

Incidence of Meningococcal Disease among Children

What this is about...

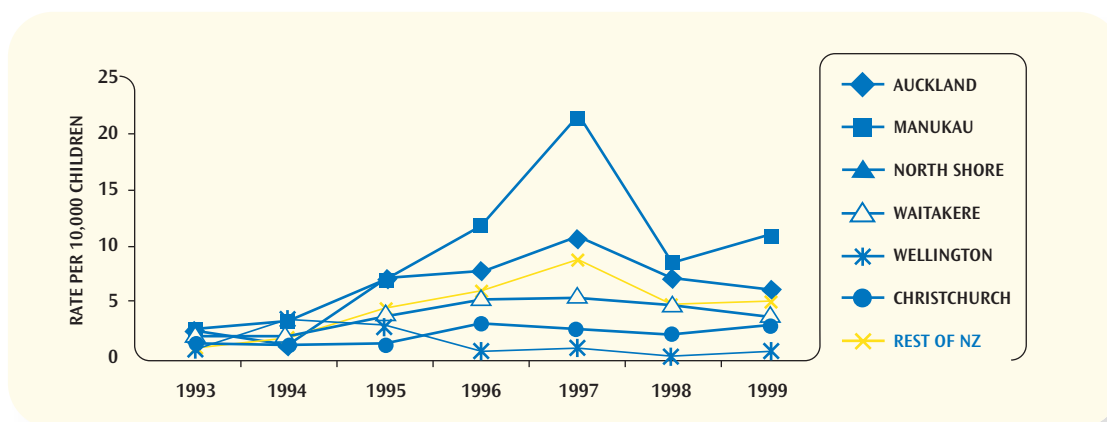
New Zealand is now in its tenth year of a meningococcal disease epidemic, which is showing no sign of decreasing. The epidemic has now resulted in a total of 3,300 cases and 150 deaths within New Zealand.⁷⁷ The Auckland Region continues to be the worst affected region in the country with a rate of 24 cases per 100,000 population, compared to 14.8 cases per 100,000 for New Zealand overall.⁷⁸

The indicator used here is the rate of notified cases of meningococcal disease (meningitis) per 10,000 children under 15 years.⁷⁹

What did we find ?

- The rate of meningococcal disease among children under 5 years is considerably higher than in any other age group.⁸⁰ This finding is consistent across all of the six largest cities.
- There was a steady increase in cases until 1997 when the epidemic peaked (particularly in Auckland and Manukau Cities).
- Christchurch, Wellington and North Shore Cities do not appear to have experienced the peak of the epidemic in 1997. Overall, the rates post-1997 are higher than pre epidemic rates (pre-1993).

RATE OF NOTIFIED CASES OF MENINGOCOCCAL DISEASE PER 10,000 CHILDREN AGED UNDER 15 YEARS, BY CITY (1993 TO 1999)⁸¹



Data Source: Environment Science and Research Ltd.

Between 1993 and 1999, the rate of total notified cases among children aged less than 15 years was highest among Pacific Islands people in all cities except Wellington, where it was highest among Maori.

The rate amongst both Maori and Pacific Islands communities has been highest in Auckland and Manukau Cities.

77 Institute of Environmental Sciences and Research (ESR), Auckland Health Protection Service and the University of Auckland. 2000. Household Crowding: A major risk factor for epidemic meningococcal disease in Auckland children. Press release 11 August 2000.

78 Public Health Quarterly Advice. July 2000. Meningococcal disease increasing again – Household crowding the most important risk factor. 6 (3).

79 Meningococcal disease is a notifiable disease, which means that a GP is required to notify their local Public Health Unit when a patient presents with the disease.

80 Public Health Quarterly Advice. July 2000. Meningococcal disease increasing again – Household crowding the most important risk factor. 6 (3).

81 Rates have been calculated using 1991 census data for 1993 to 1995 and 1996 census data for 1996 to 1999, for the population aged under 15 years.

RATE OF NOTIFIED CASES OF MENINGOCOCCAL DISEASE PER 10,000 POPULATION OF CHILDREN AGED 15 YEARS AND UNDER, BY ETHNICITY (1993 TO 1999 TOTAL)

	European/Asian/Other	Maori	Pacific Islands
Auckland	17.3	56.1	118.7
Manukau	19.2	76.9	122.8
North Shore	6.6	24.9	50.1
Waitakere	16.5	18.0	63.4
Wellington	4.8	40.4	22.9
Christchurch	14.0	19.0	33.1
Rest of NZ	13.6	48.0	102.7

Data Source: Environment Science and Research Ltd.
Rate calculated using 1996 Census data.

Household crowding is a significant risk factor for meningococcal disease in children. A three-year study shows that while household crowding is unlikely to have caused the meningococcal disease epidemic in New Zealand, crowding has almost certainly intensified its effect among the most vulnerable, notably Maori and Pacific Islands people living in Auckland.⁸² For example, if a family living in an average sized house of six rooms increased the number of adolescents or adults by two, there would be a doubling in risk of meningococcal disease for any child living in the household.

Incidence of Tuberculosis

What this is about...

Tuberculosis (TB) is one of the more common of the notifiable infectious diseases. It is a disease of poverty and the risk of transmission is inversely related to socio-economic status.⁸³ As a result, the cities with the lowest socio-economic status are at greater risk of TB. While TB was more common during the depression, the incidence declined as New Zealand became more affluent. TB is usually associated with underdeveloped countries, and the data suggests that New Zealand is demonstrating increasing levels of underdevelopment. The indicator presents the notification rate of TB per 100,000 population in New Zealand's six largest cities and for the rest of New Zealand.

What did we find ?

- In 1999 there were 451 notified cases of TB nationally. Of these, 58% were in the six largest cities. The number of notifications within the cities increased from 67 in 1993 to 261 in 1999.
- Notification rates were variable between 1993 and 1999 but indicate overall increases in Auckland, Manukau, Wellington and Waitakere Cities.
- There were significant increases in notification rates between 1993 and 1994 in Auckland and Manukau.
- Notification rates in the North Shore and Christchurch Cities and the rest of New Zealand were lower compared to the other cities and remained fairly static between 1993 and 1999.

82 Institute of Environmental Sciences and Research (ESR), Auckland Health Protection Service and the University of Auckland. 2000. Household Crowding: A major risk factor for epidemic meningococcal disease in Auckland children. Press release 11 August 2000.

83 Public Health Quarterly Advice. 2000. Tuberculosis increasing in young Aucklanders. (6) 1.

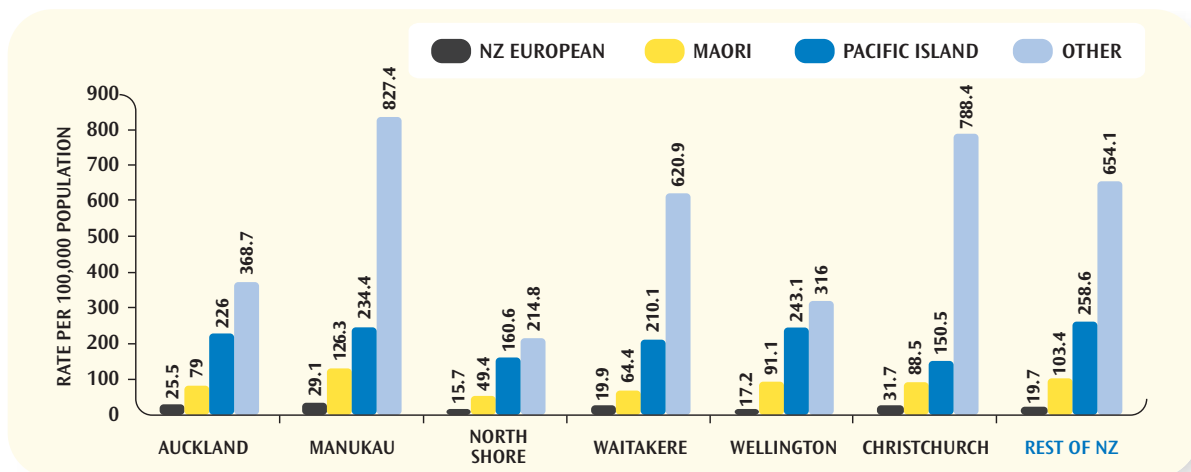
RATE OF NOTIFIED TUBERCULOSIS CASES PER 100,000 POPULATION,⁸⁴ BY CITY (1993 TO 1999)

	1993	1994	1995	1996	1997	1998	1999
Auckland	0.3	23.8	27.8	18.8	21.1	24	28.3
Manukau	7.1	22.1	25.2	20.1	15.3	24.8	25.2
North Shore	6.6	7.9	10.5	10.5	7.6	4.1	7.6
Waitakere	10.2	5.8	8.8	13.5	14.1	12.2	15.4
Wellington	4.0	14.2	18.9	10.2	14.6	15.9	22.9
Christchurch	7.0	12.1	9.3	5.2	6.8	11.3	8.4
Rest of NZ	12.1	7.2	7.0	7.6	6.0	6.1	8.5

Data Source: Environment Science and Research Ltd.

Rates calculated from the total number of notifications between 1993 and 1999 indicate that rates are significantly higher amongst ‘Other’ ethnic groups. This is largely due to the arrival of visitors, immigrants and refugees from countries where there is a high incidence of TB, such as the Pacific, Asia and Africa.

RATE OF NOTIFIED TUBERCULOSIS CASES PER 100,000 POPULATION, BY ETHNICITY (1993 TO 1999)⁸⁶



Data Source: Environment Science and Research Ltd.

In Auckland, the proportion of TB among New Zealand born, particularly young people, has increased since 1998.⁸⁵ TB has also been linked to overcrowded housing.⁸⁷

84 Rate calculated using 1991 Census data for 1993 to 1995, and 1996 Census data for 1996 to 1999.

85 Public Health Quarterly Advice. 2000. Tuberculosis increasing in young Aucklanders. (6) 1.

86 Rate calculated using 1996 Census data.

87 Institute of Environmental Sciences and Research (ESR), Auckland Health Protection Service and the University of Auckland. 2000. Household Crowding: A major risk factor for epidemic meningococcal disease in Auckland children. Press release, 11 August 2000.