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Surveillance of Infectious Disease

This report is the first of a quarterly newsletter to be distributed to a wide audience in the MWHB. Community care, general practitioners, clinicians, laboratory scientists, public health, environmental health and pharmacists can all avail of the newsletter by post or by e-mail. It will also be publicly available on the MWHB website.

At the Department of Public Health, we have put new resources in place to improve the collection, collation and analysis of reports of infectious disease. Case-based reporting of HIV has been introduced.

Enhanced surveillance of

- bacterial meningitis
- VTEC and
- TB

will continue. There is also the potential to begin enhanced surveillance on pathogens such as

- listeriosis
- leptospirosis
- hepatitis A
- measles
- legionella
- malaria

Data on the weekly notifications will be presented quarterly. The linkages between general practice, public health and laboratory services locally are vital to the transmission of timely, complete and useful data on infectious disease in the health board. A range of information leaflets on infectious disease is in the process of being reviewed and will be available early in 2002.

Dr Kevin Kelleher, Dr Rose Fitzgerald and Mr Dominic Whyte, Department of Public Health, MWHB.



BORD SLÁINTE
AN MHEÁN-IARTHAIR



Syphilis Outbreak

Data published by the National Disease Surveillance Centre reveals that since January 2000, 189 cases of early syphilis have been reported under an enhanced surveillance system. Most of the cases (85%) are in men who have sex with men (MSM)³. An outbreak control team has been established in the ERHA where nearly all the cases have occurred. This resurgence in syphilis is mirrored in other countries in Europe.

"White powder" incidents

In the wake of the events on September 11th, there was concern at the potential for bioterrorism. To keep some perspective on the threat – Ireland is not seen as a target for such actions. Nevertheless there was a national protocol agreed for dealing with suspected anthrax in Ireland. Most incidents involved "powder" in postal packages. All the "white powder" incidents investigated revealed no biological danger. It is not wise to dismiss the potential devastation that would arise from deliberate spread of anthrax, smallpox, tularaemia, plague or botulism or even chemical agents. The National Disease Surveillance Centre has played an important co-ordinating role in the response to these alerts. We would ask GPs and clinicians to report any unusual illness to the Director of Public Health, immediately, to enable us to monitor events at a local and national level.

CIDR and SARI

In 2002, two national projects will commence in the MWHB. CIDR is the Computerised Infectious Disease Reporting system. CIDR will allow for the secure electronic transmission of laboratory information to public health and other CIDR partners, following authorisation by the laboratory. It will allow the review of epidemiological information by the laboratory. It is the key to the provision of timely information for public health action. There will be one integrated laboratory and clinical notification database to maintain – not several islands of information. The aim of these projects is to improve the effectiveness of prevention and control programmes regionally and locally. This will assist in future planning of responses to disease. Nationally, the information will be used to describe the epidemiology of disease and influence national policies on infectious disease and vaccine-preventable disease. National and regional committees are now being constituted to plan the most efficient and effective means of implementing this project in the MWHB.

SARI is the Strategy for the control of Antimicrobial Resistance in Ireland. The implementation of the recommendations of this report (copies are available from the National Disease Surveillance Centre) will begin in earnest in 2002. A range of experts from several disciplines will be consulted to tackle the problem of antimicrobial resistance in the hospital and community setting. The ways and means of infection control, the surveillance of antimicrobial resistance, antibiotic usage and healthcare associated infections will be planned. In conjunction with these developments there is a need to develop an antibiotic stewardship programme, regionally and

nationally. Education and involvement of the healthcare professional and the public will be required for successful outcomes to be achieved.

One national project currently recording data on antimicrobial resistance in two important pathogens, *Staphylococcus aureus* and *Streptococcus pneumoniae*, is EARSS (European Antimicrobial Resistance Surveillance System). In December, the National Disease Surveillance Centre, which has co-ordinated the programme since 1999, reported that 41.6% of patients (n=206) with *S. aureus* isolated from blood, yielded methicillin resistant *S. aureus* (MRSA). Over the three years of the project, MRSA consistently remained at this high level. MRSA rates are high in the UK and southern European countries like Spain, Portugal, Italy and Greece. However, levels of less than 3% are seen in many other northern European countries such as Denmark, Sweden and the Netherlands. The isolation of resistant *S. aureus* from patients with bacteraemia is associated with prolonged hospital stay, morbidity and costs. A common community-acquired pathogen, *S. pneumoniae*, was found to be resistant to penicillin (PRSP) in 7.4% of patients (n=27) with positive blood culture or CSF. The distribution of PRSP resistance in Europe mirrors the pattern of MRSA.

HIV and AIDS

There were 695 cases of AIDS diagnosed in Ireland from 1983 to the end of 1999⁴. Seventy-eight percent of these cases resided in the ERHA. In recent years the incidence of AIDS and deaths from AIDS has declined, a trend primarily attributed to the early use of HAART (highly active anti-retroviral therapy). The downward trend in AIDS contrasts starkly with the trend in HIV infection. In 2000, there were 342 cases of HIV diagnosed compared with 209 in 1999 and 136 in 1998. Until recently, the main groups associated with HIV infection were injecting drug users and MSM but recent trends indicate that HIV is a growing problem in the heterosexual community and this will be studied in greater detail in future. Monitoring the trend in AIDS no longer reflects HIV infection trends and in July 2001 a HIV-case-based reporting system was introduced in Ireland. This will ensure collection of accurate and complete epidemiological data on HIV. This is essential for design and implementation of appropriate and effective prevention and care strategies.

Influenza Surveillance 2001/2002

Since October 2001, a national influenza surveillance programme has been operating. This is the second year that such a weekly surveillance system has operated in Ireland. To date there has been no confirmed case of influenza in the MWHB. The MWHB has reported sporadic influenza activity based on "influenza-like illness" consultations at sentinel general practices. In mid January 2002 the first cases of Influenza A in Ireland were reported by NDSC.

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

³ Domegan L, Cronin, M, Hopkins S and Thornton L. EPI-INSIGHT 2001; 2 (12).

⁴ O'Donnell K, Cronin M and Igoe D. Review of the Epidemiology of AIDS in Ireland (1983-1999). Available at <http://www.ndsc.ie/Publications/HIVandAIDSReports/>



Men C Campaign success

Early data from the Meningococcal Reference Laboratory indicates progress in the national immunisation programme against *N. meningitidis* group C, which began in October 2000. This has resulted in a large reduction in disease attributed to these groups.¹ In October 2001, the Minister for Health and Children reported a 71% reduction in cases of Group C meningococcal disease in children under 5 years of age, reflecting the positive role of the vaccine in reducing morbidity and mortality from this disease. Data from Northern Ireland², where the MenC immunisation campaign began earlier, reveals a reduction of 87% in serogroup C incidence in all age groups between the first six months of 2000 and the same period in 2001. From July 2000 to June 2001, there were no serogroup C cases in children under two years of age. Uptake levels of MenC have been very good in the MWHB.

Immunisation uptake falls dangerously low

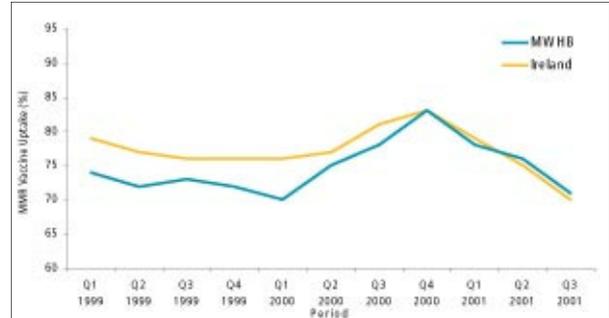
Aspects of the immunisation programme in Ireland were placed under intense scrutiny in 2000. The Oireachtas Committee on Health and Children heard submissions on childhood vaccination in Ireland. In the published report "the Joint Committee recommends that the achievement of a 95% uptake in the Primary Childhood Immunisation programme while respecting the rights of parents to make an informed choice on immunisation should be a key priority of the Department of Health and Children in view of its potential to protect the health and well being of children and to provide considerable return on resources invested." The report stated that the "Joint Committee considers that:

- there is no evidence of a proven link between MMR and autism.
- there is no evidence to show that the separate vaccines are any safer than the combined MMR vaccine.
- Babies are very susceptible to measles, mumps and rubella, which are killer diseases, so they must be protected as soon as possible and this can only be done with the MMR vaccine.
- Giving separate measles, mumps and rubella vaccines would leave children unnecessarily exposed and vulnerable."

Immunisation is a safe and effective way to prevent many potentially fatal childhood illnesses. Immunisation uptake in the MWHB is below the national average. In 2000, as in 1999, national uptake, at 24 months, of diphtheria and tetanus (D₃, T₃— three doses) and *Haemophilus influenzae* b (Hib) and oral polio vaccine was around 86%, pertussis P₃ uptake was 82% in Ireland. In the MWHB, the uptake rates were 6% lower. Uptake of Mumps, Measles, Rubella (MMR) vaccine increased in 2000 to 79% nationally, from 77% in 1999 and in the MWHB uptake had reached 83% at the end of 2000. Based on preliminary data, this level has fallen back considerably to 71% in the third quarter of 2001 (Figure 1). Overall MMR uptake in the MWHB was 2% lower than the national average in 2000. MMR uptake

in the United Kingdom stands at around 84% and in Northern Ireland at over 90%. The target in these countries is 95% uptake in the Primary Childhood Immunisation Programme.

Figure 1: Percentage uptake of MMR in MWHB and Ireland 1999-2001. Source, NDSC and MWHB



Advice to parents and doctors is to check that your child was immunised. If unimmunised, arrange for the vaccination to be given. Last year saw a major outbreak of mumps in Northern Ireland and a massive outbreak of measles in Dublin.

Gastroenteritis

Salmonella is a common bacterial pathogen giving rise to sporadic cases of disease and large outbreaks of gastroenteritis. The crude incidence rate (CIR) nationally in 2000 was 18%/100,000 and the MWHB had a comparatively low rate of 12.9%/100,000. Provisional estimates for 2001 indicate that only 30 isolates of salmonella were detected in that period. Salmonella infection usually peaks in summer months but outbreaks can sometimes distort this trend. Almost 66% of the isolates from MWHB in 2000 were *S. Typhimurium* (Table 1). Few isolates of *S. Enteritidis* were found. The discrepancy between the salmonella data here and in the weekly notification indicates that there are failures in the statutory notification system.

Table 1: Salmonella isolates in Ireland and MWHB in 2000. (Source, Interim National Salmonella Reference Laboratory/NDSC/MWHB)

Serotype	MWHB	Ireland
Dublin	1	10
Enteritidis	9	239
Grumpensis	1	1
Hadar	1	11
Manhattan	1	1
Mbandaka	1	3
Typhimurium	27	284
Others	0	112
TOTAL	41	661
CIR	12.9	18.2

¹ Cafferkey, M et al. Irish Medical News, May 8th 2001.

² Communicable Disease Monthly Northern Ireland Edition September 2001; 10 (7).





Within the notification data are cases of gastroenteritis and food poisoning attributed to campylobacter. In 1999, laboratories confirmed 2085 cases of campylobacter in Ireland.

People in the MWHB had a relatively low rate of infection with this organism reporting a crude incidence of 32/100,000 population compared to 57/100,000 nationally. In 2000, there were 85 cases of campylobacter confirmed in the MWHB (26.8/100,000). Provisional data for 2001 indicates there were 69 cases confirmed (21.8/100,000).

Verocytotoxin producing *E.coli* (VTEC) is an emerging global public health concern. Serious conditions such as haemorrhagic colitis and haemolytic uraemic syndrome (HUS) have been linked to this group of organisms. VTEC O157:H7 is one of the more common members of the group and has been the subject of enhanced surveillance in Ireland. In 2000, there were 35 cases notified in Irish residents giving a crude incidence rate of 1/100,000 population. This compared to 51 cases in 1999 and 76 cases in 1998. In the MWHB, there were two cases notified in 2000, 6% of all cases in Ireland. This compares with 12 (3.8/100,000) in 1999.

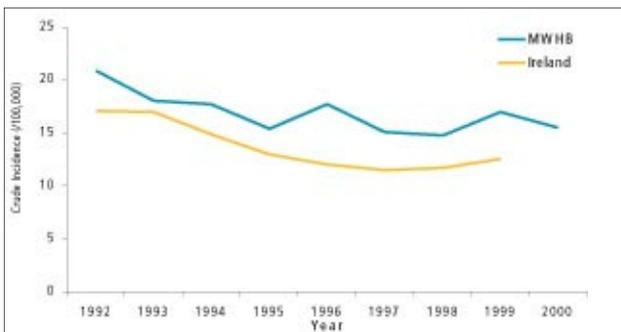
Tuberculosis

In 1999, as in 1998, the MWHB and the Western Health Board (WHB) had the highest rates of TB in Ireland. The age standardised incidence rate (expressed per 100,000 population) for the MWHB was 17.1 compared to 12.9 nationally. The crude incidence of TB in Ireland and the MWHB is illustrated in Figure 2. The MWHB had an unusually high incidence rate in the 15-24 year old age group and in the 25-34 year old age group to a lesser degree. The incidence rate in the 0-4 year old age group was highest in the MWHB and WHB also. No cases of TB meningitis were detected in MWHB.

In the most recent report on the epidemiology of TB in Ireland, the National Disease Surveillance Centre concluded that Ireland does not yet meet the criteria of the International Union Against Tuberculosis and Lung Disease for discontinuation of the neonatal BCG vaccination programme.

Figure 2: Annual crude incidence of TB in MWHB & Ireland 1992-2000

Source, NDSC & MWHB, 2000 data is provisional.



Statutory Notification of Infectious Disease

Total notifications of infectious disease in the MWHB almost halved in 2000 compared to 1999. Infectious intestinal illness remains a significant proportion of disease and associated morbidity, notified in the MWHB. This illness accounted for 229 out of 366 (63%) total notifications in the region in 2000. That same year, there was a large outbreak of measles in Ireland, concentrated mainly in the Dublin area, where there were 1,253 measles notifications. The MWHB was also affected with 22 notifications in 2000, compared to four in 1999.

Table 2 shows the more common diseases notified in 2000 and 2001 for MWHB.

Table 2: Data from weekly notification of selected infectious disease 2000 and 2001 (provisional) in MWHB.

	2000	2001	% diff
Acute Viral Meningitis	4	9	+125
Bacillary Dysentery	2	1	-50
Bacterial Meningitis	39	29	-26
Brucellosis	5	7	+40
Food poisoning*	40	22	-45
Gastroenteritis**	138	32	-77
Infectious mononucleosis	32	56	+75
Influenzal pneumonia	4	0	-
Legionnaires Disease	1	0	-
Leptospirosis	1	0	-
Malaria	2	0	-
Measles	22	3	-86
Rubella	15	1	-93
Salmonellosis***	29	10	-66
Tetanus	1	1	0
Viral hepatitis A	20	3	-85
Viral hepatitis B	7	24	+243
Whooping cough	4	2	-50

* (bacterial not salmonella)

** (contracted by children <2 years old)

*** (not typhoid or paratyphoid)

