General considerations for the control of communicable diseases in New Zealand

Control of communicable diseases continues to be one of the highest public health priorities, both nationally and internationally. Emerging and re-emerging microbial threats and drug resistance pose an ever-increasing challenge to public health practitioners. Added to this are the high public expectations of protection from public health hazards and increasing media interest in public health safety.

The *Communicable Disease Control Manual* seeks to inform and assist those at the frontline of public health action, namely the medical officers of health, health protection officers and staff at public health units. The primary purpose of the manual is to describe the standard practice that public health services would normally follow in regard to the prevention and control of notifiable diseases.

Most of the information is contained within the disease-specific chapters. This includes case definitions and laboratory tests required for case confirmation. Some important general considerations are outlined below, and in the appendices.

**Notifiable infectious diseases**

Under the Health Act 1956, attending medical practitioners are required to notify their local medical officer of health of any notifiable disease they suspect or diagnose. Notification data are recorded on a computerised database installed in each public health service and are used to guide local control measures. The data are collated and analysed at the national level by the Institute of Environmental Science and Research (ESR): Kenepuru Science Centre on behalf of the Ministry of Health Communicable Diseases Team.

A revised schedule of notifiable diseases came into effect on 1 June 1996. The revision was the most comprehensive change to the schedule since the Health Act was enacted in 1956. Ten years later, the Health Amendment Act 2006 added the statutory obligation for laboratories to notify notifiable diseases to a medical officer of health on suspicion and confirmation. This requirement came into effect in December 2007. In an attempt to standardise laboratory notification across the country, an agreed set of algorithms for the notifiable diseases was produced in 2007. Another change since 1996 has been to add other notifiable infectious diseases to the schedule, including sudden acute respiratory syndrome (SARS), highly pathogenic avian influenza (HPAI),
Enterobacter sakazakii invasive disease, invasive pneumococcal disease and non-seasonal influenza. The currently proposed Public Health Bill will result in a review of the public health regulatory framework and an amendment to the schedule of notifiable diseases.

Notifications provide the basis for the surveillance and control of communicable (and some non-communicable) diseases in New Zealand. Public health control measures are required in response to individual cases of some diseases, such as meningococcal disease and tuberculosis, and in response to outbreaks of other diseases, such as campylobacteriosis and cryptosporidiosis.

The need for effective disease surveillance and control is increasing, as are people's expectations of being protected from disease threats. Surveillance is seen as a key strategy in preventing infectious diseases. The notifiable diseases are specified in the Health Act 1956 as notifiable infectious diseases (First Schedule, Part 1) and non-infectious notifiable diseases (Second Schedule). Tuberculosis is notifiable under the Tuberculosis Act 1948.

Notification confers special status. It provides a legal requirement for reporting, enables cases of disease to be notified without breaching the Privacy Act 1993 and should assist in making a complete identification of cases and their contacts if required. The decision to make a disease notifiable is based on the disease's public health importance, as measured by such criteria as incidence, impact and preventability.

Attending medical practitioners and laboratories notify a disease to the local medical officer of health, allowing the medical officer of health to:

- identify cases of disease and contacts that require immediate public health control measures
- monitor disease incidence, distribution and changes and alert health workers to changes in disease activity in their area
- identify outbreaks and support the effective management of such outbreaks
- assess disease impact and help set priorities for prevention and control activities
- identify risk factors for diseases to support the development of effective prevention measures
- evaluate prevention and control activities
- identify and assess emerging hazards
- generate and evaluate hypotheses about disease occurrence
- fulfil statutory and international reporting requirements.

For information on powers for isolation and restriction, refer to the Health and Infectious Diseases Regulations 1966.
Diseases notifiable in New Zealand

Notifiable infectious diseases under the Health Act 1956 (Schedule 1 Part 1)

Section A: Infectious diseases notifiable to a medical officer of health and a local authority

- Meningoencephalitis – primary amoebic
- Campylobacteriosis
- Cryptosporidiosis
- Hepatitis A
- Listeriosis
- Shigellosis
- Acute gastroenteritis²
- Cholera
- Giardiasis
- Legionellosis
- Salmonellosis
- Typhoid and paratyphoid fever
- Yersiniosis

Section B: Infectious diseases notifiable to a medical officer of health

- Acquired immunodeficiency syndrome (AIDS)
- Creutzfeldt-Jakob disease (CJD) and other spongiform encephalopathies
- Enterobacter sakazakii invasive disease³
- Hepatitis B
- Hydatid disease
- Malaria
- Pertussis
- Rabies⁴
- Severe acute respiratory syndrome (SARS)
- Anthrax
- Diphtheria
- Arboviral diseases
- Hepatitis (viral) – not otherwise specified
- Leprosy
- Mumps
- Plague
- Rickettsial disease⁵
- Viral haemorrhagic fevers
- Brucellosis
- Haemophilus influenzae type b

¹ During times of increased incidence, medical practitioners may be requested to report, with informed consent, to their local medical officer of health cases of communicable diseases not included on this list.

² Not every case of acute gastroenteritis is necessarily notifiable, only those where there is a suspected common source or from a person in a high-risk category (for example, a food handler, an early childhood service worker) or single cases of chemical, bacterial or toxic food poisoning, such as botulism, toxic shellfish poisoning (any type) and disease caused by verotoxin- or Shiga toxin-producing Escherichia coli (VTEC/STEC).

³ E. sakazakii is now more commonly referred to as Cronobacter spp. but has not yet been renamed in the notifiable infectious diseases schedule.

⁴ Currently only Rabies is listed in the notifiable infectious diseases schedule. Reporting of other lyssavirus infections by medical practitioners is recommended with informed patient consent.

⁵ Q fever was once considered part of the genus Rickettsia. It is now classified in a separate genus but the notifiable infectious diseases schedule has not yet been updated to include Q fever. Reporting by medical practitioners is recommended with informed patient consent.
Hepatitis C (HCV)  Highly pathogenic avian influenza
(including HPAI subtype H5N1)
Invasive pneumococcal disease  Leptospirosis
Measles  Neisseria meningitidis invasive disease
Non-seasonal influenza (capable of being transmitted between human beings)  Poliomyelitis
Rheumatic fever  Rubella (including congenital)
Tetanus  Yellow fever

Other diseases notifiable to a medical officer of health
(Schedule 2, Sections A and B)
Cysticercosis  Taeniasis
Trichinellosis  Decompression sickness
Lead absorption equal to or in excess of 15 μg/dl (0.48 μmol/l)⁶  Poisoning arising from chemical contamination of the environment

Notifiable diseases under the Tuberculosis Act 1948
Notifiable to a medical officer of health
Tuberculosis (all forms)

Māori health
There are a number of issues to consider when working with Māori whānau, hapū and iwi who have been in contact with others who have had a serious communicable disease. Many Māori whānau retain extended kinship ties, which involve collective sharing during times of stress, such as when someone is very ill or following a death. This collective community sharing enables affected whānau members to grieve in a supported environment. However, such collective community sharing can also put the health of other whānau members at risk through exposure to the disease. The larger the gathering, such as a tangi, the greater the potential risk. Cultural factors need to be given carefully consideration, particularly when tracing contacts for communicable diseases.

There are some additional issues to consider to ensure an effective response when working with Māori and possible exposure to a communicable disease:

1. Use Māori networks to help identify contacts who may be at risk by:
   • including cultural expertise (for example, Māori community health workers) in the response team who are called on to deal with a communicable disease situation that involves Māori families

⁶ The blood lead level threshold of 15 μg/dl is for conditions arising from occupation, otherwise the notification level is 0.48 μmol/l).
• working with Māori family support networks (for example, whānau, hapū and iwi networks) to identify and contact people who may be at risk
• using Māori health professionals when appropriate and available (for example, Māori public health nurses) who may be better prepared to work in Māori-specific environments, such as marae
• using media (for example, iwi radio stations) to provide the public with factual information that can help them determine their own level of risk.

2. Disseminate health education information in a culturally effective manner by:
• working in partnership with kaumātua and whānau to access and work with affected Māori communities
• using appropriate settings that address diverse Māori realities (for example, sport clubs, marae)
• minimising barriers to using health education material by providing such material in te reo Māori as well as English where possible.

Pacific health
Pacific communities are culturally diverse. They include people from different ethnic groups and cultures with specific customs, beliefs and traditions. Within each group, there are also subgroups, such as those born in New Zealand versus those born overseas, church groups, community groups and sports groups. Again, cultural factors need to be given careful consideration when tracing contacts for communicable diseases.

Some issues that need to be considered when dealing with instances of a notified communicable disease include:
• recognising the cultural diversity among Pacific peoples
• ensuring that interpretation and translation services are available and accessible
• using Pacific health workers where possible
• involving Pacific forms of media where possible, and church, community and sports groups where appropriate, to help inform the public of health risks and requirements around a communicable disease.

Other ethnic minority groups
Most migrants from developing countries have been exposed to a wide spectrum of communicable disease, including many infectious and parasitic diseases not often seen in New Zealand. Such exposures often result in the development of immunity (for example, gastrointestinal infections), while other exposures may confer immunity but may also result in a carrier status (for example, hepatitis B) or latent infection (for example, tuberculosis). Lower immunisation uptake rates and incomplete immunisation also expose migrant children and adults to a variety of vaccine-preventable diseases that may pose high risks. This has particular significance during early pregnancy (for example, rubella).
Other issues that medical practitioners need to be aware of when dealing with minority groups include:

- cultural diversity
- the need for interpretation and translation services
- women feeling more comfortable with female doctors.

**Refugees and asylum seekers**

In 1987 New Zealand established a formal quota for resettling refugees. New Zealand currently accepts 750 refugees per year. These refugees often have poor health as infectious and parasitic diseases are common in many of the countries from which refugee people originate.

Currently all refugees arriving in New Zealand stay at the Mangere Refugee Resettlement Centre in Auckland for 6 weeks, where they undergo general health screening and medical assessment. The health assessment and screening consists of a physical examination, as well as laboratory and other tests – these include a core set of tests, plus those conditional on age and sex and as clinically indicated.

Asylum seekers are offered the same health screening and medical assessment before their status is determined. If their asylum or protection status is granted, they complete the standard New Zealand Immigration Service medical examination when they apply for permanent residence.

**International Health Regulations**

The International Health Regulations (IHR) 2005, which entered into force in June 2007, take an all-risks approach to the management of global threats to public health. While all potentially serious hazards are covered, in practice the day-to-day focus remains on communicable diseases.

Under the IHR 2005, New Zealand must fulfil the following obligations.

1. New Zealand must develop and maintain the capacities to detect, investigate, manage and report all potentially serious disease-related events. These capacities must be in place locally/regionally, nationally and at the border, such as international airports.

2. New Zealand must establish an IHR National Focal Point (NFP) to provide a single point of contact between this country and the World Health Organization (WHO). This NFP performs a whole-of-health-sector, whole-of-government role in collating and dissemination relevant information. The Office of the Director of Public Health in the Ministry of Health performs this NFP role.

3. The Ministry of Health must receive, and rapidly assess the significance of, any reports of potentially serious public health events to determine whether or not the NFP should report the event urgently to WHO (see below). Such assessments
include using the ‘Decision Instrument’ as provided for in Annex 2 of the IHR 2005.

4. Within 72 hours of the Ministry receiving relevant information, the NFP must notify WHO of events involving any case of smallpox, poliomyelitis, SARS or human influenza caused by a new subtype.

5. Within 48 hours of the Ministry of Health receiving information of any event involving cholera, pneumonic plague, yellow fever, viral haemorrhagic fevers, West Nile fever or any unusual or potentially serious public health event, the NFP must have assessed the event using the Decision Instrument, and, where notification is required, notify WHO within a further 24 hours.

Designated officers and public health units play a vital role in ensuring that New Zealand meets the obligations listed above, and in particular they should maintain close communication with the Ministry of Health to ensure that the requirements listed under points 4 and 5 above are able to be discharged in a timely manner.

As well as serious public health events, communications between IHR national focal points and WHO take place on disease cases and contacts that are of relevance to other countries – for example, where someone has been identified as being infectious while staying in another country or aboard a plane. Designated officers and public health units who are alerted to such instances should send this information to the Office of the Director of Public Health (ODPH) as the IHR National Focal Point for New Zealand. If in doubt about what information to notify, contact ODPH for advice.