

# COMMUNICABLE DISEASES

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This edition of the *Monthly Report* sees the second annual report of HIV/STI surveillance in Northern Ireland, published as a supplement. The number of newly diagnosed patients with HIV first reported in the UK from Northern Ireland continues the high level of 2004. Upward trends are also seen for some of the major STIs with increases over 2004 figures noted for chlamydia, gonorrhoea, genital warts and genital herpes.

Elsewhere, a report from the Northern Health and Social Services Board of an outbreak of *E. coli* O157 in a Special School documents the success of a comprehensive and coordinated public health response in limiting the transmission of this very infectious organism.

Finally, at the time of writing, there have been no laboratory detections of influenza, and detections of other respiratory viruses remain at low levels.

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**Regional Epidemiologist**



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## HIV and Sexually Transmitted Infection (STI) Surveillance in Northern Ireland

World AIDS day on 1 December provides the ideal opportunity to review the epidemiology of HIV and STIs in Northern Ireland, for 2005.

During 2005:

- There were 63 new cases of HIV infection whose first UK diagnosis was made in Northern Ireland
- New diagnoses of Chlamydia increased by 12% to 1,631 compared with 1,453 in 2004
- New diagnoses of genital warts increased by 10% to 2,306 compared with 2,101 in 2004

A more detailed report from the HIV/STI surveillance systems is presented in a supplement to this Monthly Report, available at [www.cdscni.org.uk](http://www.cdscni.org.uk)

## *E. coli* O157 Outbreak in a Special School

On Saturday 28 May 2005, the Public Health Medicine doctor on-call was informed of a possible *E. coli* O157 isolate in a faecal sample from a child in the Magherafelt area. The child attended a Special School in Magherafelt but had not attended school since onset of diarrhoea on 26 May.

The school was contacted when it opened on Monday 30 May. They were not aware of any other symptomatic children. Approximately 80 children and 60 staff attend the school. Some of the children attending the school have complex medical needs. One staff member, who worked with the child, reported diarrhoea which had now stopped. The staff member was excluded until screened clear. No other teachers, classroom assistants or care workers were unwell. It was requested that if any child or staff member reported diarrhoea, blood stained diarrhoea or any change in motions that they be excluded from school and Public Health Medicine informed immediately.

An incident meeting was held on Tuesday 31 May. It was decided that a group of staff and pupils, including children in the same classes (14) and those who travelled on the same transport to school (8), who would have been in closer contact with the child, should be screened.

On Sunday 5 June, Public Health Medicine was notified of a provisional positive sample for *E. coli* O157 from a second symptomatic child. This child had not been absent from school and was included in the screened cohort. An outbreak control team meeting was convened on Sunday afternoon and it was decided that the school would be closed while further screening of all pupils and staff and any necessary remedial action at the school was undertaken. Parents and staff were informed of the situation that evening by school staff. The children were excluded from school and other clubs or groups until screened clear in accordance with *E. coli* O157 control guidance.<sup>1</sup>

An information session was held at the school on Monday morning for parents and staff.

Five outbreak control meetings were held during the course of the outbreak. Representatives were present from the Northern Health and Social Services Board, Magherafelt District Council Environmental Health Department, Northern Group Systems Environmental Health, Consultant Microbiologist and Infection Control Team in Antrim Area Hospital, Homefirst Trust, the school and the North Eastern Education and Library Board.

## Results

### *E. coli* O157 screening

Two cases directly associated with the school were identified and both were symptomatic. They were in different classes but travelled to school in same bus. Five asymptomatic household contacts also proved positive. The organism from the seven positive isolates was subsequently identified as *E. coli* O157 Phage Type 51 and positive for VT genes.

Microbiological clearance was obtained for all children at the school, all family contacts of positive children and the majority of staff and care workers related to the school. Approximately 160 people submitted samples. A letter was issued to the parents of a child or a staff member, after the laboratory had confirmed two appropriate negative samples to enable monitoring of children returning to school.

### *Environmental Health inspection*

The hygiene levels in the kitchen and food handling processes were of a very high standard. All food handlers were trained to Foundation Certificate level in food hygiene. Samples of food were collected on 8 June 2005 and submitted to the Northern Ireland Public Health Laboratory. All samples of food and water were satisfactory. The source of *E. coli* O157 was not found. There was no evidence that the *E. coli* O157 infection originated in the school.

## Control measures

The following control measures were taken during the outbreak

- GPs and Trusts were informed of the situation during the outbreak
- School closure from 5 June 2005
- Information was provided to parents and staff
- Children were excluded from school until two negative results obtained
- Infection Control Team and Environmental Health drew up a cleaning schedule for the school premises and transport
- Intensive cleaning of school premises was undertaken by school staff
- School was inspected by the outbreak control team prior to re-opening on 22 June 2005
- The excellent standards of practice at the school were considered central in preventing further spread of infection throughout the school

## Lessons learnt

- An outbreak of *E. coli* O157 in a school is a public health emergency and requires an urgent coordinated response to prevent further spread.
- Good communication between all of the partner agencies is a key aspect of the outbreak control team.
- Effective control requires intensive involvement from all the partner agencies with substantial resource implications.
- All those involved in the care of children should be aware of the risk of spread of *E. coli* O157 to children, staff and families.
- Specific recommendations were made about provision aprons and hand wipes.

## Acknowledgements

We thank the Principal, staff, parents and pupils at the school for their support and cooperation throughout the outbreak.

(contributed by Harper S,<sup>1</sup> Devine MJ,<sup>1</sup> McWilliams O,<sup>2</sup> McGrath C,<sup>3</sup> Stephenson J,<sup>4</sup> Doherty Y,<sup>4</sup> Coyles M,<sup>4</sup> Kearney P,<sup>5</sup> Gardiner A,<sup>5</sup> McGrath S,<sup>5</sup> McGeagh G,<sup>6</sup> Watson JD<sup>1</sup>)

1 NHSSB

2 Northern Group Systems

3 Magherafelt District Council

4 Homefirst Community Trust

5 United Hospitals Trust

6 NEELB

1. Guidelines for the control of infection with Verocytotoxin producing *Escherichia coli* (VTEC). Subcommittee of the PHLS Advisory Committee on Gastrointestinal Infections. Communicable Disease and Public Health 2000, 3: 14-23

## Enhanced Surveillance of Influenza in Northern Ireland (ESINI)

Enhanced surveillance of influenza in Northern Ireland (ESINI) for the 2006-07 season commenced on 30 September 2006 (Week 40). Surveillance arrangements for this winter have been described previously (Monthly Report Vol. 15 No. 9).

### Clinical data

From Week 40 to Week 43 inclusive, a total of 157 cases of 'flu-like illness have been reported across the 22 sentinel GP practices which participate in the ESINI scheme. Only three cases of clinical 'flu have been reported. Overall, GP consultation rates for 'flu and 'flu-like illness have been slightly higher than the level expected for the time of year. However, Out-of-Hours Centres call rates from Week 40 to Week 43 show little variation compared to those of previous years.

## Virological data

Since the 2006-07 season commenced, there have been no influenza virus detections (either from sentinel GP swabs or from hospitalised patient samples) in Northern Ireland, elsewhere in the United Kingdom or in the Republic of Ireland. Numbers of detections of other respiratory viruses, such as RSV, also remain low at present.

## Weekly Influenza Bulletin

An Influenza Bulletin will be issued by email each week during the 2006-07 season (Week 40 of 2006 to Week 20 of 2007). This is circulated to the Department of Health, Social Services and Public Safety, Boards and Trusts, participating GP practices and Out-of-Hours Centres, national influenza surveillance centres and other interested parties. If you wish to be added to the mailing list for this bulletin, please contact Dr Hilary Kennedy on 028 9026 3765 or by email [hilary.kennedy@hpa.org.uk](mailto:hilary.kennedy@hpa.org.uk). Alternatively, current bulletins are posted on the website <http://www.cdscni.org.uk> and may be downloaded directly from there.

Northern Ireland is a member of the European Influenza Surveillance Scheme (EISS) and local age-specific and virological data are entered weekly onto the EISS database. Up-to-date detailed information, on the incidence of influenza throughout Europe, may be accessed via the website <http://www.eiss.org>.

## Hepatitis: Laboratory Reports Quarter 3: (July - September 2006)

	Number of Reports received			
	Quarter 3, 2006	Quarter 3, 2005	Cumulative Total to September 2006	Cumulative Total to September 2005
Hepatitis A	0	1	2	6
Hepatitis B	38	26	63	59
Hepatitis C	37	31 (13)	108 (15)	101 (14)

*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 no reports of Hepatitis A during the third quarter of 2006.

#### **Hepatitis B**

Thirty-eight cases of Hepatitis B were reported during this reporting period, nine of which were classified as acute Hepatitis B infection. Twenty-one were male, aged between 26 and 64 years; seventeen cases were female, aged between 16 and 42 years.

#### **Hepatitis C**

Thirty-seven cases of Hepatitis C were reported during the third quarter of 2006. Twenty-seven cases were male, aged between 3 months and 58 years; ten cases were female, aged between 18 and 57 years.

## Foodborne and Gastrointestinal Outbreaks: July - September 2006

Outbreak surveillance is primarily based on reports received from Consultants in Communicable Disease Control (CsCDC). Viral or suspect viral infections were thought to be the cause of the majority of the outbreaks of gastro-enteritis reported to CDSC (NI) during the third quarter of 2006. One outbreak of *S. typhimurium* in a hotel was considered to be foodborne.

Eight non-foodborne outbreaks of gastrointestinal illness were reported to CDSC (NI) affecting at least 94 people. Two outbreaks occurred in hospitals, four occurred in nursing/residential homes, one occurred in a school, and one occurred in a youth camp.

**Table 1: General Outbreaks<sup>1</sup> of foodborne and other gastrointestinal illness reported to CDSC (NI), July - September 2006**

Month	Board	Location	Organism	Mode of Transmission	Suspect vehicle <sup>2</sup>	No. ill <sup>3</sup>	No +ve
Jul	N	Other (youth camp)	Unknown	Unknown	n/a	11 children, 3 adults	0
Aug	N	Residential Institution	Unknown	Mainly person to person	n/a	7	0
Aug	N	School	Unknown	Mainly person to person	n/a	4	0
Sep	N	Residential Institution	Unknown	Mainly person to person	n/a	20	0
Aug	S	Residential Institution	Unknown	Mainly person to person	n/a	27 residents, 4 staff	0
Sep	S	Residential Institution	Unknown	Mainly person to person	n/a	14 residents, 4 staff	0
Jul	W	Hotel	<i>S. Typhimurium</i>	Mainly Foodborne	n/a	n/a	4
Sep	W	Hospital	Unknown	Unknown	n/a	n/a	n/a
Sep	W	Hospital	Unknown	Unknown	n/a	n/a	n/a

<sup>1</sup> General outbreaks involve members of more than one household;

<sup>2</sup> Local investigations may not provide conclusive evidence of vehicles of infection. Vehicles are therefore designated 'suspect';

<sup>3</sup> The number known to be ill.

## Foodborne and Gastrointestinal Tract Infections: Weeks 37-40

	Number of Reports received		Cumulative total	
	06/37-40	05/37-40	06/01-40	05/01-40
<i>Campylobacter</i>	68	68	706	700
<i>C. difficile</i> Toxin	88	99	1155	1209
<i>C. perfringens</i>	3	1	23	14
<i>E. coli</i> O 157	5	4	39	36
<i>Salmonella</i> total	20	24	161	157
<i>S. enteritidis</i> (PT 4)	9 (2)	15 (3)	67 (7)	77 (13)
<i>S. typhimurium</i> (DT 104)	3	3 (1)	30 (5)	30 (4)
<i>Salmonella</i> other	8	6	64	50
<i>Shigella</i>	1	2	8	5
<i>Cryptosporidium</i>	7	12	110	129
<i>Giardia</i>	2	0	14	15
Adenovirus (faeces)	12	11	165	139
Enterovirus (faeces)	1	2	4	23
Rotavirus	4	5	415	418
Norovirus	5	1	316	197

Salmonella (other than enteritidis or typhimurium):

<i>S. dublin</i>	1
<i>S. infantis</i>	1
<i>S. manhattan</i>	1
<i>S. newport</i>	2
<i>S. spp</i>	3

### Comment:

The following were associated with foreign travel:

Male, age 39 years, *Campylobacter* sp, Germany; Male, age 53 years, *Campylobacter* sp, Holland; Female, age 24 years, *Campylobacter* sp, Spain; Female, age 27 years, *Campylobacter* sp, Tunisia; Male, age 53 years, *S. manhattan*, Cuba; Female, age 27 years, *S. enteritidis*, Tunisia; Female, age 1 year, *Cryptosporidium* sp, Spain; Male age 68 years, *vibrio cholerae*, Pakistan.

Laboratory reports of *C. difficile* toxin, *Cryptosporidium*, *Giardia*, Enterovirus and Rotavirus are showing a decline compared to the same period last year.

Cumulative reports of *Campylobacter* and *Salmonella* have risen very slightly.

Reports of Norovirus continue to rise with 316 reports to week 40, 2006 compared to 197 for the same period in 2005.

## Positive Blood Cultures: Laboratory Reports, Weeks 01-40

	2006/-01-40	2005/01-40	2004/01-40
<b>Gram negative bacteria</b>			
<i>Acinetobacter sp</i>	24	38	34
<i>Aeromonas sp</i>	3	2	3
<i>Brucella sp</i>	1	0	0
<i>Campylobacter sp</i>	0	2	1
<i>Citrobacter sp</i>	16	17	19
<i>Enterobacter sp</i>	61	68	62
<i>Escherichia coli</i>	595	512	540
<i>Escherichia sp</i>	1	2	0
<i>Haemophilus influenzae</i> (all types)	8	10	9
<i>Haemophilus parainfluenzae</i>	2	1	0
<i>Klebsiella sp</i>	135	126	115
<i>Legionella sp</i>	0	0	0
<i>Leptospira</i>	0	0	0
<i>Neisseria meningitidis</i>	13	6	3
<i>Neisseria sp</i>	1	2	0
<i>Proteus sp</i>	44	57	67
<i>Providencia sp</i>	2	2	5
<i>Pseudomonas aeruginosa</i>	53	62	47
<i>Pseudomonas sp</i>	42	44	44
<i>Salmonella sp</i>	2	5	9
<i>Serratia sp</i>	52	62	53
Other gram negative bacteria	33	25	28
<b>Total</b>	<b>1088</b>	<b>1043</b>	<b>1039</b>
<b>Gram positive bacteria</b>			
<i>Corynebacterium sp</i> & Diphtheroids	7	8	11
Staphylococci:			
<i>S. aureus</i>	423	393	458
coagulase negative	354	290	270
Streptococci*:			
group A	18	21	27
group B	42	39	35
group C	3	9	11
group G	6	12	8
'anguinosus group'	16	24	7
'bovis group'	11	6	9
'mitis group'	8	17	10
'mutans group'	2	0	0
'salivarius group'	5	5	3
'sanguinis group'	8	6	6
<i>S. pneumoniae</i>	111	101	106
Other Streptococci	24	16	43
Enterococci:			
<i>E. faecalis</i>	103	80	74
<i>E. faecium</i>	82	60	61
Other Enterococci	11	12	23
<i>Listeria monocytogenes</i>	2	3	4
Other gram positive bacteria	25	16	17
<b>Total</b>	<b>1261</b>	<b>1118</b>	<b>1183</b>
<b>Anaerobic bacteria</b>			
Anaerobic cocci	1	9	2
<i>Bacteroides sp</i>	43	35	48
<i>Clostridium sp</i>	29	20	20
Other anaerobic bacteria	5	2	0
<b>Total</b>	<b>78</b>	<b>66</b>	<b>70</b>
<b>Grand Total</b>	<b>2427</b>	<b>2227</b>	<b>2292</b>

\* Pyogenic streptococci have been grouped according to traditional Lancefield serological groupings; non-pyogenic streptococci grouped according to their biochemical and genetic properties and based on current taxonomy.

## Contributing Laboratories

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Antrim

Regional Virus

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Royal Hospitals Bacteriology

Causeway

Tyrone County

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