

## **22 NOTIFIABLE AND OTHER DISEASES**

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### **22.1 Introduction**

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The information presented in this section of the HNA 2008 is summarised from the report "Notifiable and Other Diseases in New Zealand, Annual Report 2006"<sup>126</sup>. The report is available on the internet at [www.surv.esr.cri.nz](http://www.surv.esr.cri.nz)

Under the Health Act 1956 and the Tuberculosis Act 1948, health professionals are required to inform their local Medical Officer of Health of any notifiable disease that they suspect or diagnose. These notifications provide the base for surveillance and hence control of these diseases in New Zealand.

Population and Environmental Health Group, Institute of Environmental Science and Research Limited, prepare report annually utilising the data sources outlined below.

### **22.2 Data Sources**

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#### **EpiSurv – the National Notifiable Disease Surveillance System**

Notification data are recorded on a computerised system EpiSurv, installed in each of 20 public health units (PHUs). Each day these data are sent to the Institute of Environmental Science and Research (ESR) where they are collated and analysed on behalf of the Ministry of Health. The data include demography, outcome, basis of diagnosis, risk factors and some management information.

#### **Laboratory Based Surveillance**

This is the collection of laboratory data for public health purposes. Several of the communicable diseases diagnosed by clinical laboratories are either not covered adequately or not covered at all by the notifiable disease surveillance systems. Laboratory based surveillance data further enhances the surveillance data collected from other sources.

#### **Surveillance of HIV & AIDS in New Zealand**

Since 1989, the AIDS Epidemiology Group (AEG) in Dunedin has been contracted to collect information about people diagnosed with AIDS through notification to Medical Officer of Health. Detailed information has also been collected about people infected with HIV since 1996 through a laboratory based surveillance system involving the two laboratories that perform confirmatory HIV antibody testing using the western blot method (ESR and the Virus Laboratory, Auckland Hospital). Coding ensures that the identity of the patient is known only to the reporting doctor, but is sufficiently specific to allow detection of duplicate reports.

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<sup>126</sup> Population and Environmental Health Group, Institute of Environmental Science and Research Limited, Prepared as part of a Ministry of Health contract for Science Services, , May 2007

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### **New Zealand Creutzfeldt-Jakob Disease (CJD) Registry**

The New Zealand CJD Registry, University of Otago was established in 1996 to monitor sporadic, familial, iatrogenic and variant CJD. Although CJD is notifiable to Medical Officer of Health, in practice notification occurs directly from hospital clinicians to the Registry.

### **Sexually Transmitted Infection (STI) Surveillance System**

STIs are not notifiable in New Zealand. Data on STIs of public importance are submitted voluntarily from sexual health clinics (SHCs), family planning clinics (FPCs) and student and youth health clinics (SYHCs). This is supplemented by data on Chlamydia and gonorrhoea from diagnostic laboratories in the Auckland, Waikato and Bay of Plenty regions. Laboratory surveillance is being extended to other regions.

### **Influenza Sentinel Surveillance System**

A sentinel surveillance system which operates from May to October each year, gathers data on the incidence and distribution of influenza. In 2006, this was based on a network of 81 general practices from all health districts in New Zealand except Northland. The number of practices is proportional to the size of the population in each health district. General Practitioners are asked to record the number of consultations for influenza-like illness (using standard case definition) each week by age group, in addition to collecting swabs from up to three patients per week. The swabs are sent to laboratories for viral isolation and strain identification.

### **New Zealand Health Information Services (NZHIS)**

Data for selected diseases are extracted from NZHIS databases and sent to ESR for analysis and comparison with data from other surveillance systems. Hospitalisation numbers and notifications differ may differ due to the following reasons, as:

- Hospital admission data includes repeated admissions for patients with chronic notifiable diseases, eg. tuberculosis, or diseases which have long term health impacts eg. meningococcal disease
- For some diseases the criteria for notification (clinical and laboratory or epidemiological evidence) do not match that required for diagnostic coding.

### **New Zealand Paediatric Surveillance Unit (NZPSU)**

NZPSU was established in 1997 to provide active surveillance of acute flaccid paralysis (AFP) to fulfil World Health Organisation requirements for certification of polio eradication. Currently, surveillance by NZPSU includes haemolytic uraemic syndrome (HUS), congenital rubella syndrome (CRS), perinatal exposure to HIV, vitamin K deficiency bleeding and pneumococcal meningitis. Every month, participating paediatricians and other specialists in paediatric practice send a reply paid card to the NZPSU on which they indicate whether in the previous month they have seen any cases of the conditions under surveillance. The data are then collated and analysed by the NZPSU.

### **Outbreak Surveillance**

ESR introduced an outbreak surveillance system in July 1996 and improving this system in a series of planned steps. This system is an additional module of EpiSurv system. Unlike

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other surveillance system, this system collects data on disease outbreaks, rather than individual cases.

### Statistics New Zealand

Data used to calculate rates of disease are supplied by Statistics New Zealand.

## 22.3 Population and Data Used for Rates Calculation

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The Midland DHB populations used are shown below:

Table 317: Population of Midland DHBs

Midland DHBs	Population – 2006
Waikato	342,383
Lakes	101,600
Bay of Plenty	198,720
Tairāwhiti	44,500
Taranaki	105,160

Disease rates have been calculated using mid year population estimates from Statistics New Zealand. Disease rates for ethnic groups have not been calculated as 2006 census data was not available from Statistics New Zealand (as at 1 May 2007) to match ethnicity data collected in EpiSurv.

## 22.4 Notifiable Diseases

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### 22.4.1 Acquired Immune Deficiency Syndrome (AIDS)

AIDS, but not Human Immunodeficiency Virus (HIV) infection is a notifiable disease in New Zealand.

A total of 204 new people were reported to the AEG as having HIV in 2006, compared to 218 people in 2005. The number of cases thought to have acquired HIV infection heterosexually, 88 people (40 males and 48 females) is the highest ever reported in New Zealand in any one year. 2006 saw the highest number of females ever reported. New immigrant HIV screening regulations introduced in November 2005 are likely to have contributed to these increases. Of the 88 people with HIV infection heterosexually, 84.1% (74 cases) were believed to have been infected overseas.

Homosexual transmission was implicated in 85 cases (41.7% of all cases in 2006), and a further case had both homosexual contact and injecting drug use (IDU). The total of 86 cases of possible homosexual transmission in 2006 was a decrease from the 112 cases in 2005.

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In 2006, five women were tested positive for HIV through antenatal screening. One of these women was diagnosed as a direct result of the antenatal HIV screening programme in the Waikato.

The majority of the cases (85.3%) were aged between 20 and 49 years at the time of diagnosis. The age proportions of these cases were:

**Table 318: HIV Cases by age group and percentage - National**

Age Group	Percentage
20-29 years of age	17.2% (35 cases)
30-39 years of age	40.2% (82 cases)
40-49 years of age	27.9% (57 cases)

The ethnic breakdown of the cases was:

**Table 319: Ethnic breakdown of HIV cases and percentage of cases- National**

Ethnicity	Percentage
European	38.7% (79 cases)
Maori	5.9% (12 cases)
Pacific People	3% (6 cases)
African and Asian	44.6% (91 cases)
Unknown	7.8% (16 cases)

In 2006, 29 cases of AIDS were notified, of these 19 were diagnosed during 2006 and 10 were notifications of people diagnosed in the previous year. The 2006 notification rate of 0.7 per 100,000 people was significantly lower than the 2005 rate of 1.2 per 100,000.

In a similar pattern to HIV, 89.6% (26 cases) were aged between 20-49 years at the time of notification. However, the age distribution of AIDS cases was slightly older as outlined below:

**Table 320: Age distribution of AIDS cases - National**

Age Group	Percentage
20-29 years of age	10.3% (3 cases)
30-39 years of age	37.9% (11 cases)
40-49 years of age	41.4% (12 cases)

The distribution according to ethnicity was also similar to HIV cases, with around 40% of cases each in the European and Other ethnic groups. There were four deaths from AIDS during 2006 (2 males and 2 females). This increase may be due to late notifications.

### **22.4.2 Campylobacteriosis**

This is the most commonly notified disease comprising 68.4% of all notifications. There were 15,873 cases of campylobacteriosis notified in 2006. The rate of 383.5 per 100,000 population was a significant increase from the 2005 rate of 337.6 per 100,000. Although it is seasonal with a summer peak and winter trough, the pattern in 2006 was different with a second peak in early winter. The highest monthly campylobacteriosis notification was in the month of November 2006, with 1654 cases. In 2006, the Waikato rate was 406.2 per 100,000 population.

The highest age specific rate occurred in children aged 01-04 years (1227 cases, 544.2 per 100,000 population), followed by the 20-29 year age group (2884 cases, 522.7 per 100,000 population) and infants below one year old (237 cases, 415 per 100,000 population).

The highest percentage notification occurred among European ethnicity (10,787 cases, 86.2%) followed by Maori at 6.5% (818 cases), Other ethnicity at 5.6% (702 cases) and Pacific People at 1.6% (200 cases).

### **22.4.3 Chemical Poisoning From the Environment**

In 2006, 29 cases were notified as poisoning arising from chemical contamination of the environment. This was significantly higher than recent years: two (2005), seven (2004), one (2002 and again in 2003) and four (in both 2001 and 2000).

The cases were primarily from the North Island DHBs: Waitemata (8), Auckland (14), Counties Manukau (1), Waikato (3), Hutt (1), Capital and Coast (1) and Canterbury (1).

The range of activities and substances which resulted in the cases notified included: cleaning rooms that were previously clandestine methamphetamine laboratories (2), organic phosphate poisoning (1) and reaction to sassafras oil on skin (1).

### **22.4.4 Creutzfeldt-Jakob Disease – CJD**

In 2006, a total of five cases of possible CJD were referred to the Registry. Two cases were confirmed as sporadic CJD by post-mortem (both female, one in the 70-79 and the other in the 80-89 age group). The remaining three cases were fatal but none underwent post-mortem examination.

### **22.4.5 Giardiasis**

There were 1214 cases of giardiasis notified in 2006, not significantly different from 2005.

The highest rates were recorded in Northland at 46.1 per 100,000 population, followed by Waikato at 39.1 per 100,000, and Whanganui at 37 per 100,000. Age specific rates showed two peaks in giardiasis notifications. The highest rates were in the 01-04 years age group at 112.2 per 100,000 population, followed by the 30-39 years age group at 49.4 per 100,000 and the age less than one at 43.8 per 100,000. This pattern remains consistent across all years from 1996 when the disease became notifiable in New Zealand.

## 22.4.6 Hepatitis A, B and C

### Hepatitis A

There were 122 cases of hepatitis A notified in 2006, compared to 51 notifications in 2005. The increase in 2006 was predominantly due to two outbreaks in Canterbury and Auckland PHU areas for which 25 and 18 cases respectively were individually notified. In addition, smaller outbreaks in Auckland, Wanganui and Wellington PHU areas accounted for 13 cases.

The national Hepatitis A notification rate in 2006 was 2.9 per 100,000 population, a significant increase from the 2005 rate of 1.2 per 100,000. The highest was observed in Counties Manukau, Canterbury, Waitemata and Auckland DHBs. The age specific rates were highest in 1-4 year olds followed by 5-9 year age groups.

### Hepatitis B

In 2006, the notification rate for Hepatitis B was 1.5 per 100,000 population compared to 1.4 per 100,000 population in 2005. The highest notification rate by DHB was in Canterbury, Counties Manukau, Waitemata and Auckland. The age specific rate was highest in the 20-29 years age group followed by 40-49 year age groups.

### Hepatitis C

In 2006, there were 34 cases notified compared to 29 notifications in 2005. The notification rate in 2006 was 0.8 per 100,000 population and the highest rate by DHB was in Taranaki, followed by Canterbury DHB.

## 22.4.7 Tuberculosis

In 2006, 358 cases of tuberculosis (new and reactivations) were notified, of which 5.9 (21 cases) were reactivations. Reactivations mean cases with second or multiple episodes of symptomatic tuberculosis disease. In 2006, a total of 262 cases were reported as laboratory confirmed. Northland DHB had the highest rate (20 per 100,000 population, 30 cases) followed by MidCentral DHB (19 per 100,000, 31 cases).

The ethnic composition was:

Table 321: Ethnic composition of Tuberculosis

Ethnicity	Percentage
Other Ethnicity	53.6% (177 cases)
Maori	17.9% (59 cases)
European	14.5% (48 cases)
Pacific People	13.9% (46 cases)

In 2006, 213 cases (70.3% of cases for whom this information was recorded) were born outside New Zealand. Of the 90 cases that were known to have been born in New

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Zealand, 15.4% were presently residing with a person born outside New Zealand. Of the 237 cases, 86 (36.3%) reported contact with a confirmed case of tuberculosis.

### **22.4.8 Outbreak Surveillance**

The Manual for Public Health Surveillance in New Zealand states that the following types of outbreaks should be reported:

- Two or more cases linked to a common source
- A community-wide or person-to-person outbreak (except when the source has become well established as a national epidemic)
- Any other situation where outbreak investigation or control measures are undertaken or considered.

Outbreak reporting is not required for single cases due to a specific contaminated source, and secondary cases, with the exception of secondary cases in an institution.

There were 495 outbreaks reported by PHUs in 2006, involving 6302 cases. In Waikato there were 11 outbreaks involving 118 cases. There were 160 hospitalisations and none deaths that resulted from outbreaks reported in 2006. Five deaths were related to norovirus outbreaks in Auckland, Manawatu, Otago and West Coast. Three deaths were related to a gastroenteritis outbreak in Southland and one death was due to a legionella outbreak in Auckland.

### **22.4.9 Vaccine Preventable Diseases (VPDs)**

In 2006, the meningococcal disease rate dropped from 5.5 to 3.9 per 100,000 population and the pertussis rate dropped from 66.3 to 27.1 per 100,000 population. However, the 2006 notification rate for pertussis remains high compared with the rates in 2003, the year in between the current and the previous pertussis epidemic.

#### **22.4.10 Surveillance Summary 2006**

Between 2005 and 2006 there was a statistically significant increase in reported cases of chemical poisoning from the environment, hepatitis A, gastroenteritis, rheumatic fever, yersiniosis and campylobacteriosis.

There was a significant decrease in reported cases of pertussis, shigellosis, AIDS, legionellosis, meningococcal disease and cryptosporidiosis.

The most common pathogen identified in outbreak surveillance was norovirus with 156 of the outbreaks and 3945 of the cases followed by campylobacter with 47 outbreaks and 223 cases. The most common setting linked to an outbreak was the home followed by retirement/rest homes and café / restaurants.