

## **EpiSurv7 – A web-based, user-friendly, public health surveillance system**

The first phase of a new integrated national surveillance system is now operational in New Zealand, providing vital intelligence for disease and biosecurity. EpiSurv 7 has been developed by the Institute of Environmental Science and Research (ESR). ESR provides surveillance services to New Zealand's Ministry of Health and Food Safety Authority.

EpiSurv7 is a new web-based notification system that operates on the SurvINZ infrastructure platform. It allows for gathering and processing of disease data from throughout the country, in real time, using a variety of reporting tools, including a geographic information system (GIS). The information will be of vital importance in the event of an influenza pandemic. The system is web-enabled, allowing health workers anywhere to enter and access up-to-date information quickly and easily through an Internet connection. Other surveillance data streams — including laboratory, hospital, community, international, syndromic and sentinel influenza surveillance data — will also be incorporated.

Since the SARS outbreak, there has been an international move from surveillance systems featuring predominantly periodic (and sometimes delayed) reporting to more timely — and ideally real-time — systems. Web-based systems provide the instant reporting required for effective surveillance, and this capability has been built into EpiSurv7. For example, experts have predicted that in the case of a pandemic influenza there may be a small window of two to three weeks during which direct intervention on a national scale could make a difference, and prevent the spread of pandemic influenza throughout the Pacific. The effectiveness of public health responses depends largely on the speed with which outbreaks are identified.

The SurvINZ platform integrates New Zealand's disease surveillance, laboratory, food safety and water surveillance systems and can also be utilised by Pacific Island countries to meet the requirements of the International Health Regulations (2005). Through ESR links with the Ministry of Agriculture and Forestry in the National Centre for Biosecurity and Infectious Disease, SurvINZ will also have the potential to integrate zoonotic animal disease information.

At the 13<sup>th</sup> meeting of the Pacific Public Health Surveillance Network (PPHSN) Coordinating Body, held 29–30 March, Dr Bruce Adlam of ESR presented the new EpiSurv7 to member nations. EpiSurv7 features include:

- A secure, web-based application for data entry and reporting
- Increased validation, with drop-down lists to improve the quality of data at the point of entry
- Enhanced GIS capability
- Enhanced reporting capability, both at a national and local level
- Ability to combine data across a region or public health service
- Flexibility to include new diseases without application development change
- Improved integration and capability for outbreak reporting
- Real-time or near real-time reporting at national level
- Improved security capability, audit trails, and user identification
- Ease of deployment and management in the external user environment
- Plans for a contact tracing module

ESR would be happy to extend EpiSurv7 to Pacific Island countries and territories (PICTs) through PPHSN. It could help them meet their surveillance needs, as well as the requirements of the International Health Regulations (2005), without disproportionate investment in system development and maintenance at country level.

Members of the PPHSN Coordinating Body considered the adaptability of the software to PICTs, and indicated that the same kind of application could be used in PICTs, provided an option exists for data management, control and storage at the country level. System support and maintenance could continue to be done from a distance. The setup can be modified, so that the web interface

could also be used offline, as many PICTs don't have reliable Internet access. The system could then run independently with a local host.

For further information on EpiSurv7 and SurVINZ please contact **Dr Bruce Adlam** Ph. +64 4 9140700 or email [bruce.adlam@esr.cri.nz](mailto:bruce.adlam@esr.cri.nz)

## Case Report Form Screen of EpiSurv7

The screenshot shows the 'CASE REPORT FORM' for 'Arboviral Disease' in the EpiSurv7 application. The form is divided into several sections:

- Case Summary:** Includes fields for Case Name, EpiSurv No. (20740022-14), Disease (Dengue fever), Date Reported (22/02/2007), and Case Status (Under investigation).
- Case Report Form:**
  - Disease Name:** Radio buttons for Dengue fever, Ross River virus infection, Barmah Forest virus infection, Japanese encephalitis, Murray Valley encephalitis, and Yellow fever.
  - Reporting Authority:** Radio buttons for General Practitioner, Hospital-based Practitioner, Laboratory, Self-referral, Outbreak Investigation, and Other.
  - Case Identification:** Fields for Name of Case, Sex, and Date of Birth.

## Zoom in on cases with EpiSurv7's mapping tool

