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CDSC (NI) has been notified of a case of suspected wound botulism in a Northern Ireland-based injecting drug user likely to be caused by the injection of contaminated drugs abroad. This is the first such case to be reported in Northern Ireland.

This issue of the monthly report also presents data from the enhanced surveillance of meningococcal disease in Northern Ireland for the period July 04 to June 05. Northern Ireland continues to have higher rates of reported infection than England and Wales, with the vast majority of laboratory confirmed cases reported as serogroup B. Reflecting the continued success of the Men C vaccination programme, for the fifth consecutive year there have been no cases of serogroup C infection in children under two years of age.

Lastly, the Department has announced the replacement of the current schools BCG programme for older children with an improved programme targeted at at-risk neonates and others.

Dr Neil Irvine
Regional Epidemiologist

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Suspected Wound Botulism

CDSC (NI) has been notified of a suspected case of wound botulism in a Northern Ireland-based injecting drug user (IDU), thought to have been acquired abroad. Although PCR testing of wound tissue and blood were negative, a diagnosis of wound botulism is still considered likely.

The key clinical syndrome of wound botulism is an afebrile descending flaccid paralysis. Typical symptoms include double vision, blurred vision, drooping eyelids, slurred speech, difficulty swallowing and muscle weakness. This may progress to respiratory arrest.

Wound botulism in injecting drug users is caused by the injection of drugs such as heroin which have been contaminated by the bacterium *Clostridium botulinum*. Spores enter an intramuscular or subcutaneous site, germinate and produce a toxin which acts at the neuromuscular junction.

There had been no reported cases of wound botulism in IDUs in the UK and Republic of Ireland before 2000. Between March 2000 and end 2003 there had been 47 reports of clinically diagnosed cases, 27 of which were confirmed by laboratory tests.

Enhanced Surveillance of Meningococcal Disease

A. 1 January 2005 to 30 June 2005

Between 1 January 2005 and 30 June 2005, CDSC (NI) received 61 notifications of invasive meningococcal disease through the enhanced surveillance of meningococcal disease (ESMD) scheme. Of these, 34 (56%) were laboratory confirmed: 33 (97%) were identified as serogroup B and 1 as serogroup Y. Death occurred in 3 cases during the first six months of 2005. Two were adults over 18 years of age and the third was a child under 10 years of age. Serogroup B infection was laboratory confirmed in the child (who presented with septicaemia) and in one of the adults (who presented with both meningitis and septicaemia). Invasive meningococcal disease has not been laboratory confirmed in the remaining adult.

The number of notifications received during the first six months of 2005 is higher than that for the same period of 2004, when 48 cases were notified. Consequently, the rate of incidence of disease (3.6 per 100,000 population) has also risen compared to the same period last year (2.8 per 100,000 population). However, both the number of notifications and the rate of incidence of disease during the first six months of 2005 are identical to those recorded during the same period of 2003. The proportion of notified cases that were laboratory confirmed between January and June of 2005 (56%) is lower than that recorded during the same period of 2004 (65%) or 2003 (69%). Serogroup B infection continues to account for the large majority of laboratory confirmed cases. During the first six months of 2003, 2004 and 2005, the proportion of laboratory confirmed cases attributable to serogroup B infection were 91%, 87% and 97% respectively.

The marked reduction in the incidence of group C infection, since the commencement of the Men C immunisation campaign in late 1999, continues to date. During the first 6 months of 2000, immediately following the first phase of the immunisation campaign, there were 32 laboratory confirmed cases of serogroup C infection. The corresponding number of cases during the first six months of 2001, 2002 and 2003 and 2004 were 4, 5, 3 and 1 respectively. During the same period of 2005 there were no laboratory confirmed cases of serogroup C infection.

Table 1: Meningococcal disease by Health and Social Services Board, Northern Ireland, January to June 2005

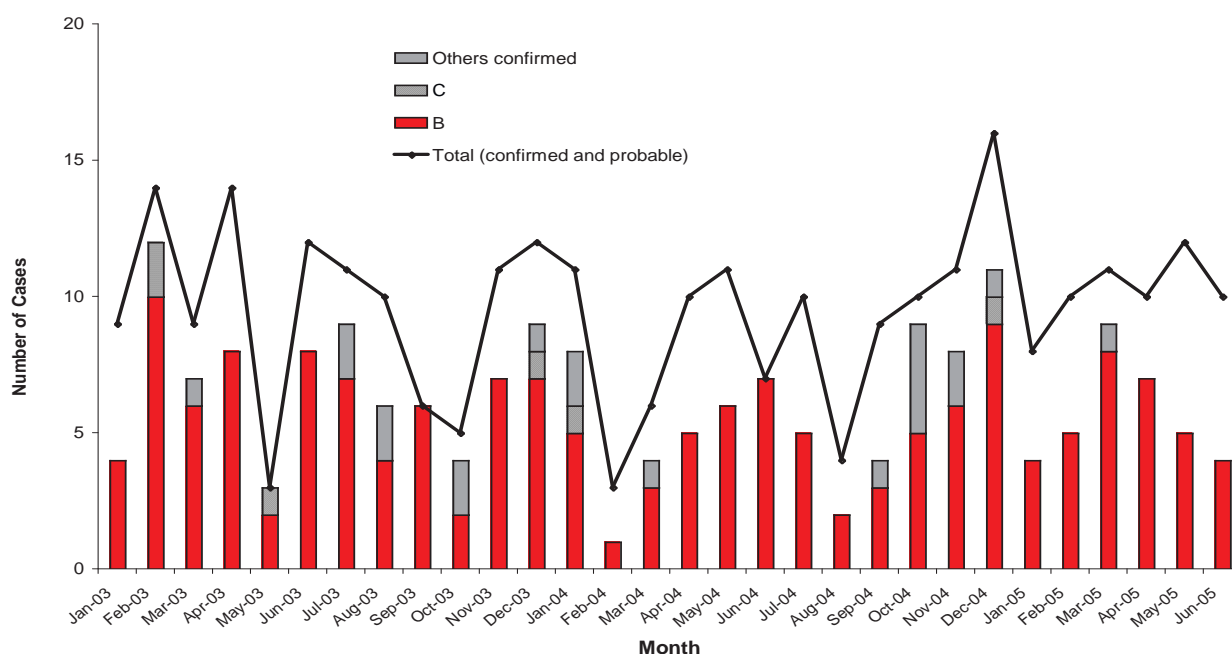
HSSB				Not confirmed	Total
	B	C	Other and ungrouped		
E	11	0	0	3	14
N	8	0	1	5	14
S	10	0	0	7	17
W	4	0	0	12	16
Total	33	0	1	27	61

Table 2: Meningococcal disease: case and death by age, Northern Ireland, January to June 2005

Age group	Confirmed			Not Confirmed	Incidence per 100,000 population*	Death
	B	C	Other and ungrouped			
0-2	16	0	0	19	54.0	0
3-4	4	0	0	0	8.7	0
5-14	5	0	0	3	3.2	1
15-17	2	0	1	0	3.7	0
18-24	3	0	0	4	4.2	1
>24	3	0	0	1	0.4	1
Total	33	0	1	27	3.6	3

* age-specific incidence rate

Figure 1: Monthly cases of meningococcal disease from January 2003 to June 2005, Northern Ireland



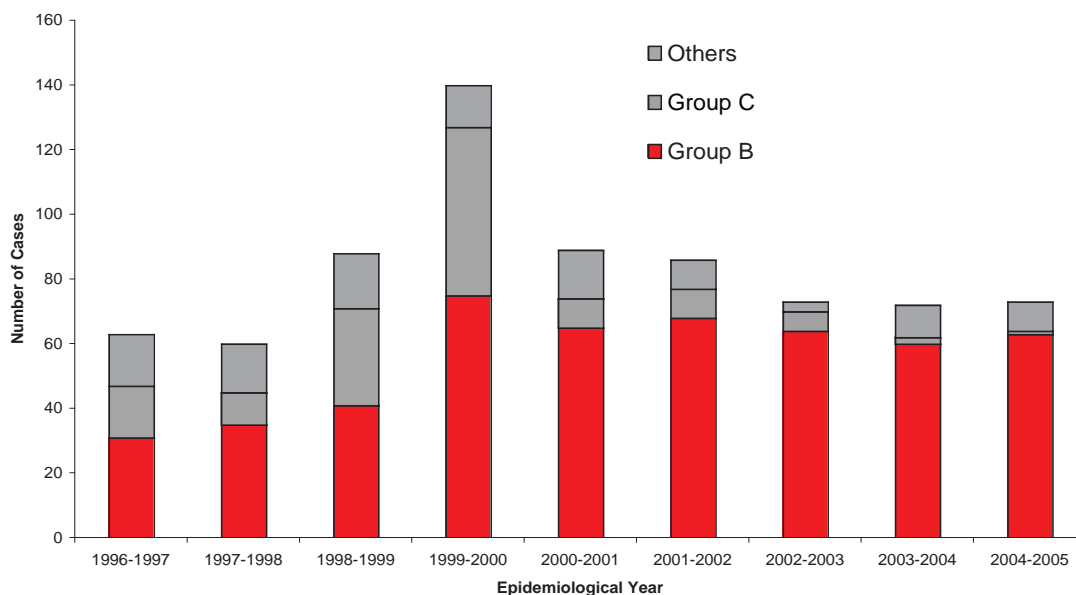
B. The Epidemiological Year: 1 July 2004 to 30 June 2005

Between 1 July 2004 and 30 June 2005, 121 notifications of invasive meningococcal disease were received through the ESMD programme. Seventy-three (60%) of these have been laboratory confirmed to date. Sixty-three (86%) have been identified as serogroup B, 1 as serogroup C and 9 are Ungrouped or belong to other serogroups. This represents an increase in the number of cases compared to the 2003-04 epidemiological year, when there were a total of 103 notifications and, of these, 72 (70%) were laboratory confirmed. The corresponding numbers of notifications received during the 2002-03 and 2001-02 epidemiological years were 116 and 137 respectively and, in each of these years, 63% of notified cases were laboratory confirmed. (see Figure 2).

There was a single laboratory confirmed serogroup C infection during the 2004-05 epidemiological year. This occurred in a child under 5 years of age who had been fully vaccinated at least 2 years prior to the onset of disease. This brings to 7 the total number of apparent MenC vaccine failures in Northern Ireland between November 1999 and June 2005. The Health Protection Agency (HPA) collects additional detailed clinical information for each of these individuals in order to identify any medical condition that may have affected their ability to mount an effective immune response at the time of MenC vaccination.

There are some concerns that the use of MenC vaccine could, potentially, induce capsule-switching within the *N. meningitidis* organism. This could, potentially, lead to a rise in the incidence and severity of other serogroup infections. Of particular interest at present are laboratory confirmed cases of serogroup B subgroup 2a:P.1.2, 2a:P.1.5 or 2a:P.1.10 infection. The first laboratory confirmed case of serogroup B subtype 2a:P.1.5 infection occurred in Northern Ireland during the 2002-03 epidemiological year and a second has occurred during the 2004-05 epidemiological year. The HPA Centre for Infections at Colindale routinely requests further epidemiological data on such cases. In addition, between 1990 and 2003, approximately 160 serogroup B:2a isolates were submitted to the HPA Meningococcal Reference Laboratory for further investigation. This was carried out in order to monitor any changes in B:2a subtypes and also to compare the incidence of these subtypes both before and after the introduction of the MenC vaccine. A recently-published HPA Report¹ indicates that the incidence of B:2a laboratory confirmed infections has not risen since the MenC vaccine was introduced and that there is, at present, no evidence to suggest that capsular switching is occurring.

Figure 2: Confirmed cases of meningococcal disease by epidemiological year, 1996-2005, Northern Ireland



Five deaths occurred during the 2004-05 epidemiological year, equivalent to a case fatality rate of 4.1%. This represents a small increase in the number of deaths compared to both the 2003-04 and 2002-03 epidemiological years, when four deaths were recorded (case fatality rates of 3.9% and 3.4% respectively). During 2004-05, four of the five deaths were due to laboratory confirmed serogroup B infection. Upon admission to hospital, one case presented with septicaemia, two presented with both meningitis and septicaemia and the remaining case received an initial diagnosis other than that of meningococcal disease. The fifth death has not, to date, been laboratory confirmed. Three of the four deaths that occurred during each of the 2002-03 and 2003-04 epidemiological years were also due to laboratory confirmed serogroup B infection and, upon admission to hospital, all had presented with septicaemia. However, compared to the previous two epidemiological years, deaths due to invasive meningococcal disease during 2004-05 occurred in all age-groups. All deaths during 2003-04 and three of the four deaths during 2002-03 occurred in young children. In contrast, two of the five individuals who died during 2004-05 were young children, one was an adult aged 18-24 and the remaining two were adults aged 25+. As expected, analysis of details from fatal cases, recorded by the ESMD programme since 1999, indicates that septicaemic infections are more likely to result in death.

Although, overall, the rate of invasive meningococcal disease in Northern Ireland has been falling since the MenC vaccine was introduced in 1999, it still remains higher than that recorded for England & Wales (Figure 3). In Northern Ireland, both the overall age-specific rate of notification (Figure 4) and of laboratory confirmed infection continue to be highest in young children; in particular, the age-specific rates of serogroup B infection in those aged 0-2 years and in those aged 3-4 years (Figure 5). The age-specific rate of serogroup C infection has also fallen in the 3-4 age-group - the only group affected during both 2003-04 and 2004-05 (Figure 6).

This twelve-month report illustrates the continuing impact of the MenC vaccination campaign that commenced in Northern Ireland during November 1999. The vaccine is offered to all those under 25 years of age and, for the fifth year running, there have been no cases of serogroup C infection in children under two years of age. There is now, however, evidence to suggest that, with time, MenC effectiveness may be waning in routinely vaccinated infants.² As with Hib vaccine, changes to the MenC immunisation schedule or a booster dose may, in future, need to be considered to ensure longer-term protection^{3,4}.

The continued provision of meningococcal surveillance data to CDSC (NI), through the co-operation of Consultants in Communicable Disease Control, Microbiologists and Public Health staff in each Board area, is greatly appreciated. As the meningococcal season approaches, monthly statistics of meningococcal infection will recommence in the monthly report, and will continue throughout the winter.

Figure 3: Notification Rates of Invasive Meningococcal Disease 1999-2005

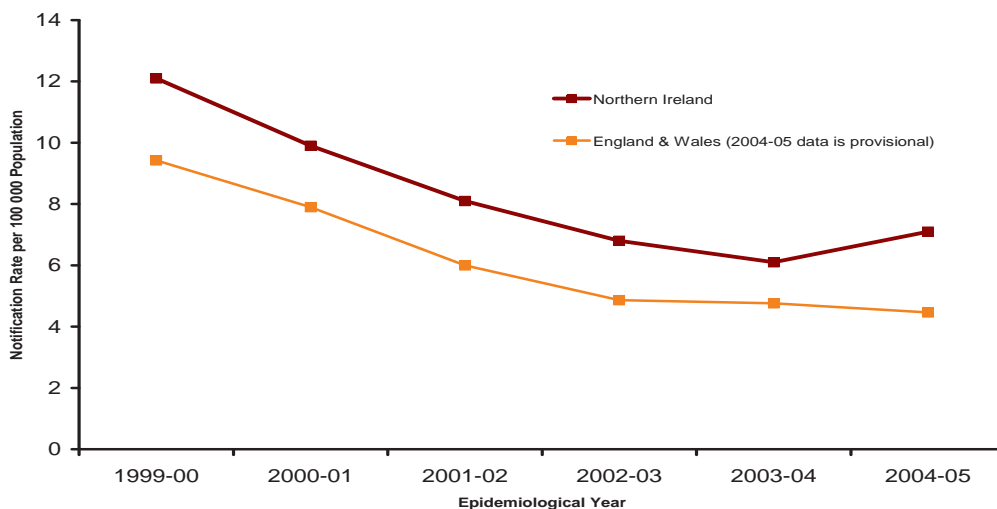


Figure 4: Age-specific rates of notified cases of meningococcal infection by epidemiological year

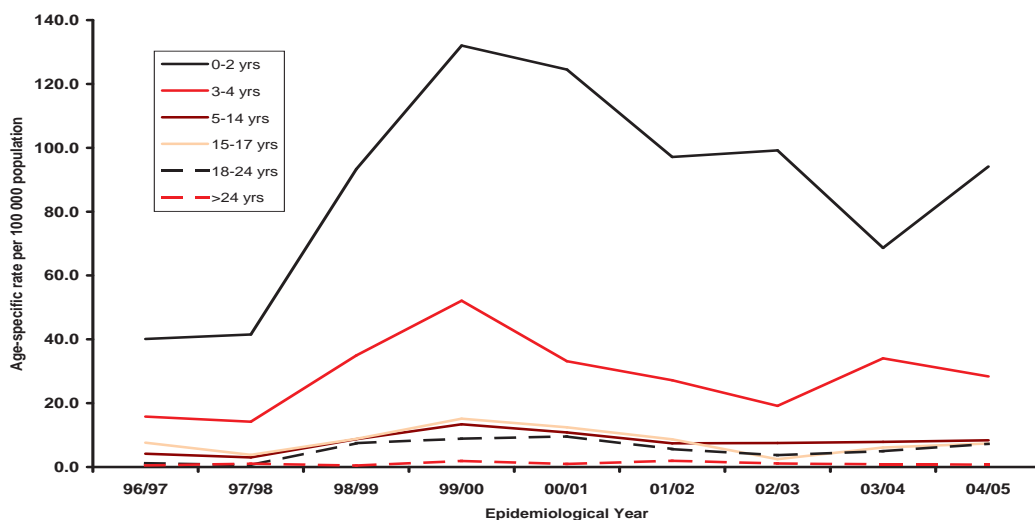


Figure 5: Age-specific rates of group B meningococcal infection by epidemiological year

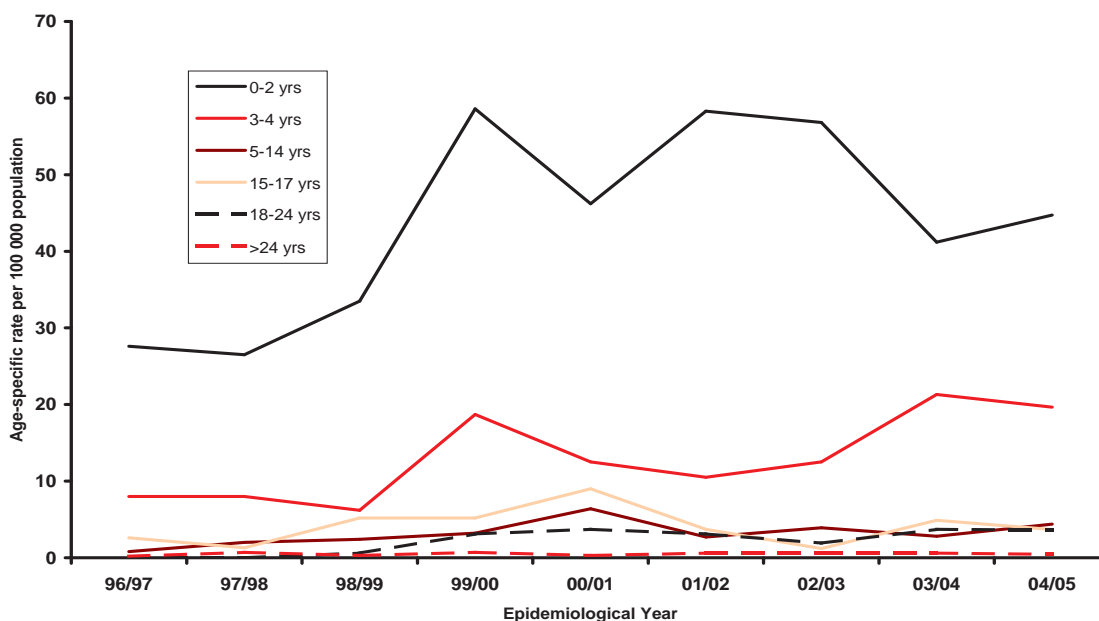
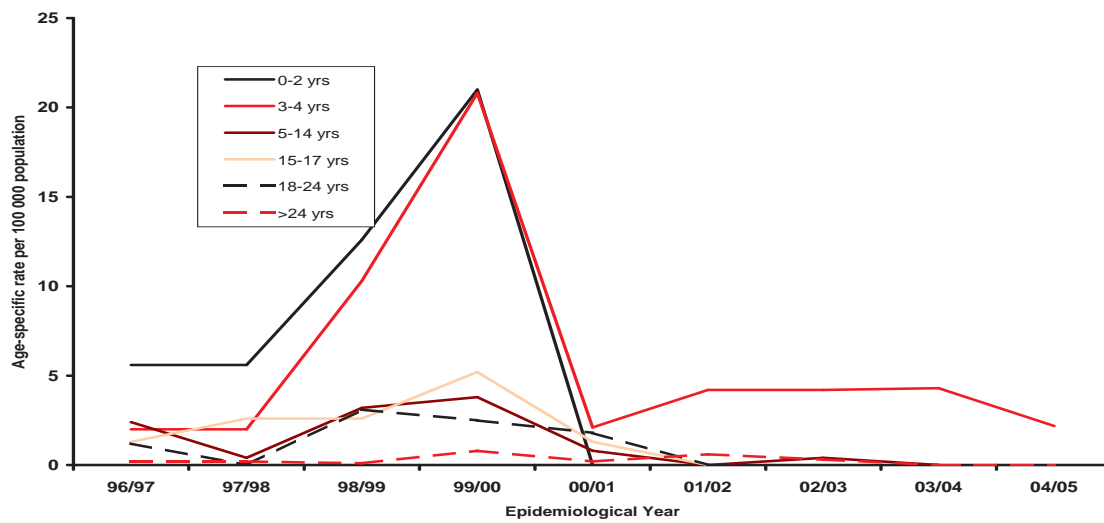


Figure 6: Age-specific rates of group C meningococcal infection by epidemiological year



References

1. Health Protection Agency Report "Protecting the health of England's children: the benefit of vaccines" (May 2005). Available from: http://www.hpa.org.uk/hpa/publications/HPA_protect_health_children/protect_health_children.htm
2. Trotter, C.L., Andrews, N.A., Kaczmarski, E.B., Miller, E. & Ramsey, M.E. (2004) *Lancet* 364 (9431): 365-367.
3. Trotter, C.L., Ramsey, M.E & Slack, M.P. (2003) *Commun. Dis. Public Health* 6 (1): 55-58.
4. Ramsey, M.E., McVernon, J., Andrews, N.J., Heath, P.T. & Slack, M.P. (2003) *J. Infect. Dis.* 188 (4): 481-485.

Changes to the BCG vaccination programme

The Department of Health, Social Services and Public Safety (DHSSPS) recently announced changes to the BCG vaccination programme following advice from the Joint Committee on Vaccination and Immunisation (JCVI). The current schools programme for older children is being replaced with an improved targeted neonatal and others at risk based programme.

Those now recommended to receive BCG vaccine are:

- All infants living in areas where the incidence of TB is 40/100,000 or greater (the TB incidence rates in Northern Ireland are 3-4/100,000)
- Infants whose parents or grandparents were born in a country with a TB incidence of 40/100,000 or higher
- Previously unvaccinated new immigrants from high prevalence countries for TB
- Children who would otherwise have been offered BCG through the schools programme will now be screened for TB risk factors, and tested and vaccinated if appropriate

A regional group is being convened to take forward implementation issues as well as the issue of general TB control.

(Reference: HSS(MD)25/2005)

National Minimum Standards for Immunisation Training and Core Curriculum for Immunisation Training

The Health Protection Agency has published new guidance on standards for immunisation training in the UK, together with a suggested core curriculum. Intended largely for those working in primary care, the documents aim to provide consistency in immunisation training. These are endorsed for use in Northern Ireland by DHSSPS.

A limited number of hard copies will be distributed in coming weeks.

The two documents can also be downloaded from:
www.hpa.org.uk/infections/topics_az/vaccination/training_menu.htm

Two-day international conference

Meningitis and Septicaemia in Children and Adults Burden of Illness, Management and Prospects for Prevention

**Wed 23 and Thurs 24 November
Royal Society of Medicine, London**

This conference brings together experts in critical care, infectious diseases, epidemiology, immunology, vaccinology and molecular medicine from both the paediatric and adult settings. The burden of disease, clinical management and current and future vaccines will be examined.

The conference will be of particular interest to clinicians and scientists in: Critical Care, Emergency Medicine, Epidemiology, General Medicine, Infectious Diseases, Microbiology, Molecular Medicine, Paediatrics, Public Health/Communicable Disease Control and Vaccine Research.

Speakers include: Richard Adegbola, Julian Bion, Thomas Cherian, Adam Finn, Lee Harrison, Paul Heath, Robert Heyderman, Ed Kaczmarek, Hans Kvist, Marc Laforce, Michael Levin, Robert Miller, Andrew Pollard, Mary Ramsay, Anthony Scott, Richard Slack.

For further information please email Jill Usher jillusher@meningitis.org

Imported Infections

Salmonella

There have been 67 laboratory reports of individuals with Salmonella infection reported to CDSC (NI) to week 28, 2005 compared with 143 for this period in 2004. In contrast to the data collected for isolates for the same period last year where 27 (19%) were believed to have been acquired abroad, only 7 isolates (10%) had a history of foreign travel.

Five cases were female aged between 8 years and 65 years, one case was male, aged 35 years and one case was sex unknown aged 2 years.

Table 3: Laboratory Reports of Salmonella, Weeks 1-28, 2005, Northern Ireland

Serotype	Number of reports received to week 28,	Number thought to have been acquired abroad and country
	2005	
<i>S. arechavaleta</i>	1	Kenya (1)
<i>S. blockley</i>	1	0
<i>S. dublin</i>	1	0
<i>S. enteritidis</i> (PT 4)	25 (3)	Spain (1), Czech Republic (1), Unknown (1)
<i>S. gloucester</i>	1	0
<i>S. infantis</i>	1	0
<i>S. kentucky</i>	1	0
<i>S. kottbus</i>	1	0
<i>S. mbandaka</i>	1	0
<i>S. ohio</i>	1	0
<i>S. paratyphi</i> B	1	0
<i>S. saint-paul</i>	4	0
<i>S. sp</i>	10	Spain (2)
<i>S. typhi</i>	1	Pakistan (1)
<i>S. typhimurium</i> (DT 104)	16 (2)	0
<i>S. virchow</i>	1	0
Total	67	7

Data provisional

Other Infections

Other infections with a history of having travelled abroad during weeks 1-28 this year were as follows:

Table 4: Other Infections Acquired Abroad, Weeks 1-28, 2005, Northern Ireland

Organism	Number of reports with history of foreign travel	Countries
<i>Campylobacter</i>	13	Africa (1), Spain (3), Caribbean (1), Egypt (1), France (2), Holland (1), Pakistan (1), Republic of Ireland (1), Turkey (1), USA (1)
<i>Giardia Lamblia</i>	3	Kenya (1), India (1), Iraq (1)
<i>C. difficile</i> Toxin	1	Kenya (1)

Data provisional

Table 5: Total Gastro-intestinal Organisms Acquired Abroad, Weeks 1-28, 2005

Organism	Total reported to week 28, 2005	Acquired Abroad (% of total reports)
<i>Salmonella</i>	67	7 (10%)
<i>Campylobacter</i>	433	13 (3%)
<i>Giardia Lamblia</i>	10	3 (30%)
<i>C. difficile</i> Toxin	881	1 (0.1%)
Total	1391	24

Data provisional

Foodborne and Gastrointestinal Tract Infections: Laboratory Reports, Weeks 25-28

	Number of Reports received		Cumulative total	
	05/25-28	04/25-28	05/01-28	04/01-28
<i>Campylobacter</i>	83	76	433	441
<i>C. difficile</i> Toxin	109	90	881	756
<i>C. perfringens</i>	0	0	10	6
<i>E. coli</i> O 157	2	2	14	8
<i>Salmonella</i> total	15	108	67	143
<i>S. enteritidis</i> (PT 4)	8	12	25 (3)	30 (3)
<i>S. typhimurium</i> (DT 104)	3	89	16 (2)	94 (59)
<i>Salmonella</i> other	4	7	26	19
<i>Shigella</i>	0	1	1	4
<i>Cryptosporidium</i>	14	7	93	94
<i>Giardia</i>	0	1	10	9
Adenovirus (faeces)	13	8	107	86
Enterovirus (faeces)	4	4	16	9
Rotavirus	34	52	382	392
Norovirus	5	13	187	70

Salmonella (other than *enteritidis* or *typhimurium*):

<i>S. blockley</i>	1
<i>S. give</i>	1
<i>S. gloucester</i>	1
<i>S. sp</i>	2

Comment:

The following were associated with foreign travel:

Female, age 11 years, *S. enteritidis*, Majorca; Female, age 8 years, *Salmonella* sp, Majorca.

Cumulative reports of *Campylobacter*, *Salmonella*, *Shigella* and Rotavirus are exhibiting a reduction of 2%, 53%, 75% and 3% respectively.

Reports of *Cryptosporidium* and *Giardia* are more or less unchanged compared to the same period last year.

Reports of *C. difficile* Toxin, *C. perfringens*, *E. Coli* O 157, Adenovirus and Enterovirus have increased by 16%, 67%, 75%, 24% and 78% respectively.

Reports of Norovirus continue to increase compared to last year.

Positive Blood Cultures: Laboratory Reports, Weeks 01-28

	2005/01-28	2004/01-28	2003/01-28
Gram negative bacteria			
<i>Acinetobacter</i> sp	22	18	21
<i>Aeromonas</i> sp	2	2	2
<i>Brucella</i> sp	0	0	1
<i>Campylobacter</i> sp	1	1	0
<i>Citrobacter</i> sp	14	11	17
<i>Enterobacter</i> sp	42	45	35
<i>Escherichia coli</i>	323	389	326
<i>Escherichia</i> sp	2	0	2
<i>Haemophilus influenzae</i> (all types)	7	7	10
<i>Haemophilus parainfluenzae</i>	1	0	2
<i>Klebsiella</i> sp	77	79	92
<i>Legionella</i> sp	0	0	0
<i>Leptospira</i>	0	0	0
<i>Neisseria meningitidis</i>	3	2	12
<i>Neisseria</i> sp	2	0	1
<i>Proteus</i> sp	34	43	52
<i>Providencia</i> sp	1	3	4
<i>Pseudomonas aeruginosa</i>	36	34	41
<i>Pseudomonas</i> sp	25	29	23
<i>Salmonella</i> sp	1	3	3
<i>Serratia</i> sp	36	33	43
Other gram negative bacteria	11	22	21
Total	640	721	708
Gram positive bacteria			
<i>Corynebacterium</i> sp & Diphtheroids	5	6	3
Staphylococci:			
<i>S. aureus</i>	269	343	303
coagulase negative	203	203	176
Streptococci:			
group A	14	26	20
group B	25	28	28
group C	6	10	1
group D	5	7	5
group F	9	3	7
group G	5	5	6
α- and non-haemolytic	27	18	30
<i>S. pneumoniae</i>	82	86	108
Other Streptococci	5	20	11
Enterococci:			
<i>E. faecalis</i>	53	53	42
<i>E. faecium</i>	42	45	19
Other Enterococci	8	17	39
<i>Listeria monocytogenes</i>	3	3	0
Other gram positive bacteria	12	9	4
Total	773	882	802
Anaerobic bacteria			
Anaerobic cocci	7	2	3
<i>Bacteroides</i> sp	27	40	28
<i>Clostridium</i> sp	14	15	15
Other anaerobic bacteria	0	0	0
Total	48	57	46
Grand Total	1461	1660	1556

Hepatitis: Laboratory Reports Quarter 2 (April - June 2005)

	Number of Reports received			
	Quarter 2, 2005	Quarter 2, 2004	Cumulative Total 2005	Cumulative Total 2004
Hepatitis A	2	1	4	5
Hepatitis B	21	14	36	35
Hepatitis C	37	26 (2)	69	57 (3)
Hepatitis E	0	0	0	1

The figure in brackets represents those reports for which an association with intravenous drug use was noted on the laboratory request form.

Comment:

Hepatitis A

There were two reports of Hepatitis A during the second quarter of 2005. One case was male aged 20 years and the other was female aged 90 years.

Hepatitis B

Twenty-one cases of Hepatitis B were reported during this reporting period, 8 of which were classified as acute Hepatitis B infection. Ten were male, aged between 20 and 53 years; eight cases were female, aged between 23 and 40 years. The sex was unknown in 3 cases – one aged 25 years, one aged 31 years and one was age unknown.

Hepatitis C

Thirty-seven cases of Hepatitis C were reported during the second quarter of 2005. Twenty-five cases were male, aged between 21 and 83 years; Ten cases were female, aged between 18 and 62 years. Two cases were unknown age and sex.

Contributing Laboratories

Contributing Laboratories:

Altnagelvin	Mater
Antrim	Musgrave Park
Belfast City	Regional Mycology
Belvoir Park	Regional Virus
Causeway	Royal Victoria
Craigavon	Tyrone County
Daisyhill	Ulster
Erne	

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