

DECEMBER 2009

Communicable disease surveillance in Solomon Islands

Solomon Islands is an archipelago of nine groups of islands (provinces) in the southwest Pacific, located between latitudes 5°S and 12°S and longitudes 152°E and 170°E and lying east of Papua New Guinea and north of Vanuatu. Solomon Islands has a land area of approximately 28,000 km² and has 6 major and approximately 900 smaller islets and atolls. Solomon Islands is classified as a low-resource developing country. These constraints impact on the technical and organisational ability of the Ministry of Health to deliver services. Integrating and establishing strong relationships between the primary health and tertiary sector is essential when resources are limited, services rationalised and delivery duplication must be minimised. It is within this context that sentinel site surveillance for important syndromes and diseases was established.



Sentinel site surveillance was established at seven sentinel sites, including the four busiest urban clinics in the capital, Honiara. The sites include the National Referral Hospital, Kukum Outpatient Clinic, Rove Outpatient Clinic, Mataniko Outpatient Clinic, three provincial sites at Lata Hospital Outpatient Department in Temotu Province, Kilu'ufi Outpatient Department at Auki in Malaita Province and Gizo Outpatient Department in Western Province. Event-based surveillance is established at all other clinics and hospitals.

Gizo and Auki hospitals are two of the largest provincial hospitals in Solomon Islands and Temotu one of the remotest. This selection represents a mix of primary health clinics and hospital sites. These sites were selected as they represented populations reflective of the broader reference population and the comparatively large clinic attendances meant that inferences could be made regarding the health status of the population. It is highly likely that the diseases affecting our sentinel sites throughout a reporting period will also be affecting many other health clinics in Solomon Islands.

Syndromes in the weekly sentinel surveillance cover, but are not limited to the following diseases: botulism, poliomyelitis, influenza-like illness (ILI), influenza A (H5N1) (avian influenza), influenza A (H1N1) (swine influenza), dengue fever, malaria, tetanus, typhoid fever, pertussis, pneumococcal disease, measles, mumps, rubella, meningitis, cholera, shigellosis, varicella and hepatitis.

In addition, data on all causes of mortality are collected from sentinel sites, information on food poisoning cases is recorded for investigation and follow-up and severe acute respiratory infection (SARI) admissions are identified and samples collected. Data relating to cases of clinical malaria (date, village, age, microscopy result and treatment) are also collected.

The sentinel sites are largely located within the hospitals. The three clinics in Honiara are in contact with an infection control nurse from the main National Referral Hospital. The National Infection Control Nurse is the key focal contact and coordinator for outbreak investigation and has one of the most visible roles within the Pandemic/Disaster Taskforce. The National Referral Hospital and hospitals in general in Solomon Islands are better resourced than clinics and are better equipped to provide assistance and resources when outbreaks occur or when resources are stretched at clinic level. It is the infection control nurses who collect and collate the weekly surveillance data. The Health Information System (HIS) coordinators at most clinics have dual roles and at times it is difficult for the coordinators to submit monthly data. Requesting weekly or daily tallies was therefore not possible.

In addition to data collection, the infection control nurses perform the following surveillance functions:

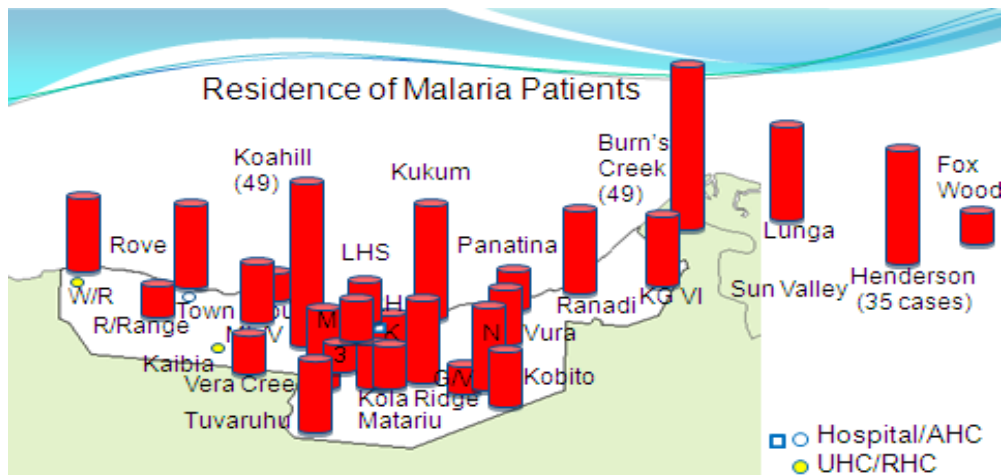
- ✦ Collect and follow up on lab specimens
- ✦ Ensure sites have sufficient resources (human and stock including laboratory and medicines) to identify, contain and prevent disease
- ✦ Identify potential disease threats by monitoring trends
- ✦ Identify and investigate outbreaks
- ✦ Mitigate impact of infectious diseases by coordinating with key agencies and divisions to disseminate health promotion messages and other disease preventing resources including bed nets
- ✦ Provide feedback to clinicians on data quality
- ✦ Provide feedback to clinicians on appropriate prescribing practices
- ✦ Provide information to clinicians on disease management
- ✦ Improve communication and coordination between key health personnel and divisions within both the public health and hospital sectors

It is anticipated that in the future registered nurses will be rotated through the public health/infection control department to gain experience in data collection, collation, and interpretation and information dissemination in the context of surveillance and to broaden their understanding of public health and its relationship with and impact on the hospital sector.

The process of surveillance in Solomon Islands is as follows:

1. Hospital infection control nurses collect data weekly from all sentinel sites in a standard format using data from the outpatient clinic book. Data are collated at the sites and forwarded to the National Infection Control Nurse. Daily SARI rounds occur at the National Referral Hospital.

- Clinical malaria data are cleaned and presented on a map to identify areas that would benefit from malarial intervention strategies. An example of malarial mapping is provided below.



Only villages with more than 10 cases are presented.
 Clinical Malaria Data of 4 sentinel sites in Honiara, 4W from August 11 to Sept 6, 2009 (Chris Bishop).

- Trends are examined and comparisons conducted with previous reporting periods and a weekly surveillance report is produced by the National HIS Unit. This report includes all causes of mortality, health promotion messages and disease prevention strategies, and diagnostic and treatment advice.
- The report is disseminated to donors, private health providers, clinics, provincial health directors and directors of nursing, infection control nurses, executives of the Ministry of Health and the National Referral Hospital, government departments and divisions and the correctional services institution.
- The infection control nurses at the sentinel sites meet weekly with the outpatient staff of their respective clinics, domestic staff, and the directors of the clinics and hospitals to discuss trends and identify priority areas for strategic intervention to prevent, mitigate or contain infectious disease and improve infection control standards.
- Outbreak investigation is conducted at affected sites with support from the National Infection Control Nurse and other key hospital staff and the National HIS Unit.
- There is a weekly national surveillance review each Friday and a weekly surveillance/infection control round at the National Referral Hospital.

Structuring the national surveillance system in this manner has improved:

- ✦ laboratory surveillance and reporting;
- ✦ clinical auditing and the data quality of outpatient clinic books;
- ✦ the public health training of generalist nurses;
- ✦ the national infection control programme;
- ✦ communication and coordination of public health programmes at provincial level;
- ✦ data utilisation at hospital and outpatient clinics; and

- ✦ clinical relationships by promoting discussion on diseases of significant public health concern amongst the provincial health directors, their clinical staff and the public health division, including health promotion personnel.

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