Notification of Infectious Diseases

Bacterial meningitis: Since January 2002 there have been 18 notifications of bacterial meningitis. With data collected via the enhanced surveillance system, 13 cases were confirmed as *Neisseria meningitidis* B and one case was caused by *Streptococcus pneumoniae*. No deaths were recorded. Five cases of *N. meningitidis* B were in residents in county Clare, seven were from county Limerick and one from Tipperary NR. One case of group C disease was reported so far in 2002.

Gastroenteritis: Summer time is the usual peak period for gastroenteritis. Up to October 2002, there were 55 clinical notifications of gastrointestinal illness (whether food poisoning, gastroenteritis or salmonellosis). Data from the Mid-Western Regional Hospital Microbiology Laboratory on specific causes revealed 37 cases of cryptosporidium (a protozoal illness), 30 cases of salmonellosis and 52 cases of campylobacter (both bacterial illnesses) since the beginning of this year, see Table 1.

Table 1: Number of patients with laboratory confirmed isolates of campylobacter, cryptosporidium and salmonella in MWHB, 2002 (up to October, n=119).

County	Clare		Limerick		Tipperary N.	
	Isolates	CIR	Isolates	CIR	Isolates	CIR
Campylobacter	14	14.9	27	16.4	10	17.2
Salmonella	4	4.2	17	10.3	8	13.8
Cryptosporidium	10	10.6	25	15.1	2	3.4

CIR - Crude incidence rate per 100,000 (based on Census 1996, CSO)

In Tipperary North, the rate for salmonella appears to be high and for cryptosporidium it is low. The rate of campylobacter (the commonest bacterial pathogen) in each county is similar.

Figure 1 shows the occurrence of each pathogen throughout the year (2002).

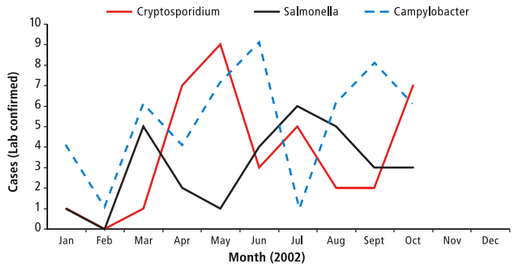

Figure 1: Number of cases of laboratory confirmed cryptosporidium, campylobacter and salmonella in 2002 by month, in MWHB.

Viral illnesses account for most gastroenteric illness especially in young children (e.g. rotavirus and adenovirus). Outbreaks related to short round structured virus (SRSV) are suspected to have caused illness in over 300 people in this region up to October 2002. The MWHB laboratory reported a *Salmonella* Typhi in August 2002. The case was an Irish resident of the eastern region. Typhoid is rare in Ireland and can present differently from the usual salmonellosis. Illness can be very severe and the potential for outbreaks is high. Two imported cases in the eastern region were also identified. There is no link between these cases.

VTEC: In 2001, 50 cases of VTEC in Irish residents were reported nationally. The bacterium can cause severe, sometimes fatal, gastroenteric illness with haemorrhagic colitis and haemolytic uraemic syndrome. The peak period was July – September. Three cases from the MWHB were reported in 2001, giving a crude incidence rate of 0.9/100,000 population (same as 2000). This was one of the lowest rates in Ireland. So far in 2002, there has been one confirmed case of VTEC reported in the MWHB region and four suspected cases related to this index case.

Tuberculosis (TB): The rate of TB in the MWHB dropped dramatically in 2001 with twenty-six cases. Initial notifications up to October 2002 suggest that the number of cases detected in the region will exceed the number seen in 2001. One case of tuberculous meningitis was reported last quarter.

ID link

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Antimicrobial Resistance - Europe[2]

Data from the European Antimicrobial Resistance Surveillance System (EARSS) indicates that the crisis in global antimicrobial resistance (AMR) is worsening. Recent results for the year 2001 in Europe show invasive isolates (from blood and CSF) of *Streptococcus pneumoniae* to be penicillin non-susceptible in 6-8% of cases over the period 1999 to 2001. In Ireland, data for the same pathogen in quarter 2 of 2002 shows this rate to be 16% (intermediate level resistance, n=68). However, the rate has fluctuated widely over short periods. This bacterium can cause a number of minor conditions such as otitis media and conjunctivitis but also causes pneumonia and meningitis/septicaemia. It is more common in winter months. A map showing the rates *S. pneumoniae* with reduced susceptibility in Europe is show in Figure 2a.

Methicillin resistant *Staphylococcus aureus* (MRSA) is more a potential hospital-based pathogen than community-based pathogen. The proportion of invasive isolates of *S. aureus* remained stable in Ireland over 1999-2001 at 39-41%. In quarter 2 of 2002, this rate rose to 49% (n=228). MRSA rates do appear to be rising in other European countries (UK and Germany). Figure 2b shows the MRSA rate in European countries from 1999-2001 (France, partial data).

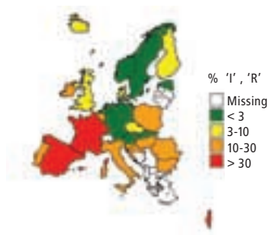

Figure 2a: The proportion of patients with an isolate of *S. pneumoniae* considered "non-susceptible" to penicillin from blood cultures and CSF. (courtesy of EARSS and NDSC)

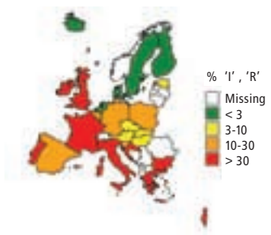

Figure 2b: The proportion of patients with an isolate of *S. aureus* resistant to methicillin from blood cultures. (courtesy of EARSS and NDSC)

[2] National Institute for Public Health and the Environment (RIVM). EARSS Annual Report 2001.

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All rates calculated using 1996 Census data.

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Vaccine Uptake

To enable adequate protection of the population against vaccine-preventable infectious diseases, more than 95% of the population needs to be immunised. Currently, the uptake levels in the MWHB are 86% for BCG, 85% for diphtheria, tetanus and pertussis, polio (DT, IPV) and *Haemophilus influenzae* b; and 82% for Mumps, Measles and Rubella (MMR). There has been a significant improvement in uptake rates over the last 2-3 years. However uptake remains well below the target of 95% required for herd immunity. Uptake rates are calculated at the end of each quarter for children who have reached the ages of 12 and 24 months during the quarter. Returns received after the quarter in which a child reaches the age of 24 months are never included in the calculation of uptake rates, even if the child is vaccinated before the age of 24 months. It has become evident that children who do not receive their first vaccinations by the age of 6 months are unlikely to be vaccinated at all. It is also evident that once a child commences vaccinations they are likely to finish them. It is hoped to follow-up defaulters at an earlier stage than at present – at about 6 months. In order to do this it is imperative that returns are sent in early. It would be appreciated if immunisation returns were sent on a monthly basis specifying all vaccinations done during that month, including first, second and third stages and MMR.

The worldwide vaccination campaign has partially been a victim of its own success in that the presence of disease in the developed world has faded to distant memory. However, diseases like measles, rubella, TB and diphtheria still kill thousands of children every year around the world.

It is perhaps timely to present data on where vaccinations have led us in recent years published for the UK.

Tuberculosis was responsible for 1 in 5 deaths in the 17th and 18th centuries; for 10,590 deaths in 1952 and for 400 deaths annually in recent years. Measles caused 4000 deaths annually in the 1920s and 1930s. Prior to vaccine introduction there were almost 100 deaths annually. This is the number of measles deaths predicted to occur were vaccination to be stopped. Reports of whooping cough (pertussis) in Scotland alone fell from 8000 annually in 1959 (and 92 deaths in 1956) to about 80 cases each year now. Poliovirus caused 4000 cases of paralytic polio in 1955 before the vaccine was introduced and now is extremely rare. Reports of congenital rubella and the serious side-effects of that disease are rare today but may rise with low uptake of MMR.

It is accepted that several factors caused the decline in incidence of disease over the last century and vaccines are just one. They are generally our best defence against viral disease to which antibiotics have no effect. Over 500 million doses of MMR have been administered in the global fight against disease. Minor side-effects of vaccination are rare and serious side-effects even rarer. Parents can judge what is in the best interest of their children and future generations with the best information we have available on disease.

Immunisation Guidelines for Ireland (2002)

Since the publication of the last version of the RCPI guidelines in 1999 there have been a number of changes to the recommended childhood immunisation schedule:

- Immunisation against serogroup C meningococcal disease is now recommended at 2, 4 and 6 months of age as part of the primary immunisation schedule.
- The oral polio vaccine (OPV) has been replaced by inactivated polio vaccine (IPV) in the primary immunisation schedule.
- A 5-in-1 vaccine which contains diphtheria, pertussis, tetanus and polio components mixed with Hib is now available in Ireland.
- A Td booster is now recommended for those aged between 12 and 14 years rather than at school leaving age.
- MMR immunisation is now recommended at 12-15 months of age instead of at 15 months as before.

Malaria - returned travellers

A man who worked at Heathrow airport in London has been found to have malaria. It appears he had not visited any country affected by malaria and may have acquired the disease through a bite from an imported mosquito or from blood. Several types of the parasite can cause malaria – some highly resistant to current anti-malarial drugs. The parasite is carried by the mosquito who infects the person through the bite when feeding. There were four reports of malaria in the MWHB in 2002, up to October. Three were Irish citizens who had travelled to countries where malaria was endemic. Malaria should be a consideration in travellers with PUO (pyrexia of unknown origin) returned from some regions of the world. Anyone considering travel to countries outside Europe should enquire about the need for vaccinations and anti-malarial therapy/preventive advice well in advance of departure.

Creutzfeld Jakob Disease (CJD)

CJD is a fatal degenerative brain disease. The cause of the disease is a protease-resistant prion protein (PrP). Since reporting of confirmed CJD and new variant CJD became statutorily notifiable in 1997, there have been 20 sporadic cases reported throughout Ireland including one report of confirmed CJD in the MWHB. Sporadic cases occur in the population and are rare events (0.5-1 per million population). This case was not of the new variant type, thought to be associated with BSE disease in cattle. CJD surveillance is based only on cases "confirmed" by the Surveillance Unit in Beaumont Hospital, Dublin.

Influenza Surveillance

In recent years the focus of infectious disease resources have centred on influenza in the belief that another pandemic is likely to occur soon. Pandemics are worldwide outbreaks of disease - Spanish flu in 1918 killed an estimated 20-40 million people, Asian flu in 1957 killing 2-3 million. It is thought likely that a virus strain will mutate and emerge from the avian reservoir or perhaps through swine. The National Disease Surveillance Centre is preparing an Influenza Pandemic Preparedness Plan for Ireland.

Each year in October, an influenza immunisation programme is offered to specific risk groups in the region, e.g. elderly (over 65 years) and those with chronic illness or immunosuppressed through their general practitioner and healthcare workers (through occupational health). As well as immunisations, the Department of Public Health participates in an influenza surveillance system operated by NDSC, Irish College of General Practitioners and Virus Reference Laboratory (VRL). Data on hospital admissions and sentinel general practice consultations for influenza like illness are monitored on a weekly basis. Swabs for viral analysis and typing are provided to the VRL. Data published weekly by the NDSC examines trends in influenza nationally and internationally.

This report is produced with the assistance of the Area Medical Officers, Senior Area Medical Officers and the Mid-Western Regional Hospital Laboratory.

BCG Recall

The Mid-Western Health Board has contacted between 3,000 and 3,500 families who had an infant inoculated against tuberculosis (TB) with BCG vaccine (Bacille Calmette Guerin) because of concerns about its effectiveness.

It is estimated that the breakdown of the patients on a county basis is approximately 1000 in Clare, 1500 in Limerick and around 500 in North Tipperary.

A single batch of Evans BCG was withdrawn by the Irish Medicines Board in July 2002 but following further tests a second batch of the vaccine was found to have what the experts describe as reduced effectiveness. All Evans BCG vaccine was withdrawn as a precautionary measure early last month and is no longer in use.

There were no safety concerns about the Evans BCG vaccine which had been used in the Mid West between April 2000 and November 2001. The only concern is that the people who were vaccinated, 95% of them, children aged less than 2 years, may not have been given adequate protection. A manual examination of our records was completed and those who received a vaccine from these batches have been traced. People have been invited to attend a health board clinic for a simple test which will check whether the vaccine 'took' i.e. whether or not it was effective. Normally, the small flat scar is a sign that the vaccine has taken. If it is not present further tests are made and if necessary we will revaccinate. The vast majority of children reviewed so far have had a BCG scar.

In 1952 there were 6,795 cases of TB notified in Ireland. The combination of better living conditions, antibiotics and BCG resulted in a dramatic reduction in the disease. 395 cases of TB were notified nationally in 2000, of which 47 were in the MWHB. The figure for the MWHB in 2001 was 26 and of this number none were under the age of 16. Further information on this recall is available on the MWHB website and from the Department of Public Health.

HIV and AIDS

December 1st is World AIDS Day and this is a reminder of the fact that few nations in the World are untouched by this global epidemic. Up to the end of 2001 in Ireland, 2,645 persons were diagnosed with HIV (39% were injecting drug users, 27% were heterosexual and 24% were men who have sex with men) and 2% were children. Heterosexual transmission was reported as accounting for 58% of newly diagnosed HIV infection in 2001, compared to 24% being men who have sex with men and 12% being injecting drug users. Data on geographic origin were only available for July to December 2001, but only 15% of 82 heterosexual cases identified Ireland as being their geographic origin.

Notifications of AIDS and deaths due to AIDS have fallen, mainly due to better therapy options. These advances in therapeutics make AIDS a less reliable indicator of the epidemiology of HIV infection so case-based HIV reporting now operates in Ireland. In 2001, 88 children were born to HIV-positive mothers, three were infected with HIV and the status of the others is indeterminate, i.e. they do not meet the criteria for HIV infection and are <18 months of age at time of test or they were born to a HIV infected mother but their antibody status is unknown.[1]

[1] National Disease Surveillance Centre, Ireland. HIV/AIDS Statistics Quarter 3 and 4, 2001 http://www.ndsc.ie