

Creating a Japanese encephalitis surveillance system in Vietnam

Each year, 50,000 cases of Japanese encephalitis (JE) disease are reported worldwide, resulting in 10,000 deaths. Transmitted by mosquitoes, the disease causes encephalitis, or infection of the brain. Some people fully recover, but one-third of survivors are left with permanent disabilities, making it the leading cause of viral neurological disease in Asia. Children aged 1 to 15 are especially at risk of the disease.

Fortunately there is a solution. A safe and effective vaccine has proven effective in controlling JE. However, numerous challenges limit access to the vaccine by those who need it most: lack of awareness, unstable vaccine supply, high costs, and lack of country-specific information to drive policymaking.

Vietnam's JE immunization program

Since 1997, Vietnam's National Expanded Program on Immunization (NEPI) has provided a locally produced JE vaccine to children living in the highest-risk areas. However, reliable national data on JE incidence and mortality rates are not available.

The Government of Vietnam has committed to expanding the JE immunization program nationally in the next three to five years. The success of this expansion depends on access to accurate information about Vietnam's JE disease burden. This information will help prioritize vaccine introduction by identifying

areas at high risk and ensure the best use of national immunization funds. Collecting epidemiological data also helps ensure that the correct age groups are targeted for receiving the vaccine.

PATH's JE project in Vietnam

In 2005, NEPI and PATH began working to design a pilot JE surveillance system. Activities to improve data collection include:

- Designing, implementing, and evaluating an appropriate JE surveillance system in two provinces (Thai Binh and Binh Duong).
- Strengthening JE laboratory diagnostic capacity to improve the quality of surveillance data.
- Increasing health worker and community awareness of JE.

Technical staff from PATH, NEPI, regional Expanded Programs on Immunization, and regional laboratories have been responsible for designing the surveillance model, developing guidelines, and coordinating training for its use. The group is also responsible for planning and supervising project activities and providing technical advice.



PATH is supporting the development of a Japanese encephalitis disease surveillance system to inform evidence-driven decision-making regarding the expansion of the JE immunization program.

Implementing a model JE surveillance system

In accordance with recommendations by the World Health Organization, NEPI, PATH, and project partners drafted guidelines for a surveillance model based on JE disease characteristics and existing surveillance systems in Vietnam. This model focuses on linking epidemiological and laboratory data from provincial hospitals to the national health system.

PATH and NEPI are also coordinating the design and creation of a streamlined national-level database and data entry system. After these are finalized, the project team will provide training to pilot sites on using these tools.

Strengthening laboratory systems

Often, JE cannot accurately be differentiated from meningitis and other causes of encephalitis because the presenting symptoms tend to be similar.



Pilot project activities include training laboratory staff at regional and provincial facilities on new Japanese encephalitis diagnostic tests.

Without patient testing, JE is often undetected and the extent of JE disease is unknown.

Incorporating accurate diagnostic testing with epidemiological data is critical for informing future vaccine planning.

To facilitate testing and the availability of laboratory results on all encephalitis cases in the pilot provinces and ensure consistency in results, the pilot project is introducing new test kits for JE diagnosis and providing training for regional and provincial laboratory staff from both pilot sites. Laboratory personnel receive instruction on using test kits and analyzing results to confirm JE diagnosis and on reporting to public health authorities.

Increasing awareness

PATH is working to develop materials (see example in Figure 1) to increase awareness and improve reporting among health care providers. In addition, two short JE-focused films—*Shadow Lives* (produced by PATH) and *Kill or Cure* (produced by Rockhopper)—were edited and dubbed into Vietnamese for training and advocacy purposes.

To help raise community awareness, *Shadow Lives* was distributed to health education centers in all 64 provinces.

Next steps

Awareness of the unnecessary toll taken by JE is increasing, and support to control the spread of JE is growing. With a



Figure 1: PATH created materials to increase awareness of Japanese encephalitis among health workers in the project's participating hospitals.

stronger surveillance system in place, JE awareness becomes an important component in building policymaker support to develop policies to help control the spread of this disease.

PATH is providing ongoing support to NEPI and the pilot sites for project activities, evaluation of the new surveillance system, and refinement of the model. Based on these results, PATH and project partners plan to share lessons learned and advocate for national implementation of this model.

More information

For more information on PATH's work in Vietnam, please contact vietnam@path.org.

To learn more about the work of PATH's JE project in other countries, visit www.path.org/jep or contact [jepproject@path.org](mailto:jeproject@path.org).