Inform'ACTION n°34
ISSN 1029-3396
Information for action / Information pour action

Palau syndromic surveillance system

Palau started its syndromic surveillance system in May 2009 with influenza-like-illness (ILI) only. On 21 March 2011 the country added acute fever and rash (AFR), diarrhoea and prolonged fever to its syndromic surveillance list.

Structure and functionality

The syndromic surveillance form was incorporated into the encounter form (see form below) used for all outpatients. Conjunctivitis was also added to the syndromic list on the encounter form because its diagnosis is based on clinical symptoms (inflammation of the conjunctiva) and this allowed us to cease the entry of sporadic cases into our Reportable Disease Surveillance System (RDSS) which now records outbreaks of conjunctivitis only.

The system is simple: the triage nurse who screens the patient carries out the syndromic surveillance by asking the patient about the syndromes during the screening. If there is a yes, then the nurse checks the box for it on the form. The epidemiology personnel manually review the encounters every day and compile the data for reporting at the end of each week. In the near future, we are anticipating entering this data into a database in real time or close to real time, eliminating the need to review encounters daily.

There is only one reporting site: Belau National Hospital Outpatient Department (OPD). This includes the emergency room, which serves as OPD during weekends and nights. So far we don't have any issues with respect to reporting, but the Office of Epidemiology has found that sometimes the nurses don't fill in the syndromic surveillance part of the form, so we continue to email friendly reminders to them and talk with them about the importance of syndromic surveillance and its advantages. We have also asked physicians to do the syndromic surveillance themselves while they are with the patient if they see that it has not been done, and to help remind the nurses about it.

Usefulness

The threshold values were defined as the average number of cases plus 2 times the standard deviation of the average.

The system includes thresholds for the four syndromes (AFR, ILI, diarrhoea and prolonged fever) so that we can quickly be alerted of any situation that may require investigation. The thresholds for each syndrome except ILI were established based on seven weeks of surveillance (weeks 12–18). The threshold for ILI was determined based on surveillance from week 26 in 2010 until week 18 in 2011. Triggers were also set, with an outbreak investigation to be automatically undertaken when the number of cases of any syndrome exceeds the trigger. Threshold and trigger levels are as follows: the AFR threshold is 0 with a trigger of 1, the diarrhoea threshold is 15 with a trigger of 16, the ILI threshold is 17 with a trigger of 18 and the prolonged fever threshold is 7 with a trigger of 8. The highest numbers, recorded in week 13 for prolonged fever and week 18 for ILI, were removed because they were extreme values and deleting them lowered the threshold level, making it more likely that we will detect outbreaks. The ILI increase in week 18 (see Figure 1) was probably due to a number of factors, including reminders to the triage nurse to fill in the syndromic surveillance part of the encounter form. There may also have been an increased number of cases of ILI in the community.

The syndromic surveillance system complements our Reportable Disease Surveillance System (RDSS), which was implemented in September 2005. The two systems help us detect possible outbreaks right away.

RDSS was established with the following objectives:

- To capture information that will identify trends in reportable disease incidence in order to direct programme prevention and detection activities and planning.
- To monitor incidence of reportable diseases and identify current outbreaks so that authorities can implement appropriate investigation and response.
- To monitor incidence of syndromes that may be indicative of a disease of public health importance in order to commence a timely investigation and response.
- To provide reliable data for an evidence-based approach to allocation of health resources and funding.
- To provide consistent and reliable data for grant programme reporting activities.
- To provide reliable data to inform policy priority-setting at a broader government level.
- To provide the public with access to reliable and consistent reportable disease data.
- To provide Ministry of Health staff with access to reliable and consistent reportable disease data that can be used for public health promotion and education.

We are still implementing several recommendations based on an evaluation of the system. These recommendations are designed to address gaps and make the system more effective.

Information dissemination

The Office of Epidemiology, Bureau of Public Health compiles the surveillance report on a weekly basis. A copy is made available to anyone within the ministry upon request, but as of now the report is sent to WHO only. The Office of Epidemiology receives feedback from WHO on a weekly basis and this feedback is forwarded to all Ministry of Health employees via email.

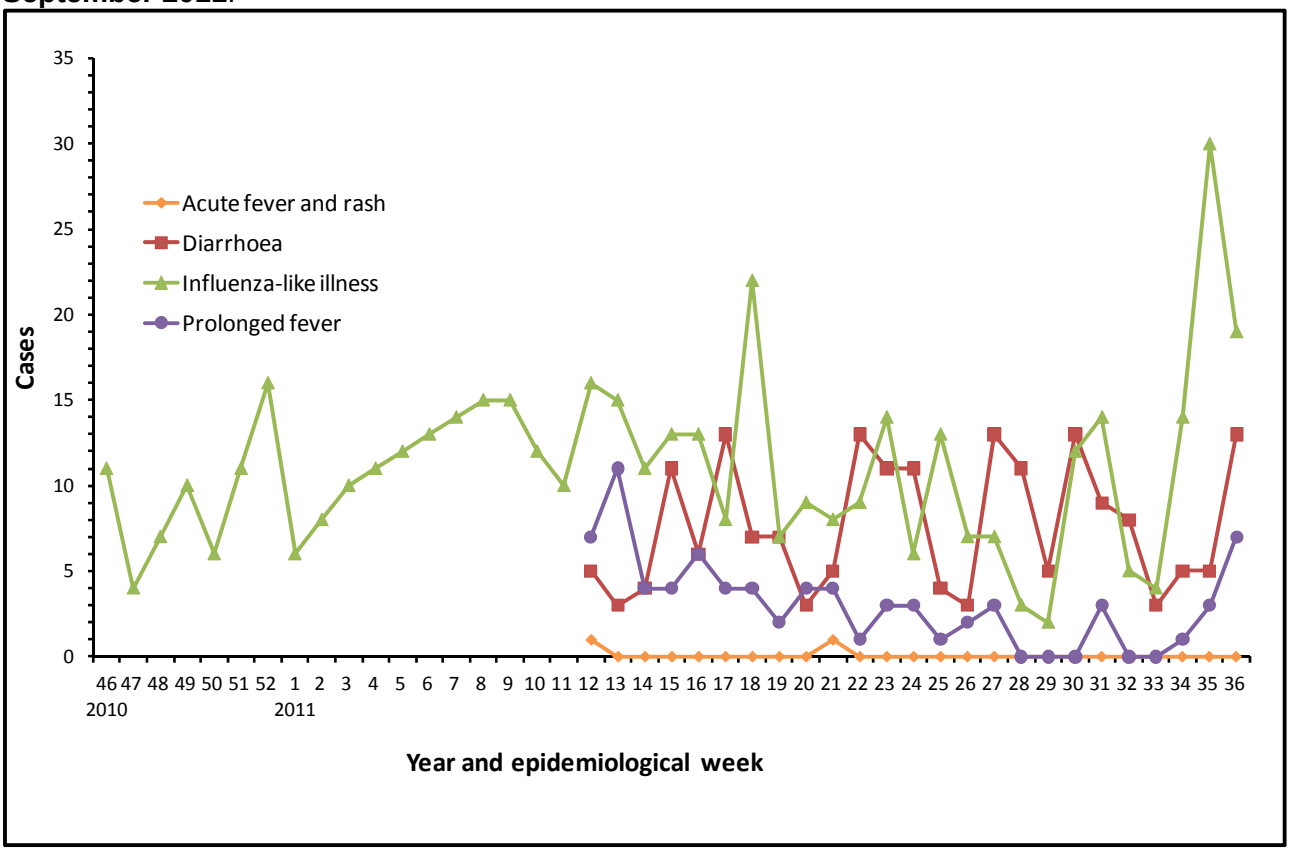
Acknowledgements

We sincerely thank Jennie Musto for her contribution to the implementation of the syndromic surveillance system in Palau.

Losii Samsel
Office of Epidemiology,
Bureau of Public Health, Palau
Laura McDonald
Office of Epidemiology,
Bureau of Public Health, Palau
Boris Pavlin
WHO Country Liaison Office for Northern Micronesia
Jacob Kool
Emerging Disease Surveillance and Response, WHO Pacific Technical Support Division

Email: losiisamsel@gmail.com

Figure 1: Cases of acute fever and rash, diarrhea, influenza-like illness, and prolonged fever; by week; Belau National Hospital Outpatient Department, Palau, November 2010 to September 2011.



ENC#:_____
Date: _____
Time:_____

PATIENT ENCOUNTER FORM
Division of Primary & Preventive Health
Bureau of Public Health, Ministry of Health

HOSPITAL NUMBER: _____
Last Name: _____
First Name: _____
Ethnicity:_____ **Gender**: M / F
Date of Birth: ____/_____/_____

SITE:_____
CLINIC: _____
Admit? Yes / No
If Yes, Ward: _____
Disposition: ___ emergency
___ non-emerg
Alcohol related? Yes / No

Prov #:____ **Sig**: _____
Follow-Up Appt: ____/_____/____
Type of Visit: ____*Initial* ____*Repeat*
____ *Follow-Up* ____ *Refill*
Length of Visit: _____*< 15mins*
____*15-45 mins* ____*>45 mins*

DIAGNOSES
Please be as accurate as possible with the Diagnosis. IE: Diagnosis is not a symptom but a condition.

GENERAL SYSTEMS DIAGNOSES
___ Cardiovascular (spec.)_____
___ Musculoskeletal (spec.)_____
___ Endocrine (spec.)_____
___ Nervous (spec.) _____
___ Pulmonary (spec.)_____
___ Renal (spec.) _____
___ Gastrointestinal (spec.)_____
___ Other (spec.)_____

NON-COMMUNICABLE DIAGNOSES
___ Diabetes Mellitus (spec.) _____
___ Hypertension (spec.)_____
___ Asthma (spec.) _____
___ Arthritis (spec.)_____
___ Injury (spec.)_____
___ Coronary Arterial Disease(spec.) _____
___ Stroke (spec.)_____
___ End Stage Renal Disease (spec.)_____
___ Other (spec.) _____

FAMILY HEALTH CLINIC
___ Gynecological (spec.) _____
___ Obstetrical (spec.) _____
___ Well Baby (spec.) _____
___ Contraception (spec.) _____
___ Immunization (spec.) _____
___ Physical Exam (spec.) _____
___ Men's Health (spec.) _____

CANCER DIAGNOSES
___ Cancer (spec.)_____
Stage:_____
Histology:_____

BEHAVIORAL AND ORAL HEALTH CLINIC/DIAGNOSES
___ Behavioral Health Dx:_____
___ Oral Health Dx: _____

COMMUNICABLE DISEASE CLINIC (CDC)
___ Physical Exam (spec.):_____
___ Contact Investigation (spec.): _____
___ Directly Observed Therapy (spec.):_____
___ Immunization (spec.): _____
___ Counseling/Testing (spec.):_____
___ Other (spec.):_____

COMMUNITY
___ Primary Preventive (spec.)_____
___ Educational (spec.) _____
Number of Hours: _____

___ **Integrated Environmental Approach (IEA) Activated**
Refer to Clinic or Program:_____
COMMENTS:

SYNDROMIC SURVEILLANCE

Syndrome	*Case Definition*	*Check Here* Y	N
Diarrhea	3 or more loose or watery stools in 24 hrs	☐	☐
Influenza-like Illness (ILI)	Sudden onset of **fever** (measured) with cough **or** sore throat (or both)	☐	☐
Acute Fever and Rash	Acute **fever** (measured) with acute non-blistering rash	☐	☐
Prolonged Fever	Any **fever** (measured) lasting 3 or more days	☐	☐
Conjunctivitis	Inflammation of the conjunctiva	☐	☐

REPORTABLE SYNDROMES & DISEASES*
☐ **005.9***
☐ **Unusual Event***

*Notify Immediately *488-2450*

☐ 03
☐ 078.88
☐ 061
☐ 098.0
☐ 573.3
☐ 100.9
☐ 033.9
☐ 097.9
☐ 011.9
☐ 125.9
☐ 030.9
☐ 042
☐ 052.9

Make sure you fill out the CMR below

CONFIDENTIAL MORBIDITY REPORT (CMR)
Date of Onset: _____/_____/_____
Address: (Hamlet) _____
(State) _____
Phone #: _____
Travel History: ☐ Off-island→Where? _____
Dates of travel: _____