

Improving Pandemic Influenza Preparedness in Southeast Asia

The world is bracing for the next influenza pandemic. Many experts believe it will originate in Southeast Asia. To help improve the region's preparedness for such an event, RAND began working in 2006 with a consortium of partners through the Mekong Basin Disease Surveillance (MBDS) project. An ongoing collaboration among six nations—Cambodia, Laos, Myanmar, Thailand, Vietnam, and China (Yunnan Province)—the MBDS is intended to strengthen regional cooperation in disease surveillance. The Rockefeller Foundation has supported the overall MBDS project since its inception; the Global Health and Security arm of the Nuclear Threat Initiative and the U.S. Centers for Disease Control and Prevention funded RAND's involvement.

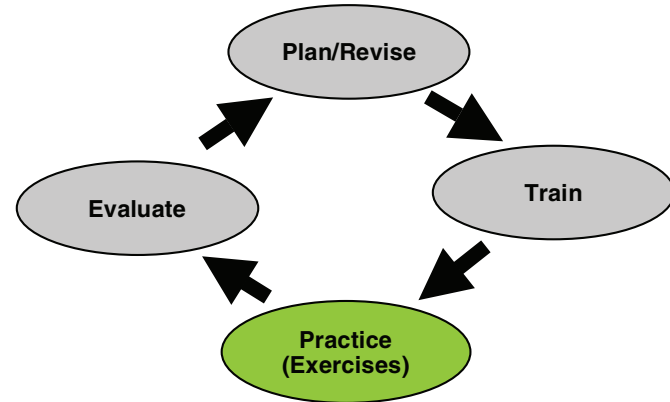
RAND's work had four principal aims: (1) help public health and other relevant personnel practice emergency response; (2) identify areas for improvement; (3) strengthen relationships among personnel from public health and other response agencies; and (4) train staff. To address these goals, RAND designed and conducted tabletop exercises, modeled on similar exercises that RAND has conducted extensively in the United States with federal, state, and local governments, as well as with a large private-sector organization. RAND developed and conducted tabletop exercises separately in each MBDS country in collaboration with public health and other officials (except Thailand, which conducted its own exercise without input from RAND). RAND then collaborated with MBDS countries to design and conduct a regional exercise involving all six countries.

Tabletop Exercise Methodology: A Scenario-Based Approach

Tabletop exercises are a way to prepare for future emergencies. They consist of facilitated discussions built on a hypothetical, plausible future scenario. The exercises are based on realistic assumptions about governments' available toolkit for responding to the threat of pandemic influenza, including pharmacologic (vaccines and anti-viral drugs) and non-pharmacologic interventions. The latter occur in healthcare facilities and communities and include patient isolation, quarantine of contacts, and hospital infection-control practices; social distancing measures, such as school closures and restrictions in public gatherings; and basic hand hygiene and respiratory etiquette. For exercise results to be effective, participants must take action to learn from the exercises and incorporate what they have learned into further planning, training, and evaluation (see Figure 1).

The work described here was conducted under the auspices of RAND's Center for Domestic and International Health Security, a division of the RAND Corporation, through funding from the Global Health and Security Initiative within the Nuclear Threat Initiative, and the U.S. Centers for Disease Control and Prevention.

Figure 1. Exercises form part of a continuous process for improving public health preparedness.



Findings from the MBDS Country Exercises

Across all the countries, the exercises revealed common challenges. For example, the exercises identified a need for better integration of pandemic planning across government sectors, for extending planning to the local level, and for planning that spans strategic *and* operational levels—both what to do and how to do it. Common workforce challenges included having enough medical and public health workers, getting those workers adequately trained, and protecting them as they care for influenza patients. In addition, the exercises consistently identified the need for more resources—material and financial.

Several more-specific challenges emerged during the country exercises. For **surveillance and information sharing**, the main challenges related to increasing coverage to reach all parts of a country especially remote border areas; timely reporting; sharing information “horizontally, vertically, and internationally”; ensuring laboratory capacity; identifying triggers for increasing surveillance activities and what those activities might be; and ensuring that rapid-response teams of trained medical, laboratory, public health, and (when needed) veterinary personnel can respond appropriately to investigate suspicious cases or clusters. In the area of **communication**, many exercises revealed that communication planning was rare. In addition, communication infrastructure was limited, messages were not prepared in advance, and there was uncertainty about how to balance the need to provide information with the desire to avoid creating panic. The exercises also revealed challenges related to **disease prevention and control**. In addition to the resource constraints already noted, scaling up was limited—localities were generally not well prepared; some inappropriate control measures were advocated; and planning for stockpiles was not complete—planning to ensure the availability of supplies and determine where to locate them.

Response coordination within countries and across countries has not been adequately worked out. In addition, countries appeared reluctant to confront a range of other crisis-response issues: Most have not planned for medical and health surge capacity; neither have they addressed expected staff absenteeism, alternative care sites, altered standards of care, and ethical dilemmas centered on who receives care when resources are severely constrained.

Highlights from the Regional Exercise

The regional exercise was the first of its kind ever conducted. It involved 60 participants from the six countries, plus 25 observers from technical and donor organizations. The exercise addressed the three

focus areas highlighted in the country-specific exercises: surveillance and information sharing, communication, and disease prevention and control.

- **Surveillance and information sharing.** Discussion focused on early-warning systems. Participants considered an Internet-based system to ensure timely reporting and information exchange. Surveillance along borders and at ports of entry was also noted as a priority, but it was complicated by the high volume of travelers, competing priorities of public health and tourism, and border length and porosity. There was interest in sharing information across MBDS borders, but such sharing raises questions about authorizing release of information and organizing the exchange of information among MBDS partners.
- **Communication.** To improve communication across governments, participants discussed designating a point of contact in each country, procuring satellite phones, and possibly establishing an MBDS emergency communications center. They also emphasized coordinating public risk communications with their respective populations and planning this coordination ahead of time.
- **Disease prevention and control.** Participants emphasized strengthening local preparedness in their respective countries to improve cooperation across borders. Language barriers pose a challenge to cross-border cooperation.

Implications for Policy and Future Research

Each country possessed unique strengths in pandemic preparedness. The exercise process was also well received: MBDS country leaders and exercise participants gave favorable reviews of the exercises. They appreciated the opportunity to build new relationships, especially with colleagues from different government sectors and from other countries. Participants identified priority actions for improving country and regional preparedness. It is now up to these countries to incorporate proposed actions into updated plans and up to MBDS to undertake more thorough regional preparedness planning. Good national and regional preparedness should improve emergency response and reduce morbidity, mortality, and social disruption. These exercises were intended to provide a step in this direction. RAND continues to work with MBDS partners in their ongoing collaborative efforts in the region.

Figure 2. Exercises are one of several key inputs for improving preparedness.

