
MONTHLY SURVEILLANCE REPORT

This monthly report contains data and commentary on disease trends and events up to and including the end of October 2002 (see also forthcoming issues of the *New Zealand Public Health Report*). Its purpose is to provide timely information for use by designated officers and public health service staff. Data contained within is based on information recorded on EpiSurv by public health service staff up until 4th November 2002. As this information may be updated over time, the results should be regarded as provisional only.

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1. Major surveillance issues

- *Cryptosporidiosis*: 260 cases were notified in October 2002 – the highest monthly total for the year to date. The majority of cases reported contact with farm animals.
- *Meningococcal disease*: 39 cases (including one fatality) were reported in October 2002. This brings the year-to-date total to 490 cases, including 15 fatalities.
- *Pertussis*: 103 cases of pertussis were notified in October 2002, compared to 58 cases during the same month last year.
- *Tuberculosis*: 47 cases of tuberculosis were notified in October 2002 – the highest monthly total since May 1994.

2. Key disease trends

Campylobacteriosis

There were 1155 cases of campylobacteriosis notified during October 2002, of whom 1082 (93.7%) were confirmed. This is a slight decrease from the 1175 cases notified during September 2002.

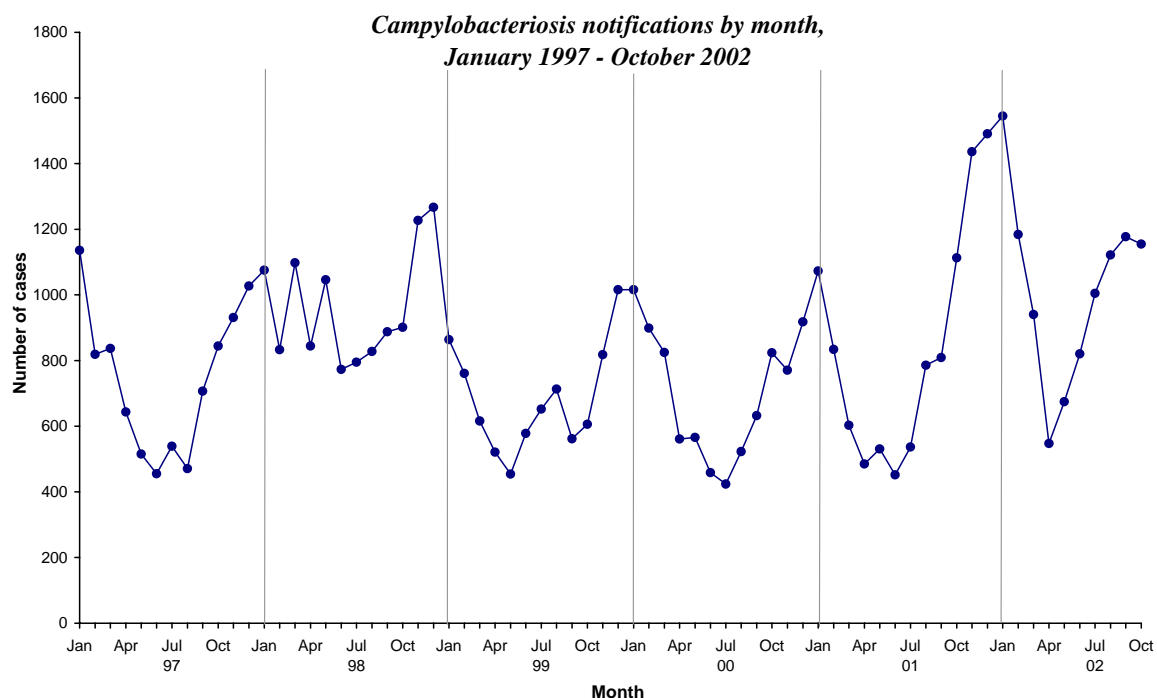
Incidence rates in October 2002 were highest in the '1 to 4 years' age group, with a monthly rate of 54.1 per 100 000 population (117 cases), and next highest in the 'less than one year' age group with a monthly rate of 49.4 cases per 100 000 (27 cases). The overall monthly rate was 30.9 per 100 000. Approximately 89% of cases (for whom ethnicity was recorded) were of European ethnicity. There were 44 hospitalisations (10.4% of cases for whom this information was recorded).

Of the 1155 October notifications, North West Auckland Health District reported the greatest number with 174 cases. Among all health districts, the incidence rate in October¹ was highest in Wellington Health District, with a monthly rate of 44.9 per 100 000, followed by North West Auckland (40.5 per 100 000), Central Auckland (39.7), and South Canterbury (37.1) health districts. Over the 12-month period ending 31st October 2002, the incidence rate was highest in the Wellington Health District, with an annual rate of 480.1 per 100 000 population. South Canterbury Health District experienced the next highest rate of 459.4 per 100 000, followed by Central Auckland (443.5) and North West Auckland (430.5) health districts. In comparison, during 2001, the annual rate² of campylobacteriosis was highest in Wellington Health District, whereas during both 1999 and 2000 it was highest in South Canterbury.

¹ The incidence rate for October is the number of October notifications from a given region divided by the size of the population of the region and multiplied by 100 000. This ratio represents a monthly notification rate per 100 000 population.

² Both the *crude* annual rate and the *directly age-standardised* annual rate of campylobacteriosis were highest in Wellington during 2001 and highest in South Canterbury during 1999 and 2000.

The following graph shows campylobacteriosis notifications by month since January 1997.



Risk factor information was infrequently recorded on the case report forms, with only 14.2% (164/1155) of notifications in September including information on human contact and only 16.1% (186/1155) including information on contact with farm animals. Of these, 12.2% (20/164) had a history of contact with other symptomatic people, and 37.6% (70/186) reported exposure to farm animals.

To date, 1020 notifications for the month of November have been received.

Cryptosporidiosis

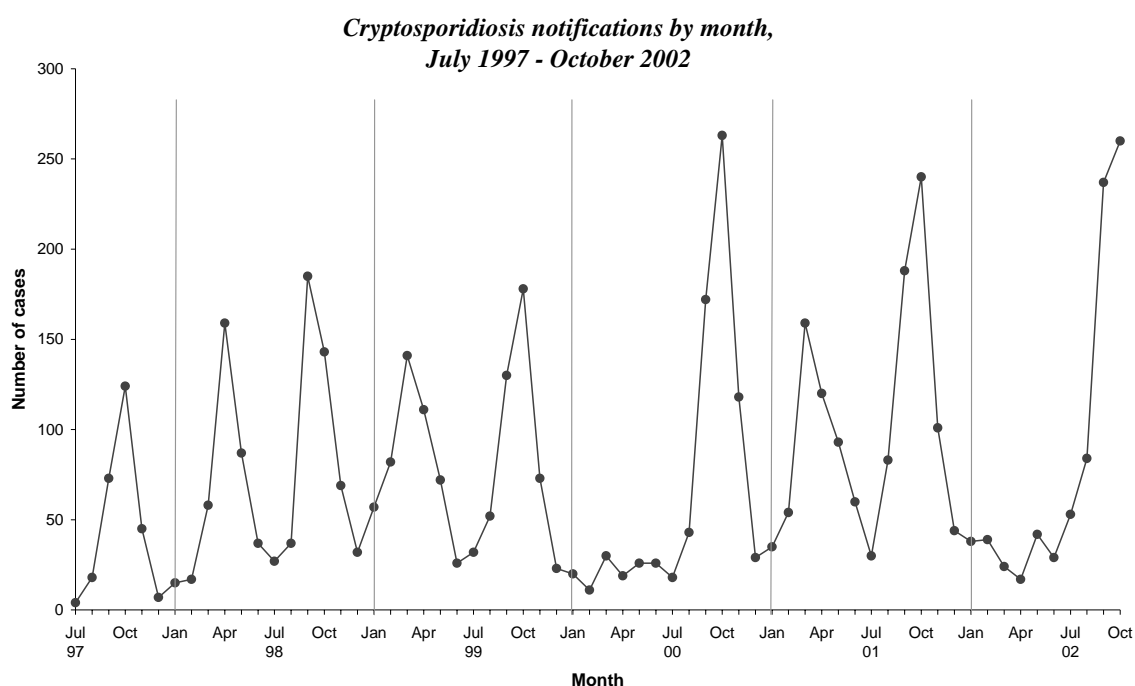
A total of 260 cases of cryptosporidiosis was notified in October 2002, of whom 223 (85.8%) were confirmed. This is the highest monthly total since the beginning of the year¹. The majority (67.3%) of October 2002 cases was aged nine years or less. Among all age groups, the incidence rate was highest in the '1 to 4 years' age group, with a monthly rate of 49.4 cases per 100 000 population, compared to an overall monthly incidence rate of just 7.0 per 100 000.

Well over half (76.5%) the October cases (for whom this information was recorded) reported contact with farm animals, and 30.8 % of cases (for whom this information was recorded) reported contact with sick animals.

¹ During 1999, 2000 and 2001, cryptosporidiosis notifications peaked in the month of October.

During both September and October 2002, Waikato Health District reported the greatest number of cases (49 and 36 cases respectively). Among all health districts, the incidence rate was highest in October in South Canterbury Health District, with a monthly rate of 34.6 cases per 100 000 (27 cases). From September to October, many South Island health districts reported large increases in notifications. For example, Otago Health District reported 33 cases in October compared to 13 in September, and South Canterbury reported 27 cases in October compared to 12 in September. In contrast, the North Island reported fewer cases in October (151 cases) than in September (174 cases).

The following graph shows the number of notified cases of cryptosporidiosis each month since January 2000. It demonstrates the typical Spring peak in incidence, which has been particularly prominent these last three years.

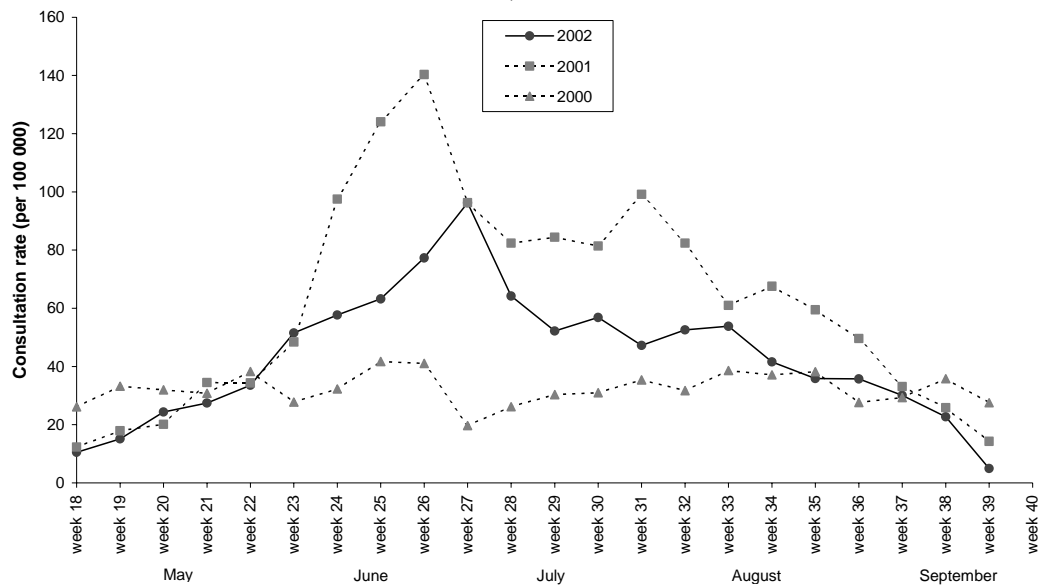


To date, 92 notifications have been received for the month of November.

Influenza

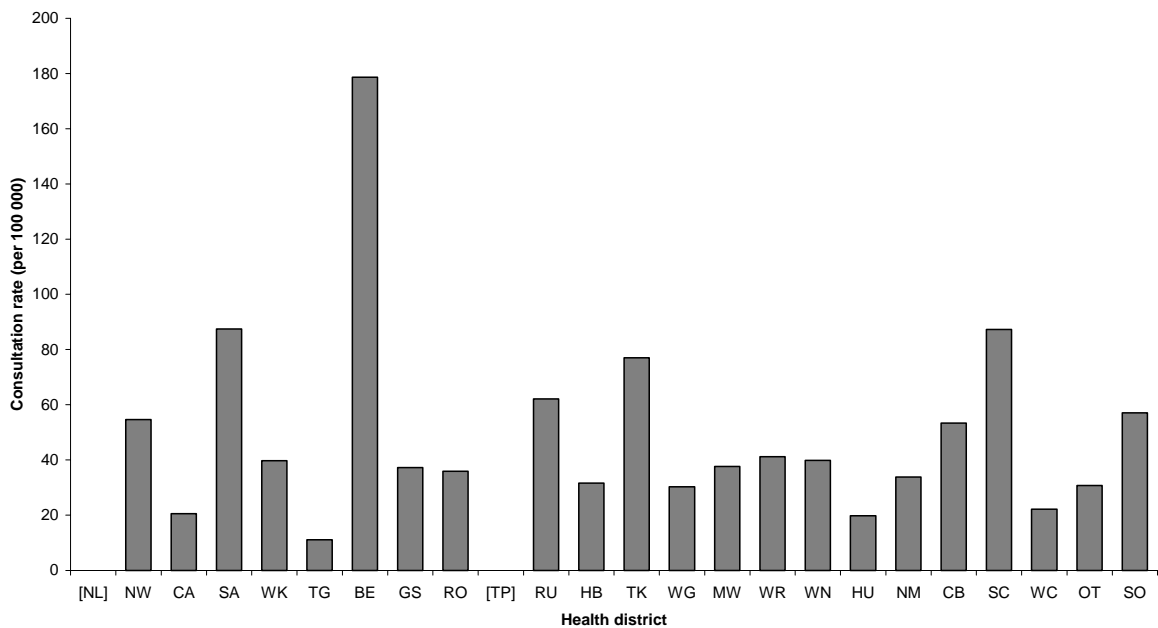
Influenza sentinel surveillance operated from May to September. The surveillance was based on weekly reports of influenza-like illness and throat/nasal swabs referred by a network of 88 general practices distributed across 22 health districts. During the 2002 season, 3159 consultations for influenza-like illness were reported. National weekly consultation rates showed peak activity in the first week of July. Activity was lower than in the 2001 season, but higher than in the 2000 season. The following graph shows the weekly consultation rates per 100 000 patient population for influenza-like illness over the past three sentinel surveillance periods.

*Weekly consultation rates for influenza-like illness,
2000, 2001 and 2002*



Consultation rates varied across the country during the sentinel surveillance period. The highest rates were seen in Eastern Bay of Plenty and South Auckland health districts, with rates of 178.7 and 87.5 per 100 000 patient population, respectively; compared to a national average of 43.2 consultations per 100 000 patient population. The following graph shows the average weekly consultation rates by health district throughout the 2002 influenza season.

Average weekly consultation rate for influenza-like illness by health district, 2002



NB [] Health districts that did not participate in the sentinel influenza surveillance

A total of 241 influenza isolates were identified from sentinel surveillance between May and September. In comparison, 313 sentinel isolates were identified in 2001, and 73 sentinel isolates in 2000. During 2002, 79.7% of influenza isolates were influenza A (of which 157 or 81.8% were subtyped as Influenza A/Moscow/10/99 (H3N2), and 20.3% were influenza B (of which 38 or 77.6% were typed as B/Hong Kong/330/01). Influenza A (H3N2) was the predominant strain, both overall and during the peak period of June through August. Influenza B co-circulated throughout the winter season. All of the influenza A H3N2 isolates were similar to the A/Moscow/10/99 strain. All isolates of influenza B were similar to the B/Hong Kong/330/01-like strain. The influenza vaccine composition for 2003 has now been agreed. The recommended composition is:

- A/New Caledonia/20/99 (H1N1)-like strain
- A/Moscow/10/99 (H3N2)-like strain
- B/Hong Kong/330/01-like strain

Annual influenza vaccination is recommended and fully funded for: (i) all people 65 years of age and over, and (ii) people under 65 years of age with chronic diseases, including cardiovascular disease, respiratory disease, diabetes, renal disease, some cancers, and certain other conditions (see *Immunisation Handbook* for full details). Immunisation should be offered before the start of the annual influenza season.

Leptosporidiosis

Ten cases of leptospirosis were notified in October 2002, bringing the year to date total to 120. Leptospirosis notifications exhibit no obvious seasonality. The average number of monthly notifications over the 12-month period ending 31st October was 12. The average number notified each month for the previous 12 month period was eight. Three cases in October were reported from Taranaki, two cases from Manawatu, and one case each from Northland, South Auckland, Ruapehu, Hawkes Bay and Canterbury health districts. Of the 120 cases notified this year to date, the greatest number was reported by Hawkes Bay Health District, followed by Waikato (18 cases) and Manawatu (11) health districts.

Occupation was recorded for 6 of the 10 October cases. Of these, five were farmers and one case was a stock truck driver. No risk factors were recorded for the remaining four cases. Cases ranged in age from 31 to 56 years. All cases were male. Of the nine cases for whom ethnicity was recorded, eight were of European ethnicity and one was Maori. There were four hospitalisations among the six cases for whom this information was recorded.

To date, 11 leptospirosis notifications have been received for the month of November.

Malaria

Three cases of malaria (*P. vivax*) were notified in October, bringing the year-to-date total to 56. One case was a 33-year-old migrant to New Zealand from India; another case was a 60-year-old New Zealand resident who had recently travelled to Vietnam; and the third case was a 22-year-old soldier who had been stationed in East Timor. Travel information was recorded for 45 of the 56 cases notified this year. Of these, 40 cases recorded overseas travel during the incubation period of the disease.

To date, two malaria notifications have been received for the month of November.

Measles

During October three cases of measles were notified, bringing the year to date total to 24. No October cases were laboratory confirmed. Canterbury reported two cases (two infants aged five and nine months respectively), and Nelson-Marlborough Health District reported one case (an eleven-month-old pre-schooler). No cases had been vaccinated.

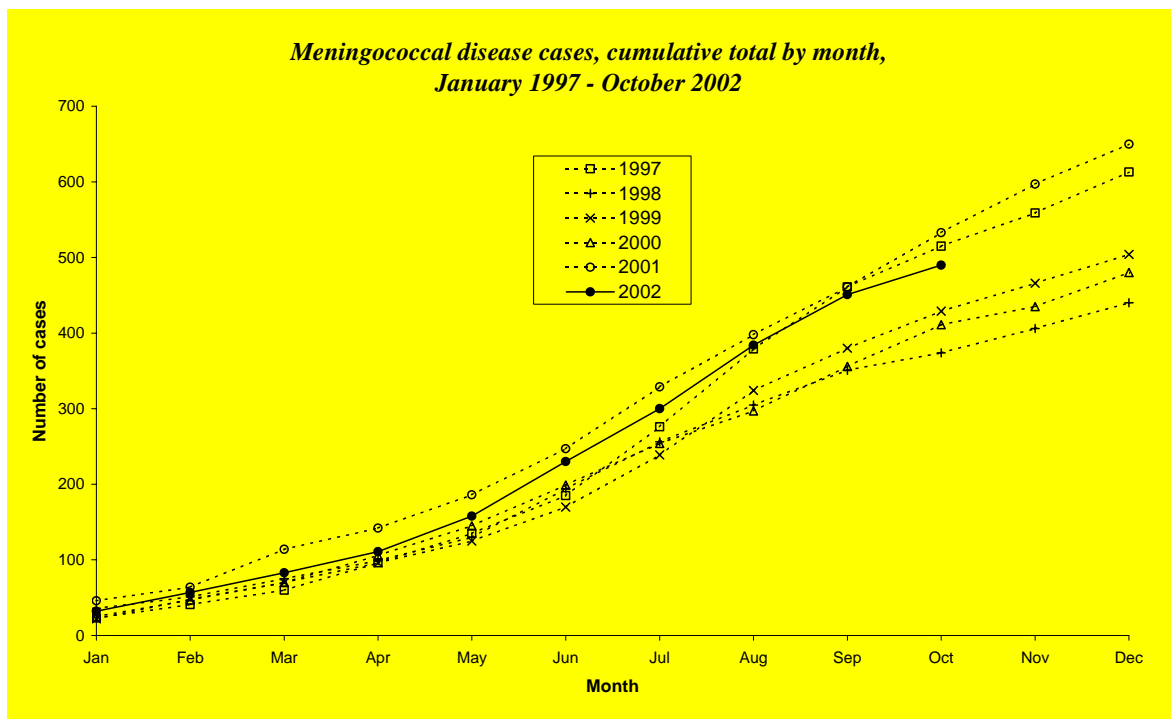
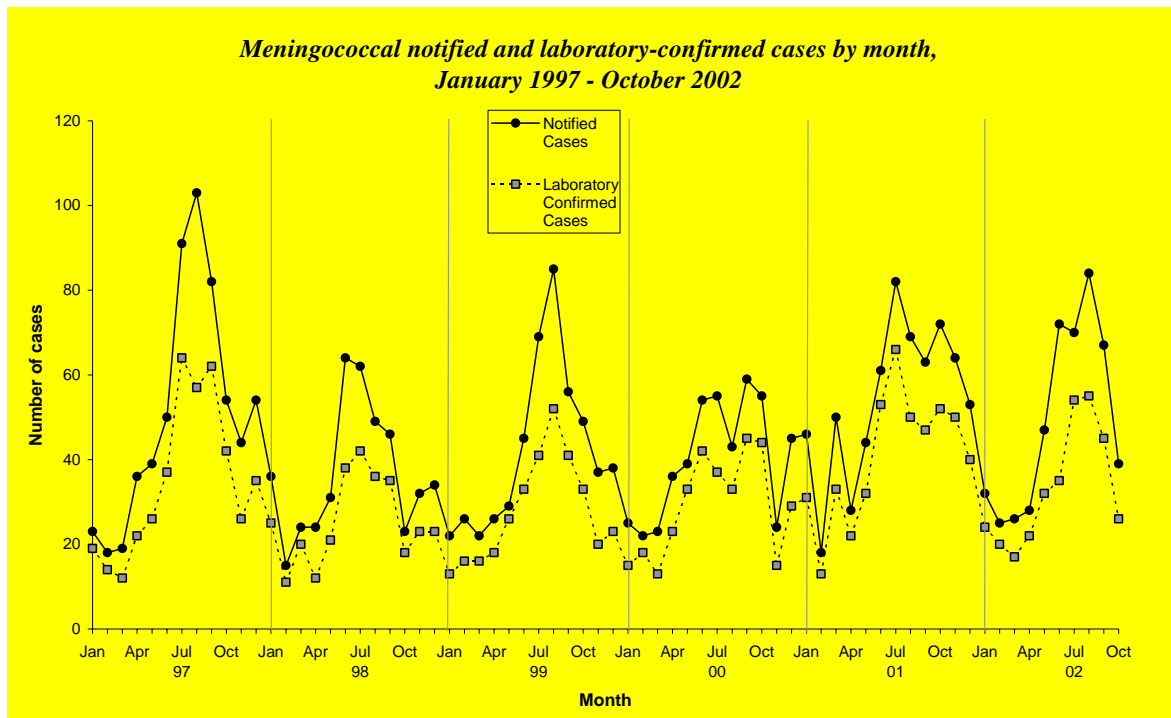
To date, four measles notifications have been received for the month of November.

Meningococcal disease

Based on the earliest¹ date available, 39 cases of meningococcal disease were notified during October 2002, bringing the year to date total to 490 cases. At the time of this report, 66.7% (26/39) of cases had been laboratory confirmed. In comparison, 70 cases were notified in October 2001, and as few as 23 cases were notified in October 1998. Updated figures indicate that a total of 67 cases of meningococcal disease were notified during September 2002 compared to an average of 63 per month of September over the seven-year period 1995 to 2001.

The following graphs show (i) notified and laboratory-confirmed meningococcal disease cases by month since January 1997 and (ii) the cumulative number of meningococcal disease cases each month since 1997.

¹ The 'earliest' date refers to the earliest recorded date among the following: the report date, the onset date, the hospitalisation date, and the death date. 'Earliest' date, as opposed to 'report date' alone, is used throughout the analysis of meningococcal disease notification data in this section.



All 34 October cases, for whom hospitalisation information was recorded, were hospitalised. One case, a 16-year-old female from Otago Health District, was fatal. This brings the number of fatal cases this year to fifteen.

Ethnicity was recorded for 31 of the 39 cases reported this month. Of these, 19 (61%) were of European ethnicity, 6 (19%) were Maori, 5 (16%) were Pacific Islands people,¹ and 1 (3%) of 'Other' ethnicity. In comparison, for all 490 year-to-date

¹ By convention the 'prioritised' classification of ethnicity is used throughout this report - whereby, irrespective of the number of responses to the ethnicity question, cases are assigned to a *single* ethnic

notifications, the percentage of European, Maori and Pacific Islands cases was 49%, 31% and 16% respectively. During 2001, the percentage of European, Maori and Pacific Islands cases was 41%, 33% and 24% respectively.

During October, age-specific rates were highest in the 'less than one year' and '15-19 years' age categories, with monthly rates of 5.5 per 100 000 (3 cases) and 4.9 per 100 000 (13 cases) respectively; compared to an overall monthly rate of 1.0 per 100 000. Of the 490 cases reported this year to date, 34.5% were aged 15 years or over. In contrast, 56.4 % of cases in October were aged 15 years or over.

In October, Rotorua and Canterbury health districts reported the greatest number of cases (6 cases each). Other health districts reporting more than a single case were: Wellington (5 cases), Central Auckland (4 cases), North West Auckland, South Auckland, Hawkes Bay, and Otago (3 cases each). Rotorua Health District had both the highest monthly incidence rate for the month of October (9.3 per 100 000) and the highest annual incidence rate for the 12-month period ending 31st October (69.8 per 100 000).

Of the 490 cases notified this year to date, the greatest number was reported by South Auckland Health District (79 cases), followed by Otago (41 cases) and Central Auckland (39 cases) health districts. The following table displays the number of cases reported during October and for the year to date, by health district; as well as the incidence rates for the 12-month period ending 31st October.

group based on the following hierarchy: Maori, Pacific Islands People, Other ethnicity, European. This can frequently lead to an undercount of the number of cases identifying themselves as Pacific Islands People, since cases identifying with both Maori and Pacific Islands ethnic groups get classified as Maori.

Notifications and incidence rates of meningococcal disease

Health District	Notifications Oct 2002	Notifications Jan to Oct 2002	Rate per 100 000 Nov 01 to Oct 02
Northland	0	25	20.0
North West Auckland	3	32	9.1
Central Auckland	4	39	13.1
South Auckland	3	79	26.1
Waikato	1	33	15.9
Tauranga	0	27	23.2
Eastern Bay of Plenty	0	13	28.5
Gisborne	0	6	20.5
Rotorua	6	31	69.8
Taupo	0	16	57.1
Hawkes Bay	3	30	24.4
Taranaki	0	7	7.8
Ruapehu	0	3	21.0
Wanganui	1	4	8.6
Manawatu	1	11	8.2
Wairarapa	0	3	13.1
Wellington	5	25	11.0
Hutt	1	10	12.1
Nelson-Marlborough	0	3	4.1
West Coast	0	7	23.1
Canterbury	6	28	7.5
South Canterbury	1	5	9.0
Otago	3	41	33.7
Southland	1	12	13.0
Total	39	490	16.3

To date, 30 meningococcal disease notifications have been received for the month of November.

Mumps

Ten cases of mumps were notified in October. This is the highest monthly total this year, and brings the year-to-date total to 55. Five October cases, all aged between five and eight years, were reported by Otago Health District. One case each was reported by North West Auckland, Central Auckland, South Auckland, Manawatu and Canterbury health districts. Three of the latter five cases were aged between five and eight years, and the remaining two cases were aged 24 and 26 years respectively. Vaccination status was recorded for seven cases, of whom five had received at least one vaccination. No cases were laboratory confirmed.

To date, eight mumps notifications have been received for the month of November.

Pertussis

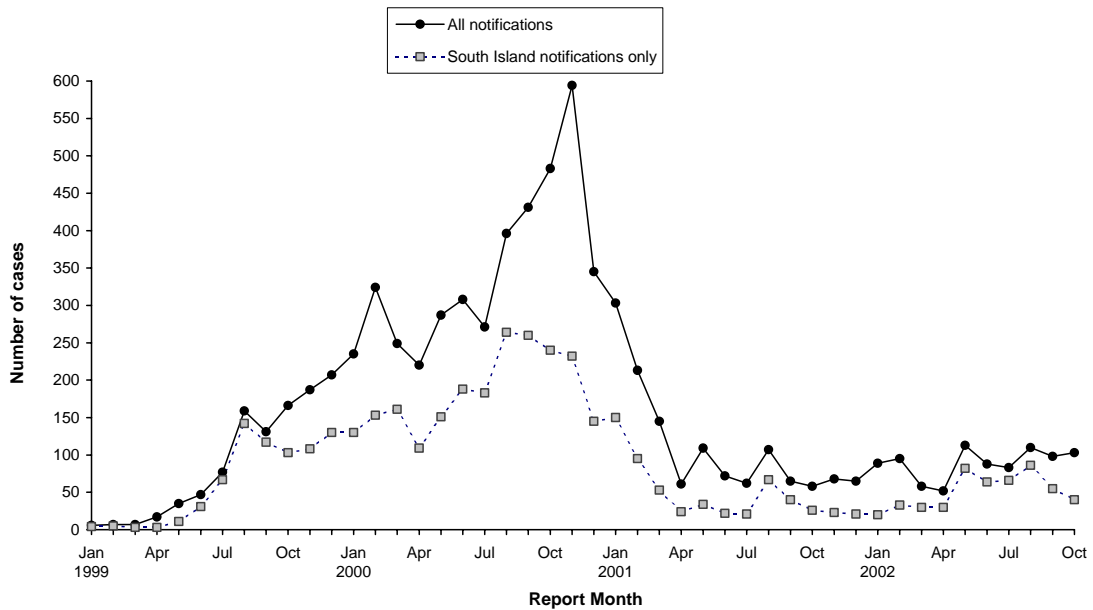
During October 2002, there were 103 cases of pertussis notified, compared to 58 cases during the same month last year. Of the October 2002 cases, 66.0% (68/103) were either confirmed by serological means, by PCR or by isolation of *Bordetella pertussis*. Of the remaining 35 cases, three were epidemiologically linked to confirmed cases of the disease and a further six were recorded as having had a cough lasting two or more weeks and one or more of the following: (i) a cough ending in apnoea or vomiting, (ii) a paroxysmal cough, (iii) an inspiratory whoop.

Hospitalisation information was recorded for 87 of the 103 cases, of whom 11 (12.6%) were hospitalised. Eight hospitalised cases were infants under one year of age, and three were children aged one, seven and eight years. Among the 889 cases notified this year to date, there have been a total of 76 hospitalisations recorded on EpiSurv. Forty-three (69.7%) hospitalised cases were aged under one year, and 13 (17.1%) were aged between one and four years. In comparison, hospital discharge data¹ indicate that the number of hospitalised cases of pertussis from 1st January to 31st October, 2002 totalled 124. Of these, 89 (70.1%) were aged under one year and 25 (19.7%) were aged between one and four years.

Forty (38.8%) of the 103 October notifications were from the South Island. In comparison, 56.1% of the 98 September notifications and 78.2% of the 110 August notifications were from the South Island. Among health districts, North West Auckland reported the greatest number of cases in October (19 cases), followed by Canterbury Health District (14). West Coast Health District, with five cases, had the highest incidence rate, both for the month of October (monthly rate of 16.5 per 100 000) and for the 12-month period ending 31st October (237.4 per 100 000). Other South Island health districts, Nelson-Marlborough and South Canterbury continued to exhibit the next highest rates of pertussis in October, with 13 and 6 cases respectively. The following graph shows the number of cases of pertussis notified nationally and from the South Island, each month since January 1999.

¹ Rebecca Kay from NZHIS is thanked for providing the raw hospital discharge data.

*Notified cases of pertussis by month,
January 1999 - October 2002*



Seventy-one October notifications (or 86.6% of cases for whom ethnicity was recorded) were European. There were also eight Maori cases and three cases of 'Other' ethnicity. Notification rates were highest in the 'less than one year' age group with a monthly rate of 27.4 per 100 000 (15 cases). Rates were next highest in the '1 to 4 years' and the '5 to 9 years' age categories with monthly rates of 9.3 (20 cases) and 9.1 (26 cases), respectively. The overall monthly notification rate was 2.8 per 100 000. The cases ranged in age from one month to 69 years.

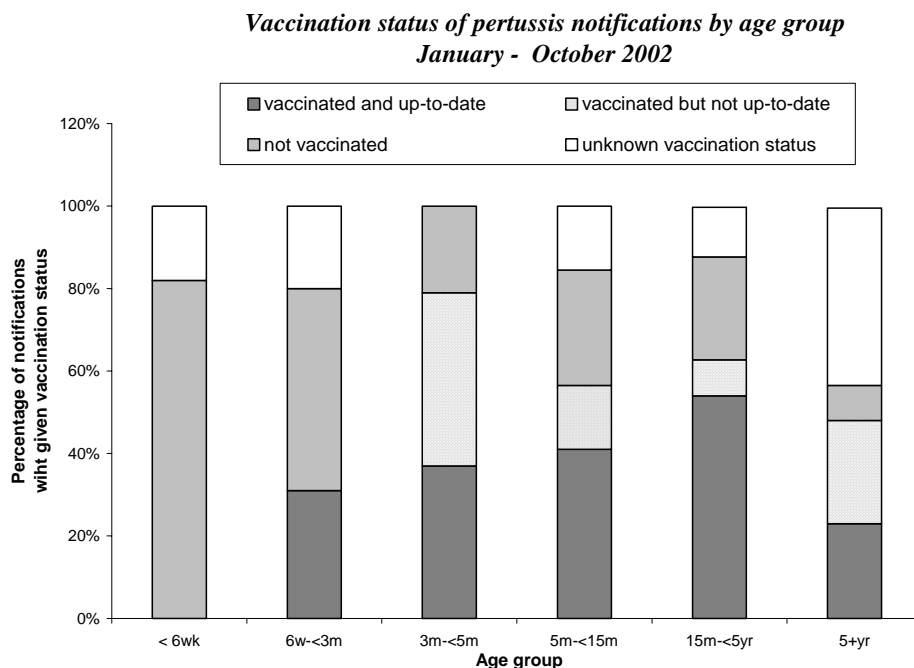
The following table shows the number of doses of pertussis vaccine given to October cases in each relevant age group.

Age and vaccination status of pertussis notifications, October 2002

Age group	Total Cases	Vaccination status						
		Vaccinated (without dose information)	One dose	Two doses	Three doses	Four doses	Not vaccinated	Unknown status
0-<6 weeks	2	0	(0)	(0)	(0)	(0)	1	1
6 wks-<3 mths	5	0	1	(0)	(0)	(0)	1	3
3-<5 months	3	0	0	2	(0)	(0)	1	0
5-<15 months	6	1	2	0	1	(0)	2	0
15 mths-<5 yrs	19	1	0	0	0	8	8	2
5+ years	68	9	2	0	7	10	10	30
Total	103	11	5	2	8	18	23	36

Bracketed numbers indicate cases ineligible for vaccination

The following graph illustrates the relative proportion of cases in each age group with given vaccination status¹, for pertussis notifications this year-to-date.



To date, 107 pertussis notifications have been received for the month of November.

Rubella

Two cases of rubella were notified in October, bringing the year to date total to 33. Both cases, aged one and two years respectively, were reported by Hawkes Bay Health District. The one-year-old had not been vaccinated and attended preschool. The two-year-old had received one dose of MMR vaccine. Neither case was laboratory confirmed.

Salmonellosis

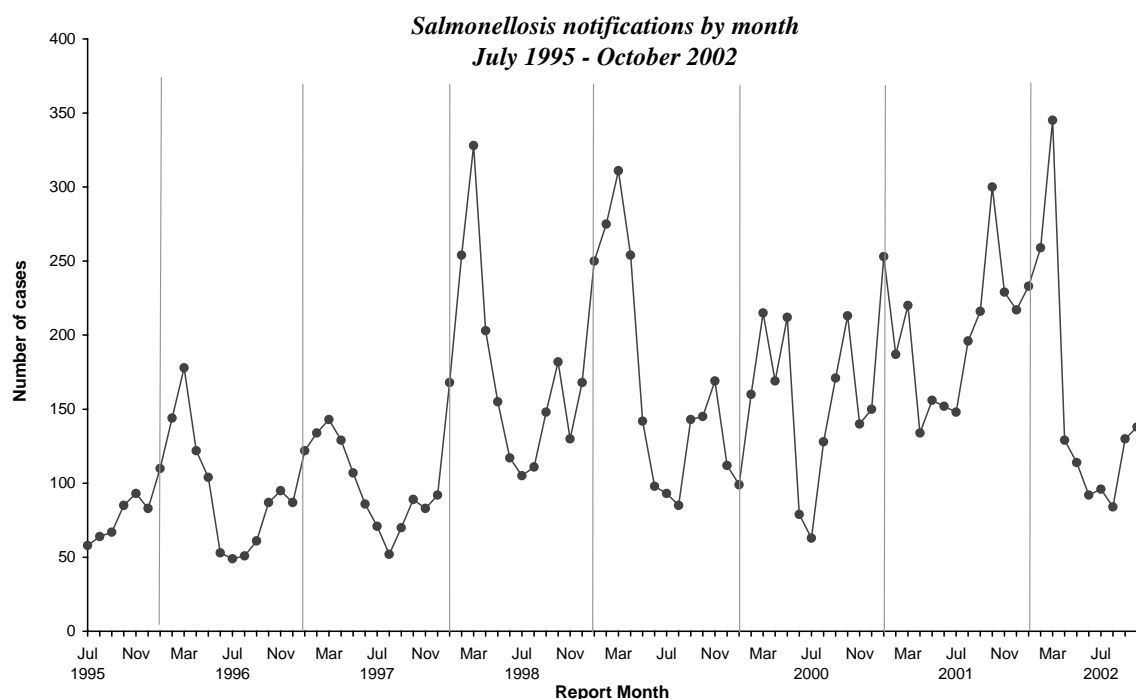
A total of 138 cases of *Salmonella* was notified in October 2002. This is slightly higher than the previous month's total of 131 notifications. Hospitalisation information was recorded for 57 cases, of whom six (10.5%) were hospitalised. Age-specific rates for the month of October were highest in the '1 to 4 years' and the 'less than one year' age groups, with respectively 14.8 and 12.8 notifications per 100 000, compared to an overall monthly rate of 3.7.

¹ Cases recorded as vaccinated, but without dose information, have been assigned 'unknown' vaccination status.

Of the 44 cases for whom overseas travel information was recorded, 15 (34.1%) had been overseas during the incubation period. The most commonly visited countries were Bali and Singapore (6 cases each). Other travel destinations were Fiji, Australia (2 cases each), Thailand, Rarotonga and Afghanistan (1 case each).

October notifications were highest in North West Auckland (16 cases), Central Auckland (15), Canterbury (15), Waikato (12), Southland (11) and Otago (10 cases) health districts. Incidence rates were highest in Ruapehu and Gisborne health districts, with monthly rates of 21.0 and 11.4 per 100 000, respectively. Annual rates of disease for the 12-month period ending October 2002 were highest in Nelson-Marlborough (127.5 cases per 100 000) and South Canterbury (101.1) health districts.

The following graph shows the number of Salmonellosis notifications each month since July 1995.



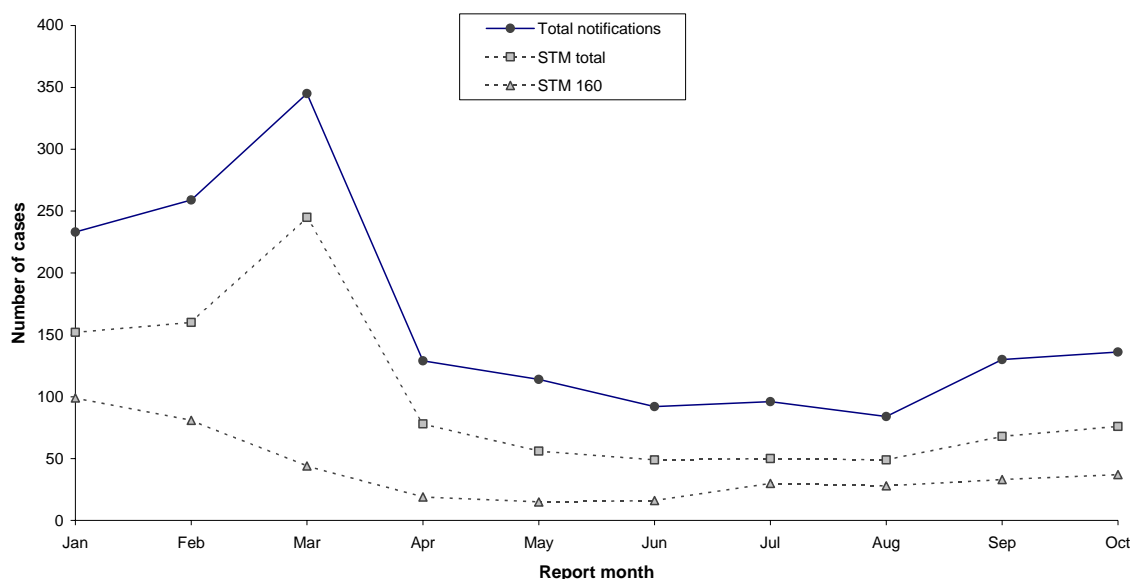
Of the 138 notifications, 133 (96.4%) could be matched to human cases identified by the ESR Enteric Reference Laboratory (ERL)¹. The predominant type identified was *S. Typhimurium* 160 (STM 160) with 37 cases (26.8% of notifications). The next most commonly identified types among October notifications were *Salmonella* Brandenburg (15 cases²), *S. Typhimurium* 135 (7 cases), and *Salmonella* Enteritidis phage type 4 (6 cases). Two of the six cases identified as *Salmonella* Enteritidis phage type 4 recorded overseas travel (to Bali and Singapore respectively) during the incubation period.

The following graph illustrates the trend in the number of *S. Typhimurium* isolations among notified cases, since the beginning of the year.

¹ Note that over 95% of notifications this year to date can be matched to ERL reported cases.

² Down from 30 cases notified in September 2002.

*Salmonella notifications by month
January 02 - October 02*



To date, 133 salmonellosis notifications have been received for the month of November.

Tuberculosis

Forty-seven cases of tuberculosis disease¹ were notified in October 2002, of whom 36 were recorded on EpiSurv as being confirmed. This compares to 30 cases in September (18 of whom were recorded as confirmed), and brings the year to date total to 315 cases. The October notification total is the highest monthly total since May 1994, when 48 cases were notified.

During October, 42 cases were reported by hospital-based practitioners. There were 21 hospitalisations (51.2% of 41 cases for whom this information was recorded). Four cases were reported to have an immunosuppressive illness. The age of cases ranged between 9 months and 82 years. Incidence rates were highest in the '1 to 4 years' age group followed by the '20 to 29 years' age group, with monthly rates of 3.2 (7 cases) and 2.7 (13 cases) per 100 000, respectively.

Twenty cases recorded contact with a confirmed case of the disease. There was one outbreak, accounting for three cases, reported from Hawkes Bay Health District. Incidence was highest in North West Auckland Health District (16 cases), followed by Central Auckland (7 cases), South Auckland (5) and Hawkes Bay (5 cases) health districts. Fourteen of the 16 North West Auckland cases were from Waitakere City Territorial Authority. Of these 14 cases, 13 reported contact with a confirmed case of the disease; eleven cases reported contact with a common contact; and 11 cases were either born in Tuvalu or were in current or recent residence with a person born in

¹ This total includes new cases, relapses and reactivations.

Tuvalu. During the 12-month period ending 31 October 2002, the annual rate of tuberculosis disease was highest in Central Auckland Health District, with a rate of 22.8 cases per 100 000.

Ethnicity was recorded for 40 of the 47 cases in October. Of these, 22 were of 'Other' ethnicity, 11 were Pacific Islands people, five Maori, and two European. Information on country of birth was recorded for 39 cases, of whom 27 (69.2%) were born overseas. Nineteen cases of 'Other' ethnicity were known to have been born overseas: in Somalia (6 cases), China (6), Korea (2), Indonesia (2), and one case each in India, Sri Lanka and the Philippines. Overseas country of birth was recorded for a further 7 cases: Tuvalu (5 cases), Tonga (1) and Nauru (1). Date of arrival was recorded for 21 of the 27 overseas born cases. Of these, seven cases had arrived in the previous 12 months, eight cases between one and five years ago, and six cases over five years ago.

To date, 35 tuberculosis notifications for the month of November have been received.

Typhoid

Three cases of typhoid were notified in October 2002. This brings the year-to-date total to 22 cases, of whom 21 have been confirmed by the ESR Enteric Reference Laboratory. Hospitalisation information was recorded for 17 of the 22 cases. Of these, 13 (76.5%) were hospitalised. The cases ranged in age from 4 to 65 years. Fifteen cases were female, six were male, and one case had no recorded gender. Ethnicity was recorded for 19 cases. There were eight Pacific Islands people, of whom six specified their ethnicity as Samoan. The other recorded ethnicities were Indian (3 cases), Indonesian (3), Iraqi (2), Afghani (1), African (1) and Chinese (1).

Travel information was recorded for 17 cases, of whom 11 reported travelling overseas during the incubation period for the disease. Overseas destinations included Indonesia (3 cases), Malaysia (2), Western Samoa (2), India (1), Pakistan (1) and Singapore (1). A further four cases from the same household had contact with a family member returning from Samoa.

The most recently notified cases were that of a 30-year-old restaurant manager from Christchurch, a 55-year-old from South Auckland and a 45-year-old from North Shore who had recently been in Indonesia.

3. Deaths from notifiable diseases

The table below lists all deaths from notifiable diseases (with the exception of AIDS and CJD) in cases notified this year to date. It should be noted that the 'report date' refers to the date when the relevant Public Health Unit was first notified of the case and not necessarily when the case record was updated to reflect the death. Therefore report dates may in some instances pre-date death dates.

Disease	Health district	Age	Sex	Report date	Death date
Campylobacteriosis	Canterbury	82y	female	20 Feb 02	17 Feb 02
<i>Haemophilus influenzae b</i> (Hib)	Canterbury	86y	female	30 May 02	11 Jul 01
Pertussis	Taupo	9m	female	7 Jun 02	4 Oct 01
Legionellosis	Canterbury	62y	male	22 Mar 02	15 Mar 02
	South Canterbury	73y	male	3 May 02	8 May 02
	Canterbury	81y	female	15 May 02	23 May 02
Perinatal listeriosis	Central Auckland	33w gestation	N/A	15 Apr 02	13 Apr 02
	Tauranga	Unknown	N/A	8 Aug 02	Unknown
Meningococcal disease	Waikato	1y	male	8 Feb 02	10 Feb 02
	North West Auckland	42y	male	25 Feb 02	25 Feb 02
	North West Auckland	4m	male	22 Mar 02	21 Mar 02
	Otago	18y	male	29 Mar 02	31 Mar 02
	South Auckland	9m	male	3 Apr 02	2 Apr 02
	Central Auckland	6m	male	12 May 02	12 May 02
	Tauranga	69y	female	4 Jun 02	4 Jun 02
	South Auckland	16y	female	14 Jun 02	13 Jun 02
	Northland	1y	male	2 Jul 02	2 Jul 02
	Canterbury	17y	female	10 Jul 02	11 Jul 02
	Waikato	7y	female	8 Aug 02	6 Aug 02
	South Auckland	2m	female	11 Sep 02	11 Sep 02
	North West Auckland	75y	female	18 Sep 02	16 Sep 02
	Eastern Bay of Plenty	1y	female	24 Sep 02	24 Sep 02
	Otago	16y	female	23 Oct 02	24 Oct 02
Tuberculosis disease	South Auckland	27y	female	15 Mar 02	24 Mar 02
	South Auckland	73y	male	17 Jun 02	22 May 02
	South Auckland	57y	female	12 Aug 02	8 Aug 02
	North West Auckland	69y	male	17 Sep 02	20 Sep 02

4. Outbreaks

This Monthly Surveillance Report includes data on outbreaks for which final reports had been entered into EpiSurv during October 2002, and on outbreaks that were initially reported during October 2002 but were still listed as 'interim' as of 4th November 2002.

Final reported outbreaks

Final reports on 20 outbreaks were received in October 2002. These outbreaks involved 100 cases, 27 of whom had been laboratory-confirmed. No cases were hospitalised.

Ten gastroenteritis outbreaks, accounting for 48 cases (48%) were reported. These outbreaks were reported from Auckland (7 outbreaks), Wellington (2), and Northland (1) health districts. The outbreak setting was recorded for seven of the 10 outbreaks: five occurred in restaurants/café/takeaways and were attributed to foodborne transmission; one outbreak was attributed to person-to-person transmission in a hostel; and one resthome outbreak had unknown mode of transmission.

Four *Campylobacter* outbreaks accounting for 35 cases (35%) were reported. These outbreaks were reported from Auckland (3 outbreaks), and Canterbury (1) health districts. Two Auckland outbreaks and the Canterbury outbreak were attributed to foodborne transmission in restaurants or café. One Auckland outbreak occurred at home and was attributed to waterborne transmission. The following two tables provide a summary and details of the final outbreak reports.

Summary of final reported outbreaks, October 2002

Organism/Toxin/Illness	Number of outbreaks	Total number of cases
<i>Campylobacter</i>	4	35
<i>Campylobacter jejuni</i>	1	2
<i>Cryptosporidium parvum</i>	2	7
Gastroenteritis	10	48
<i>Giardia</i>	1	4
Norwalk-like virus	1	2
<i>Salmonella</i> Typhimurium phage type 160	1	2
Total	20	100

Details of final outbreak reports, October 2002¹

Pathogen/ toxin/ illness	Health district ²	Month ³	No. ill	Lab Conf ⁴	No. Hosp	Setting	Mode of transmission (vehicle/source)	Evidence ⁵
<i>Campylobacter</i>	AK	Jul02	22	6	0	Restaurant / cafe	Foodborne (undercooked chicken); waterborne	Epi-H Lab Env
<i>Campylobacter</i>	AK	Aug02	2	1	0	Home	Waterborne	Epi-H
<i>Campylobacter</i>	AK	Aug02	5	1	0	Restaurant / cafe	Foodborne (chicken salad)	Epi-H Env
<i>Campylobacter</i>	CB	Aug02	6	4	0	Restaurant / cafe	Foodborne (chicken and cross contamination)	Env
<i>Campylobacter jejuni</i>	AK	Sep02	2	2	0	Home	Foodborne (home made chicken liver pate)	Epi-H Env
<i>Cryptosporidium parvum</i>	AK	Aug02	2	2	0	Home	Waterborne	Epi-H Lab
<i>Cryptosporidium parvum</i>	WN	Aug02	5	5	0	Swimming / spa pool	Environmental	Epi-H
Gastroenteritis	NL	Aug02	15		0	Rest home	Unknown	Nil
Gastroenteritis	AK	Aug02	4	0	0	Takeaways	Foodborne (rogan josh, chicken tikka, chicken sawadee, rice)	Epi-H Env
Gastroenteritis	AK	Aug02	2	0	0	Restaurant / cafe	Foodborne (scallop bites, chicken nuggets)	Epi-H Env
Gastroenteritis	AK	Sep02	2	0	0		Unknown	Epi-H
Gastroenteritis	AK	Sep02	3	0		Restaurant / cafe	Foodborne (steak and cheese pie)	Epi-H Env
Gastroenteritis	AK	Sep02	2	0	0		Unknown	Nil
Gastroenteritis	AK	Oct02	2	0	0	Restaurant / cafe	Foodborne (pakora)	Epi-H
Gastroenteritis	AK	Oct02	2	0	0		Unknown	Nil
Gastroenteritis	WN	Oct02	13	0	0	Hostel	Person to person	Epi-H
Gastroenteritis	WN	Oct02	3	0	0	Restaurant / cafe; takeaways	Foodborne (chicken fettucine)	Epi-H
<i>Giardia</i>	AK	Sep02	4	4	0	Hotel / motel	Waterborne; person to person	Epi-H
Norwalk-like virus	AK	Sep02	2	1	0	Other food outlet	Foodborne (chicken roll)	Epi-H
<i>Salmonella</i> Typhimurium phage type 160	MW	May02	2	1		Home	Waterborne; environmental	Epi-H Lab

¹ Blank fields indicate that no information had been entered in the applicable field in the outbreak report.

² Health district of the PHU that reported the outbreak: AK=Auckland; NL=Northland; MW=Manawatu; WN=Wellington; CB=Canterbury.

³ Month outbreak commenced.

⁴ Number of microbiologically-confirmed cases.

⁵ Evidence for mode of transmission and vehicle/source: Epi-H=cases had history of exposure to implicated source; Epi-S=statistical evidence from cohort or case-control study; Env=evidence from environmental investigation; Lab=pathogen/toxin/chemical suspected to have caused illness identified in implicated source or from investigation of food handler; Oth=other; Nil=no evidence collected.

Interim reported outbreaks

In October 2002, interim reports on 15 outbreaks involving at least 92 cases¹ were made. Among outbreaks, the most commonly recorded illness or pathogen was gastroenteritis (6/15 outbreaks). Together these accounted for 25% (23/92) cases. Three Norwalk-like viruses accounted for 58.7% (54/92) of cases. The following table lists all interim outbreak reports made in October. Details of these outbreaks will be provided once final reports have been received.

Interim outbreak reports, October 2002¹

Pathogen/toxin/ illness	Health district ²	Month ³	No. ill	Lab Conf ⁴	No. Hosp	Setting	Evidence ⁵
<i>Campylobacter</i>	AK		3	3			
Gastroenteritis	AK		2				
Gastroenteritis	AK		4				
Gastroenteritis	AK		8				
Gastroenteritis	AK		2				
Gastroenteritis	AK		7				
Gastroenteritis	TK				0		
<i>Giardia</i>	AK		3	2			
Norwalk-like virus	TK		5	5	0		
Norwalk-like virus	CB	Oct02	49			Rest home	
Norwalk-like virus	OT						
Rotavirus	WK	Sep02 ⁶				Child care centre	
<i>Salmonella</i>	GS						
<i>Shigella</i>	AK		4	3			
<i>Shigella</i>	AK		5	1			

¹ Blank fields indicate that no information had been entered in the applicable field in the outbreak report.

² Health district of the PHU that reported the outbreak: AK=Auckland; WK=Waikato; GS=Gisborne; TK=Taranaki; CB=Canterbury; OT=Otago.

³ Month outbreak commenced.

⁴ Microbiologically-confirmed cases.

⁵ Evidence for mode of transmission and vehicle/source: Epi-H=cases had history of exposure to implicated source; Epi-S=statistical evidence from cohort or case-control study; Env=evidence from environmental investigation; Lab=pathogen/toxin/chemical suspected to have caused illness identified in implicated source or from investigation of food handler; Oth=other; Nil=no evidence collected.

⁶ Interim outbreak first reported to PHU in September but entered onto EpiSurv in October.

¹ Total cases were recorded for 11 of the 15 outbreaks.

Meningococcal disease outbreak in Dobson

Dobson is a community of 747 people on the West Coast about ten kilometres inland from Greymouth. The town has a single primary school and a small clinic that is attended by a West Coast District Health Board general practitioner on three days a week. On Tuesday 3rd September a six year old boy was referred by the local GP to Grey District Hospital with suspect meningitis which was confirmed and notified to Crown Public Health (CPH) by a hospital physician. The boy was airlifted to the Starship Hospital in Auckland for intensive care, as weather conditions prevented transfer to Christchurch Hospital.

The on-call Health Protection Officer traced the household contacts of the boy and provided them with prophylactic antibiotics, including Ceftriaxone for the boy's mother, who was pregnant. The boy had no siblings and there was no evidence of any close contact at the school. At a class meeting the following day, the Health Protection Officer experienced the usual difficulty of persuading parents of the class that their children would not benefit from antibiotics. However, he was supported by the school principal who had also had the opportunity to discuss the issue with the Medical Officer of Health. The Health Protection Officer emphasised the importance of parents remaining alert for symptoms.

Consequently, the parents of a six year old girl in the class quickly brought their daughter to Grey Hospital Emergency Department when they noticed her displaying some of the symptoms of meningitis the following night. Crown Public Health were notified of a second case of meningitis which was confirmed as Meningococcal by the hospital laboratory over the weekend.

The West Coast Medical Officer of Health, who is based in Christchurch, brought a large supply of Rifampicin syrup to a public meeting at the school on Monday September 9th. The meeting was well attended by many concerned parents. The principal had given the affected class the day off, and though this may have raised anxieties in the town, the mood at the meeting was calm. Dr. Humphrey explained that two cases constituted an "outbreak" which changed the risk benefit ratio of treating the whole class. Despite not knowing for certain whether the cases were linked (serology results had yet to be received from ESR) he advised parents to provide Rifampicin syrup for their children as soon as possible. The parents of the affected girl attended the meeting, and emphasised vigilance and prompt referral in the presence of suspicious symptoms, which the MOH explained should not be relaxed even after antibiotics had been given. All parents accepted the antibiotics, and most dispensed it to their children the same evening, though some elected to wait until serology results had been obtained.

Notably, the media did not attend the public meeting. However, the Medical Officer of Health was interviewed by a local reporter the following day who produced a balanced and informative report for the three West Coast newspapers.

On Wednesday 11th September ESR informed Crown Public Health that both cases were type C meningococcus. No link between these cases and the outbreak in Balclutha could be identified, but the Ministry of Health kept a close watch on

developments as the risk of the media describing a “South Island wide” outbreak was high. In fact PCR studies ultimately confirmed that the subtypes in each outbreak were not related. The Ministry offered to provide media support to Crown Public Health.

In an outbreak in a school where classes do not mix the epidemiological boundary is usually considered as the affected class only. However, there were only 87 students in this school and more than enough spare vaccine left over from the Balclutha outbreak to treat all pupils and staff in Dobson. Therefore, after discussion with the Ministry of Health and a Christchurch infectious disease specialist, Dr. Humphrey elected to offer prophylactic antibiotics to the whole school the same day and Mencevax as soon as it arrived from Dunedin. All parents consented to treat their children with Rifampicin and only half a dozen families declined the vaccine.

On Monday 16th September all pupils and staff of the school were vaccinated by a team of Public Health Nurses who are employed by the West Coast District Health Board. Crown Public Health provided on site medical support in the form of the Medical Officer of Health with logistical support from the Health Protection Officers.

Both children infected with meningococcus recovered without any complications and no further cases were reported after treatment was started.

The swift response by health providers with the support of their community is noteworthy here: The whole class were treated with prophylactic antibiotics within two days of notification of the second case, despite this occurring over a “West Coast weekend”. The whole school received prophylactic antibiotics the same day that both serotype Cs were identified and the whole school was vaccinated within three working days of this. However, in order to expedite the public health response in the future, Grey Hospital laboratory will henceforth carry antisera for meningococcus so that potential containment of an outbreak does not have to depend on couriering serum or CSF samples to ESR in Porirua – a process which can take several days from the West Coast, particularly if a weekend intervenes.

It is not certain whether the response in this outbreak prevented further cases. However, it required the collaboration of a number of different organisations in a remote location. All those involved should take some credit for the happy outcome of this outbreak, including the staff, pupils and parents of Brunnerton School; Drs Chambers, Holmes, Lush and Wood; Crown Public Health; Robin Williams and her team of Public Health Nurses at the West Coast District Health Board.

(Reported by Dr. Alistair Humphrey, Medical Officer of Health, West Coast).

Contributors to this report include Alistair Humphrey, Liza Lopez, Trev Margolin, and Elizabeth Sneyd. The report is edited by Elizabeth Sneyd and reviewed by Jose M Ortega. For further details on items contained in this report contact either of the following:

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An electronic version of this report and previous month's reports may be downloaded from the Public Health Surveillance section on ESR's Website (www.esr.cri.nz).

5. National surveillance data and trends

Disease incidence and rates

Disease ¹	Current year - 2002 ²			Previous year - 2001		
	Oct 2002 cases	Cumulative total since 1 January	Current rate ³	Oct 2001 cases	Cumulative total since 1 January	Previous rate ³
AIDS	0	16	0.6	2	21	0.7
Campylobacteriosis	1155	10164	350.3	1112	7219	238.3
Cholera	0	1	0	1	3	0.1
Cryptosporidiosis	260	830	26.1	240	1063	32.4
Dengue fever	0	60	1.8	15	84	2.3
Gastroenteritis ⁴	95	824	25.9	100	799	25.6
Giardiasis	113	1324	42.4	135	1344	42.7
<i>H. influenzae</i> type b disease	0	3	0.1	0	10	0.3
Hepatitis A	4	98	3.0	4	48	1.7
Hepatitis B (acute) ⁵	4	56	1.7	6	49	1.6
Hepatitis C (acute) ⁵	2	47	1.5	4	50	1.6
Hydatid disease	0	1	0	3	7	0.2
Influenza ⁶	22	697	18.7	19	664	18.8
Lead absorption	6	79	2.6	4	112	3.8
Legionellosis ⁶	4	42	1.3	3	49	1.7
Leprosy	0	2	0.1	0	3	0.1
Leptospirosis	10	120	3.8	5	83	2.5
Listeriosis	2	15	0.5	1	14	0.4
Malaria	3	56	1.7	2	45	2.4
Measles	3	24	1.1	19	67	1.8
Meningococcal disease ⁷	40	494	16.5	65	526	15.9
Mumps	10	55	1.6	3	53	1.7
Paratyphoid	0	13	0.5	4	28	0.9
Pertussis	103	889	27.3	58	1201	57.2
Rheumatic fever	3	74	2.2	1	110	3.7
Rickettsial disease	0	6	0.2	2	5	0.1
Rubella	2	33	1.0	0	26	0.8
Salmonellosis	138	1624	55.4	300	1972	60.5
Shigellosis	8	99	2.9	10	146	4.4
Tetanus	0	1	0.1	0	3	0.1
Tuberculosis	47	315	10.3	36	302	9.6
Typhoid	3	22	0.8	0	20	0.6
VTEC / STEC infection	5	65	1.9	7	71	2.1
Yersiniosis	45	395	12.5	59	357	10.9

Notes: ¹ Other notifiable infectious diseases reported in October : Nil

² These data are provisional

³ Rate is based on the cumulative total for the current year (12 months up to and including October 2002) or the previous year (12 months up to and including October 2001), expressed as cases per 100 000

⁴ Cases of gastroenteritis from a common source or foodborne intoxication eg, staphylococcal intoxication or toxic shellfish poisoning

⁵ Only acute cases of this disease are currently notifiable

⁶ Surveillance data based on laboratory-reported cases only

⁷ These totals and rates are based on the EpiSurv report date as opposed to the earliest available date used in the meningococcal disease section

Monthly totals for October 2002 and preceding 12 months

Disease	Oct 2002	Sep 2002	Aug 2002	Jul 2002	Jun 2002	May 2002	Apr 2002	Mar 2002	Feb 2002	Jan 2002	Dec 2001	Nov 2001	Oct 2001
AIDS	0	4	1	1	1	1	3	1	3	1	4	1	2
Campylobacteriosis	1155	1175	1122	1005	820	675	547	938	1183	1544	1491	1436	1112
Cholera	0	0	0	0	0	0	1	0	0	0	0	0	1
Cryptosporidiosis	260	239	89	53	29	42	17	24	39	38	44	101	240
Dengue fever	0	0	8	13	8	17	6	3	3	2	1	8	15
Gastroenteritis ²	95	70	71	62	143	85	72	102	62	62	72	71	100
Giardiasis	113	107	122	128	128	167	132	152	145	130	117	142	135
Haemophilus influenzae type b	0	0	0	0	1	2	0	0	0	0	0	1	0
Hepatitis A	4	2	2	2	7	9	18	28	17	9	6	7	4
Hepatitis B (acute) ³	4	5	6	6	7	7	5	3	5	8	2	5	6
Hepatitis C (acute) ³	2	8	7	3	5	6	4	8	2	2	5	4	4
Hydatid disease	0	0	1	0	0	0	0	0	0	0	0	0	3
Influenza ⁴	22	103	136	230	151	30	16	3	3	3	1	1	19
Lead absorption	6	5	10	9	7	14	5	7	9	7	7	11	4
Legionellosis ⁴	4	4	4	7	5	4	3	4	0	7	5	3	3
Leprosy	0	0	0	1	1	0	0	0	0	0	0	0	0
Leptospirosis	10	13	6	14	10	16	14	8	18	11	10	12	5
Listeriosis	2	1	3	2	0	0	1	2	2	2	1	3	1
Malaria	3	6	3	6	5	6	6	3	8	10	5	4	2
Measles	3	0	4	3	1	2	2	3	4	2	6	10	19
Meningococcal disease ⁵	40	75	86	66	70	44	30	27	24	32	57	66	65
Mumps	10	6	4	4	6	7	4	5	6	3	2	1	3
Paratyphoid	0	0	2	2	2	3	1	3	0	0	1	3	4
Pertussis	103	98	110	83	88	113	52	58	95	89	65	68	58
Rheumatic Fever	3	6	8	4	2	9	1	9	16	16	4	3	1
Rickettsial disease	0	2	2	0	1	1	0	0	0	0	0	0	2
Rubella	2	2	5	1	5	8	6	1	1	2	3	1	0
Salmonellosis	138	131	86	95	92	115	130	345	259	233	217	229	300
Shigellosis	8	4	8	12	10	13	12	10	11	11	5	6	10
Tetanus	0	0	0	0	0	1	0	0	0	0	1	0	0
Tuberculosis	47	29	35	42	23	27	26	24	27	35	42	29	36
Typhoid	3	0	0	2	1	3	2	6	4	1	4	3	0
VTEC/STEC infection	5	6	6	7	4	11	8	2	5	11	1	4	7
Yersiniosis	45	25	30	30	33	42	33	42	44	71	38	34	59

Notes: ¹ Later data are provisional

² Cases of gastroenteritis from a common source or foodborne intoxication eg, staphylococcal intoxication or toxic shellfish poisoning

³ Only acute cases of this disease are currently notifiable

⁴ Surveillance data based on laboratory-reported cases only

⁵ These totals are based on the EpiSurv report date as opposed to the earliest available date used in the meningococcal disease section

Surveillance data by health district - October 2002

Cases this month

Current rate¹

Disease	Cases for October 2002, ² and current rate ^{1,2} by health district ^{3,4}																							
	Northland	NW Auckland	Central Auckland	South Auckland	Waikato	Tairāngia	Eastern BOP	Gisborne	Rotorua	Tairāpo	Taranaki	Ruapehu	Hawkes Bay	Wanganui	Manawatu	Wairarapa	Wellington	Hutt	Nelson-Marl	West Coast	Canterbury	South Cant	Otago	Southland
AIDS ⁵	0		0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0		0		0.3	0.8	0	0	1.6	0	0	0	0	0	0	0	4.7		0	0	0	0	0	0
Campylobacteriosis	21	174	146	118	113	21	3	9	23	8	29	0	26	11	24	9	114	33	25	7	127	29	47	38
	221.9	430.5	443.5	319.0	367.1	261.7	144.7	241.2	274.4	323.7	330.6	105.0	331.6	265.5	210.0	237.8	480.1	370.8	170.0	267.0	364.3	459.4	357.6	347.1
Cholera	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cryptosporidiosis	0	11	4	3	36	5	0	0	6	7	11	1	20	8	20	2	14	3	9	5	20	27	33	15
	7.1	11.4	7.3	6.7	41.5	16.3	8.2	6.8	24.8	53.9	36.8	28.0	41.1	20.6	44.2	18.3	59.9	19.0	18.8	46.2	21.9	69.1	43.9	56.5
Dengue fever	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	1.6	5.2	3.5	1.6	1.5	2.0	0	0	9.5	1.9	0	0	1.7	2.0	0	0.4	3.0	0	0	1.7	0	0.6	0
Gastroenteritis	0	11	8	6	3	0	0	0	0	1	3	0	0	1	0	2	13	7	4	0	29	5	2	0
	7.1	22.6	27.2	11.2	9.1	1.5	2.0	15.9	7.8	6.3	15.5	0	4.9	32.5	21.7	23.5	35.9	39.4	16.3	13.2	83.9	38.4	23.5	15.7
Giardiasis	1	13	25	10	15	0	1	0	2	0	1	0	8	0	3	0	9	2	3	1	8	4	5	2
	17.1	44.7	65.5	36.2	52.5	45.7	20.4	38.7	32.6	38.1	15.5	0	90.6	46.2	27.2	26.1	48.5	57.6	31.1	62.6	35.6	26.9	28.9	16.7
<i>H. influenzae</i> type b disease	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0.2	0	0	0	0	0	0	0	0	1.0	0	0.7	0	0	0	0	0	0	0	0.2	0	0	0
Hepatitis A	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
	0.7	4.0	8.2	5.6	5.8	0	0	0	1.6	6.3	0	0	2.8	0	1.4	2.6	1.6	3.8	1.6	0	0.5	0	0	0.9
Hepatitis B	1	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
	2.1	1.6	2.7	1.3	1.6	3.1	0	13.7	0	3.2	1.0	7.0	2.1	1.7	1.4	2.6	2.0	0	0	0	1.7	0	0.6	0
Hepatitis C	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0.9	0.3	1.1	0.3	12.4	2.0	0.0	4.7	6.3	0.0	0.0	1.4	0.0	0.7	2.6	3.2	0.8	0.0	6.6	1.2	3.8	0.6	0.0
Hydatids disease	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lead absorption	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	2	0
	4.3	1.9	2.2	0.5	3.6	2.3	2.0	11.4	0	0	3.9	0	1.4	3.4	4.1	2.6	0.4	0.8	0.8	0	3.7	6.4	7.2	2.8
Legionellosis ⁶	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	0	0	0	1	0
	2.1	0.5	0.8	0.5	1.0	0.8	0	0	0	6.3	1.0	7.0	1.4	1.7	0	7.8	1.6	2.3	1.6	0	3.0	1.3	2.4	0
Leprosy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0.3	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Leptospirosis	1	0	0	1	0	0	0	0	0	0	3	1	1	0	2	0	0	0	0	0	1	0	0	0
	7.1	1.9	0	0.5	7.1	5.4	2.0	6.8	0	0	5.8	21.0	21.6	5.1	8.8	2.6	0.8	0	5.7	6.6	1.2	14.1	1.8	1.9
Listeriosis	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
	0	0.5	0.5	0.5	0.3	3.1	0	0	0	0	0	0	0	0	0.7	0	0	0.8	0	0	0.7	1.3	0.6	0.9
Malaria	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0
	0	1.2	0.8	1.3	2.6	2.3	0	0	3.1	3.2	1.9	14.0	1.4	0	6.8	0	2.0	0.8	2.5	0	2.0	2.6	1.8	0
Measles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	0	0	0
	0	0.5	0.3	0.3	0.6	0.8	0	0	0	0	0	0	0.7	0	0.7	0	1.2	0	4.9	13.2	3.0	1.3	0.6	3.7
Meningococcal disease ⁶	0	3	5	3	1	0	0	0	6	0	0	0	3	1	1	0	5	1	0	0	6	0	4	1
	20.0	9.3	13.1	26.1	17.2	23.2	32.6	20.5	69.8	60.3	7.8	21.0	24.4	8.6	8.2	13.1	11.0	12.1	4.1	23.1	7.5	7.7	34.3	13.0
Mumps	0	1	1	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	5	0
	1.4	1.9	1.4	1.3	0.3	1.5	2.0	0	1.6	0	0	0	2.8	1.7	0.7	0	1.2	0.8	3.3	3.3	1.0	1.3	5.4	3.7
Paratyphoid	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0.9	0.3	0.8	0.6	0	0	0	0	0	0	0	1.4	0	0	0	0.8	0.8	0.8	0	0	1.3	0	0
Pertussis	1	19	1	3	13	0	0	0	0	0	5	0	0	4	4	2	4	7	13	5	14	6	0	2
	6.4	20.2	9.5	8.5	37.3	5.4	4.1	4.6	3.1	6.3	13.6	7.0	10.4	17.1	12.9	15.7	27.2	33.4	64.6	237.4	48.6	204.8	4.2	35.2
Rheumatic fever	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0
	7.1	0.5	4.1	6.4	1.9	3.9	4.1	4.6	3.1	0	1.0	7.0	1.4	1.7	0	2.6	2.0	0.8	0	0	0.2	0	0	0
Rickettsial disease	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	1.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rubella	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0
	0.7	0.2	0.5	0.3	0	0.8	4.1	0	0	0	1.0	0	9.8	0	0	5.2	1.2	0.8	3.3	3.3	0.5	0	0.6	0
Salmonellosis	3	16	15	8	12	4	1	5	4	0	0	3	5	1	4	2	8	5	2	0	15	4	10	11
	44.2	41.9	48.4	41.0	52.8	29.4	46.9	75.1	52.7	79.3	52.4	49.0	81.5	63.4	46.2	68.0	56.0	41.7	127.5	59.3	51.5	101.1	70.4	89.8
Shigellosis	0	0	4	2	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0
	2.1	3.0	7.1	6.4	0.6</																			

1 Current rate is based on the cumulative total for the 12 months up to and including October 2002 expressed as cases per 100 000

2 These data are provisional

3 AIDS data is reported for the greater Auckland and Wellington areas, rather than by health district

4 Further data are available from the local medical officer of health

5 Surveillance data based on laboratory