

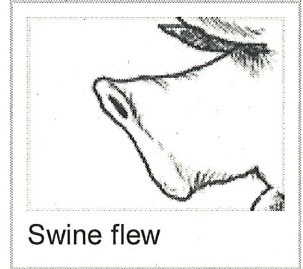


2009

## New epidemics, 1970s to 2000s

### Control of diseases

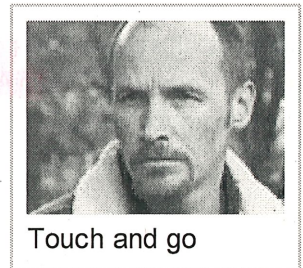
Since the 1970s infectious diseases have been better controlled and hospitalisation rates have declined through improved health services and better antibiotics. Immunisation programmes have successfully controlled some diseases, such as hib disease (haemophilus influenzae type B, which can cause meningitis and epiglottitis) which has been virtually eradicated. The campylobacteriosis (a gastro-intestinal disease mainly caused by eating chicken that has not been properly cooked) epidemic peaked in 2006 and then abated, probably due to new regulatory standards in the poultry industry.



Swine flew

### Ongoing problems

Because of air travel, New Zealand is no longer an isolated country and has become affected by more diseases as they spread through the world; most notably HIV/AIDS, SARS (seasonal acute respiratory syndrome) and influenza. The 2009 influenza A (H1N1 – generally known as swine flu) pandemic caused more than 3,000 cases and 20 deaths in New Zealand. Despite improved uptake of annual influenza vaccination, seasonal influenza epidemics continue to have an impact, especially on older age groups. On average, approximately 40 deaths are linked to influenza each year.



Touch and go



The first MenZB shot

### Brain fever

Meningococcal disease is a bacterial disease. It causes meningitis (an inflammation of the protective membranes covering the brain and spinal cord) and septicaemia (blood poisoning). Severe infections can cause shock, coma and death within a few hours if not treated quickly with antibiotics. Meningococcal disease can have serious long-term effects for survivors, including deafness and epilepsy.

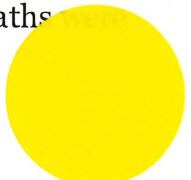
### Meningococcal disease

An outbreak of meningococcal group A in Auckland in 1985–86 was controlled by mass immunisation. Meningococcal disease reached epidemic proportions in the 1990s and early 2000s.

A new group B epidemic started in 1991 – 78 cases were recorded then, compared to an average of 51 per year (1.5 cases per 100,000 people) prior to this – and quickly became a major outbreak.

The highest infection rates were among Māori and Pacific Island children under five years of age. The upper North Island was the most affected, particularly Northland, Auckland and Rotorua. The epidemic peaked in 2001 with 650 cases (17.4 cases per 100,000 people), and 252 deaths attributed to meningococcal disease between 1991 and 2007.

3rd dangerous work



In 2005 scientist Jeanette Adu-Bobie fell ill with meningococcal septicaemia caused by meningococcal B after working in an Environmental Science and Research (ESR) laboratory in Porirua. She had both legs, her left arm and the fingers on her right hand amputated to save her life. Initially, ESR said they could find no link between her workplace and her illness. However, later reports concluded that it was highly likely that this is where Dr Adu-Bobie caught the disease. She received a compensation payment of \$117,000.

A new vaccine developed specifically for the New Zealand strain of meningococcal group B was introduced in 2004. More than 1.1 million children and young adults were immunised. This was one of New Zealand's largest mass-immunisation campaigns and involved schools, primary health care providers and district health boards. It cost over \$200 million. Reported cases declined from 342 in 2004 to 105 (1.7 per 100,000) in 2007. The epidemic was regarded as controlled by that time.

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## The Short Story

(Rice, 2011g)

# Epidemics

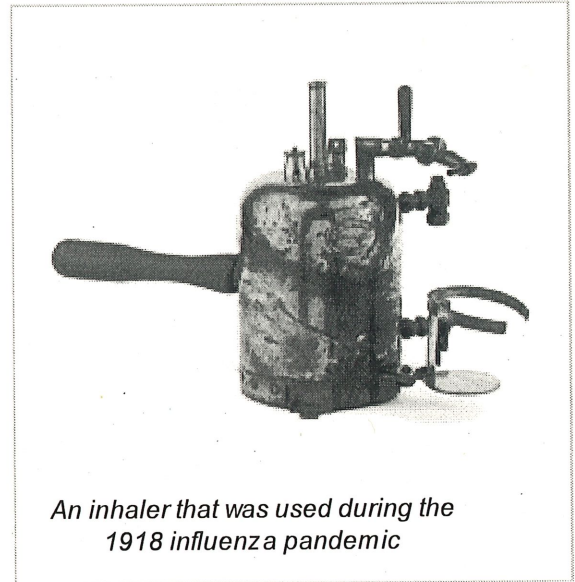
## What are epidemics and pandemics?

An epidemic is when many people have the same disease at the same time. They are usually caused by infectious diseases, such as influenza (flu).

A pandemic is when an epidemic spreads between many countries.

## How diseases are controlled

Many diseases that used to be common, such as polio, have been controlled by immunisation. This causes a person's body to produce cells and antibodies to protect them from the disease. Other diseases have been controlled by better hygiene and sewerage systems, or new drugs.



*An inhaler that was used during the 1918 influenza pandemic*

## Early settlers and diseases

European settlers brought new diseases such as measles and flu to New Zealand. Māori lacked natural immunity to these diseases, so many died from them.

Early settlements usually did not have clean water and sewerage systems, which made diseases such as typhoid very common.

## Influenza pandemics

Flu pandemics occurred in 1890–94 and 1918. The 1918 pandemic killed more than 50 million people worldwide and 8,500 in New Zealand.

## Polio

Poliomyelitis (polio) was a common disease until the 1960s. It could cause paralysis and death. Polio vaccines have removed the virus from New Zealand.

## Epidemics since the 1970s

Meningococcal disease, which causes meningitis, reached epidemic proportions in the 1990s and early 2000s. Between 2004 and 2007 more than 1.1 million children and young adults were immunised against meningococcal group B virus.

Better health services, immunisation and antibiotics have meant that diseases do not spread as readily as in the past. However, air travel means diseases can more easily travel between countries. In 2009 the 'swine flu' pandemic caused 3,000 cases and 20 deaths in New Zealand.

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