



Working Together
for a Healthy Samoa

Communicable Disease Control Feedback

“Whooping Cough Alert” “Dengue Fever Update”

A report providing health professionals with a summary of the latest information on communicable diseases of concern in Samoa.

Pertussis (Whooping Cough) on the Rise

Issue No: 2008/2
November 2008



An older child with whooping cough.

Medical personnel are asked to be on the alert for pertussis as collected data combined with reports from the Paediatrics Dept of the NHS show another rise in clinically diagnosed cases.

Since January this year, 52 cases of pertussis have been diagnosed at the country's two main hospitals, with an almost even distribution between MTII and TTM Hospitals. Most of the cases have occurred during the last few months. Twelve have required admission, all children under 5 yrs with the majority less than one year old.

The rise in pertussis cases mirrors a similar rise in the same period last year, though the numbers are yet to match the unprecedented rise during the same period in 2006.

As a vaccine-preventable disease, the growing number of outbreaks is not unexpected with the relatively low

national coverage of DPT3. Since 2003, national DPT3 coverage has ranged from 52% to 67% last year. A catchup campaign of 5 year olds at school was implemented last year in response to the known fall in coverage.

The key objectives of surveillance and response are to minimise incidence and spread, and overall monitoring to track effectiveness of immunisation efforts. Included in this publication are surveillance and clinical management guidelines which personnel are strongly encouraged to read and take note of.

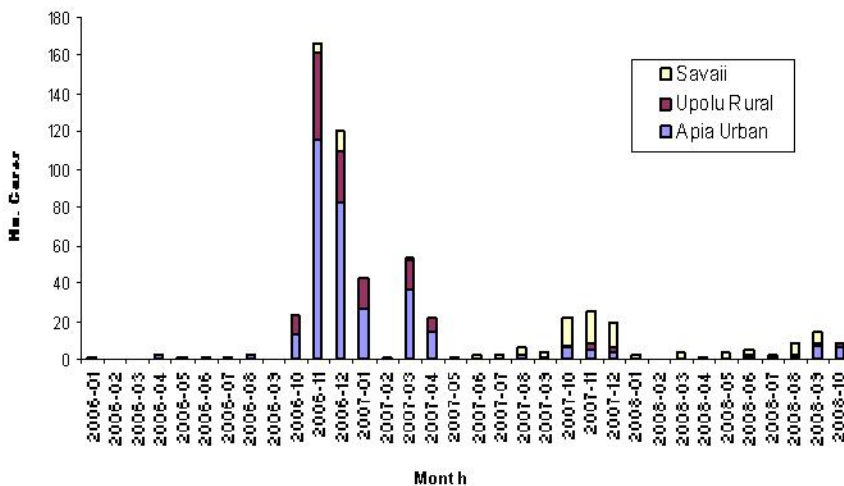
For further enquiries, please contact the Communicable Disease Control Unit on tel: 68155

Dengue Fever Update at a glance:

- Outbreak has abated with only 3 cases reported in the last week of Oct, compared to >100 at the peak in week 2 of August. Vector control measures still strongly advocated, together with vigilant clinical management of patients.
- 651 clinically diagnosed sector wide, 1July—31 Oct
- 43 laboratory confirmed out of 56 tested for the year. Serotype 4 resp.
- 16 admissions (14 TTM Hosp, 2 MTII Hosp)
- 3 DHF cases incl. 1 death due to complications of TB and DHF

Monthly Numbers of Clinically Diagnosed Pertussis Cases at TTM and MTII Hospitals: Jan 2006 - Oct 2008

showing Patient's Region of Residence



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Samoa Dengue Outbreak Abates

The following figures are sourced from the new CDC module recently developed in PATIS with the assistance of SWAP funding. All outpatient consultations and inpatients to TTM and MTII with diagnoses in the list of diseases of public health importance monitored by the CDC Unit are automatically downloaded. Line lists reported from the private sector are incorporated together with referrals to the national laboratory.

As at the end of October 2008, a review of the weekly incidence of clinically diagnosed cases of dengue, both from the two main hospitals, (Tupua Tamasese Meaole Hospital & Malietoa Tanumafili II Hospital) and all the private sector health facilities, show the dengue outbreak has significantly abated.

The Ministry extends its faafetai to all contributing to the surveillance and response effort. Following is a summary of the outbreak numbers for the four months July to October.

- 651 clinically diagnosed and reported for the 4 months from July to October.
 - Outbreak peaked in Week 2 of August (111 cases) and has now decreased significantly to 3 cases in the last week of October. (Fig 1)
- Previous lab testing of a sample of 13 specimens

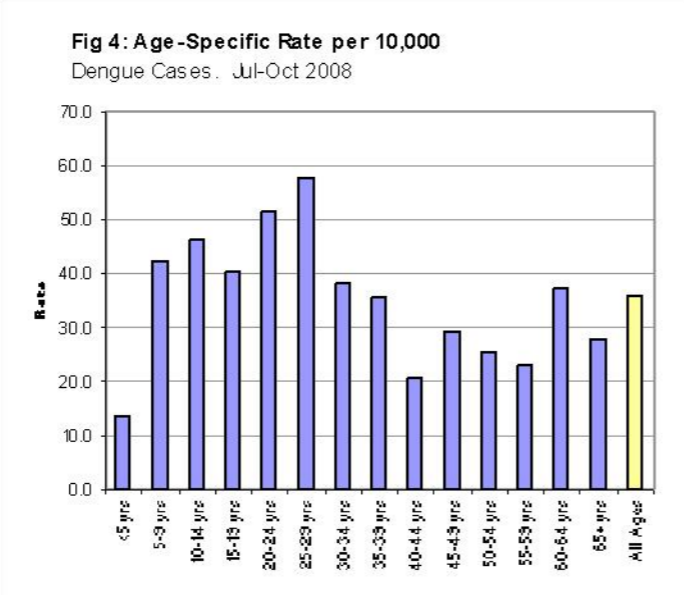
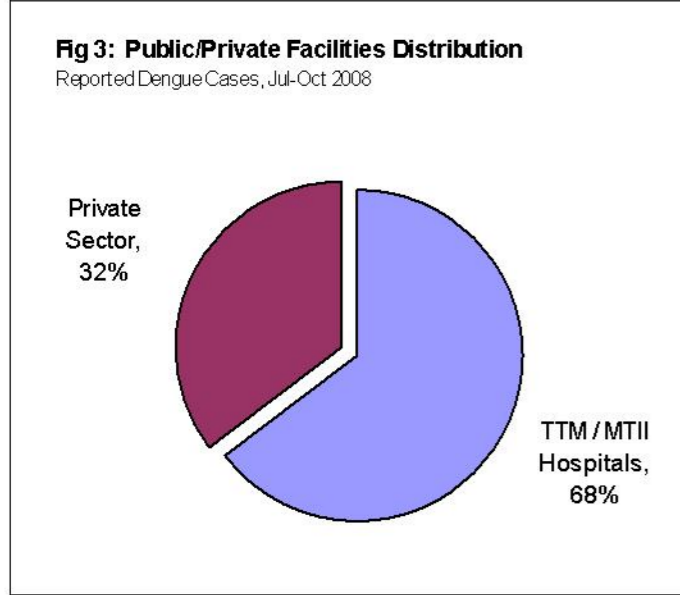
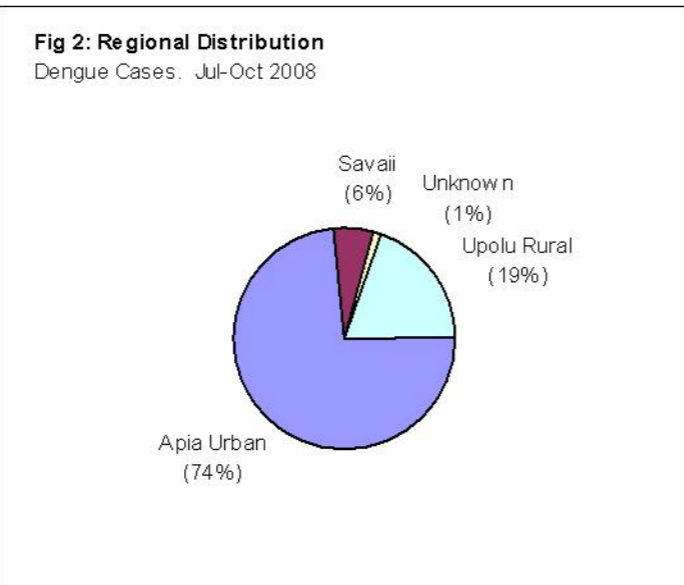
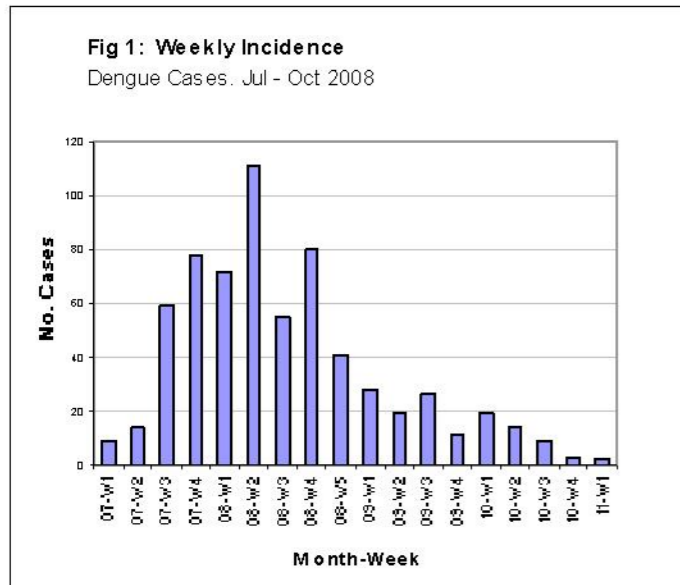
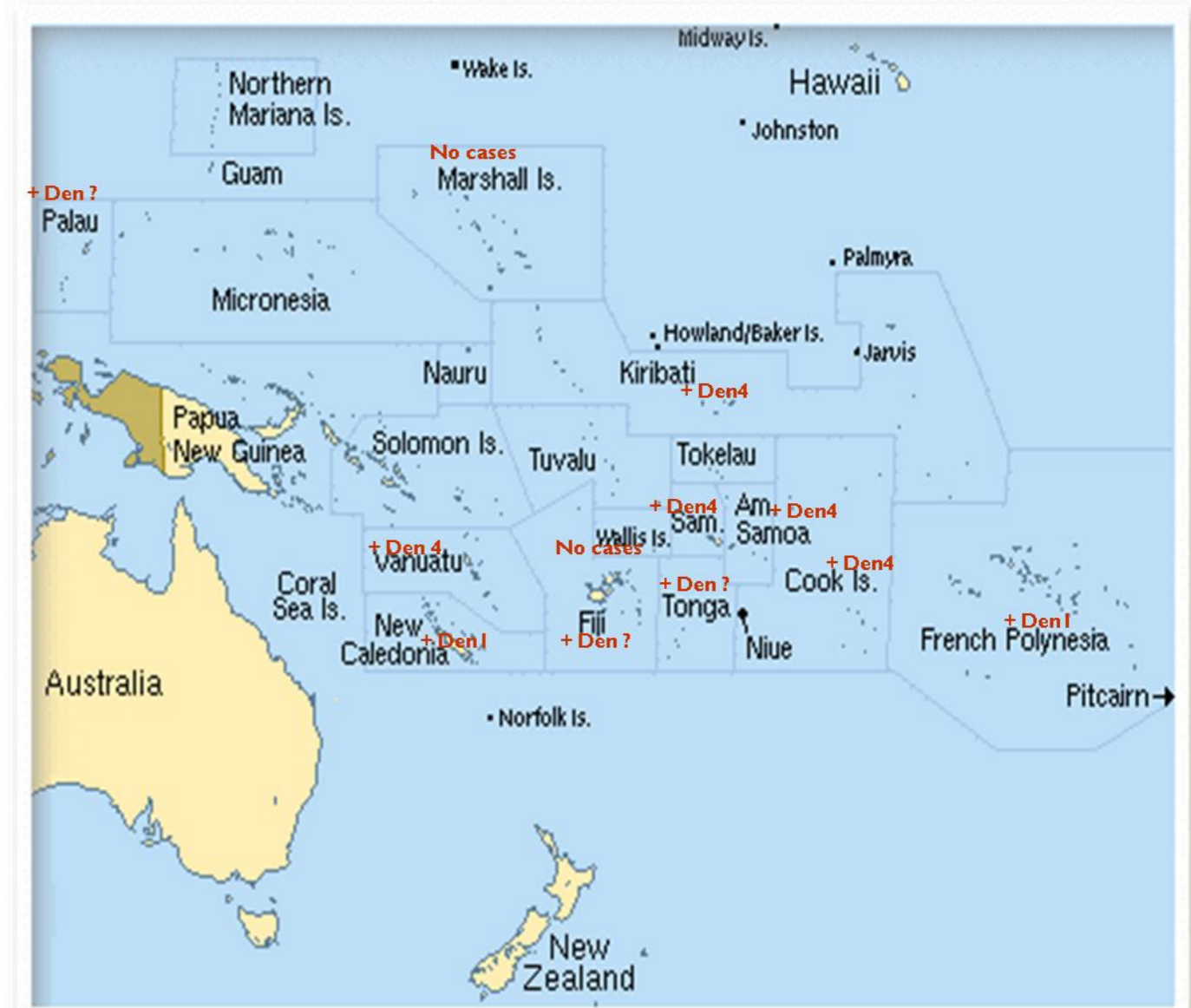
has established Serotype 4 responsible. Another 400 samples collected by the laboratory are awaiting confirmation and serotyping from our overseas referral laboratory partners.

- As with the CDC Advice issued in the previous edition of this newsletter, there is no further need to refer specimens to the laboratory for surveillance confirmation purposes, unless the clinician requires to aid in the clinical management of their patient.
- The Apia Urban area (boundaries at Luatuanuu, Malua and Tiapapata) was the most affected with its residents accounting for 3 in 4 of reported dengue cases. Savaii residents accounted for only 6% of clinically diagnosed cases. (Fig 2)
- Age specific rates show the 20-29 year age group was the worst affected. (Fig 4)

Update on the Pacific Dengue Outbreak:

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The following information is sourced from postings on the Pacific Public Health Surveillance Network. (PPHSN). (Green headings indicate update received since the last newsletter in September). A timely reminder to be vigilant in interviewing recent migrants presenting for treatment, and to provide appropriate public health advice for intending travellers.



Summary of Notification Guidelines for Dengue Surveillance:

Private Sector GPs and Hospital: please fill in line lists distributed by MOH CDC—to be picked up /emailed as appropriate
 MTII & TTM Hospital : actual notification by medical doctor not necessary—picked up at CDC via PATIS Public Health Module
 Rural Facilities: please call Tuliau Dr Saine Vaai on 68100 ext 155

Summary:

Am. Samoa (Den-4)
 15 Aug: 1/10 samples confirmed
 11 Nov: 400 lab confirmed since Jan. New release saying type not confirmed. 1 death so far. Release indicates outbreak not yet abated.

Cook Islands: (Den-4)
 22 Aug: 11 suspected cases over 4 days in Aug. 1st case from Samoa. 2 hosp admissions, no DHF
 9 Sep: 1 out of 6 specimens referred was lab confirmed—traveler from Samoa. (Den-4). Situation quickly controlled with extensive awareness campaign incl. vector control measures.

French Polynesia: (Den-1)
 Jan-Jul: 138 positives, 11 cases July alone

with 2 admitted

Kiribati: (Den-4)
 1 May-6 Jul: 831 probable cases. Several children rumored to have died at outbreak onset in May.

New Caledonia: (Den-1)
 5 Nov: 1021 cases since Jan. 1 death. Average 15 cases per month over last few months (cool season) indicating dengue now endemic in NC. Due to concerns with Den-4 being introduced, screening for fever related syndromes will resume on Nov 6 for passengers on direct flights arriving from destinations with Den-4, particularly Fiji and Vanuatu.

Palau: (Den-?)
 Jan-Apr: 54 cases
 Jul-29 Aug: 42 confirmed, 28 admissions, 3 DHF

Tonga: (Den-?)
 Outbreak declared Aug.

Fiji: (Den-4)
 31 Jul: Outbreak confirmed
 11/25 lab confirmed, though likely higher +rate due collection period.
 18 Sep: 79 positive rapid tests—30 were Elisa IgM+

Marshall Islands & Wallis/Futuna
 Report no cases as at 15 Aug.

Vanuatu (Den-4)
 4 Nov: 43 suspected cases. 4/13 sera samples tested positive for Den-4. No DHF. No deaths. Port Vila most affected though local non-traveler case from Tanna also reported.



PERTUSSIS (WHOOPIING COUGH)

SAMOA SURVEILLANCE STANDARDS AND CLINICAL MANAGEMENT GUIDELINES

Pertussis (Whooping Cough—Tale Vivini)

Bordetella pertussis is the bacterial organism which causes whooping cough, an upper respiratory tract infection with a characteristic, paroxysmal - whooping - cough. (tale-vivini)

The Chinese refer to whooping cough as the 100 day cough; this description gives the parents some idea of what to expect. Transmission is by droplets and incubation is 7 to 14 days.

A positive history of pertussis vaccination does not preclude the diagnosis - the vaccination only confers 95% protection. Also, maternal antibody does not appear to confer any significant protection from infection.

- Infants less than 6 months of age are at greatest risk of complications (eg. apnoea, severe pneumonia, encephalopathy) and death.
- Can occur in immunised children but illness is generally less severe.
- Patients are infectious just prior to and for 21 days after the onset of cough, if untreated.
- The cough may persist for months.

Rationale for Surveillance

Pertussis is a major cause of childhood morbidity and mortality.

- It is the third leading cause of vaccine-preventable deaths globally. (after Measles and Haemophilus influenza type B)
- High immunization coverage with an effective vaccine is the mainstay of prevention
 - 2006 global coverage of infants with pertussis vaccine (3 doses of DPT) at 79%
 - Samoa DPT3 coverage: 2006 = 57%; 2007 = 67%
 - Samoa catchup coverage of school children (5yrs) in 2007 = 60%
- Rationale for surveillance is to monitor the impact of the immunization system, identify high-risk areas and detect and investigate outbreaks
- For Samoa where immunization coverage is relatively low, surveillance is aimed at monitoring, improving coverage and decreasing pertussis incidence.

Diagnosis is largely clinical - usually made on the basis of history and observation of coughing spasms.

History

Assessment

- There is generally a history of dry cough and nasal discharge for approximately one week (coryzal phase), followed by a more pronounced cough which may occur in spells or paroxysms (paroxysmal phase).
- Vomiting often follows a coughing spasm.
- Young infants may develop apnoea.
- Other family members frequently also have a cough (70 —

100% of household contacts are usually infected).

Examination

Note that often, there are no clinical signs. Children are usually well between coughing spasms.

Investigation

Diagnosis can be made on clinical grounds. If the case is atypical, a nasopharyngeal aspirate (in children) and a nasopharyngeal swab (in adults) for immunofluorescence and culture is the investigation of choice. The organism is usually undetectable after 21 days or if antibiotic therapy against *B. pertussis* has been commenced.

Polymerase chain reaction (PCR) analysis is more sensitive than culture but is not generally indicated in clinical practice. Serology can be performed but rarely affects the clinical management. Raised *B. pertussis* specific IgA indicates recent infection, while raised IgG reflects previous infection or prior immunisation.

Please note that the National Laboratory cannot test for *B. Pertussis*. Any specimens have to be referred to reference labs overseas. Due to demanding collection, storage and transport issues, aspirates and swabs are not advised. Instead, parallel testing of paired serology, during the acute and convalescent stage is recommended. Convalescent stage specimen must be received within 30 days of the acute phase specimen.

Diagnosis

Clinical case definition

Laboratory confirmation is not necessary for diagnosis.

Clinical diagnosis can be made on the basis of

- An acute presentation with features as outlined above
- A longer history of cough lasting at least 2 weeks with at least one of the following symptoms:
 - a. paroxysms (i.e. fits) of coughing
 - b. inspiratory whooping
 - c. post-tussive vomiting (i.e. vomiting immediately after coughing) without other apparent cause

Management

Hospital Admission

Infants less than 6 months of age, and older infants and children who are unwell require hospital admission.

Antibiotics

- Treatment with macrolide antibiotics reduces the period of infectivity but has not been shown to alter the course of the illness unless commenced before the paroxysmal phase.
- When treated with antibiotics, the period of infectivity usually lasts 5 days or less after commencement of therapy.

Who should be treated?

In general antibiotics should be considered for

- Any child admitted to hospital.
- Any child presenting with a history of cough for less than 14 days (treatment in these cases will reduce the period of school exclusion.)

The recommended antibiotic is

- Clarithromycin for 7 days. (note *Clarithromycin* not currently available at the National Hospital Pharmacy)

OR

- 3 days of azithromycin

OR

- 7 or 14 days of erythromycin estolate,

OR

- 14 days of erythromycin ethylsuccinate

Considering microbiological clearance and side effects, three days of azithromycin or seven days of clarithromycin are the best regimens

Secondary bronchopneumonia should be treated according to the organism cultured

Control of Case

The child should be excluded from school and from the presence of others **outside the home (especially infants and young children) until at least 5 days from start of antibiotics.**

NOTE: A child who has been coughing for more than 21 days is no longer infectious; therefore antibiotic treatment and school exclusion are not necessary.

Vaccination

Unimmunised or partially immunised children diagnosed with pertussis are still required to complete the pertussis immunisation schedule.

Treatment of Contacts

Vaccination

Close contacts under 7 yrs of age who are not up to date with their pertussis immunisation should be given DTPa as soon after exposure as possible.

Please contact the E.P.I. Nurses at the National Health Service on tel: 66690 or 66600

Antibiotics

Contacts - Who should be treated?

Antibiotics should be given to all household contacts and to other contacts in high-risk settings who have had direct contact with an infectious case i.e:

- Infants <12 months of age who have not received 3 documented doses of pertussis-containing vaccine (maternal antibodies do not protect against pertussis).
- Any unvaccinated or partially vaccinated person with chronic cardio-respiratory illness.
- Any women in the last month of pregnancy.

Recommended antibiotics are as given for diagnosed cases.

NOTE: Antibiotics should be given within 14 days * of the recipient's first contact with an infectious case.

(*In special circumstances, such as a high-risk exposure for an infant contact, antibiotics may be given within 21 days of first contact with an infectious case.)

School Exclusion

Unimmunised siblings less than 7 years of age and unimmunised close child care contacts must be excluded from school or child care for 14 days from the last exposure to infection, or until they have taken 5 days of a 7 day course of antibiotics. A child who has received <3 doses of a pertussis-containing vaccine should be considered unimmunised.

Notification

All cases (suspected and confirmed) must be brought to the attention of the Communicable Diseases Control Unit, Ministry of Health by the attending physician within 5 days of diagnosis,

Private Sector

Please report any suspected or confirmed patients via the **line list form**, which are collected weekly by an officer from the CDU Unit. Ensure comments section shows DPT immunisation history if known.

TTM and MTII Hospitals Patients

Notification of cases is not necessary by the diagnosing physician, as they are captured daily on PATIS. Please ensure the outpatient diagnosis or admitting diagnosis of pertussis or suspected pertussis is clearly visible on the chart for medical records personnel to pick up.

District Hospitals and Health Centre Patients

Please ring Tuliau Dr. Saine Vaai of the CDC Unit.

Specimens received by the National Hospital Laboratory

Please forward line list with patient details to the CDU Unit, or make available for weekly collection.

Contact Details for Communicable Diseases Control (CDC) Unit

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(GPs—please do not hesitate to contact the above, including if more copies of line lists/notifiable disease forms are needed)

References:

Draft Samoa Surveillance Guidelines (2008)

WHO Surveillance Standards for Pertussis

WHO-WPRO-Regional Database—Immunisation

(http://www.wpro.who.int/information_sources/databases/)

"Pertussis—Presentation, Investigation & Management", M.Starr,

A.Frydenberg, Royal Children's Hospital, Melbourne, VIC, Australia



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Other Communicable Diseases

The following charts highlight some of the communicable diseases and conditions tracked by the CDC Unit.

Recently documented outbreaks of vaccine-preventable diseases such as measles and vector and sanitation related diseases such as dengue and typhoid illustrate the need to be vigilant in surveillance and response.

Figures are sourced from the PATIS system which captures details of outpatients clinically diagnosed with the conditions shown, seen at either of the two main hospitals, Tupua Tamasese Meaole and Malietoa Tanumafili II. (note all publicly funded doctors based at these hospitals).

Part of the ongoing effort is on verification and quality control

measures on sources of data, therefore numbers may be subject to change.

Future releases will include lab diagnosed numbers and demographic distribution details.

Please feel free to submit any comments to the CDC Unit and contacts on this page.

