

Whole cell pertussis vaccines were used in Ireland and were associated with the development of local side effects. Vaccine development led to the production of acellular Pertussis vaccines which are less immunogenic and produce fewer side effects. All pertussis containing vaccines currently used in Ireland are acellular pertussis vaccines.

4.2.8 Pneumococcal infection

Epidemiology of disease and impact of vaccination

Pneumococcal infection is a bacterial infection caused by members the *Streptococcus Pneumoniae* family of which there are more than 90 serotypes. The organism is frequently found in the upper respiratory tract of healthy individuals world-wide. Carriage of the bacteria may range from 10% of adults to 50% of children attending day care facilities.

Invasive pneumococcal disease became notifiable on 1st January 2004 in Ireland (Figure 4.8). The very young, the elderly and those in "at risk" groups as laid down in the National Immunisation Guidelines are at increased risk of infection.

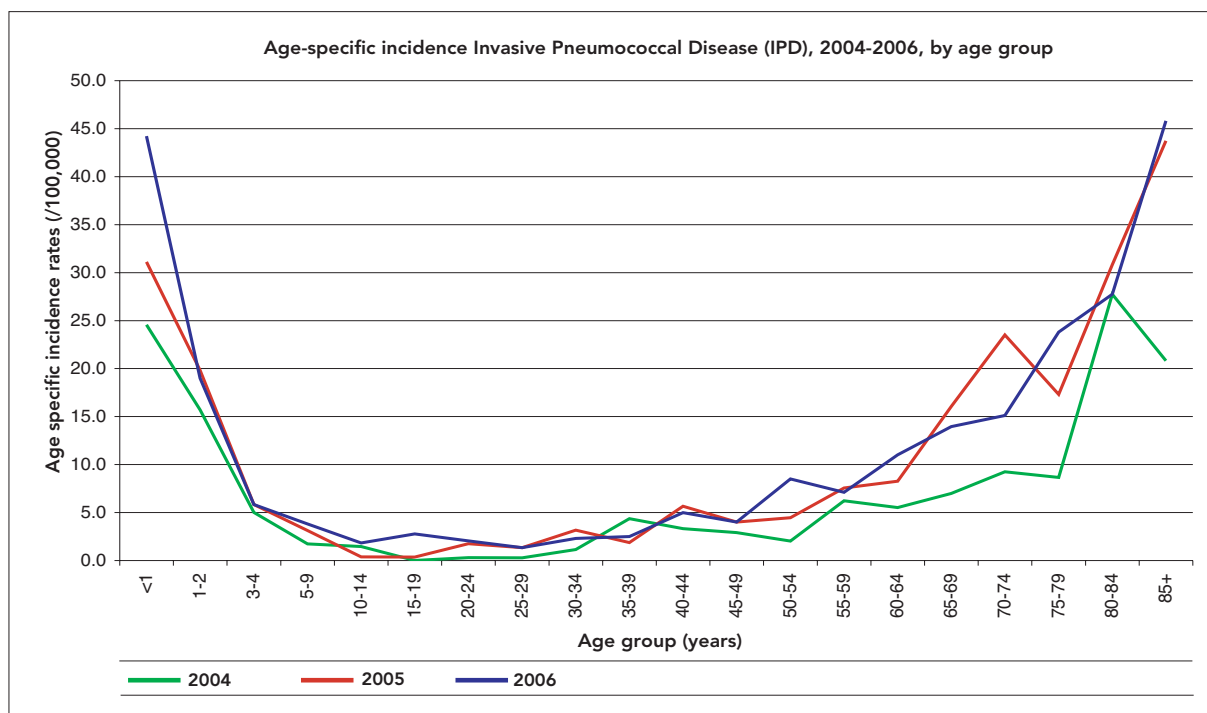


Figure 4.8: Age-specific incidence of Invasive Pneumococcal disease 2004-2006.

Source: Health Protection Surveillance Centre

Transmission

Transmission requires close contact with cases or carriers and is via droplet infection. Person-to-person transmission of the organism is common, but illness among casual contacts and attendants is infrequent.

Incubation period

The incubation period is difficult to determine but can be as short as 1-3 days.

Period of infectivity

The patient is infectious as long as viable pneumococcal organisms are present in nasal, oral or respiratory secretions. Treatment with antibiotics such as penicillin renders patients with susceptible organisms non-infectious within 48 hours.

Clinical features

Features of pneumococcal infection include septicaemia, pneumonia, meningitis, ear infections, sinusitis and bronchitis.

Vaccine schedule in Ireland

Two vaccines are available in Ireland to prevent pneumococcal infection. A polysaccharide vaccine that provides protection against 23 serotypes of pneumococcal infection (23-valent polysaccharide vaccine) has been in use in Ireland for several years. However, it does not provide good protection in children under 2 years of age.

More recently a conjugate vaccine has been recommended for infants and young children at increased risk of infection. This vaccine protects against seven serotypes of pneumococcal infection (7-valent vaccine).

Following a review of the epidemiology of pneumococcal infection in Ireland and a pharmacoeconomic evaluation, NIAC in 2007 recommended that pneumococcal conjugate vaccination be included in the primary childhood immunisation schedule, at 2 and 6 months with a booster dose at 12 months. Following the introduction of pneumococcal vaccine to the primary childhood immunisation schedule a catch-up campaign will be introduced.

4.2.9 Polio

Epidemiology of disease and impact of vaccination

Polio is a viral infection that enters the body through the mouth and multiplies in the intestine with subsequent spread to the lymph nodes and, in a minority of cases, to the central nervous system.

One in 200 infections leads to irreversible flaccid paralysis (usually in the legs). The use of one or both arms or legs may be lost and breathing may not be possible without help of a respirator. The degree of recovery varies from person to person. Among those paralysed, 5%–10% die when their breathing muscles become immobilised.

Prior to the introduction of vaccine, wide spread polio epidemics occurred each year. As a result of successful vaccination programmes and surveillance, cases of natural polio no longer occur in Ireland (Figure 4.9).

In 1988, the World Health Organisation (WHO) launched a Global Polio Eradication Initiative. In 2006, there were only four countries in the world (Nigeria, India, Afghanistan and Pakistan) where polio is endemic and mass vaccination programmes are underway in these countries.

Ireland participates in a WHO European acute flaccid paralysis (AFP) surveillance system in order to ensure that Ireland remains polio free. All cases of AFP in children under 15 years of age should be reported to the Medical Officer of Health (MOH) and rapidly investigated to outrule polio as a cause of AFP. Two stool samples from each AFP patient should be sent to the National Virus Reference Laboratory for virology testing. More information on polio and AFP surveillance can be found on the HPSC website at <http://www.ndsc.ie/hpsc/A-Z/VaccinePreventable/Polio/>.

Transmission

Transmission occurs through contact with the faeces or pharyngeal secretions of an infected person.

Incubation period

The incubation period ranges from 6-20 days (range 3-35 days).