Pneumococcal Disease

Pneumococcal disease is caused by Streptococcus pneumoniae (or pneumococcus). Strp. pneumoniae is an important cause of illness, hospitalization, and death worldwide especially among the elderly and those with chronic underlying medical conditions or compromised immune systems. It is the most common bacterial cause of community acquired pneumonia in children and adults and can also cause meningitis, septicemia, sinusitis and ear infections. Infection rates are highest in winter and spring. It may be found in the upper respiratory tract of healthy persons and is spread by droplets. The pneumococcus is surrounded by a capsule, made up of polysaccharides predominately. There are over 90 different capsular types of which a minority (8-10) cause the majority of infections.

In Ireland, during 2004, 171 cases of Invasive Pneumococcal Disease (Strp. pneumonia isolated from blood, CSF or other normally sterile site) were notified to the Health Protection Surveillance Centre compared to 213 cases in 2005, 293 in 2006 (HPSC Annual Infectious Disease Figures 2004-2006) and 257 for the first half of 2007 (HPSC Weekly Infectious Disease Report Week 26 2007). In the Mid West there were 22 cases of laboratory confirmed invasive Pneumococcal Disease reported in 2004, 31 in 2005, 24 in 2006 and 6 so far in 2007. In the Mid West, to date in 2007, there have been two deaths attributed to Pneumococcal Meningitis.

Pneumococcal Vaccination
Vaccination can reduce the incidence of invasive pneumococcal disease and is recommended for persons with the following risk factors:

- Asplenia or severe dysfunction of spleen including surgical splenectomy and coeliac syndrome
- Chronic renal disease or nephrotic syndrome
- Chronic heart, lung or liver disease, including cirrhosis
- Diabetes mellitus
- Sickle cell disease
- Immunodeficiency or immunosuppression due to disease or treatment including HIV infection at all stages
- Patients with CSF leaks either congenital or complicating skull fracture or neurosurgery
- Individuals who have received, or are about to receive, cochlear implants
- Elderly (65 years of age and older)
- Child < 5 years of age with history of invasive pneumococcal disease.

Currently two types of pneumococcal vaccine are available in Ireland
- 23-valent pneumococcal polysaccharide vaccine (Pneumovax® II) suitable for persons aged 24 months or older;
- 7-valent pneumococcal conjugate vaccine (Prevenar®), recommended for at risk children under 5 years of age.

National Immunisation Advisory Committee (NIAC) pneumococcal vaccination recommendations
Individuals at increased risk, regardless of age, should be vaccinated with the appropriate pneumococcal vaccines(s) for their age group;
- All at risk children aged less than 60 months should receive pneumococcal conjugate vaccine. The number of doses is age dependent (NIAC update October 2006).
- At risk children between the ages of 24 and 59 months should also receive a single dose of polysaccharide vaccine, at least two months after the final dose of conjugate vaccine.
- At risk children over the age of 5 years and adults should receive a single dose of pneumococcal polysaccharide vaccine.

Booster doses
- After completion of the age appropriate vaccination schedule additional booster doses are not currently recommended, unless an individual’s antibody levels are likely to decline more rapidly e.g. those with no spleen, with splenic dysfunction, immunosuppression, nephrotic syndrome or chronic renal disease. In these circumstances re-immunisation with polysaccharide vaccine should be given five years after the first dose.
- Adults 65 years or older should receive a second dose of polysaccharide vaccine if they received vaccine more than 5 years before and were less than 65 years of age at the time of the first dose.
- The need and benefit for repeated booster doses among high risk individuals is unclear and is not routinely indicated. RF

Bacterial Meningitis / Invasive Meningococcal Disease (IMD)

Gastroenteritis

Pertussis (whooping cough)

Measles outbreaks in Irish Travellers in England and Norway

Vaccination Uptake

Pneumococcal Disease

Diary Dates

Meningitis Research Foundation's Two-day International Conference Meningitis and Septicaemia in Children and Adults 7th and 8th November 2007 Royal Society of Medicine, London, UK www.meningitis.org/conference

2007 European Scientific Conference on Applied Infectious Disease Epidemiology (ESCAIDE) 18th-20th October 2007 Stockholm, Sweden www.escaide.eu

BBQ WITH CARE ensure meat is fully cooked

Notice: We would encourage general practitioners to make a copy of ID-Link available in the surgery waiting area.
If your contact details have changed, please let the Department of Public Health know (061-483337) and this will ensure timely delivery of your copy.

This report is produced with the assistance of the Senior Medical Officers and the Mid-Western Regional Hospital Laboratory.
Some data are provisional and are subject to amendment.
ISSN No. 1649-1912 All rates calculated using 2002 Census data.
Measles, Mumps, Rubella (MMR) vaccination uptake for children in Clare, Limerick, Tipperary, and HSE West.

### Table 1: Cases of all bacterial meningitis (IMD only) in HSE West

<table>
<thead>
<tr>
<th>Year</th>
<th>Clare</th>
<th>Limerick</th>
<th>Tipperary</th>
<th>HSE West*</th>
</tr>
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<td>14 (14)</td>
<td>4 (4)</td>
<td>24 (21)</td>
</tr>
<tr>
<td>1999</td>
<td>18 (15)</td>
<td>8 (8)</td>
<td>22 (16)</td>
<td>48 (39)</td>
</tr>
<tr>
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<td>18 (11)</td>
<td>10 (7)</td>
<td>13 (12)</td>
<td>41 (30)</td>
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<tr>
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<td>10 (9)</td>
<td>18 (14)</td>
<td>4 (4)</td>
<td>32 (23)</td>
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<td>17 (14)</td>
<td>5 (2)</td>
<td>32 (23)</td>
</tr>
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<td>13 (12)</td>
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</tr>
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<tr>
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<td>15 (13)</td>
<td>1 (1)</td>
<td>22 (20)</td>
</tr>
<tr>
<td>To July 2007</td>
<td>4 (4)</td>
<td>5 (5)</td>
<td>1 (1)</td>
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</table>


**Vaccination Uptake**

Measles Mumps Rubella (MMR) vaccination uptake for children in Clare, Limerick and North Tipperary is at 88% in the second quarter of 2007 (fig 3). This is well below the 95% level required for population immunity.

**Measles outbreaks in Irish Travellers in England & Norway**

The Health Protection Agency (HPA) in England has been investigating an outbreak of measles in the Irish Traveller community in England and Norway. Since the end of March 2007, there have been 92 cases reported in the outbreak. In Norway since 27th April, 15 measles cases have been reported among Irish Travellers from the UK. The outbreaks are thought to be associated with a gathering of Irish Travellers in London on 3 April 2007. At least one of the Norwegian cases visited the gathering and the Norwegian outbreak strain closely matches the UK one.

Thirteen Norwegian cases are two children, less than one year, and four aged 1-3 years, all unvaccinated. UK cases are aged between two months and 21 years, mostly between one and 14 years old, with six cases under one year. Of 38 confirmed cases for whom information was available, 36 (95%) were unvaccinated and 2 had received one dose of MMR. Local health authorities in the UK and Norway have offered MMR vaccination to Irish Traveller communities.

**Gastroenteritis**

**Salmonella** Since 2002, there have been only a couple of occasions when no cases of salmonellosis were notified in two consecutive months. During the period February – June there were no laboratory-confirmed cases of salmonellosis notified. In February 2007, one case (travel-associated) was notified by a general practitioner. In July 2006, six confirmed cases of salmonellosis were notified by the Mid-Western Regional Hospital Microbiology Department. One was S. Java, one was S. Enteritidis and four were S. Typhimurium. Over the months of summer and autumn it is likely more cases will be detected, often in travellers returned from abroad.

**Campylobacter** In the first seven months of 2007 there were 101 cases of campylobacteriosis notified (compared to 84 in 2006). Cases were distributed widely within Clare, Limerick and Tipperary North and the crude incidence rate (per 100,000 population) was similar in all three areas. Campylobacter continues to be the most common bacterial pathogen causing gastroenteritis in humans.

**Cryptosporidium** From January to July 2007, there were 45 notifications of cryptosporidium in the Mid-West (compared to 41 in 2006). The crude incidence was similar in Clare, Limerick and Tipperary North. It is generally understood that this parasite has a seasonal peak, specifically a high incidence from February to June. It is shed in the faeces of farm and domestic animals. It may occasionally contaminate drinking water and resist chlorination disinfection. Outbreaks have also been associated with swimming pools at home and abroad. With the eventual return of warm summer weather, children will play in recreational water facilities but they should avoid such activities when ill with gastroenteritis. The implications of acquiring cryptosporidium are serious in the elderly and anyone immunocompromised.

**Pertussis** (whooping cough)

Once infected, an individual with pertussis can be infectious for four to five weeks from the onset of the illness. Greatest infectivity occurs early on in the illness, even before the cough has developed.

Treatment of cases with certain antibiotics such as erythromycin for the first 3 days of illness may help to prevent further cases. This may take the form of offering antimicrobials or vaccination where appropriate.

It is advisable to cook fresh meats thoroughly. Special attention should be given to barbecues cooking over the summer period. Raw poultry meat often harbour pathogens like campylobacter and sometimes salmonella and raw meat may be contaminated with VTEC. Proper cooking will kill the bacteria. Great care must be taken to avoid cross-infection in households and institutions where someone is ill with gastroenteritis. Hand hygiene must be enhanced and the person, in so far as is practicable, must avoid food preparation for others while ill.