



# COMMUNICABLE DISEASES

## Monthly Report

ISSN 1361 - 1887

WEEKS 05-08/02

VOL 11 NO 2

NORTHERN IRELAND EDITION

April 2002

## An Outbreak of Food poisoning due to *Clostridium perfringens*

Seventeen people attended a one-day conference in a local hotel during October 2001. The local Environmental Health Department received a report the next day regarding illness among the delegates.

Environmental Health Officers visited the hotel and ascertained catering practice and details of food served at the conference. This was used to construct food enquiry questionnaires which were sent to all 17 delegates. The main meal was lunch which consisted of a choice of baked salmon or a turkey pasta dish. These were served with roast potatoes, cauliflower, mange tout, broccoli and tossed salad. This was followed by cheesecake.

Sixteen questionnaires were returned (94% response rate). Eleven delegates became ill within 16 hours of eating the lunch in question. All had suffered a similar illness lasting 24-48 hours. Symptoms comprised diarrhoea (11), stomach cramps (8), vomiting (2) and fever (2).

Everyone (11) who had eaten the turkey pasta dish had been ill. Those (4) who did not eat the turkey pasta dish had not been ill. The probability of the turkey pasta dish being associated with the illness was highly significant ( $p=0.00073$ ) suggesting the turkey pasta dish was the vehicle of infection

This dish had been prepared the day prior to the function. It had been allowed to cool in the vegetable

fridge and had been reheated prior to serving. There was no record of temperature checking during reheating or before service.

Six faecal samples were received from delegates who had been ill. Two serotypes of *Clostridium perfringens* enterotoxin (3,4,5,9 and 24,62) were found in each sample. These are uncommon serotypes suggesting all were infected from the same source.

*C. perfringens* is a food borne pathogen which causes a mild gastrointestinal illness due to an enterotoxin. The pathogen grows at temperatures of between 20 and 50 degrees. Spores can survive cooking and then germinate as the food slowly cools. If the food is then not thoroughly reheated before eating a potentially infectious dose is ingested. Prevention of *C. perfringens* food poisoning is dependent upon adequate temperature control of food after (initial) cooking. In this case monitoring of temperature control at the hotel was inadequate and the turkey pasta should have been cooled more rapidly.

The Outbreak Control Team made immediate recommendations to the hotel to prevent a recurrence, including acquiring a blast chiller,

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and to date the hotel have been implementing these in a timely manner.

(contributed by Dr A Jordan, Eastern Health and Social Services Board)

## Legionella infections in Northern Ireland

Legionnaires' disease is a notifiable disease in Northern Ireland. It is caused by *Legionella pneumophila*, a Gram negative aerobic non-spore-forming bacillus. The organism stains poorly with conventional dyes and is difficult to grow on common growth media. The disease is a multi-system illness which can have severe widespread clinical symptoms, though the principle manifestation of the disease is pneumonia.

The organism is commonly found in various natural and man-made aquatic environments, often in low

numbers. Water cooling towers, air conditioning systems and whirlpools have been implicated as major sources of infection. Colonisation is enhanced by temperatures of 25-42 °C, stagnation and the presence of scale and sediment, and hence such water systems may support transmission and dissemination of the organism.

Since the etiological agent was identified in 1976 in Philadelphia, numerous nosocomial and institute-associated outbreaks have been reported. Airborne transmission of the organism from contaminated water or aerosols from water systems in large institutions has accounted for numerous outbreaks throughout the world. Outbreaks of Legionnaires' Disease have been associated with hotels, leisure complexes or hospitals. A significant proportion of cases are contracted abroad. Sporadic cases may also occur, and the disease has a worldwide distribution. Immunosuppressed, chronically ill people are most at risk of infection.

During 2001, no cases of Legionnaires' disease were reported in Northern Ireland. One case which was initially suspected as being Legionnaires' disease was later discounted on the grounds of laboratory results. Of the 22 cases notified in Northern Ireland between 1980 and 2001, 14 are known to have been travel-related, involving European countries including Spain, Portugal and Greece. Four patients have died; laboratory tests confirmed that three of these cases were due to *L. pneumophila* serogroup 1, and one was confirmed as serogroup 3. Information relating to age of patient was available in 19 cases. Ages ranged from 35 years to 78 years, with median and mean ages of 58 years and 56 years respectively. The sex ratio of the 22 cases was 3.4:1 male:female. An average of 1 case occurs per year in Northern Ireland. An unusually high number of cases occurred in 1999 with 5 cases being reported. This increase was not apparent elsewhere in the United Kingdom, and so it is likely that these were sporadic cases.

Monitoring of Legionella infections in Northern Ireland is carried out in conjunction with the European Working Group for *Legionella* infections (EWGLI), which was established in 1987. Although the disease is not a serious risk to public health in Northern Ireland, participation in this surveillance scheme ensures standardised methods of detection, diagnosis, recording and reporting of disease, and permits direct comparisons with data from other participating regions. Outbreaks or clusters of cases of Legionnaires' disease in returning travellers can be quickly identified through this European network, allowing rapid alerts to be communicated to all collaborating countries, WHO and other relevant centres. The project aims to reduce levels of travel-related disease and prevent further cases through early identification and implementation of control measures.

For further information on Legionnaire's Disease, please see <http://www.phls.org.uk/facts/Legionella/legi.htm> or <http://www.ewgli.org>.

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## Enhanced surveillance of meningococcal disease

Between 1 January 2002 and 28 February 2002, a total of 25 cases of invasive meningococcal disease have been reported to CDSC(NI) through the enhanced surveillance of meningococcal disease (ESMD) scheme (see tables 1 & 2). To date, 21 (84 %) of these have been laboratory confirmed and identified as serogroup B. The remaining 4 (16%) await laboratory confirmation. Reports of serogroup B infection have increased by 91% compared with the same period last year.

During the same period of 2001, there were a total of 20 meningococcal disease notifications. Of these, 11 were identified as serogroup B infection, 2 as serogroup C infection and 3 as infection with other serogroups. One death occurred, in a child under two years of age, from

laboratory confirmed serogroup B infection.

During the month of February 2002, eleven cases of invasive meningococcal disease have been notified through the ESMD scheme (see table 3). Nine of these (81.8%) have been laboratory confirmed as serogroup B and two cases are

unconfirmed. Five of the serogroup B cases occurred in children less than two years old, one occurred in a child aged 5-14 years old and three occurred in adults (aged 60-61). Of the nine confirmed serogroup B infections, one presented with meningitis, one with septicaemia and three with both meningitis and septicaemia. Two deaths occurred in February, both resulting from laboratory confirmed serogroup B infection. One of these was a two year-old male child with clinically diagnosed septicaemia. The other was a six year-old male child with clinically diagnosed meningitis.

**Table 1: Meningococcal disease by Health and Social Services Board, Northern Ireland, January to February 2002**

HSSB	Confirmed			Not confirmed	Total
	B	C	Other and ungrouped		
E	3	0	0	2	5
N	9	0	0	1	10
S	5	0	0	1	6
W	4	0	0	0	4
<b>Total</b>	<b>21</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>25</b>

**Table 2: Meningococcal disease: case and death by age, Northern Ireland, January to February 2002**

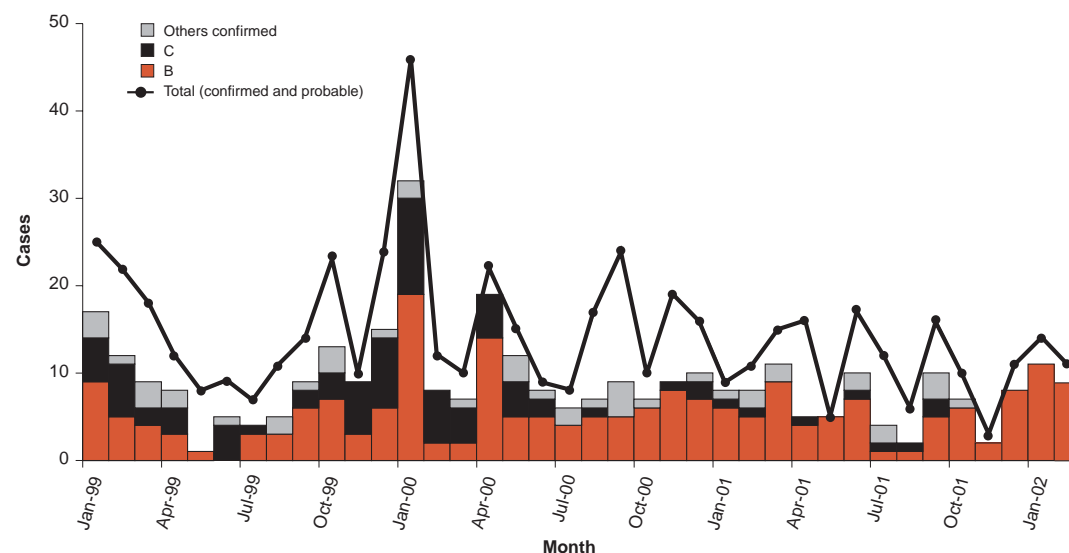
Age group	Confirmed			Not confirmed	Incidence per 100,000 population*	Death
	B	C	Other and ungrouped			
0-2	13	0	0	1	20.1	2
3-4	1	0	0	1	4.1	0
5-14	2	0	0	2	1.5	1
15-17	1	0	0	0	1.3	0
18-24	1	0	0	0	0.6	0
>24	3	0	0	0	0.3	0
?	0	0	0	0	0	0
<b>Total</b>	<b>21</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>1.5</b>	<b>3</b>

\*age-specific incidence rate

**Table 3: Meningococcal disease: case and death by age, Northern Ireland, February 2002**

Age group	Confirmed			Not confirmed	Incidence per 100,000 population*	Death
	B	C	Other and ungrouped			
0-2	5	0	0	0	5	1
3-4	0	0	0	1	1	0
5-14	1	0	0	1	2	1
15-17	0	0	0	0	0	0
18-24	0	0	0	0	0	0
>24	3	0	0	0	3	0
?	0	0	0	0	0	0
<b>Total</b>	<b>9</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>11</b>	<b>2</b>

**Figure 1: Monthly cases of meningococcal disease from January 1999 to February 2002**



# Laboratory Reports

## Foodborne and Gastro-intestinal Tract Infections: Laboratory Reports, Weeks 05-08

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

*S. bairdii* ..... 1  
*S. montevideo* ..... 1  
*S. sp* ..... 2

### Comment:

Laboratory reports of campylobacter to week 8 of 2002 show a 6% increase compared with the same period last year and cumulative reports of *Clostridium difficile* toxin have also increased (16%). To week 8 of this year there have been 4 reports of *Clostridium perfringens*, 3 reports of *Shigella sp* and 4 reports of *Giardia lamblia*; this compares to only one report of *Giardia lamblia* to week 8 of 2001.

Reports of salmonella show a reduction of 31% compared with the same period last year; reports of cryptosporidium have also decreased significantly (82%). Reports of SRSV have increased more than 3 fold reflecting the hospital outbreaks which have occurred this year.

	Number of Reports received		Cumulative total	
	02/05-08	01/05-08	02/01-08	01/01-08
<i>Campylobacter</i>	51	46	93	88
<i>C. difficile</i> Toxin	33	29	59	51
<i>C. perfringens</i>	1	0	4	0
<i>E. coli</i> 0157	0	1	0	1
Salmonella total	9	9	18	26
<i>S. enteritidis</i> (PT 4)	1	3 (1)	3 (1)	12 (10)
<i>S. typhimurium</i> (DT 104)	4 (1)	2 (1)	7 (2)	6 (3)
Salmonella other	4	4	8	8
<i>Shigella</i>	3	0	3	0
Cryptosporidium	4	20	6	33
<i>Giardia</i>	2	1	4	1
Adenovirus (faeces)	13	11	33	25
Enterovirus (faeces)	3	1	7	1
Rotavirus	10	12	25	25
SRSV	20	25	115	32

## Respiratory Tract Infections: Laboratory Reports, Weeks 01-08

	Number of Reports received		Cumulative total	
	02/01-04	02/05-08	02/01-08	01/01-08
<i>Coxiella burnetii</i>	2	1	3	0
<i>Mycoplasma pneumoniae</i>	6	5	11	8
Respiratory <i>Chlamydia</i>	5	1	6	3
Adenovirus (excluding faeces)	7	2	9	9
RSV	121	77	198	248

### Contributing Laboratories

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

### Information

*Editorial Team:* CDSC (NI)  
Belfast City Hospital  
Lisburn Road, Belfast, BT9 7AB  
N.Ireland  
Dr Brian Smyth Telephone: 028 9026 3765  
Audrey Lynch Fax: 028 9026 3511  
Dr Julie McCarroll Email: cdsnci@phls.org.uk  
Dr Hilary Kennedy  
Ruth Fox

Monthly numbers are provisional and should not be used to indicate trends.

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