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SOUTH PACIFIC COMMISSION EPIDEMIOLOGY PROGRAMME

Health Information Circulars from the SPC Epidemiology Programme have been developed since September 1986 to provide the Pacific region's Health Services management and staff with useful health information which will assist in policy formation and priority setting. The aim of the Information Circulars is to provide a forum for health topics of regional concern and to create a linkage between all Pacific Region Health Services in a spirit of cooperation.

The Circulars are progressively being expanded and will be published quarterly from now on. They will include information on SPC studies and activities as well as news of interest to the region from other sources. Contributions from the Pacific Health Community will be welcomed.

1988 EPIDEMIOLOGY WORK PROGRAMME

The staff of the Epidemiology Programme at the South Pacific Commission plan their work activities through the guidance of the annual South Pacific Conference and recommendations made by the Regional Conference of Permanent Heads of Health Services every three years. The health section of SPC is composed of different programmes: epidemiology, nutrition, health education and public health engineering.

The members of the Epidemiology Programme are:

- Dr. François Bach, Epidemiologist,
- Mr. Steven Terrell-Perica, Health Surveys Epidemiologist,
- Ms. Denise DeRoeck, Health Data Assistant,
- Ms. Elise Kamisan, Data Processing Officer,
- Ms. Odile Carpin, NCD Assistant.

For 1988, the Epidemiology Programme has ten work programme items, described below. These activities are often implemented jointly with the other health programmes. The epidemiology staff also collaborate in several other projects not listed here, such as surveys and monitoring activities.

1. Project on Dengue fever and other insect-borne diseases

SPC monitors outbreaks and reviews studies of insect-borne diseases, assists in epidemiological investigations, and evaluates control methods for dengue, malaria and other insect-borne diseases. Activities include continued vector surveillance of mosquitoes at airports in cooperation with WHO.

2. Health and medical services evaluation

The programme plans to organise and implement evaluation studies of the effectiveness of health and medical services. Also included are evaluations of medical referrals, renal dialysis and medical insurance costs.

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3. Prevention and control programme against non-communicable disease in the Pacific

The aims of this project are:

a) to screen susceptible populations and investigate environmental risk factors of non-communicable diseases in order to provide information on prevention and control;

b) to implement preventive programmes for these diseases and produce educational materials;

c) to monitor and evaluate these prevention programmes.

4. Prevention of respiratory diseases

Under this item SPC assists countries with the planning, implementation and evaluation of effective prevention and control measures for respiratory diseases. This includes surveys and support of treatment schemes.

5. Prevention and control of alcohol-related problems

In this project, descriptive epidemiological data on alcohol-related problems in the region will be obtained through surveys and countries will be assisted in the development of policies for the prevention and control of alcohol-related problems. On-going informational activities are planned.

6. Workshop on epidemiological methods

A two-week workshop is planned for November 1988, in Noumea, to provide training to upgrade the skills of senior health personnel in epidemiological investigations, monitoring of projects and medical statistics, using practical examples and hands-on learning.

7. South Pacific Epidemiological and Health Information Service (SPEHIS)

The objectives of this on-going service are:

a) To provide a surveillance and early-warning system for the major infectious diseases and outbreaks in the region;

b) To provide assistance and advice on the collection and analysis of morbidity and mortality data;

c) To provide training and information on health issues such as AIDS and to publish quarterly Information Circulars and reports for regional distribution.

8. SPC cancer registry

In 1988 this project will continue to obtain descriptive epidemiological data on cancer in Pacific countries, and to analyse this data to determine cancer trends and risk factors for use in planning cancer prevention programmes. Planned activities include providing assistance in the development of cancer registries in Pacific countries, collection of data by a cancer registrar, and commencement of a regional risk-factor survey.

9. Hepatitis prevention and control

Through this project, assistance is provided for countries to obtain descriptive epidemiological data on hepatitis in Pacific populations, and to implement and evaluate vaccination programmes. The programme, in co-operation with WHO, will continue to provide assistance to countries to develop national strategies for the prevention and control of hepatitis B.

10. The prevention and control of rheumatic disease in the Pacific

SPC will assist countries in determining the risk factors and the magnitude of the problem of rheumatic heart diseases and in the implementation and evaluation of preventive programmes for rheumatic disease.

The Epidemiology Programme is implementing regional activities corresponding to these projects and will assist individual Pacific island countries when specific requests are received. These requests should be processed through the Health Departments, Foreign Affairs and SPC representatives of the 22 SPC member countries.

PERTUSSIS IN THE PACIFIC

Pertussis outbreak in the Federated States of Micronesia

Pertussis (whooping cough) continues to be a threat to children in the Pacific. Dr. Predrick, Director of the Federated States of Micronesia (FSM) Office of Health Services, reported an epidemic of respiratory illness in November 1987 to the South Pacific Epidemiological and Health Information Service (SPEHIS) at the South Pacific Commission in Noumea, New Caledonia. This epidemic has since been confirmed as pertussis by the State of Hawaii Department of Health Laboratories Branch.

Ward physicians first reported the epidemic after an increase in pediatric admissions in Pohnpei for lower respiratory infection. Ninety children were admitted in November 1987 for respiratory illness compared to thirty-four in November 1986. Seventy-one per cent of the cases admitted in November 87 were under one year of age and ninety-nine per cent were less than five years of age. These children came from throughout the island of Pohnpei and four were from the island of Pingelap. For November 1987 FSM reported a total of 142 cases of pertussis and 38 cases in December as the epidemic declined. Unfortunately, there were five infant deaths in mid-November related to this outbreak. Information on the immunisation status for many of the reported cases is incomplete but for the cases in which their status is known, twenty-eight per cent had received three or more Diphtheria-Pertussis-Tetanus (DPT) immunisations, forty-two per cent were not yet old enough to have received a primary series of three DPT immunisations, and thirty per cent were under-immunised for the DPT primary series. The DPT immunisation coverage for Pohnpei's children was calculated at fifty per cent for two year olds and sixty-two per cent for six year olds. Disease control measures were quickly implemented. These included:

- o segregation of cases on the ward and outpatient clinics,
- o administration of erythromycin to pertussis cases and contacts to eliminate carriage of the Bordetella pertussis organism,
- o mass immunisation with DPT in the villages and distribution of epidemic control guidelines to the medical providers and the public.

DPT Immunisation

There has been a world-wide reoccurrence of pertussis in the last few years. Though DPT vaccine, like all other vaccines, is not 100 per cent protective, most of the outbreaks of pertussis have resulted from a low level of DPT immunisation of children. This low level is probably caused by two factors. First, parents, medical providers, and/or governments have modified, reduced, or eliminated pertussis immunisation because of the small risk of serious reactions from pertussis vaccine. The second factor is that in the Pacific region, the percentage of children immunised for pertussis has been too low to control the spread of pertussis. This low coverage is due to fiscal restraints, inadequate staffing, and logistical problems. The WHO Expanded Programme of Immunisation, the United Nations Children Fund and many other international and national health organisations have recommended pertussis immunisation for all children without medical contra-indications. They have determined that pertussis immunisation is effective and that the rate of complications and death due to pertussis disease is far greater than the relatively rare serious reactions from the pertussis vaccine. Nation-wide epidemics of pertussis have occurred in Great Britain, Japan, and Sweden because of the decline of pertussis immunisation.

Pertussis incidence in the Pacific

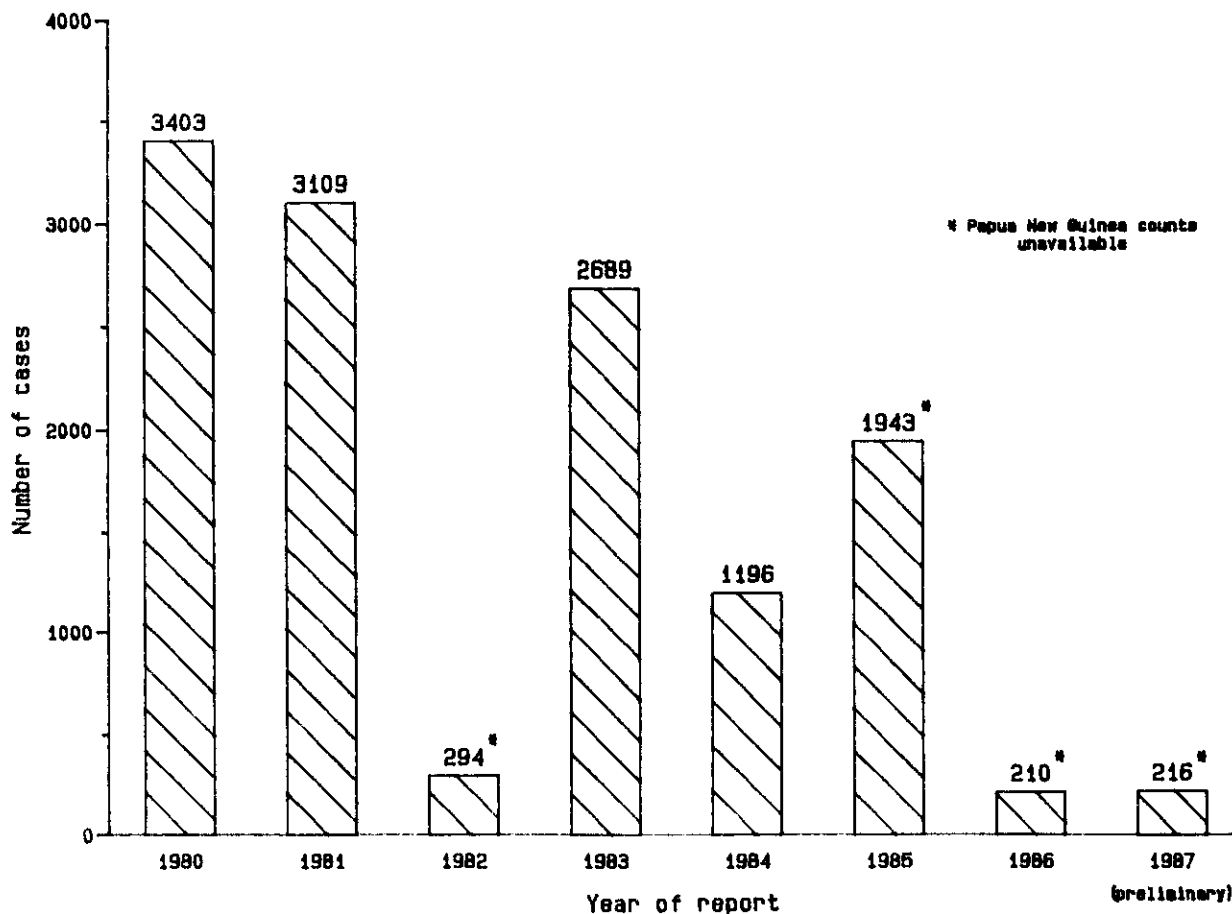
The last pertussis outbreak in Pohnpei was in 1959. Pertussis outbreaks reported from 1980 to 1986 include:

<u>YEAR</u>	<u>COUNTRY AND NUMBER OF CASES</u>
1980	PNG (2,693), Tokelau (22), Pacific Trust Territories (363), Tuvalu (230)
1981	Kiribati (100), PNG (2,851), Wallis and Futuna (120)
1982	Tonga (236)
1983	PNG (2,656)
1984	Marshall Islands (451), PNG (727)
1985	Kiribati (76), Vanuatu (1,854)
1986	Kiribati (51), Vanuatu (138)

The number of cases of pertussis reported from the Pacific to the South Pacific Epidemiological and Health Information Service (SPEHIS) has fluctuated during the 1980s and annual levels closely parallel case counts from pertussis outbreaks for that year (see Figure 1). It is assumed that pertussis case count is under-estimated because of the under-diagnosis and under-reporting of pertussis disease. Pertussis in Pacific populations is often unidentified and therefore unreported. In addition, the degree in which a community uses the available health care facilities affects pertussis reporting.

Classical pertussis includes a distinctive "whoop" upon inhalation after coughing paroxysms (spasms). Because of this distinctive marker for pertussis illness, most cases that are reported are severe classical pertussis. This "whoop" is often not present in infants less than six months old, in older children and adults, and in children previously immunised (either partially or fully), but who have nonetheless contracted pertussis illness (usually mild).

Figure 1. Total cases of pertussis by year reported to SPEHIS 1980-1987



Pertussis outbreak control

All suspect pertussis outbreaks should be reported immediately by telecommunication (telex, telephone or FAX) to SPC for communication to other Pacific islands. General disease control measures for pertussis include:

- Respiratory isolation for cases, ideally for three weeks after onset of typical paroxysms (or until the cases have received at least five days of a minimum fourteen-day course of antibiotics),
- immunisation with DPT of children less than seven years old who are under-immunised,
- investigation for early, missed, or atypical cases of pertussis,
- treatment of cases with fourteen days of antibiotics (e.g. erythromycin or TMP-SMX).

Pertussis outbreaks are difficult to control and SPC could be contacted if assistance is required.

