THE NEW ZEALAND
Public Health Report
ISSN 1173-0250 Volume 5 Number 9 September 1998

Action to improve the health of New Zealanders

Louise Signal,* Senior Advisor, Gillian Durham, Director of Public Health, and Marianne Linton, Senior Advisor, Ministry of Health

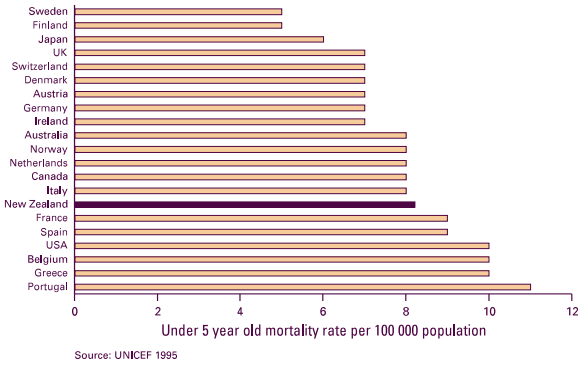
New Zealand's mixed progress in improving health status, including our slipping international position and the continuing disparity between Maori and non-Maori, suggests that more should be done to improve the health and independence of New Zealanders. The Ministry of Health is leading a new initiative, *Action for Health and Independence*, to achieve this improvement by taking an integrated approach across the health and disability sector. The initiative aims to strengthen the role of the entire health and disability sector in population health, within New Zealand's current health goals framework. There is considerable potential for health gain by taking a shared approach to health goals, by implementing effective population-oriented strategies, and by building strategic alliances.

Professionals working in the health and disability sector play an important role in improving, promoting, and protecting public health. This role is significant despite the recognition that health is largely determined by factors outside the healthcare sector.[1,2] This paper discusses a new initiative by the Ministry of Health, *Action for Health and Independence*. It aims to achieve better health and independence outcomes for New Zealanders by identifying and supporting the actions that health and disability sector professionals can take to improve health. This strategy is being conducted within New Zealand's existing health goals framework.[1]

Mixed progress in improving the health status of New Zealanders

New Zealand is making mixed progress in improving its population health status. Despite a steady rate of increase in life expectancy over the last 40 years, New Zealand's position relative to other OECD countries has slipped from 8th of 27 countries in 1960 to 19th of 28 countries in 1995 for females, and 6th to 13th for males.[3] In 1996, life expectancy at birth of Maori was approximately 8 years less than non-Maori, for both males and females.

Figure 1: Under 5 year old mortality rates in OECD countries, 1995



The infant mortality (IMR) and under 5 year old mortality (UFMR) rates are sensitive indicators of the health of the population. New Zealand's declining IMR has levelled off since 1992.[2] The gap between Maori and non-Maori IMRs has widened. In 1984, the Maori IMR was 1.7 times the non-Maori IMR; by 1994, the Maori IMR was 2.2 times the non-Maori rate.[2] In 1960, New Zealand's UFMR ranked 6th out of 21 OECD countries, but in 1995 it ranked 15th (*Figure 1*).[4]

In relation to measures of morbidity and mortality, we have made some progress in a number of areas, including heart disease, SIDS, road traffic injuries, alcohol-related harm, and cervical cancer. However, the gap between Maori and non-Maori remains significant in some areas, such as cervical cancer (*Figure 2*), heart disease, and SIDS.[5] In other areas there has been no improvement or we are still not able to measure our progress.[6] The national nutrition survey and other planned research will soon enable progress in further areas to be measured. Issues of concern include increasing incidence of melanoma,[7] increasing mortality from youth suicide,[8] and increasing morbidity from obesity and sexually transmitted diseases.[6] Compared with other OECD countries, New Zealand has high mortality rates for ischaemic heart disease, respiratory diseases, breast and bowel cancers, motor vehicle injuries, and suicide.[9]

***Correspondence:** Dr Louise Signal, Senior Advisor, Public Health Group, Ministry of Health, Box 5013, Wellington. Email: louise.signal@xtra.co.nz

Contents

Progress on process measures of health outcomes is also mixed. For example, smoking prevalence is not decreasing at the rate required to meet the target set for the year 2000 (*Figure 3*), alcohol consumption may have plateaued, and influenza immunisation coverage for the high-risk population has increased.[6]

Until the 1996/97 New Zealand Disability Surveys, data on disability rates in New Zealand were limited. These surveys found that there were 702 000 people with disabilities in New Zealand, and just over 400 000 of these reported a need for some assistance in relation to their disabilities. While older people accounted for most people with disabilities, there was also a significant proportion of young adults with disabilities. Maori disability rates were higher than non-Maori rates at all ages under 65 years. This disparity was especially significant among children.[10]

New Zealand's mixed progress in improving health status, including our slipping international position and the continuing disparity between Maori and non-Maori, suggests that more could, and should, be done to improve the health of New Zealanders.

An integrated approach to improve the health status of New Zealanders

Improving health status requires us to influence the determinants of health: factors such as physical environmental conditions, socioeconomic and cultural influences, behavioural factors, biological determinants, and healthcare services.[11] Largely, these factors are outside the direct sphere of influence of professionals in the health and disability sector. However, the sector has a role to play both directly through the provision of healthcare, disability support and public health services, and indirectly by supporting initiatives within the sector and in other sectors.

In this paper we argue for an integrated approach across the health and disability sector to improve the health status of New Zealanders, by adopting a shared health goals framework, implementing effective strategies, and building strategic alliances.

Shared health goals framework: Improving the health of the population can be assisted by taking a planned and co-ordinated approach across the health and disability sector. A key mechanism to achieve this is the use of a health goals framework. Internationally over the past two decades, health goals have been used for planning and priority setting, with some success.[12] New Zealand has used a health goals framework approach since the release of *New Zealand Health Goals and Targets* in 1989.[13] The process has continued with *A Strategic Direction to Improve and Protect the Public Health*,[14] developed by the Public Health Commission and retained with minor revisions by the Ministry of Health.[1]

The current New Zealand health goals are:

- To ensure a social and physical environment which improves, promotes and protects public health and whanau public health
- To improve, promote and protect Maori health status so in the future Maori will have the opportunity to enjoy at least the same level of health as non-Maori
- To improve, promote and protect the health of Pacific people, children/tamariki, young people/rangatahi, adults/pakeke/matua, and older people/kaumatua.

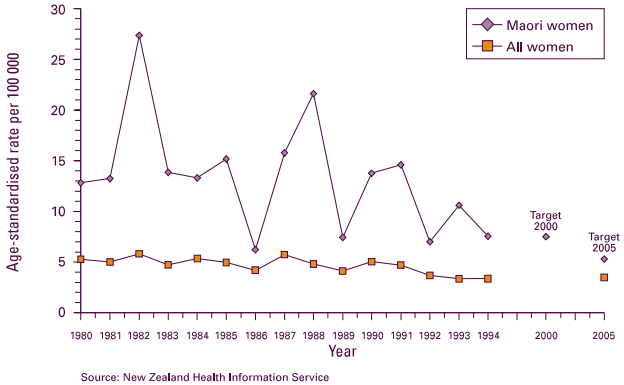
Forty-one objectives have been identified within these general goals. These objectives encompass a wide range of population-oriented health activities, including reducing unintentional injuries, diabetes, and hearing loss; optimising the safety of food and drinking water; immunisation promotion; alcohol health promotion; and reducing the adverse health effects of unemployment and income inequalities. A full list of the targets set to measure progress in meeting these objectives can be found in *Progress on Health Outcome Targets*.[6]

New Zealand's current health goals framework has predominantly been used by the public health sector and other relevant non-health sectors. However, it has the potential to structure the population health work of the entire health and disability sector. It is broad and flexible and therefore enables the sector to choose appropriate priorities according to the needs of the community, the resources and expertise it has available, and the context of its work. The health goals framework identifies criteria to determine objectives and strategies to focus on. These criteria include the impact on health status, the availability of cost-effective interventions, and whether these interventions would reduce inequalities in health status.

Implementing effective population-oriented health strategies: To achieve health goals and objectives, effective strategies need to be identified and implemented. There is an increasing role for evidence-based policy and practice in the identification of these strategies.[1] New Zealand initiatives, such as the New Zealand Guidelines Group[15] and the New Zealand Health Technology Assessment Centre,[16] are promoting the use of evidence in decision-making at all levels of the health system. Many effective strategies have been identified by the Public Health Commission and the Ministry of Health in a series of 31 evidence-based papers.[17]

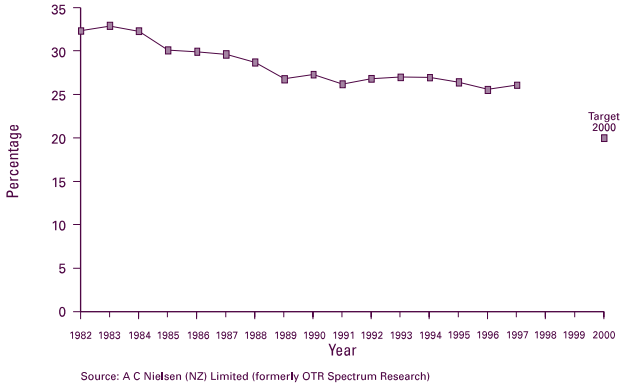
Many effective population health strategies are delivered within clinical settings. The US Preventive Services Task Force has produced a guide for primary care workers on effective preventive interventions.[18] This guide includes evidence on the effectiveness of screening tests, counselling, immunisations, and chemoprophylaxis for the prevention of over 80 conditions. There is substantial evidence that health promotion activities in healthcare settings contribute to improvements in patients' health.[19] Further, there is considerable opportunity for health promotion with the chronically ill and disabled.[20] There is also evidence that health service interventions can contribute to the reduction of health inequalities.[21,22] Examples of key population health strategies for the personal healthcare sector, identified in the Public Health Commission and Ministry of Health papers, are listed in *Table 1*.[17]

Figure 2: Cancer of the cervix mortality rates for all women and Maori women, 1980-1994



Source: New Zealand Health Information Service

Figure 3: Percentage of smokers in the population aged 15 years and over, 1982-1997



Source: A C Nielsen (NZ) Limited (formerly OTR Spectrum Research)

Strategic alliances to achieve health goals: Strategic alliances increase co-operation between the many contributors to population health: the public, the personal healthcare and disability sector, public health agencies, and other sectors of society. This co-operation should enable the health and disability sector to work more effectively, avoid duplication, and address gaps in services. The use of strategic alliances is supported by a recent international review of the evidence of their effectiveness in health promotion.[23]

Barriers to building strategic alliances, which were identified in a recent review of the health goals framework, included lack of time and incentive, competition for scarce resources, conflicting philosophies and agendas, and lack of appropriate mechanisms to facilitate co-operation. Mechanisms to overcome these barriers include intersectoral committees, forums on particular issues, protocols between agencies, and guidelines for action.[1]

There are already initiatives involving strategic alliances which provide models of good practice. The *Strengthening Families* initiative is one such intersectoral activity. It aims to provide support to families at risk, in order to improve health, education and welfare outcomes for children in these families. It is a joint initiative of the health, education, and social welfare sectors.[24] The *Waitakere Community Injury Prevention Project* provides a good model for comprehensive community-based injury prevention. The project is governed by a board, which includes representatives from the city council, the hospital and public health service, and local community groups including Maori and Pacific Island organisations. According to a recent external evaluation, it has been successful in "increasing appropriate knowledge and awareness of injury prevention strategies among both individual residents and organisations".[25]

Discussion

There is considerable potential for health gain in New Zealand if the health and disability sector as a whole is able to work within the health goals framework to promote the health of the people it serves.[1] This co-ordinated approach is the aim of the *Action for Health and Independence* initiative. *Action for Health and Independence* will begin with a working conference this October. Invited participants from the health and disability sector will explore how to catalyse action on population health outcomes. Five key issues have been identified: information for action, changing the culture, incentives for action, engaging the community, and integration of actions across the sector.

Table 1: Examples of key population health strategies for the personal healthcare sector[17]

Screening
Alcohol consumption screening of pregnant women, and those planning pregnancy
Cervical screening
Clinical screening for congenital and inherited disorders at birth and six weeks of age
Opportunistic diabetes screening based on a risk-factor profile
Counselling and health education
Advice to pregnant women, and those planning pregnancy, on the effects of alcohol consumption and the possible risks of using cannabis
Antenatal education and well child care services which also emphasise sun protection
Counselling and supportive services for people with a history of birth defects to enable them to make informed choices about reproduction
Patient education for diabetes
Support and counselling for people with HIV/AIDS
Brief psychotherapy for medical and surgical patients diagnosed or treated for severe life-threatening or disabling conditions
Information on support services to mental health patients discharged from hospital or visiting general practitioners
Counselling on healthy nutrition and exercise
Advice on safety precautions to prevent road traffic injuries and crashes
Promotion of smokefree environments and smoking cessation programmes
Immunisation
Childhood immunisations
Influenza immunisations for those aged 65 and over and other high-risk groups

The effectiveness of *Action for Health and Independence*, as with other population-oriented initiatives, will be evaluated primarily through the annual health targets monitoring process. The 'information for action' stream of the forthcoming conference aims to identify practical ways health and disability sector professionals can measure their own progress in implementing specific policies and programmes through built-in evaluation. External evaluation will also be conducted on demonstration projects or key initiatives.

There are likely to be barriers to implementing this strategy, for example, insufficient time with patients to deliver the services, perceived or real cost disincentives, and uncertainty on the part of providers about the evidence for effectiveness.[18,19] Barriers to health promotion in public hospitals include inadequate staffing, funding and resources, and lack of appropriate training, patient receptivity and appropriate programmes or facilities.[26] Potential barriers in the New Zealand context need to be explored and mechanisms to overcome them developed. Such mechanisms may include guidelines on effective interventions, innovative remuneration strategies, and workforce training.

References

1 Strengthening Public Health Action: A strategic direction to improve, promote and protect public health. Wellington: Ministry of Health; 1997.
2 The Social, Cultural and Economic Determinants of Health in New Zealand: Action to improve health. Wellington: National Health Committee; 1998.
3 The Best of Health 3: Are we doing the right things and are we doing those right? Wellington: National Health Committee; 1997.
4 UNICEF. The state of the world's children. Oxford: Oxford University Press; 1995.
5 Mitchell E, Clements M. Sudden infant death syndrome: an important and preventable cause of death in infancy. NZ Public Health Rep; 4: 65-7.
6 Progress on Health Outcome Targets: Te haere whakamua ki nga whainga hua mo te hauora. Wellington: Ministry of Health; 1998.
7 Bulliard JL, Cox B. Recent trends in melanoma in New Zealand. NZ Public Health Rep 1996; 3: 73-5.
8 Coggan C. Suicide and attempted suicide in New Zealand: a growing problem for young males. NZ Public Health Rep; 4: 49-51.
9 Briefing Papers for the Minister of Health 1996. Volume 2: The health and disability sector. Wellington: Ministry of Health; 1996.
10 Disability in New Zealand: Overview of the 1996/97 surveys. Wellington: Health Funding Authority; Ministry of Health; 1998.
11 Progress on Health Outcome Targets: Te haere whakamua ki nga whainga hua mo te hauora. Wellington: Ministry of Health; 1997.
12 Nutbeam D, Wise M. Planning for health for all: international experience in setting health goals and targets. Health Promot Int 1996; 11: 219-26.
13 New Zealand Health Goals and Targets. Wellington: Department of Health; 1989.
14 A Strategic Direction to Improve and Protect the Public Health: the Public Health Commission's advice to the Minister of Health 1993-1994. Wellington: Public Health Commission; 1994.
15 Information available at http://www.nzgg.org.nz.
16 Information available at http://nzhta.chmeds.ac.nz.
17 Reference to these publications available at http://www.moh.govt.nz.
18 US Preventive Services Taskforce. Guide to clinical preventive services. 2nd ed. Sydney: Williams & Wilkins; 1996.
19 Mullen PD, Evans D, Forster J, et al. Settings as an important dimension in health education/promotion policy, programs, and research. Health Educ Q 1995; 22: 329-45.
20 Brooks NA. Opportunities for health promotion: including the chronically ill and disabled. Soc Sci Med 1984; 19: 405-9.
21 Gepkins A, Gunning-Schepers LJ. Interventions to reduce socioeconomic health differences. Eur J Public Health 1996; 6: 218-26.
22 Review of Research on the Effectiveness of Health Service Interventions to Reduce Variations in Health. York: National Health Service Centre for Reviews and Dissemination, The University of York; 1995.
23 Gillies P. Effectiveness of alliances and partnerships for health promotion. Health Promot Int 1998; 13: 99-120.
24 Child Health Strategy. Wellington: Ministry of Health; 1998.
25 Coggan C, Patterson P, Fairnie V, et al. Waitakere Community Injury Prevention Project: Summary results from the formative, process and outcome evaluations. Auckland: Injury Prevention Research Centre, University of Auckland; 1998.
26 Stanton WR, Balanda KP, Gillespie AM, et al. Barriers to health promotion activities in public hospitals. Aust NZ J Public Health 1996; 20: 500-4.

Correction

Figure 4 of the article, *Epidemiology and control of the 1997 measles epidemic in Auckland*, in the August 1998 issue (volume 5, page 59) had a publication error. The colours of the bars are incorrect. Within each ethnicity, the bars left to right are in the same order as listed in the legend, that is, Central Auckland, North West Auckland, then South Auckland.

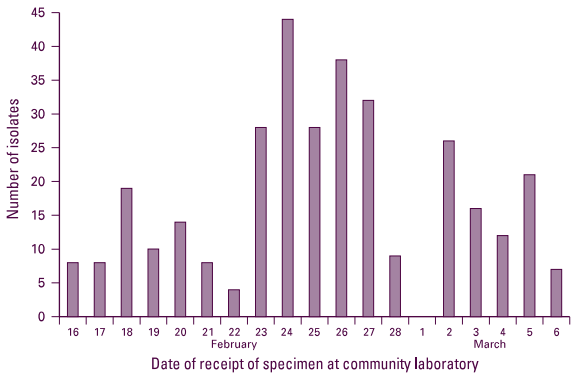
Campylobacteriosis outbreak in Auckland

Auckland Public Health investigated a sudden increase in campylobacteriosis in the Auckland area in late February 1998 (*Figure 1*). Sixty-six of the cases, from whom a faecal specimen was submitted between 23 and 27 February and whose illness had started after 14 February, were interviewed and their *Campylobacter* isolate typed. Forty-eight (72.7%) of the isolates from these 66 cases were *C. jejuni* serotype 1. Preliminary DNA macrorestriction analysis by PFGE indicated that all 48 serotype 1 isolates were closely related. Serotype 1 is a relatively uncommon serotype among *Campylobacter* in New Zealand. It has comprised only 7% of 417 human isolates typed at ESR since 1995, and 4% of isolates typed during a 1996 outbreak in Auckland. Therefore, serotype 1 was surmised to be the outbreak strain, and a case-control study was conducted with the 48 cases with this strain.

Controls (106) were friends or workmates nominated by the cases, and were age, ethnicity and gender matched. Persons who had the same illness recently or lived in the same household as the case were not eligible to be controls. Using a detailed questionnaire, cases and controls were interviewed about their exposures in the 10 days prior to interview. Exposures investigated included foods consumed, drinking water sources, contact with animal and human faeces, swimming, overseas travel, fast food and shopping outlets used, functions attended, and antibiotics used.

The study failed to find an unequivocal source of the epidemic. However, there was weak evidence of a link with the consumption of chicken (odds ratio 1.79; 95% confidence interval 0.53-7.83). This weak association was supported by the results of microbiological testing of 21 chicken meat and liver samples from retailers usually patronised by the cases. *Campylobacter* was isolated from 10 samples, and six of the isolates were serotype 1, with DNA macrorestriction analysis profiles closely related to those of the serotype 1 isolates from the cases. Serotype 1 had not been isolated from poultry sources previously.

Figure 1: Campylobacter isolations in community laboratories in Auckland, 16 February to 6 March 1998



There was no evidence that the power shortages, which were occurring in Auckland at the time, were a factor in the epidemic, as only two cases reported eating food purchased in the affected area. Two factors may have reduced the ability of the case-control study to detect a significant exposure. First, the exposure periods covered by the questionnaire differed for the cases and controls, only overlapping by a few days. Second, the nomination of controls by cases may have resulted in over-matching on important exposure factors. (Reported by Lester Calder, Medical Officer of Health, Auckland Public Health; Kathryn Manning, Health Protection Officer, Auckland Public Health; and Carolyn Nicol, ESR. A full report is available.)

Toxigenic *Corynebacterium diphtheriae* infection

A toxigenic strain of *C. diphtheriae* was isolated from the throat of a 32 month old Auckland boy at the end of July. Group A *Streptococcus* was also isolated. The child had an intermittent fever, and a greenish exudate on his tonsils and pharynx. He was treated with amoxycillin, but did not require antitoxin and was not admitted to hospital.

This is the first isolation of toxigenic *C. diphtheriae* from a respiratory site since 1980 in New Zealand. However, toxigenic strains have been isolated more recently from skin infections, with five isolations between 1981 and 1987, when the last isolation was made. Medical practitioners should ensure that all infants receive a full course of diphtheria immunisation, with four doses of DTPH vaccine. Adults' immunity should be maintained with 10-yearly adult diphtheria-tetanus vaccine boosters (refer *Immunisation Handbook*). A full report on this case will be published in a future issue of the *New Zealand Public Health Report*.

Influenza activity remains relatively low

During July, the average national weekly consultation rate for influenza-like illness was 98.2 per 100 000 patient population, markedly lower than in the same month in 1997 and 1996 (197.1 and 274.6, respectively). South Canterbury had the highest consultation rate (268.0 per 100 000), followed by Ruapehu (260.0), Northland (258.3), Manawatu (247.0), and Otago (218.5).

A total of 243 influenza virus isolations were made during July. All were Influenza A, and among the 116 isolates sub-typed, 54 were Influenza A H1N1 and 62 were Influenza A H3N2. The strains of both subtypes matched, or were antigenically similar to, the Influenza A components of the 1998 vaccine.

Meningococcal disease update

In July, there were 61 cases of meningococcal disease notified, bringing the cumulative total for the year to date to 263, a little lower than the total at the same time last year. This is the first time for several years that the cumulative total for the current year has been less than that of the previous year.

However, medical practitioners should continue to maintain a high level of suspicion for meningococcal disease for the remaining winter and spring months, as the incidence is highest during this period.

Red-back spiders discovered in an imported vehicle

In July, two red-back spiders (*Latrodectus hasselti*) were found in a vehicle which had been shipped from Australia. There were lots of spiderwebs under the vehicle's chassis, and the spiders were discovered when the vehicle was being inspected for a warrant of fitness.

While red-back spiders are most commonly found on imported goods, including vehicles, they may now be established in parts of the South Island. The spider has been discovered at Culverden, Te Anau, Wanaka, Twizel, Greymouth, and Dunedin.

The bite of the female red-back is poisonous to humans and the venom is potentially lethal. Biting usually occurs only when the spiders are disturbed or trapped. Since the venom is relatively slow acting and an anti-venom is available, bites are rarely fatal. The anti-venom is available from CSL (New Zealand) Limited, and stocked by several hospitals throughout the country.

Anyone finding a red-back spider should report the find to their local public health service or, if a spider is found at a New Zealand port, to the Ministry of Agriculture and Forestry. Spiders should not be handled. They can be killed with a permethrin-based insecticide. (Reported by Virginia Hope, Medical Officer of Health, Auckland.)

Rate of tuberculosis declined slightly in 1997

In 1997, 330 cases of tuberculosis were notified (9.1 cases per 100 000), a 7.3% decrease on the 356 cases notified in 1996 (9.8 per 100 000) (*Figure 2*). The number of laboratory-confirmed cases also decreased, from 256 (71.9% of cases) in 1996 to 231 (70.0%) in 1997. Thirty-eight of the cases in 1997 were reactivations.

Rates of tuberculosis above the national average of 9.1 per 100 000 were recorded in Central Auckland (21.1), South Auckland (14.9), Wellington (14.8), Gisborne (13.1), Ruapehu (11.9), Hutt (11.3), Eastern Bay of Plenty (9.9), Taupo (9.8), and North West Auckland (9.6) Health Districts.

The proportion of females (50.3%) and males (49.7%) was similar. *Table 1* shows the age-specific rates of disease by ethnic group in 1997. For comparison, the rates in 1996 for each ethnicity were European, 2.8 per 100 000; Maori, 12.6; Pacific Islands people, 26.6; and other ethnicities, 85.6. The proportion of cases born overseas has been steadily increasing over the past few years, from 50.0% in 1993 to 66.4% (184 of 277 cases for which the information was recorded) in 1997. Almost half (46.2%) of these cases developed tuberculosis within 5 years of arrival in New Zealand, and 26.1% did so within the first year.

Among the 278 cases for whom the site of disease was recorded, 72.3% (201) had pulmonary disease and 27.7% (77) had extrapulmonary disease. The causative organism was identified in 200 (60.6%) cases, and 194 (97.0%) were due to *Mycobacterium tuberculosis* and 6 (3.0%) were due to *M. bovis*.

Figure 2: Tuberculosis notifications and laboratory-confirmed cases by year, 1980-97

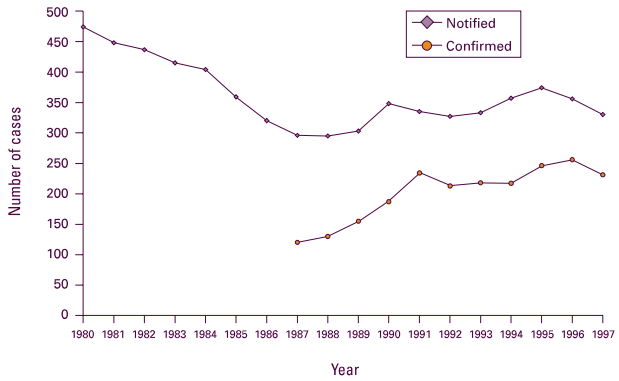


Table 1: Tuberculosis notifications by age group and ethnicity, 1997

Age group (years)	European		Maori		Pacific Islands people		Other ethnicity		Unknown ethnicity	Total	
	No.	Rate[1]	No.	Rate[1]	No.	Rate[1]	No.	Rate[1]	No.	No.	Rate[1]
<1	0	0	1	6.7	0	0	0	0	0	1	1.8
1-4	3	2.2	4	7.0	3	16.4	6	52.8	1	17	7.6
5-9	1	0.6	2	3.0	3	14.4	2	14.0	0	8	2.8
10-14	1	0.6	0	0	1	5.8	2	12.5	0	4	1.5
15-19	0	0	4	7.7	0	0	12	60.0	0	16	6.1
20-29	1	0.3	8	8.8	8	25.3	33	108.7	1	51	9.4
30-39	4	1.0	5	6.4	2	7.4	43	120.2	1	55	9.5
40-49	7	1.8	6	11.9	8	44.6	15	58.5	3	39	7.9
50-59	9	3.2	6	20.0	7	69.1	9	88.0	1	32	9.3
60-69	9	3.9	13	74.5	4	70.5	11	203.5	3	40	14.9
70+	35	13.4	6	69.6	11	345.6	11	343.6	2	65	22.4
Unknown	1	-	0	-	0	-	0	-	1	2	-
Total	71	2.7	55	10.5	47	27.1	144	82.1	13	330	9.1

Note: 1 Crude rate per 100 000

The antimicrobial susceptibility of 200 isolates was determined (*Table 2*). Only two (1.0%) were multidrug-resistant (resistant to at least isoniazid and rifampicin). Both these isolates were from cases who were born overseas: Thailand and Korea. The overall prevalence of resistance to isoniazid, streptomycin, pyrazinamide, rifampicin, and ethambutol was 9.5%, 5.1%, 4.0%, 2.0%, and 1.5%, respectively.

Among the 293 cases for which hospitalisation status was recorded, 229 (78.2%) were hospitalised. There were 15 deaths reportedly due to tuberculosis in 1997 (a case-fatality rate of 4.5%), compared with 10 deaths (a case-fatality rate of 2.8%) in 1996. One outbreak of tuberculosis, involving six cases, was reported during 1997.

Prompt diagnosis and effective treatment of cases is the basis of tuberculosis control. Given the ethnicity-specific rates, medical practitioners should have a high level of suspicion for this disease in Pacific Islands people and people who have migrated from areas which have a high prevalence of tuberculosis.

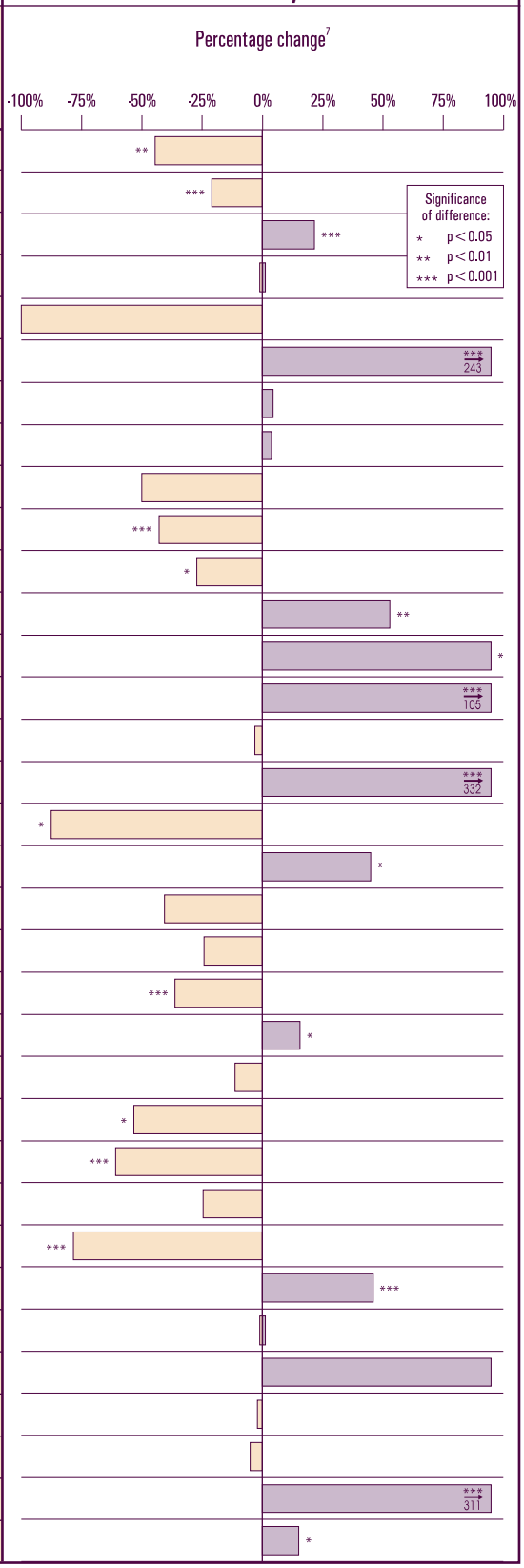
Table 2: Resistance patterns of M. tuberculosis and M. bovis, 1997

Resistance pattern	Agent(s)[1]	Number of isolates (%)
Resistance to 3 agents	HRZ	1 (0.5)
	HZS	1 (0.5)[2]
	RSE	1 (0.5)[2]
Resistance to 2 agents	HZ	5 (2.5)[3]
	HS	3 (1.5)
	HR	1 (0.5)
	RE	1 (0.5)
Resistance to 1 agent	H	8 (4.0)
	S	2 (1.0)
	Z	1 (0.5)[3]
	E	1 (0.5)
Fully sensitive	-	175 (87.5)

Notes: 1 H = isoniazid, R = rifampicin, E = ethambutol, S = streptomycin, Z = pyrazinamide
2 Isolates from reactivations
3 All were *M.bovis* isolates which are intrinsically resistant to pyrazinamide.

National surveillance data - July 1998

Disease[1]	Current year - 1998[2]			Previous year - 1997			Trends - July 1998
	July 1998 cases	Cumulative total this year	Current rate[3]	July 1997 cases	Cumulative total previous year	Previous rate[3]	Percentage change[7]
AIDS	1	19	1.0	4	27	1.7	**
Acute gastroenteritis[4]	30	216	10.9	19	111	13.8	***
Campylobacteriosis	806	6369	285.2	533	4897	234.6	***
Cholera	0	0	0.0	0	0	0.0	
Creutzfeldt-Jakob disease	0	0	0.0	0	1	0.0	
Cryptosporidiosis	28	402	18.5	4	90	5.4	*** 243
Dengue fever	1	19	0.6	2	10	0.6	
Giardiasis	178	1403	59.2	191	1379	57.0	
H. influenzae type b disease	0	7	0.2	0	7	0.5	
Hepatitis A	8	97	5.5	28	242	9.6	***
Hepatitis B (acute)[5]	7	45	2.5	15	90	3.5	*
Hepatitis C (acute)[5]	6	60	3.0	8	45	1.9	**
Hydatid disease	1	2	0.1	0	0	0.0	*
Influenza[6]	243	281	17.9	147	281	8.7	*** 105
Lead absorption	5	43	1.8	4	51	1.8	
Legionellosis[6]	7	96	5.3	5	23	1.2	*** 332
Leprosy	0	0	0.0	1	1	0.2	*
Leptospirosis	6	46	2.0	4	28	1.4	*
Listeriosis	2	12	0.5	4	28	0.9	
Malaria	5	47	1.8	8	46	2.4	
Measles	12	131	23.5	391	1293	36.9	***
Meningococcal disease	61	263	16.7	91	273	14.4	*
Mumps	4	54	2.4	7	55	2.7	
Paratyphoid	1	4	0.4	3	15	0.8	*
Pertussis	10	78	6.0	13	143	15.4	***
Rheumatic fever	15	40	2.2	13	55	2.9	
Rubella	9	42	1.7	4	60	7.8	***
Salmonellosis	102	1329	47.2	71	790	32.3	***
Shigellosis	5	71	3.2	7	71	3.2	
Tetanus	0	1	0.0	0	0	0.0	
Tuberculosis	31	212	9.8	19	190	10.0	
Typhoid	1	15	0.5	0	12	0.6	
VTEC	1	32	1.0	0	8	0.2	*** 311
Yersiniosis	32	358	15.2	36	289	13.2	*



Notes:
1 No cases of the following notifiable diseases were notified in July: anthrax, brucellosis, cysticercosis, meningoencephalitis - primary amoebic, plague, poliomyelitis, rabies, rickettsial diseases, taeniasis, trichinosis, viral haemorrhagic fever, or yellow fever
2 These data are provisional
3 Rate is based on the cumulative total for the last or previous 12 months expressed as cases per 100 000
4 Cases with suspected common source, person in a high risk category (e.g. food handler, child care worker, health care worker)
5 Only acute cases of this disease are currently notifiable
6 Surveillance data based on laboratory-reported cases only
7 Percentage change is the difference between the number of cases in the current year (last 12 months) and the previous year (the 12 months up to and including July 1997). This difference is expressed as a percentage of the number of cases seen in the previous year.

Surveillance data by health district - July 1998

Cases this month ☐ Current rate[1] ☐

Disease	Cases for July 1998,[2] and current rate[1,2] by health district[3,4]																						
	Northern				Midland								Central							Southern				
	Northland	NW Auck	Central Auck	South Auck	Waikato	Tauranga	Eastern BoP	Gisborne	Rotorua	Taupo	Taranaki	Ruapehu	HawkesBay	Wanganui	Manawatu	Wairarapa	Wellington	Hutt	Nelson-Marl	West Coast	Canterbury	South Cant	Otago	Southland
AIDS[3]	1				0								0							0				
	1.9				0.4								0.9							0.1				
Acute gastroenteritis	0	3	12	3	1	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	9	0	0	0
	2.9	4.3	9.5	2.0	13.6	1.8	0	43.7	1.5	0	4.7	0	0	0	0	10.4	4.5	3.0	11.1	9.3	51.7	0	0	1.8
Campylobacteriosis	22	118	93	77	84	23	5	6	6	7	20	4	53	15	13	0	115	39	14	3	45	11	24	9
	148.8	287.7	343.3	220.1	387.0	205.7	133.2	157.4	151.9	237.8	195.6	208.9	285.0	161.2	180.9	106.6	566.5	414.7	105.5	206.6	293.6	252.7	245.5	247.0
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	0	0	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	0	0	0
Cryptosporidiosis	2	4	1	2	4	0	0	0	0	0	0	0	2	0	2	0	0	2	0	6	0	0	2	1
	21.2	4.6	2.9	3.2	53.2	1.8	0	50.3	0	26.1	4.7	6.0	2.8	4.9	13.3	5.2	20.6	106.3	5.1	101.8	11.6	40.2	16.8	29.6
Dengue fever	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2.2	0.8	2.3	0.6	0.3	0	0	0	0	0	0	0	0	0	0	0	0.8	0	0	0	0.8	0	0	0
Giardiasis	5	27	21	12	22	5	0	6	2	0	0	0	12	0	3	3	26	10	1	2	15	2	1	3
	60.5	55.6	55.0	50.0	87.6	78.0	29.8	69.9	69.7	45.6	15.9	35.8	71.8	48.8	27.3	18.2	109.1	101.8	18.9	83.3	50.2	64.1	32.4	36.8
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	0.3	0.3	0.3	0.3	0.9	0	0	0	0	0	0	0	1.6	0	0	0	2.3	0	0	0	0	0	0
Hepatitis A	0	0	3	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0
	9.5	6.6	11.6	12.6	2.0	4.4	2.0	41.5	3.1	3.3	1.9	0	0	0	0.7	2.6	2.5	3.8	0	0	5.9	5.0	0	1.8
Hepatitis B	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0
	3.6	0.3	1.4	3.2	3.3	2.7	4.0	6.6	4.6	6.5	0.9	6.0	1.4	0	4.0	5.2	0.4	3.0	3.4	0	2.8	0	4.6	3.6
Hepatitis C	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	3	0	0	0
	1.5	1.5	2.3	0.6	0.3	27.5	4.0	0	7.7	0	0	0	0.7	0	1.3	2.6	2.1	0.8	6.9	0	7.2	0	0.6	3.6
Hydatids	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
	0	0.3	0	0	0	0	0	0	0	0	0	0	0.7	0	0	0	0	0	0	0	0.3	1.3	0	0
Influenza[5]	1	11	7	26	11	0	1	0	0	1	1	0	2	1	0	0	5	0	0	0	170	2	2	2
	4.4	12.7	27.8	23.4	15.9	4.4	17.9	2.2	6.2	3.3	10.3	0	6.3	6.5	2.7	0	21.0	0.8	4.3	0	64.9	2.5	3.5	3.6
Lead absorption	0	0	2	0	2	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
	1.5	1.3	1.4	1.2	2.3	0	0	6.6	1.5	0	0.9	6.0	2.1	0	3.3	0	1.2	0	0	0	2.3	5.0	2.9	0.9
Legionellosis[5]	0	0	1	0	1	0	0	0	0	0	0	0	3	0	0	0	0	1	0	0	1	0	0	0
	0.7	0	7.2	0.3	8.3	0	0	2.2	0	0	0.9	0	7.7	3.3	6.0	18.2	5.8	9.0	2.6	0	11.6	2.5	9.8	10.8
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	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	2	0	1	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0
	5.1	0.5	0	0.6	2.6	1.8	0	13.1	3.1	0	3.7	6.0	8.4	3.3	3.3	0	0	0.8	4.3	3.1	1.0	6.3	0.6	0
Listeriosis	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
	0	0.8	1.4	0.9	0.3	0.9	2.0	0	0	0	0.9	0	0	0	0.7	0	0	0.8	0	0	0.3	1.3	0	0
Malaria	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	0	1
	1.5	0.8	2.3	0.9	2.0	0.9	2.0	4.4	0	3.3	0	0	0.7	0	5.3	0	2.9	0.8	2.6	0	2.3	3.8	1.2	2.7
Measles	0	2	1	1	0	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	3	0	1	0
	16.0	20.0	40.5	54.7	18.8	27.5	9.9	2.2	3.1	19.5	0	0	7.0	0	31.3	5.2	10.7	18.1	6.9	27.8	42.9	17.6	9.8	13.5
Meningococcal disease	5	2	9	14	6	1	1	0	2	1	0	1	5	0	4	1	0	1	0	0	4	2	1	1
	35.0	13.2	28.1	50.9	11.9	4.4	11.9	4.4	17.0	9.8	9.4	35.8	16.0	6.5	9.3	10.4	4.5	10.6	4.3	18.5	8.3	11.3	12.2	13.5
Mumps	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	0	0
	5.1	1.5	1.4	3.8	1.0	2.7	4.0	0	3.1	13.0	0	0	3.5	0	1.3	5.2	2.9	0.8	4.3	9.3	2.1	1.3	2.9	2.7
Paratyphoid	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
	0	0.3	0.6	0.3	0	0	0	2.2	0	0	0	0	0	0	0.7	0	0.8	0	0	0	0.8	0	0	0
Pertussis	0	0	0	0	8	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	3.0	0.9	0.9	52.2	3.5	2.0	0	0	0	0	0	2.1	1.6	0	0	1.2	1.5	1.7	0	3.6	1.3	2.9	5.4
Rheumatic fever	1	0	0	6	2	0	1	0	0	0	0	0	1	0	0	2	2	0	0	0	0	0	0	0
	2.9	0.5	1.2	6.7	3.6	1.8	2.0	6.6	0	0	0.9	0	3.5	0	0	5.2	3.3	3.0	0	0	0	0	0	2.7
Rubella	0	1	1	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	3	0	0	0
	0	1.3	1.2	0.6	0.3	3.5	0	0	3.1	0	0.9	0	11.8	0	0.7	0	2.1	1.5	0	0	1.8	0	5.2	0.9
Salmonellosis	5	6	9	4	13	3	0	0	1	4	2	0	3	2	7	1	7	4	5	0	9	4	10	3
	35.0	38.6	51.2	40.7	48.3	37.2	35.8	21.9	13.9	39.1	35.6	11.9	29.3	27.7	29.9	78.0	60.5	49.0	60.0	67.8	79.7	93.0	49.8	51.2
Shigellosis	0	2	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2.2	3.8	5.8	7.6	3.3	0.9	4.0	0	3.1	0	0	0	2.8	1.6	0	0	0.4	8.3	0	0	2.8	5.0	0.6	3.6
Tetanus	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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tuberculosis	1	3	6	5	3	0	0	0	0	0	0	1	0	0	4	1	1	0	0	0	3	1	0	2
	9.5	8.9	18.5	15.8	8.9	2.7	19.9	6.6	1.5	3.3	0.9	23.9	4.2	3.3	8.0	10.4	17.7	10.6	1.7	6.2	10.3	2.5	0.6	7.2
Typhoid	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0.5	0.6	2.6	0	0	0	0	0	0	0	0	0.7	0	0	0	1.2	0	0	0	0	0	0.6	0
VTEC	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0.7	0.3	0	0.9	3.6	5.3	0	0	6.2	13.0	0.9	0	0	1.6	0	2.6	0.4	0	0	0	0.3	0	0	0
Yersiniosis	3	3	1	5	6	2	0	0	0	0	0	0	1	1	2	0	0	1	0	2	3	0	1	1
	10.9	16.7	17.1	15.8	15.9	8.9	2.0	10.9	17.0	13.0	2.8	11.9	11.2	14.7	2.7	5.2	14.4	12.1	1.7	52.4	28.2	17.6	11.0	18.9

Notes: 1 Current rate is based on the cumulative total for the last 12 months expressed as cases per 100 000
2 These data are provisional
3 AIDS data given by divisions of the Health Funding Authority
4 Further data are available from the local medical officer of health
5 Surveillance data based on laboratory-reported cases only

Public health abstracts

International study shows New Zealand has relatively high rates of asthma, hay fever, and eczema

Phase one of the International Study of Asthma and Allergies in Childhood (ISAAC) compared the prevalences of self-reported symptoms of asthma, allergic rhinoconjunctivitis (hay fever), and atopic eczema among 463 801 children aged 13-14 years in 155 centres in 56 countries. The prevalence of asthma symptoms was highest in English-speaking western countries, such as the United Kingdom, New Zealand, Australia, and the Republic of Ireland. Countries with the lowest asthma prevalence included several Eastern European countries, Indonesia, Greece, China, and Taiwan. Countries with a high prevalence of allergic rhinoconjunctivitis and atopic eczema symptoms did not fall into obvious groups, but the countries with a low prevalence usually also had a low asthma prevalence. The worldwide variation in rates of these symptoms (up to a 60-fold difference between highest and lowest rates) suggests that environmental factors may play a role in the development of these disorders in childhood. (The International Study of Asthma and Allergies in Childhood Steering Committee. Worldwide variation in prevalence of symptoms of asthma, allergic rhinoconjunctivitis, and atopic eczema: ISAAC. Lancet 1998; 351: 1225-32.)

Editorial note: Six centres in New Zealand took part in this international study. New Zealand had a relatively high prevalence of the symptoms of all three conditions. New Zealand ranked second out of 56 countries for asthma, sixth for atopic eczema, and tenth for allergic rhinoconjunctivitis. Phase two of this study is currently under way, and aims to investigate potential risk factors for these conditions. During this second phase, there will be clinical assessment of cases, rather than reliance on self-reported symptoms. Countries, including New Zealand, were selected for phase two on the basis of the results of the first phase.

Large Finnish study confirms safety of MMR vaccine

A 14 year prospective study conducted by Finland's National Public Health Institute found no evidence that MMR vaccine causes inflammatory bowel disease or autism. From 1982-1996, over three million vaccine doses were administered to children in a two-dose schedule, given at 14-18 months of age and 6 years. All temporally related adverse events were reported to the Institute. Thirty-one children developed gastrointestinal symptoms within 15 days of vaccination. A review of the health records of these 31 children, an average 9 years and 3 months after vaccination, showed none had gone on to develop inflammatory bowel disease or autism. (Peltola H, Patja A, Leinikki P, et al. No evidence for measles, mumps, and rubella vaccine-associated inflammatory bowel disease or autism in a 14-year prospective study. Lancet 1998; 351: 1327-8.)

Editorial note: A recently published study, which suggested that MMR vaccination might be associated with autism and inflammatory bowel disease, has provoked considerable criticism and debate (Wakefield AJ, Murch SH, Anthony A. Ileal-lymphoid-nodular hyperplasia, non-specific colitis, and pervasive developmental disorder in children. Lancet 1998; 351: 637-41). The Chief Medical Officer in the United Kingdom requested an ad hoc group of about 30 virology, gastroenterology, psychiatry, and epidemiology experts to consider all available evidence. The group concluded that there is no evidence to indicate any link between MMR vaccination and bowel disease or autism, and that there is no reason to change MMR vaccination policy (Lancet 1998; 351: 966). This Finnish study reinforces the group's conclusion.

Travel health

Cholera epidemic increases in East Africa in 1997

Cholera in 1997 was marked by an increasing epidemic affecting countries in East Africa. Major outbreaks occurred in Kenya, Mozambique, Somalia, Uganda, Djibouti, and the United Republic of Tanzania. Most of these outbreaks followed heavy rainfalls and floods in the region, which were possibly related to the El Nino weather phenomenon. Africa accounted for 80% of the global total of 147 425 cholera cases reported to World Health Organization in 1997. There were 6274 deaths, a case-fatality rate of 4.3%. Cholera cases were notified in 64 countries, but in 12 of these countries all cases were imported. The trend towards a declining incidence in Asia and the Americas continued. *Vibrio cholerae* serotype O139, the new strain which emerged in the Bay of Bengal in 1992, was detected only in Bangladesh. Cholera is virtually absent from Oceania, with only the Northern Mariana Islands reporting endemic disease. (Cholera in 1997. Wkly Epidemiol Rec 1998; 73: 201-8.)

Editorial note: The last imported case of cholera in New Zealand was in May 1995. Cholera poses a very small risk to New Zealand travellers. Usual precautions against enteric disease provide the best form of protection. These precautions include avoiding untreated or unboiled water, ice prepared from untreated water, unpasteurised milk, and raw foods, except fruit and vegetables that can be peeled just before eating. Cooked foods should be eaten while still hot. The currently available parenteral cholera vaccines provide poor protection and are not recommended. However, several new oral vaccines have relatively high efficacy. One of these vaccines, Swiss Serum's Orochol, is now available in New Zealand from Pharmabroker Sales, on a named patient basis (ie, under section 29 of the Medicines Act 1981).

The New Zealand Public Health Report is produced monthly by ESR for the Ministry of Health.
Internet website: http://www.moh.govt.nz

Scientific Editor: Michael Baker, Public Health Physician, ESR
Managing Editor: Helen Heffernan, Scientist, ESR
Editorial Committee: Sally Gilbert, Senior Advisor, Ministry of Health
Michael Bates, Epidemiologist, ESR
Louise Signal, Senior Advisor, Ministry of Health

ESR
Phone: (04) 237 0149
Fax: (04) 237 2370

MINISTRY OF HEALTH
MANATŪ HAUORA
Phone: (04) 496 2000
Fax: (04) 496 2340

Reprinting: Articles in *The New Zealand Public Health Report* may be reprinted provided proper acknowledgement is made to the author and to *The New Zealand Public Health Report* as source.

Contributions to this publication are invited, in the form of concise reports on surveillance, outbreak investigations, research activities, policy and practice updates, or brief review articles. Please send contributions to:
Scientific Editor, The New Zealand Public Health Report, ESR, PO Box 50-348, Porirua, Wellington, New Zealand. Phone: (04) 237 0149; Fax: (04) 237 2370; Email: michael.baker@esr.cri.nz

The content of this publication does not necessarily reflect the views and policies of ESR or the Ministry of Health.