

MONTHLY SURVEILLANCE REPORT

This monthly report contains data and commentary on disease trends and events up to and including the end of March 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 9th April, 2002. As this information may be updated over time, the results should be regarded as provisional only.

Note: where rates are quoted, “current rate” refers to the rate for the 12 month period ending March 2002 and “previous rate” refers to the rate for the 12 month period ending March 2001. As from this month, rate calculations utilise updated figures from the 2001 Census.

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1. Major surveillance issues

- *Brucellosis*. First locally acquired case of *Brucella suis*, presumed to be from contact with infected pig(s). The investigation is continuing.
- *Campylobacteriosis*. Incidence in March remains relatively high following the highest incidence summer seen for this disease.
- *Hepatitis A*. Increase in incidence seen in February and March attributed to a common source outbreak linked to consumption of uncooked blueberries.
- *Salmonellosis*. Incidence in March remains relatively high following the highest incidence summer seen for this disease. The contribution of STM160 to the total *Salmonella* burden appears to be declining. This follows a 15-month period during which this type has increasingly dominated salmonellosis in New Zealand. The contribution of *Salmonella* Typhimurium phage type 1 has increased, and comprised 39.8% of cases during March 2002.

2. Key disease trends

Brucellosis

There have been two cases of brucellosis notified in March from Auckland and Wellington. The first case, a 43 year old male from Auckland is believed to have been a locally acquired case and the second case, a five year old male from Wellington is understood to have acquired it overseas.

The Auckland case had slaughtered two pigs a fortnight before the onset of illness. Culture and serology results have identified the infective organism as *Brucella suis*. The Wellington case was overseas in India and had consumed raw (unpasteurised) milk.

Brucella suis has never been detected in the New Zealand pig population. Since notification of the above mentioned case, no source of *B. suis* in New Zealand pigs has yet been found. Only *Brucella abortus* (which is maintained in cattle) has ever been endemic in New Zealand. No new cases of brucellosis have been diagnosed in New Zealand cattle since 1989. Suspected or confirmed cases of brucellosis must be notified to the regional Medical Officer of Health.

Brucellosis is a systemic bacterial disease characterised by acute or insidious onset of fever, night sweats, fatigue, anorexia, weight loss, headache, and arthralgia. Correct laboratory investigation is critical in establishing the diagnosis. The standard agglutination test (SAT) and Coombs test are the usual methods for detecting *Brucella* antibodies in serum. A case is confirmed either by the isolation of the *Brucella* species from a clinical specimen or a four fold or greater rise in *Brucella* antibody

titre between acute and convalescent phase sera obtained two or more weeks apart and tested at the same time in the same laboratory.

Brucellosis is a zoonotic disease and is transmitted through contaminated and untreated milk and milk products and by direct contact with infected animals, animal carcasses, and abortion materials. Human brucellosis is caused by a number of different species of *Brucella*, of which *Brucella melitensis*, *Brucella suis*, and *Brucella abortus* have public health implications.

Source:

Chin J. Control of communicable disease manual. 17th ed. Washington DC: American Public Health Association, 2000.

Campylobacteriosis

There were 932 cases of campylobacteriosis notified during March 2002. In contrast, 603 cases were notified during the same month last year. This was the second highest March total recorded for campylobacteriosis, and follows the highest incidence summer period recorded for this infection (4215 cases from December 2001 to February 2002).

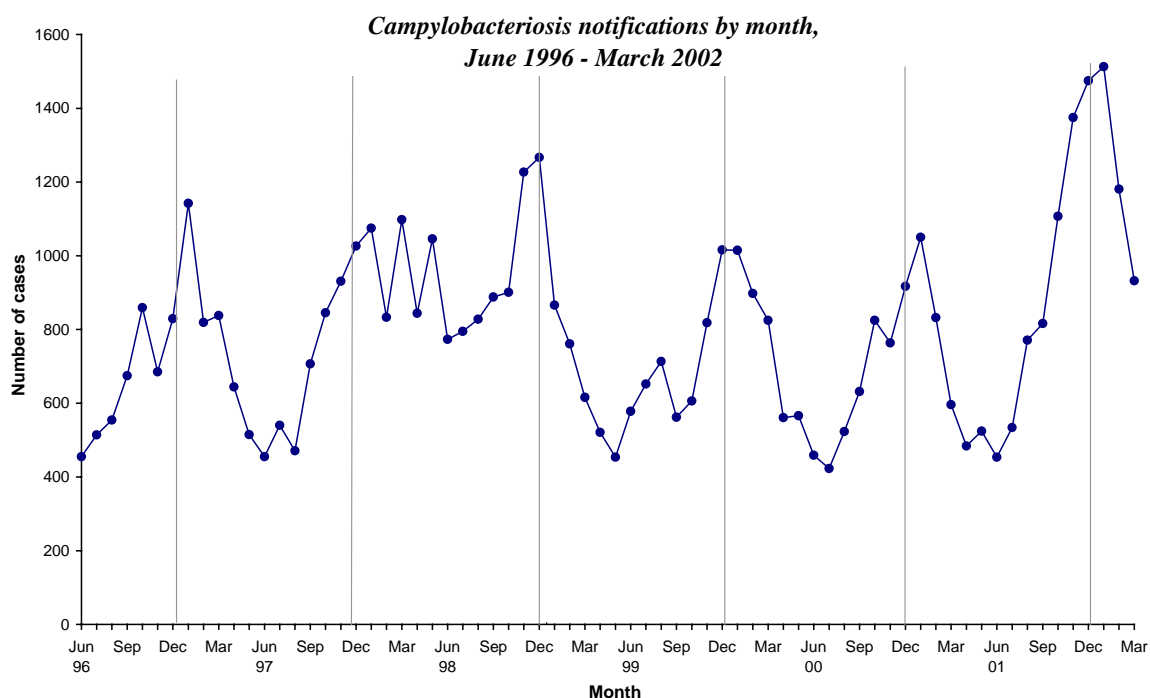
Rates higher than the national rate of 302.2 per 100 000 were seen in Wellington (469.1), Hutt (385.2), Taupo (374.5), South Canterbury (364.7), Waikato (361.3), North West Auckland (336.9), Central Auckland (330.1), Taranaki (321.9) and Hawkes Bay (317.6) Health Districts.

Of the 932 notified cases, 35.7% (333 cases) were notified from the combined Auckland health districts, 18.9% (176) from Canterbury, 8.5% (79) from Wellington and 5.9% (55) from Waikato Health Districts. The majority of cases (86.4%) were of European ethnicity.

Six outbreaks were reported this month from Auckland (two), Hawkes Bay (one), and Canterbury (three) Health Districts. Between two and fifteen cases were associated with these outbreaks. The outbreaks were transmitted by food (four outbreaks), and both water and the environment (one). The mode of transmission was unknown for one outbreak.

Of the 625 cases for which the information was recorded, there were 23 hospitalisations.

The following graph shows campylobacteriosis notifications by month since June 1996. It demonstrates the marked seasonality of campylobacteriosis incidence and the typical summer peak.



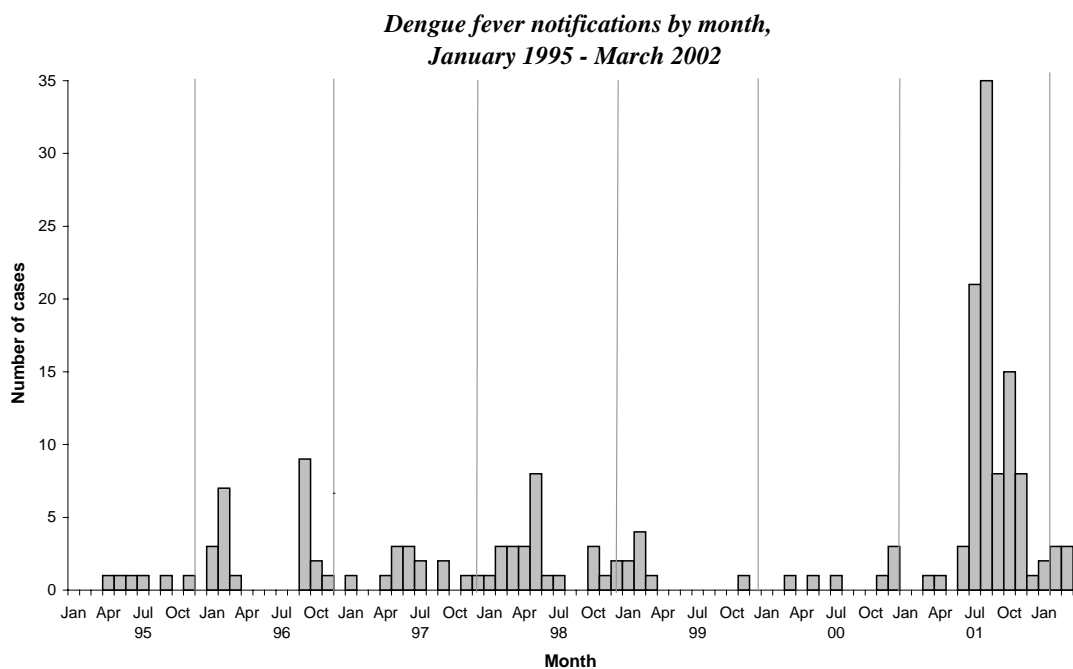
Risk factor information was infrequently recorded on the case report forms, with only 20.8% (194/932) of notifications in March including information on human contact and only 23.0% (214/932) including information on contact with farm animals. Of these, 20.1% (39/194) had a history of contact with other symptomatic people and 19.2% (41/214) reported exposure to farm animals during the incubation period for the disease.

Dengue fever

Three cases of dengue fever were notified in March 2002, bringing the year to date total to eight. Two of the March cases have been laboratory confirmed.

One case, a 33 year-old male, had travelled recently to Bali; another 31 year-old male had been working in the Cook Islands. The third case, a 26 year-old female on holiday to Tahiti, was allegedly bitten 40 times on the first day she was there.

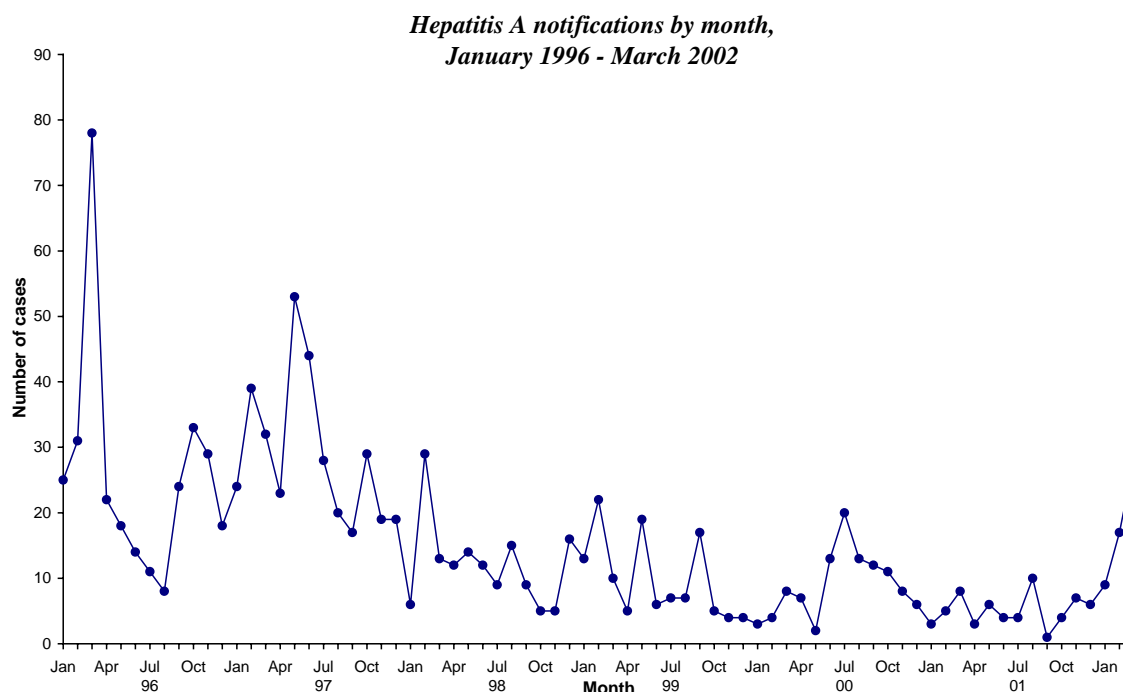
The following graph shows the number of dengue notifications by month since 1995.



Hepatitis A

A total of 28 cases of hepatitis A was notified during March 2002, compared to eight cases notified during the same month last year. This brings the year to date total to 54 cases.

The following graph shows the number of cases of hepatitis A notified each month since January 1996.



Of the 28 March notifications, seventeen were notified from the combined Auckland health districts, eight from Waikato, and one each from Hutt, Southland and Northland Health Districts.

The following table shows the geographic distribution of the 54 cases notified this year to date.

Notified cases of hepatitis A by health district, January 2002 – March 2002

	Health District								
	NL	NW	CA	SA	WK	RO	WN	HU	SO
Number of cases	1	8	14	11	12	1	2	4	1

Of the 27 cases for whom ethnicity was recorded, nineteen were European, four were Pacific People, one was Maori, and one was of 'Other' ethnicity. Ages of notified cases ranged from five to 88 years. Nine cases were hospitalised (33.3% of the 27 cases for whom the information was recorded).

Information on risk factors was sparsely recorded for March notifications. Three cases reported recent overseas travel to Australia, Hong Kong and Samoa. Two cases reported household contact and one case recorded sexual contact with a previously confirmed case.

A national investigation of the increased number of hepatitis A cases commenced in March, following recognition of a possible dispersed common source of infection among Auckland cases, and has included epidemiological and environmental components. Cases were eligible for inclusion in the epidemiologic investigation if notified with hepatitis A between 1 January and 10 April 2002 and aged over 15 years. Controls were matched to cases by exposure period and region of residence, using a 2:1 ratio. Study participants were interviewed using a questionnaire which included questions about foods consumed, overseas travel, and potential routes of faecal-oral transmission.

The study included 39 cases and 79 controls. Cases were from Northland (one case), Auckland (27 cases), Waikato (five cases), Rotorua (one case), Wellington (four cases) and Southland (one case). The peak age group among cases was among 16-24 year olds (11 cases, 28.2%), and there were slightly more females (23, 59.0%) than males (16, 41.0%). Analysis of the data showed that illness was significantly associated with consumption of raw blueberries (odds ratio = 7.60; 95% confidence interval: 2.64 - 22.41), and was not confounded by age or other factors. Of the 39 cases, 19 (55.9%) had a history of eating raw blueberries. Illness was not significantly associated with any other exposures.

An environmental investigation of the outbreak was also started in March. Blueberry brands consumed by hepatitis A cases were traced back to their sources, and subsequent hazard analysis critical control point (HACCP) investigations were performed to identify potential points of blueberry contamination.

Leptospirosis

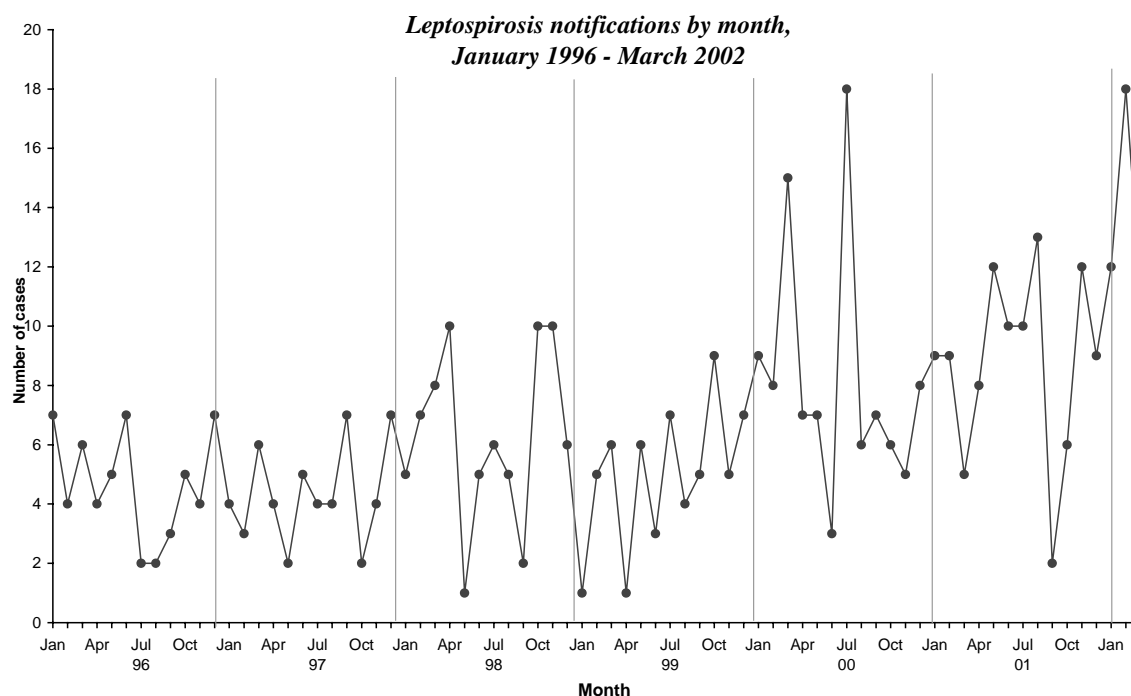
A total of 11 cases of leptospirosis were notified in March 2002, compared to five cases during the same period last year. Cases were reported from Manawatu (three cases), Canterbury (two), Gisborne (two), and one each from Nelson-Marlborough, Tauranga, Ruapehu and Waikato Health Districts.

Occupation was recorded for all 11 cases. Four cases worked in the meat processing industry and four were farmers. The remaining three cases neither had occupations typically associated with the disease nor reported contact with farm or wild animals. No cases reported recent overseas travel. The cases were not linked in any way to each other.

Cases ranged in age from 19 to 57 years. Of the ten cases for whom gender was recorded, nine were male and one was female. There were four hospitalisations among the seven cases for whom this information was recorded.

Of the six cases for whom the serovar was identified and recorded in EpiSurv, three were *Leptospira borgpetersenii* sv hardjo and three were *L. interrogans* sv pomona.

The following graph shows leptospirosis notifications by month since January 1996.



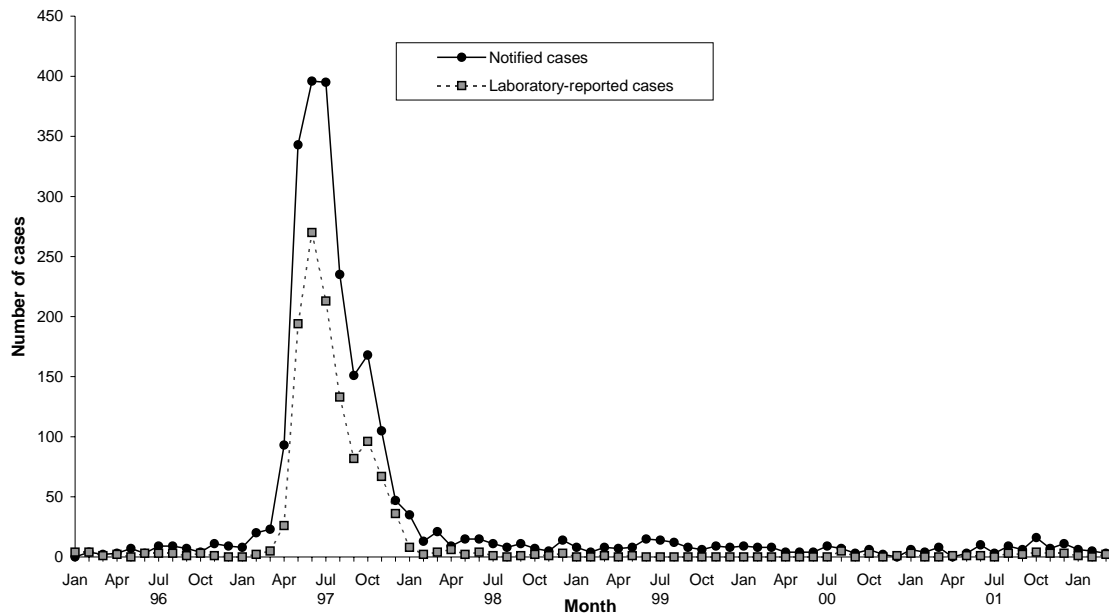
Measles

Three cases of measles were notified during March 2002, bringing the year to date total to 11. Two males aged less than one year were reported from Nelson-Marlborough and Tauranga Health Districts, and a one year-old female was reported from Waikato Health District. Only the Waikato case has been laboratory confirmed.

An additional two cases of measles were laboratory-reported during March: a one year-old male by Waikato Virology Lab and a 15 month old female by Christchurch Virology Lab.

The following graph shows the number of notified and laboratory-reported cases each month since January 1996.

*Measles laboratory-reported and notified cases by month,
January 1996 - March 2002*



The table below illustrates the associated risk factors for notified cases.

*Measles notifications by age, immunisation status, and recorded risk factors,
March 2002.*

Health District	Lab Confirmed	Age	Contact with a case	Overseas during incubation	Immunisation Status
Waikato	Yes	1y	No	Unknown	No
Tauranga	Unknown	7m	Unknown	Unknown	No
Nelson-Marlborough	Unknown	0y	Unknown	Unknown	Unknown

The last measles epidemic began five years ago in March 1997 when 23 cases were notified. Of these, five were laboratory confirmed (see section on measles from 1997 Annual Surveillance Summary). The timing of future measles epidemics is difficult to predict because of a lack of reliable immunisation coverage data and the unknown impact of measles catch-up immunisation campaigns.

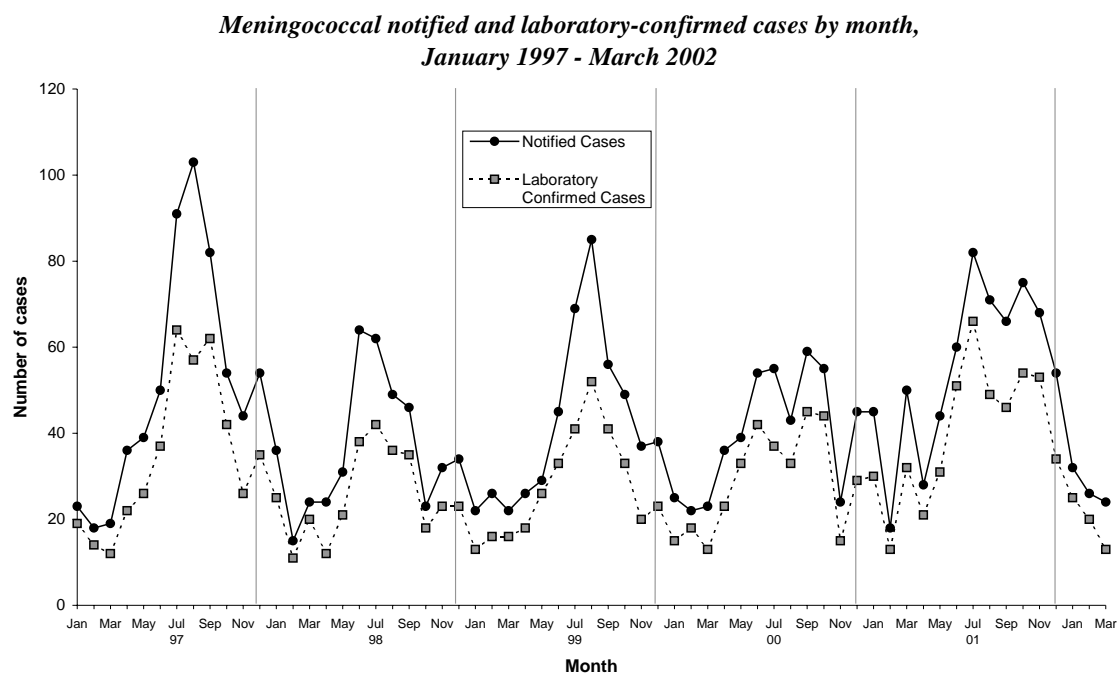
Local public health services should continue efforts to improve measles surveillance by encouraging case notification on suspicion and laboratory investigation of such cases. It is also important to record risk factor information and immunisation status for cases, particularly those that are laboratory confirmed.

Meningococcal disease

A total of 24 cases of meningococcal disease was notified during March 2002, bringing the year to date total to 82. Of the 24 cases notified during March this year, 13 had been laboratory confirmed at the time of this report.

Two of the cases notified this month were fatal cases: a four month old male from North West Auckland Health District and an 18 year old male from Otago Health District. This brings the number of fatal cases this year to four.

Note: the data plotted below was derived using the earliest available data for the case (i.e. onset or hospitalisation date, if available, rather than report date).

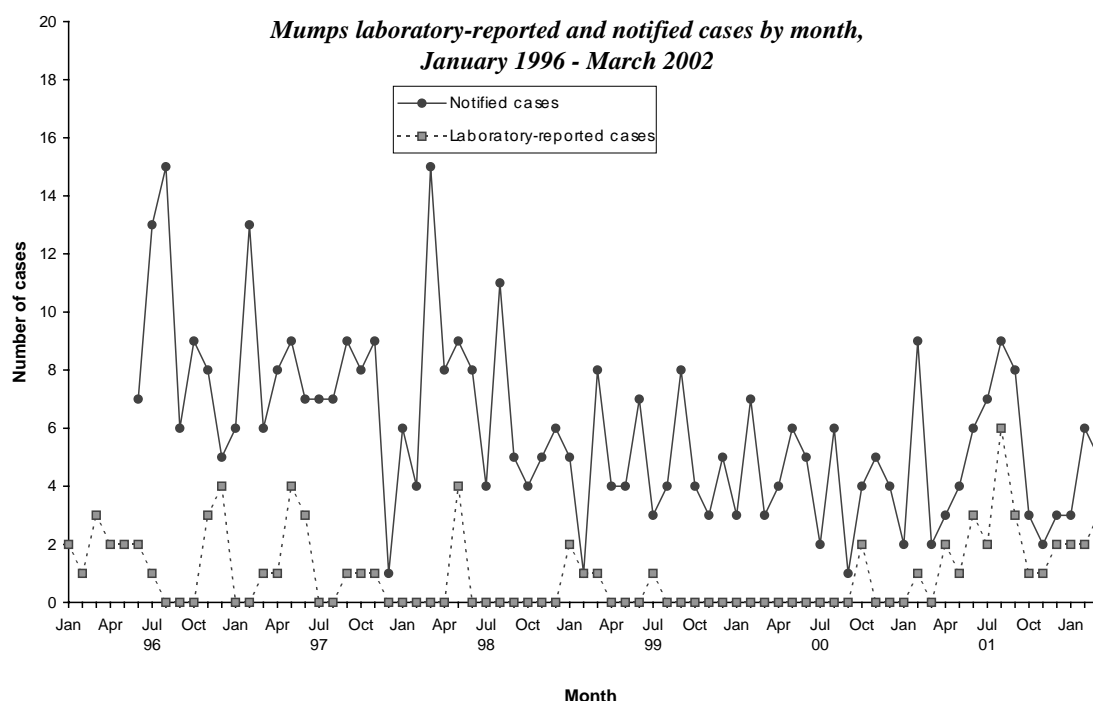


Mumps

Five cases of mumps were notified during March 2002, bringing the year to date total to fourteen. Northland and North West Auckland Health Districts each reported two cases, and the remaining case was notified by Central Auckland Health District. Two cases were Maori, one was European, one was of Pacific people ethnicity and one case was of 'Other' ethnicity. None of the cases has been laboratory confirmed.

An additional three cases of mumps were laboratory-reported during March: a 15 year-old female by Auckland Virology Lab and two females aged 20 and 40 years by Dunedin Virology Lab.

The following graph shows the number of notified and laboratory-reported cases each month since January 1996.



The table below illustrates the associated risk factors for notified cases.

Mumps notifications by age, immunisation status, and recorded risk factors, March 2002.

Health District	Age	Contact with a case	Overseas during incubation	Immunisation Status	Number of doses of MMR vaccine
North West Auckland	12	Unknown	Unknown	Yes	2
North West Auckland	1	No	No	Yes	1
Northland	3	No	No	Yes	1
Northland	6	Yes	No	Yes	2
Central Auckland	53	No	No	Unknown	NA

Pertussis

During March 2002, 58 cases of pertussis were notified, compared to 96 cases in February and 91 cases in January 2002. Of these, 56.9% (33/58) were either confirmed by isolation of *Bordetella pertussis* or were recorded as having had contact with a confirmed case of the disease. A further 11 cases (19.0%) were recorded as 'probable' cases. Five hospitalisations (or 11.4% of cases for whom this information was recorded) were reported.

Forty-three cases (or 84.3% of cases for whom ethnicity was recorded) were European. There were also three Maori cases, three Pacific people and two cases of 'Other' ethnicity.

The following table shows the number of doses of pertussis vaccine given to March 2002 cases in each relevant age group.

Age group of pertussis notifications and vaccination received, March 2002.

Age group	Total Cases	Immunisation status ¹						
		One dose	Two doses	Three doses	Four doses	Immunised (no dose info)	Not immunised	Unknown status
0-6 weeks	0	(0)	(0)	(0)	(0)	0	0	0
6 wks-2 mths	0	0	(0)	(0)	(0)	0	0	0
3-4 months	1	0	1	(0)	(0)	0	0	0
5-14 months	2	0	0	0	(0)	0	0	2
15 mths-4 yrs	17	0	0	0	6	1	3	7
5+ years	38	0	1	3	7	9	2	16
Total	58	0	2	3	13	10	5	25

¹ Bracketted numbers indicate cases ineligible for vaccination

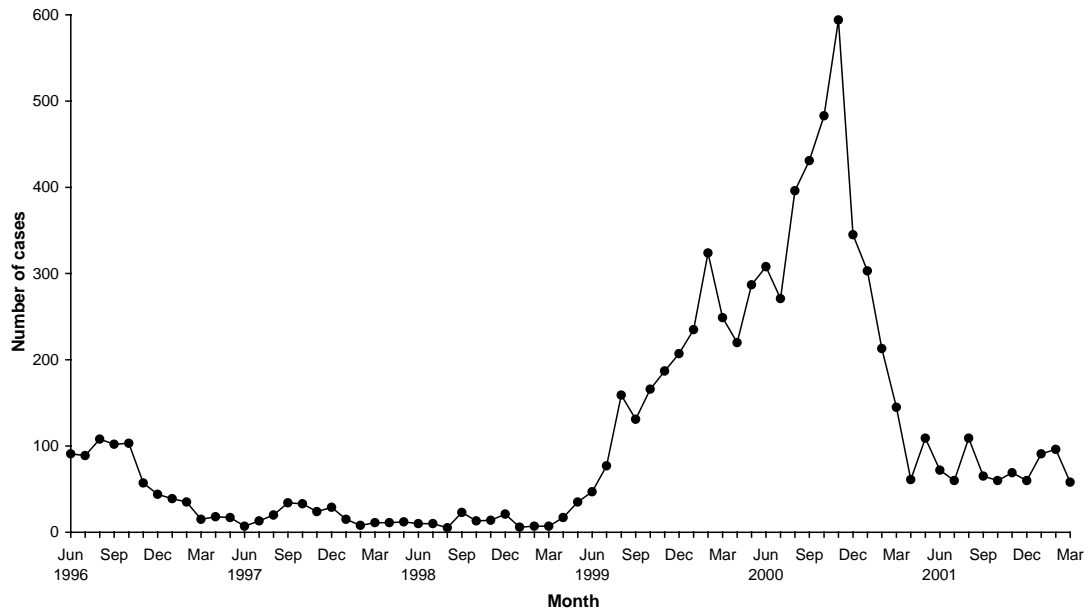
A total of 6698 cases of pertussis have been notified since the current epidemic began in June 1999. Of these, 3165 (47.3%) cases have been laboratory confirmed by isolation and a further 13% were epidemiologically linked to a confirmed case. There have been 499 hospitalisations (8.1% of cases for whom this information was recorded) and one death reported.

Incidence is still well above the inter-epidemic level of about 15 cases a month. March notifications were highest in Nelson-Marlborough (17 cases), North West Auckland (7), and in Canterbury, South Canterbury and Hutt Health Districts (five cases each).²

The following graph shows the number of notified cases each month since June 1996, when pertussis became notifiable.

² Since June 1999, the greatest number of notifications has been from Canterbury Health District (23% of all notifications); followed by Nelson-Marlborough and Waikato health districts, each accounting for 12% of notifications.

*Pertussis notified cases by month,
June 1996 - March 2002*

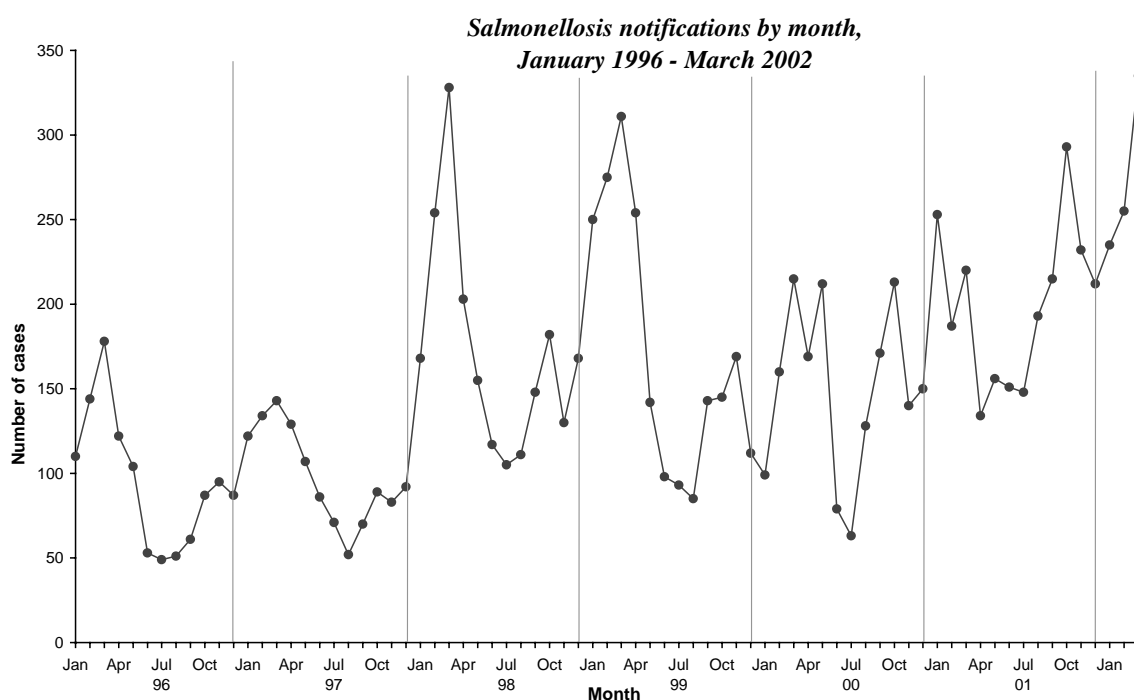


Salmonellosis

There were 335 salmonellosis notifications in March 2002, compared to 222 cases notified in the same month last year. This was the highest March total recorded for salmonellosis, and follows the highest incidence summer period recorded for this infection (695 cases from December 2001 to February 2002). Rates higher than the national rate of 68.7 per 100 000 were seen in Nelson Marlborough (143.0), South Canterbury (107.5), Ruapehu (105.0), Otago (104.1), Hawkes Bay (96.8), West Coast (95.6), Southland (91.6), Wellington (81.2), Taupo (79.3), Wanganui (78.8) and Wairarapa (73.2) Health Districts.

Five salmonellosis outbreaks were reported in March, three from Auckland health districts and one each from Hawkes Bay and West Coast Health Districts, relating to two outbreaks in December 2001, one each to January 2002, September 2001, and February-March 2002. The mode of transmission was known for four of these five outbreaks, and all were foodborne.

The following graph shows the number of salmonellosis notifications each month since January 1996.

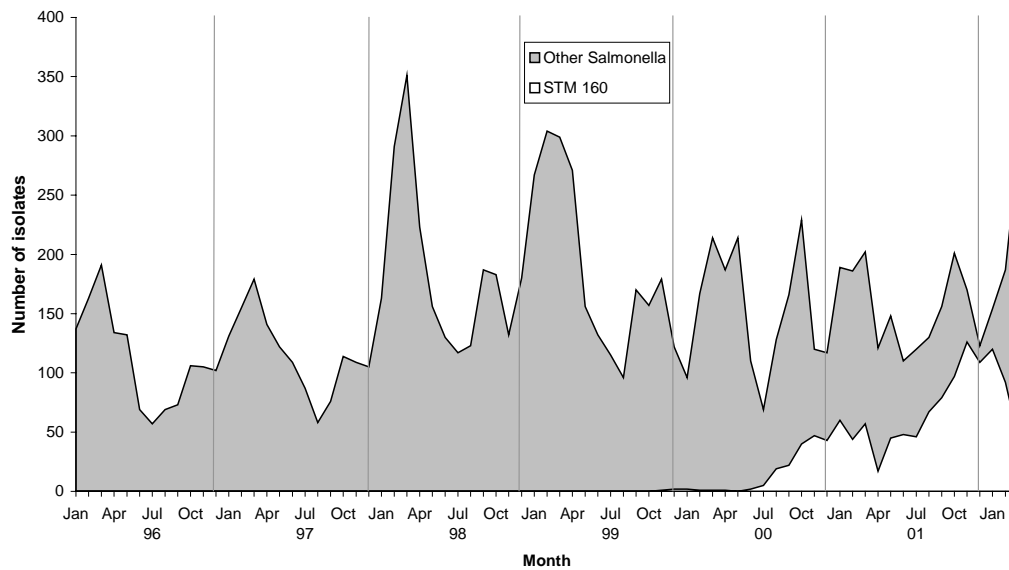


The ESR Enteric Reference Laboratory (ERL) identified 334 human cases from *Salmonella* isolates received during March 2002. The predominant types identified were *S. Typhimurium* phage 1 (133 cases), *S. Typhimurium* 160 (STM 160) (46), *S. Typhimurium* phage type 9a, *S. Infantis* and *S. Typhimurium* phage type 135 (16 each). The contribution of STM160 to the total *Salmonella* burden appears to be declining. This follows a 15-month period during which this type has increasingly dominated salmonellosis in New Zealand.

The ERL identified 46 STM 160 cases in March, representing 13.7% of all cases identified during the month. The frequency of identification of *S. Brandenburg* has remained at seven cases for the past two months. Frequency of identification of STM1 has increased to 39.8% of all cases identified during March, from 6.1% in February. By comparison, 146 cases of STM1 were identified during the whole of 2001, 5.6% of the total cases during that year.

The following graph illustrates the contribution of STM 160 to the total *Salmonella* burden, since January 1996.

*Salmonella Typhimurium phage type 160 and Other Salmonella,
January 1996 - March 2002*



Typhoid

There were six typhoid notifications in March 2002, compared to three cases notified in the same month last year. Five of these could be matched to a lab isolate. The current rate of 0.7 per 100 000 is slightly higher than the previous rate of 0.6. Three were phage type E1A and two were phage type E7 variant. Risk factor information was recorded for four of the six cases. Two had contact with a case, one had contact with a symptomatic case, and one had been overseas. Information on overseas travel was known for only one of the cases. The case had been in Samoa during the incubation period. The median age was 15.5 years (range 0 –29 years). The cases were all from Auckland health districts, four from North West and two from South Auckland.

3. Deaths from notifiable diseases (excluding AIDS)

Four deaths from notifiable diseases were reported in March 2002.

Disease	No. of deaths reported Mar 2002	Cumulative no. of deaths reported in 2002
Campylobacteriosis	0	1
Legionellosis	1	1
Meningococcal disease	2	4
Tuberculosis disease	1	1
Total	4	7

4. Outbreaks

Outbreaks, for which ESR received sufficient information to report on during March 2002, are summarised in the table below and individually listed in the following pages.

Summary of March 2002 recorded outbreaks:

Organism/Toxin/Illness	Number of outbreaks ¹	Total number of cases ²
<i>Bacillus cereus</i>	2	33
<i>Bordetella pertussis</i>	1	3
<i>Campylobacter</i>	6	35
<i>Clostridium perfringens</i>	2	34
Gastroenteritis	16	46
Norwalk-like virus	7	80
<i>Salmonella</i>	5	14
<i>Shigella</i>	1	4
<i>Staphylococcus aureus</i>	2	31
Total	39	193

¹ One outbreak involved four pathogens.

² 29 cases involved four pathogens.

In addition 15 preliminary outbreak reports were received from Auckland (gastroenteritis and salmonellosis), Wellington (Norwalk-like virus infection and salmonellosis), Nelson (salmonellosis), West Coast (salmonellosis) and Canterbury (campylobacteriosis) Health Districts. These outbreaks will be reported in the monthly table, when further information has become available.

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Completed outbreak reports received by ESR during March 2002:

Suspected pathogen/ toxin/illness	Public Health Service	Month of OB	Duration of OB (days)	Cases			Est. no. exposed	Setting	Suspected mode of transmission	Probable factors contributing to OB
				Lab Conf	Oth Conf	Prob.				
<i>Bacillus cereus</i>	West Coast	Feb02	1	1	0	3	4	Home	Foodborne (savories)	Inadequate cooling or refrigeration
<i>Bordetella pertussis</i>	West Coast	Mar02	5	1	0	2	5	Home	Person to person	Inadequate vaccination coverage; exposure to infected people; inadequate vaccination effectiveness
<i>Campylobacter</i>	Auckland	Nov01	9	5	0	0	Unk	Child care centre	Waterborne; environmental	Contamination of source water; exposure to infected animals or animal products; untreated water supply; exposure to contaminated environment(s)
<i>Campylobacter</i>	Auckland	Jan02	1	1	0	1	2	Supermarket	Foodborne (precooked chicken)	Unknown

Outbreaks cont.

Suspected pathogen/ toxin/illness	Public Health Service	Month of OB	Duration of OB (days)	Lab Conf	Cases Oth Conf	Prob.	Est. no. exposed	Setting	Suspected mode of transmission	Probable factors contributing to OB
<i>Campylobacter</i>	Hawkes Bay	Jan01	5	1	0	3	4	Home	Unknown	Unknown
<i>Campylobacter</i>	Canterbury	Jan02-Feb02	7	3	0	12	unk	School	Foodborne (BBQ kebabs)	Undercooking
<i>Campylobacter</i>	Canterbury	Mar02	2	7	0	0	150	School	Foodborne (chicken kebabs)	Undercooking
<i>Campylobacter</i>	Canterbury	Mar02	1	2	0	0	Unk	Restaurant/cafe	Foodborne (chicken fettucine and salad)	Unknown
<i>Clostridium perfringens</i>	Auckland	Dec01	1	4	0	1	Unk	Restaurant/cafe	Foodborne	Undercooking; inadequate cooling or refrigeration; improper hot holding
Gastroenteritis	Auckland	Oct01	2	0	0	3	3	Unknown	Foodborne	Unknown
Gastroenteritis	Auckland	Nov01	2	0	0	2	2	Restaurant / café	Foodborne (beef satay)	Inadequate cooling or refrigeration; cross contamination
Gastroenteritis	Auckland	Dec01	3	0	0	8	41	Restaurant/cafe	Foodborne (oysters and green salad)	Unknown

Outbreaks cont.

Suspected pathogen/ toxin/illness	Public Health Service	Month of OB	Duration of OB (days)	Lab Conf	Cases Oth Conf	Prob.	Est. no. exposed	Setting	Suspected mode of transmission	Probable factors contributing to OB
Gastroenteritis	Auckland	Dec01	1	0	0	2	2	Takeaways	Foodborne (salmon and avocado sushi)	Unknown
Gastroenteritis	Auckland	Dec01	1	0	0	2	2	Food outlet	Foodborne (pineapple cream cake)	Unknown
Gastroenteritis	Auckland	Dec01	1	0	0	2	2	Restaurant/cafe	Foodborne (chicken nuggets)	Unknown
Gastroenteritis	Auckland	Dec01*	Unk	0	0	2	0	Unknown	Unknown	Unknown
Gastroenteritis	Auckland	Dec01*	Unk	0	0	7	Unk	Unknown	Unknown	Unknown
Gastroenteritis	Auckland	Jan02	1	0	0	2	2	Takeaways	Foodborne (fish and chips)	Unknown
Gastroenteritis	Auckland	Jan02	1	0	0	2	6	Restaurant / café	Foodborne (chicken panini)	Unknown
Gastroenteritis	Auckland	Jan02	2	0	0	4	4	Restaurant / café	Foodborne (oyster)	Unknown

Outbreaks cont.

Suspected pathogen/ toxin/illness	Public Health Service	Month of OB	Duration of OB (days)	Lab Conf	Cases Oth Conf	Prob.	Est. no. exposed	Setting	Suspected mode of transmission	Probable factors contributing to OB
Gastroenteritis	Auckland	Feb02	2	0	0	2	4	Restaurant / café	Foodborne (battered chicken)	Improper storage prior to preparation; inadequate cooling or refrigeration; cross contamination
Gastroenteritis	Auckland	Feb02	3	0	0	2	2	Unknown	Foodborne (cheese burger); person to person	Unknown
Gastroenteritis	Auckland	Feb02	1	0	0	2	2	Takeaways	Foodborne (battered mussels)	Improper hot holding; inadequate cooling or refrigeration; cross contamination
Gastroenteritis	Auckland	Feb02	1	0	0	2	2	Home; supermarket	Unknown	Unknown
Gastroenteritis	Wellington	Dec01	1	0	0	2	2	Restaurant/cafe	Foodborne (terakahi fish)	Unknown
Multiple (<i>Bacillus cereus</i> ; <i>Clostridium perfringens</i> ; Norwalk-like virus; <i>Staphylococcus aureus</i>)	Canterbury	Mar02	7	6	0	23	Unk	Hostel; school	Foodborne; person to person	Exposure to infected people

Outbreaks cont.

Suspected pathogen/ toxin/illness	Public Health Service	Month of OB	Duration of OB (days)	Lab Conf	Cases Oth Conf	Prob.	Est. no. exposed	Setting	Suspected mode of transmission	Probable factors contributing to OB
Norwalk-like virus	Auckland	Nov01	1	1	0	1	2	Unknown	Unknown	Unknown
Norwalk-like virus	Auckland	Nov01-Dec01	27	2	13	0	50	Child care centre	Person to person	Exposure to infected people
Norwalk-like virus	Auckland	Dec01	7	5	0	14	36	Child care centre	Person to person	Exposure to infected people
Norwalk-like virus	Auckland	Dec01	1	1	0	2	3	Home	Unknown	Unknown
Norwalk-like virus	Taranaki	Nov01	1	3	0	0	Unk	Unknown	Unknown	Unknown
Norwalk-like virus	Wellington	Feb02	2	2	0	7	15	Restaurant / café	Foodborne; person to person	Unknown
<i>Salmonella</i>	Auckland	Dec01	1	2	0	1	3	Home	Foodborne (bbq meal)	Unknown
<i>Salmonella</i>	Auckland	Dec01	5	1	0	1	2	Takeaways	Foodborne (egg fu yong)	Use of ingredients from unsafe source; improper storage prior to preparation; improper hot holding

Outbreaks cont.

Suspected pathogen/ toxin/illness	Public Health Service	Month of OB	Duration of OB (days)	Lab Conf	Cases Oth Conf	Prob.	Est. no. exposed	Setting	Suspected mode of transmission	Probable factors contributing to OB
<i>Salmonella</i>	Auckland	Jan-02	3	1	0	2	3	Home	Foodborne (beef schnitzel with egg batter)	Improper storage prior to preparation; exposure to contaminated environment(s)
<i>Salmonella</i> phage type 160	Hawkes Bay	Sep01	4	1	0	3	4	Home	Foodborne; person to person	Exposure to infected people; poor hygiene of cases
<i>Salmonella</i> Typhimurium	West Coast	Feb02-Mar02	29	2	0	0	3	Home	Unknown	Unknown
<i>Shigella</i>	Auckland	Jan02-Feb02	14	1	0	3	7	Home; overseas acquired	Person to person	Exposure to infected people
<i>Staphylococcus aureus</i>	Auckland	Nov01	1	1	0	1	2	Takeaways	Foodborne (pasta tomato and ham)	Inadequate cooling or refrigeration; improper storage prior to preparation

5. National surveillance data and trends

Disease ¹	Current year - 2002 ²			Previous year - 2001		
	Mar 2002 cases	Cumulative total since 1 January	Current rate ³	Mar 2001 cases	Cumulative total since 1 January	Previous rate ³
AIDS	1	5	0.7	3	7	0.7
Campylobacteriosis	932	3656	302.2	603	2507	219.0
Cholera	0	0	0.1	0	0	0
Creutzfeldt-Jakob disease	0	0	0	0	0	0.1
Cryptosporidiosis	23	100	28.3	159	248	25.7
Dengue fever	3	8	2.7	1	1	0.2
Gastroenteritis ⁴	103	226	25.7	52	209	19.9
Giardiasis	150	424	44.1	148	377	42.9
<i>H. influenzae</i> type b disease	0	0	0.3	0	2	0.3
Hepatitis A	28	54	2.6	8	16	2.9
Hepatitis B (acute) ⁵	6	19	1.5	7	19	2.0
Hepatitis C (acute) ⁵	5	10	1.5	5	13	1.9
Hydatid disease	0	0	0.2	0	1	0.1
Influenza ⁶	3	9	17.7	7	13	6.9
Lead absorption	7	23	3.1	7	36	3.5
Legionellosis ⁶	4	11	1.3	6	19	1.9
Leprosy	0	0	0.1	0	1	0.1
Leptospirosis	11	40	3.3	5	23	2.4
Listeriosis	2	6	0.5	2	5	0.5
Malaria	3	21	1.4	10	21	3.1
Measles	3	11	2.0	8	18	1.5
Meningococcal disease ⁷	28	85	16.8	41	105	13.8
Mumps	5	14	1.5	2	13	1.3
Paratyphoid	2	2	0.8	2	5	0.7
Pertussis	58	244	24.3	148	672	107.2
Rheumatic fever	4	35	3.2	4	34	4.3
Rubella	1	5	0.7	7	8	0.8
Salmonellosis	335	815	68.7	222	666	53.2
Shigellosis	10	32	3.5	26	59	3.7
Tetanus	0	0	0.1	0	0	0
Tuberculosis	25	89	9.8	34	101	9.7
Typhoid	6	11	0.7	3	10	0.6
VTEC / STEC infection	3	19	2.0	8	19	1.6
Yersiniosis	43	158	12.2	45	130	10.0

Notes: ¹ Other notifiable infectious diseases reported in March : Brucellosis

² These data are provisional

³ Rate is based on the cumulative total for the current year (12 months up to and including March 2002) or the previous year (12 months up to and including March 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

Surveillance data by health district - March 2002

Cases this month

Current rate¹

Disease	Cases for March 2002, ² and current rate ^{1,2} by health district ^{3,4}																							
	Northland	NW Auckland	Central Auckland	South Auckland	Waikato	Tairāngia	Eastern Bay of Plenty	Gisborne	Rotorua	Tairāngia	Tairāngia	Rangitikei	Hawke's Bay	Wairarapa	Manawatu	Wairarapa	Wellington	Hutt	Nelson-Marlborough	West Coast	Canterbury	South Canterbury	Otago	Southland
AIDS ³	0	1			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	1.8			0	1.5	0	0	0	0	0	0	0	0	0	0	0.3	0	0	1.0	0	0	0	0
Campylobacteriosis	14	142	120	71	55	20	3	2	10	14	19	0	22	9	23	8	79	31	11	5	176	32	40	26
	176.9	336.9	330.1	247.9	361.3	274.9	189.6	198.0	265.1	374.5	321.9	168.0	317.6	248.3	213.4	253.5	469.1	385.2	139.7	240.7	299.0	364.7	267.9	252.7
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	0.3	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Creutzfeldt-Jakob 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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0	0	0
Cryptosporidiosis	0	2	3	1	1	0	0	0	1	0	0	0	1	0	0	0	5	2	0	0	3	0	3	1
	18.5	15.1	17.9	15.2	58.3	22.5	16.3	20.5	37.2	76.2	20.4	14.0	59.2	42.8	30.6	18.3	38.6	13.7	9.0	29.7	14.9	65.3	42.7	62.9
Dengue fever	0	0	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
	2.9	3.5	6.3	3.7	1.6	2.3	0	0	1.6	12.7	1.0	0	0	0	2.7	0	2.4	3.0	0.8	0	2.5	1.3	1.2	1.9
Gastroenteritis	0	6	15	5	6	0	0	0	3	0	1	0	1	0	0	0	7	6	1	0	49	0	3	0
	14.3	21.2	28.8	9.6	5.5	7.7	10.2	63.7	17.1	38.1	23.3	0	7.0	15.4	17.0	20.9	25.2	21.2	19.6	19.8	81.2	21.8	44.5	7.4
Giardiasis	1	19	22	14	19	7	1	0	4	2	0	0	14	1	3	1	10	7	5	5	9	1	4	1
	20.0	49.6	60.9	38.9	48.3	60.4	48.9	66.0	40.3	31.7	26.2	21.0	81.5	34.3	31.9	18.3	57.2	39.4	41.7	52.7	38.1	30.7	27.1	14.8
H. influenzae 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
	0.7	0.2	0.3	0	0	0	0	2.3	0	0	1.9	0	0.7	0	0	0	0.4	0	0	0	0.2	0	0	2.8
Hepatitis A	1	6	7	4	8	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
	0.7	2.8	5.4	8.3	4.5	0	0	4.6	1.6	0	0	0	0	0	0	2.6	3.2	4.6	0	0	0.5	0	0	0.9
Hepatitis B	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1
	1.4	1.2	2.2	0.8	1.9	2.3	0.0	0.0	0.0	6.3	0.0	0.0	2.8	0.0	0.7	5.2	2.4	0.8	1.6	3.3	1.5	0.0	2.4	0.9
Hepatitis C	0	0	0	0	1	3	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
	1.4	0.5	0.5	0.5	0.3	13.2	2.0	0	6.2	6.3	0	0	1.4	0	0	0	3.2	2.3	0	3.3	1.5	1.3	0.6	1.9
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
	0.7	0.2	0	0	0	0	0	2.3	0	0	0	0	0	0	0	0	0.4	0	0	0	0.5	0	0	0
Influenza ²	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	63.9	0.3	52.2	0	0	0	0	0	0	0	0	0	0	0	22.1	0	0	0	48.3	0	9.0	0
Lead absorption	0	1	0	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0
	2.9	1.2	2.7	1.1	5.2	3.1	2.0	6.8	3.1	0	4.8	7.0	2.8	0	5.4	2.6	0.4	0	3.3	0	3.2	16.6	8.4	3.7
Legionellosis ⁵	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2	0	0	0
	3.6	0.5	0.5	0.8	3.2	0.8	0	0	0	0	0	0	0.7	1.7	0	5.2	2.4	3.0	0.8	0	2.2	1.3	0.6	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	0	0	0	0	1	1	0	2	0	0	0	1	0	0	3	0	0	0	1	0	2	0	0	0
	10.7	1.4	0	0.5	7.1	6.2	4.1	22.8	3.1	3.2	2.9	14.0	12.5	0	6.1	2.6	1.2	0	2.5	0	1.2	10.2	0.6	0.9
Listeriosis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0
	0.7	0.7	0.3	0.5	0.3	1.5	0	2.3	0	0	1.0	0	0	0	0	0	0.4	0.8	0	0	0.5	1.3	1.2	0
Malaria	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
	0.7	0.5	1.1	0.8	1.0	1.5	0	0	3.1	0	1.0	7.0	0.7	0	7.5	0	1.2	0.8	3.3	3.3	2.5	1.3	1.8	0
Measles	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
	1.4	0.7	0.8	1.1	0.3	6.2	0	4.6	0	0	1.9	0	3.5	0	0.7	0	2.4	0	5.7	13.2	3.5	0	2.4	9.3
Meningococcal disease ⁶	2	3	1	6	1	1	1	2	1	0	1	0	0	0	1	0	0	2	0	0	0	1	5	0
	24.3	9.1	19.6	30.1	22.4	13.2	32.6	27.3	43.4	38.1	10.7	7.0	22.3	8.6	13.6	28.7	8.3	13.7	8.2	13.2	4.0	5.1	31.3	10.2
Mumps	2	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4.3	0.9	1.6	0.5	0.3	0.8	4.1	0	3.1	0	0	0	2.8	0	0.7	0	2.0	2.3	0.8	0	2.0	1.3	5.4	0.9
Paratyphoid	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
	0	0.5	2.4	1.1	1.6	0.8	0	0	0	0	1.0	0	2.1	0	0	0	0.4	0.8	0.8	0	0.2	0	0	0
Pertussis	0	7	1	1	3	0	1	0	0	0	1	0	3	0	3	1	1	5	17	3	5	5	0	1
	15.0	16.5	10.3	12.0	48.6	16.3	4.1	4.6	4.7	3.2	6.8	21.0	9.1	5.1	5.4	5.2	29.2	59.9	129.9	59.3	26.6	23.0	9.0	43.5
Rheumatic fever	1	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0
	6.4	1.2	5.7	12.2	3.6	0.8	18.3	6.8	0	3.2	1.0	7.0	2.8	1.7	0	2.6	0.8	0.8	0	0	0.2	0	0	0
Rubella	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0.2	0.3	0.8	0	0	0	0	0	3.2	1.0	0	4.2	0	0	0	1.6	0	0.8	0	1.7	0	0	1.9
Salmonellosis	5																							