/Atlanta for two-week trainings on emergency preparedness and response management, command and control, communication and coordination with state agencies and relevant partners, and interfacing with medical emergency care agencies.

These leaders now actively plan for and respond to emerging infectious disease threats, disasters, environmental and occupational hazards, and suspected bioterrorism events. In 2009, more SRRT leaders will receive the training, which is offered through CDC's Coordinating Office for Terrorism Preparedness and Emergency Response.

- Anupong Sujariyakul

Enhanced Surveillance for Severe and Fatal Respiratory Disease

To detect and monitor new respiratory pathogens, scientists need data on the number and causes of severe and fatal pneumonia cases. The Thailand MOPH Bureau of Epidemiology and IEIP will gather those data via a novel enhanced surveillance system for severe and fatal respiratory disease.

Launched in November, the project will develop and unite clinical, bacteriological, pathological, epidemiological, and knowledge management networks.



The enhanced surveillance system will expand understanding of the pathogens causing severe and fatal pneumonia.

Algorithms will be developed to assist in determining etiologies and guiding responses to disease clusters and outbreaks. Working with hospitals and other professionals, the project will also create notification, investigation, and management guidelines for severe and fatal pneumonia cases.

Researchers will build on Thailand's experience responding to suspected human cases of avian influenza (AI), to evaluate the causes of past severe and fatal pneumonia cases that were initially suspected to be AI.

- Charatdao Bunthi

Technology Transfer Improves Pneumonia Etiology Surveillance

For more than five years, IEIP and MOPH have partnered together on a large, population-based study to determine pneumonia etiology in two Thailand provinces. During the past three years, this major collaborative effort has also dramatically increased the speed of specimen testing and results reporting. Turnaround time for completing results dropped from over a year in 2003, to under two months today.

This accelerated pace moves the study closer to one of its ultimate goals: developing a model system to provide real-time testing in provincial hospital laboratories to optimize pneumonia surveillance and maximize the benefits to patient management.

Beginning in 2005, pathogen testing moved from CDC/Atlanta laboratories to the Thailand MOPH campus, following successful laboratory training and technology transfer. Also, new methods improved testing safety, sensitivity, and specificity.

This group effort included MOPH, IEIP, Division of Emerging Infections and Surveillance Services, CDC National Center for Immunization and Respiratory Diseases, and the CDC Influenza Division. These laboratory advances have been accompanied by enhancements in information systems, improvements in integration of epidemiological, clinical, and laboratory data, and more rapid data analysis and reporting.

Next steps are to refine and streamline the list of pathogens tested, transfer laboratory technology from Bangkok to the provincial field sites, and further reduce specimen testing time to under three weeks.

- Len Peruski

Oseltamivir-Resistant Influenza – A Rapidly Growing Problem

Oseltamivir (Tamiflu) resistance in community influenza A (H1N1) isolates was rarely reported before 2007. This is changing quickly. In 2008, 157 of 160 (98%) isolates tested in the U.S. proved to be resistant.

The Thailand National Institute of Health (NIH) conducts routine laboratory influenza surveillance in collaboration with CDC. With technical assistance from IEIP, NIH recently began testing influenza isolates for resistance to antiviral drugs. In 2008 the NIH tested 3,736 respiratory specimens; 906 (24%) were influenza positive and 271 (30%) of these specimens were influenza H1N1 viruses.

While Oseltamivir is used less frequently in Thailand than in the U.S., NIH found that 16 of 17 (94%) H1N1 isolates tested in 2008 were resistant to Oseltamivir. Such developments can greatly complicate clinical management. They also underscore the importance of annual influenza vaccination, and showcase NIH technical capacity.

- Mark Simmerman