

Setting up an early warning and response system for outbreak-prone diseases in a post-tsunami situation, Western and Choiseul provinces, Solomon Islands

At the beginning of April 2007, an earthquake measuring 7.8 on the richter scale, generating a tsunami, caused widespread damage to housing, infrastructure, schools and medical facilities in the Western and Choiseul provinces of Solomon Islands. Some villages were completely destroyed and inhabitants were displaced. A total of 52 people died. The situation was favourable for outbreaks of communicable diseases, especially with the proximity of the two provinces to Papua New Guinea, where various communicable, outbreak-prone diseases are real problems.

Considering this critical situation and the fact that the existing health information system in Solomon Islands (based on monthly reporting) was too slow to respond to many outbreak-prone diseases of public health importance, SPC together with UNICEF provided assistance to the Solomon Islands Ministry of Health and Medical Services (MHMS) in implementing an early warning and response (EWAR) system in the two provinces affected by the disaster. Once evaluated and adjusted in the two provinces, it is anticipated that the 'pilot' project will be extended to the whole country.

Purpose of the system

The system was set up to allow Solomon Islands to be generally prepared for outbreak-prone and (re-)emerging diseases and, in particular, to face situations after disaster has affected infrastructure and displaced populations, and ultimately help MHMS to protect communities. It should also contribute to Solomon Islands' efforts in complying with the new International Health Regulations.

Implementation phase

The process was developed as a matter of urgency, but the necessary steps to ensure its effectiveness were respected. It was developed taking into account the existing health information system and the available data. Training sessions were conducted in each of the two provinces, with participants from each level of the health service – Nurse Aid Posts (NAPs), Rural Health Clinics (RHCs), Area Health Centres (AHCs) and provincial.

Tools and guidance documents

Tools (reporting forms and guidance documents) were developed and communication channels identified, with radio or telephone as the means of communication. MHMS already had an extensive radio network in place.

Below are some extracts of the EWAR guidance documents, giving key pointers on the system.

IMMEDIATE REPORTING

You need to report cases of conditions listed on the Early Warning Reporting Form – and on the Immediately Reportable Conditions List – to the provincial team immediately, or at the latest within 24 hours, by radio or phone.

BEFORE ANY REPORTING

You need to:

- record the cases with their name, age, sex, current residence, occupation and time of disease onset, as well as any additional information relevant to the outbreak, on a line-list;
- actively look for other cases and similarly record them; and
- try to understand why and how the people became sick, in order to avoid further cases.

Additionally, after a natural disaster, injuries and malnutrition should be reported respectively in the days and weeks following the disaster if found appropriate.

WEEKLY ZERO REPORTING

Every week, you will need to use the radio or phone to report the number of cases you have had – or to confirm that you have had no cases – using the EWAR form (see short version below). This form needs to be completed BEFORE the reporting.

The first purpose of this early warning system – and the form – is NOT statistics, but early warning. Statistics will be provided by the line-list and reported with the outbreak report and through the monthly health information system.

In any case, reports should be done in the quickest way to trigger the quickest response.

IMMEDIATE RESPONSE

In all situations where an outbreak is suspected, it is important to:

- Treat the patients (symptoms and cause if possible).
- Actively search for other cases (especially close contacts).
- Record cases on a line-list.
- Describe the outbreak (time, place and person) and understand what happened and why. Especially, try to understand how the outbreak started and how it might spread, in order to minimise or avoid this spread.
- Seek laboratory confirmation.
- Implement public health measures as soon as possible.
- Refer severe cases if necessary.

Observations

The initiative was very well received by the health professionals in the two provinces. They recognised that it was a great opportunity to be empowered and increase their knowledge and skills.

In both workshops, participants showed high interest in the topic. However, they had limited knowledge and experience about public health surveillance and response. There was some limited experience with outbreak response at the provincial level, but no real preparedness – therefore, the proposed system should provide ad hoc guidance. Additional support through Data for Decision Making training and provincial workshops should also be organised by Pacific Public Health Surveillance Network (PPHSN) partners in 2008 and later.

During the implementation phase, some major issues that needed to be addressed quickly were identified: no functional laboratory services, logistics problems (lack of fuel for canoes), limited supplies of infection control materials (masks, gowns and gloves), essential products (e.g. saline, ORS, antibiotics) sometimes out of stock due to shipment constraints, etc.

How far have we got with the system?

The system has been in place since August 2007 in pilot phase. Close monitoring of its performance will continue at the beginning of 2008. Additional training will be required in order to further familiarise health staff with surveillance and response concepts. Once the training and

evaluation (using the EWAR zero reporting form and monitoring sheet, as well as the provincial EWAR book) have been completed and further consultation has been undertaken, the system will be reviewed and finalised and its extension planned to all provinces later in 2008.

Based on Dr Tom Kiedrzyński and Dr Narendra Singh's SPC duty travel report to Solomon Islands, 1–18 August 2007. Compiled by Christelle Lepers, Surveillance Information Officer, SPC.

EWAR summary flow chart Immediate and zero reporting

