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The focus of this Monthly Report is on gastrointestinal infections reported in the first six months of 2008. Analysis shows declines in laboratory reports of salmonella, campylobacter and cryptosporidium compared with the same period in 2007. The increase seen in E coli O157 reports is largely due to an outbreak reported in February 2008.

We would also draw readers' attention to the forthcoming European Scientific Conference on Applied Infectious Disease Epidemiology (ESCAIDE) conference to be held in Berlin in November 2008. Registration details are within.

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Laboratory Reports

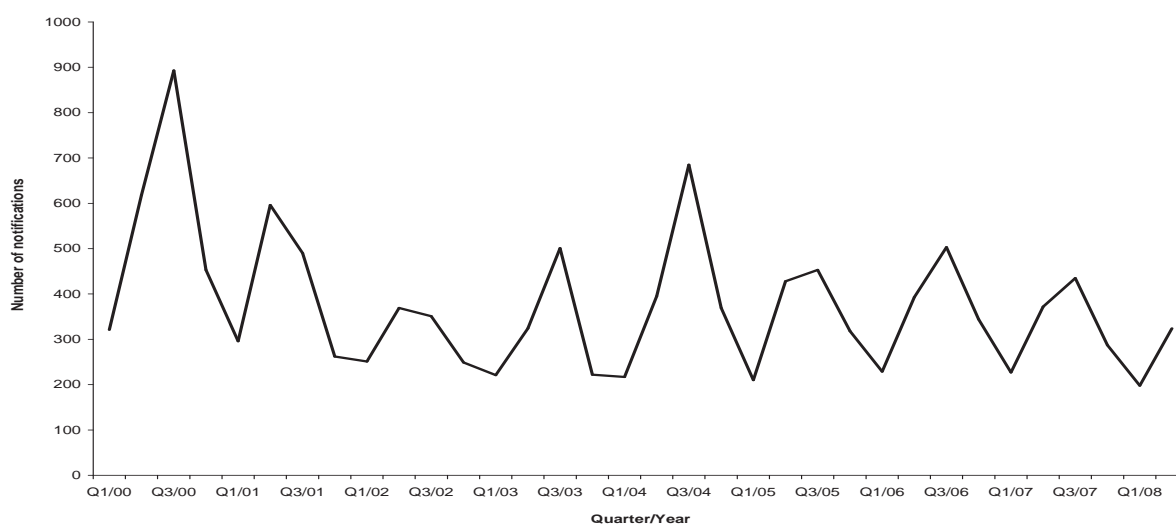
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Gastrointestinal infections: January - June 2008

Notifications

Notifications of food poisoning tend to peak in the third quarter of the year, after the summer. Five hundred and twenty-two notifications of food poisoning were received to end of June 2008 which is a decrease of 13% on the 600 notified during the first half of 2007.

Figure 1: Notifications of food poisoning by quarter, 2000 - June 2008, Northern Ireland

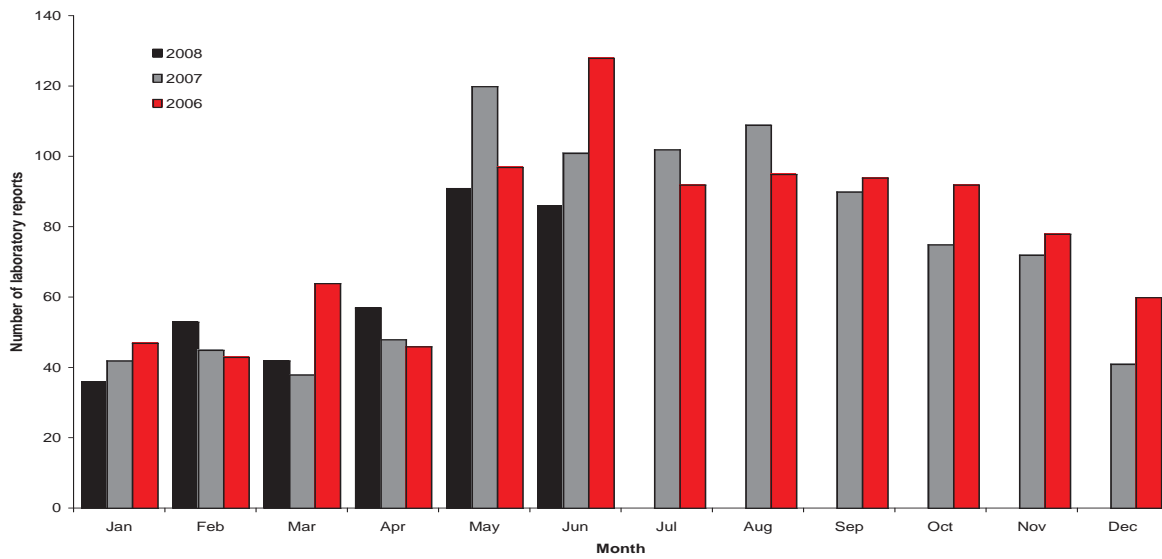


Laboratory reports

Campylobacter

Campylobacter is the most common form of bacterial food poisoning with 883 reports received in 2007 compared to 159 for salmonella and 85 for cryptosporidium. The first six months of 2008 show a decline of 7%, with 365 reports received from January until June compared with 394 in the first half of 2007. Laboratory reports tend to rise steadily in the first quarter of the year and peak in May or June. Approximately 45% of the annual total is reported in the first half of the year. Some 15 cases of campylobacter reported during the first six months of 2008 were associated with foreign travel. Figure 2 shows the seasonal distribution of reports received from 2006 - 2008.

Figure 2: Laboratory reports of campylobacter, by month, January 2006 - June 2008, Northern Ireland



Salmonella

Laboratory reports of salmonella tend to rise in the second quarter of the year and peak in the third quarter (August). Approximately 40% of the total number reported in 2007 were reported in the first half of the year. There has been a 14% decrease in reports received during the first half of 2008 with 54 reports received to the end of June compared with 63 in 2007. Figure 3 shows the seasonal distribution of reports received from 2006 - 2008.

Figure 3: Laboratory reports of salmonella, by month, January 2006 – June 2008, Northern Ireland

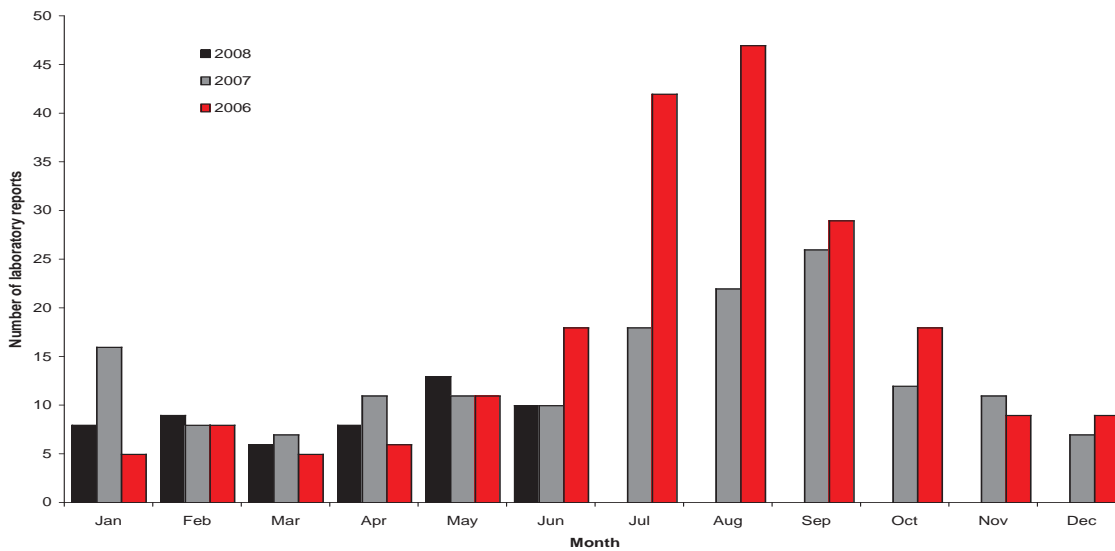


Table 1 shows the salmonella serotypes that have been reported in the first half of 2008. Most cases of salmonella reported are either *Salmonella enteritidis* or *Salmonella typhimurium*.

Table 1: Salmonella serotypes reported from January – June 2008, Northern Ireland

Serotype	Number of laboratory reports
<i>S. agona</i>	2
<i>S. anatum</i>	1
<i>S. bairdon</i>	1
<i>S. bredeney</i>	1
<i>S. dublin</i>	1
<i>S. enteritidis</i>	14
<i>S. hadar</i>	1
<i>S. indiana</i>	1
<i>S. kottbus</i>	1
<i>S. newport</i>	1
<i>S. paratyphi A</i>	1
<i>S. saint-paul</i>	1
<i>S. schwarzengrund</i>	1
<i>S. sp</i>	14
<i>S. thompson</i>	1
<i>S. typhimurium</i>	10
<i>S. virchow</i>	2
Total	54

Salmonella enteritidis remain the most commonly reported serotype in Northern Ireland in recent years (with the exception of 2004). Twenty-six per cent of the reports received between January and June 2008 were *S. enteritidis* compared with 22% for the same period in 2007.

Salmonella typhimurium has been the second most frequently reported serotype in Northern Ireland since 1998 (again, apart from 2004). Nineteen per cent of the reports in the first six months of 2008 were *S. typhimurium* compared with 22% for the same period in 2007.

Table 2 lists the phage types of *Salmonella enteritidis* and *Salmonella typhimurium* for the first six months of 2007 and 2008.

Table 2: *S. enteritidis* and *S. typhimurium* phage types reported from January – June, 2007 and 2008, Northern Ireland

<i>S. enteritidis</i> phage type	Number of laboratory reports	
	Jan - June 07	Jan - June 08
PT 1	0	3
PT 4	0	2
PT 6A	1	0
PT 8	1	1
PT 14B	3	0
PT 21	1	4
PT 24	1	0
rdnc	1	0
untyped	6	4
Total	14	14

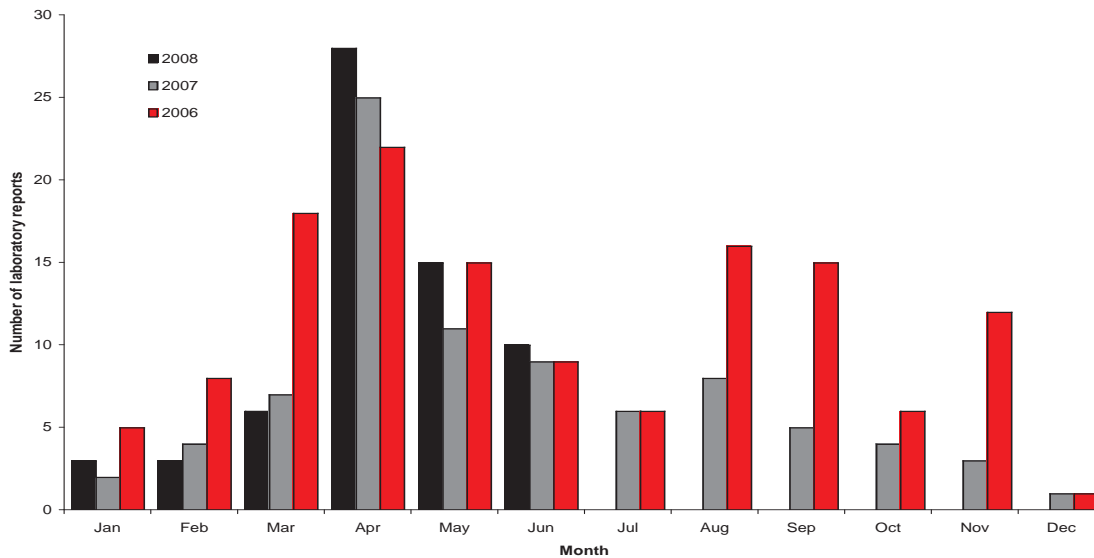
<i>S. typhimurium</i> phage type	Number of laboratory reports	
	Jan - June 07	Jan - June 08
DT 1	2	0
DT 2	0	1
DT 8	0	1
DT 12	1	1
DT 104	0	2
DT 104B	3	1
DT 193	3	1
DT 195	0	1
U 311	3	0
untyped	2	2
Total	14	10

Fifteen reports of salmonella in the first half of 2008 were associated with foreign travel. Further information is provided in table 3.

Cryptosporidium

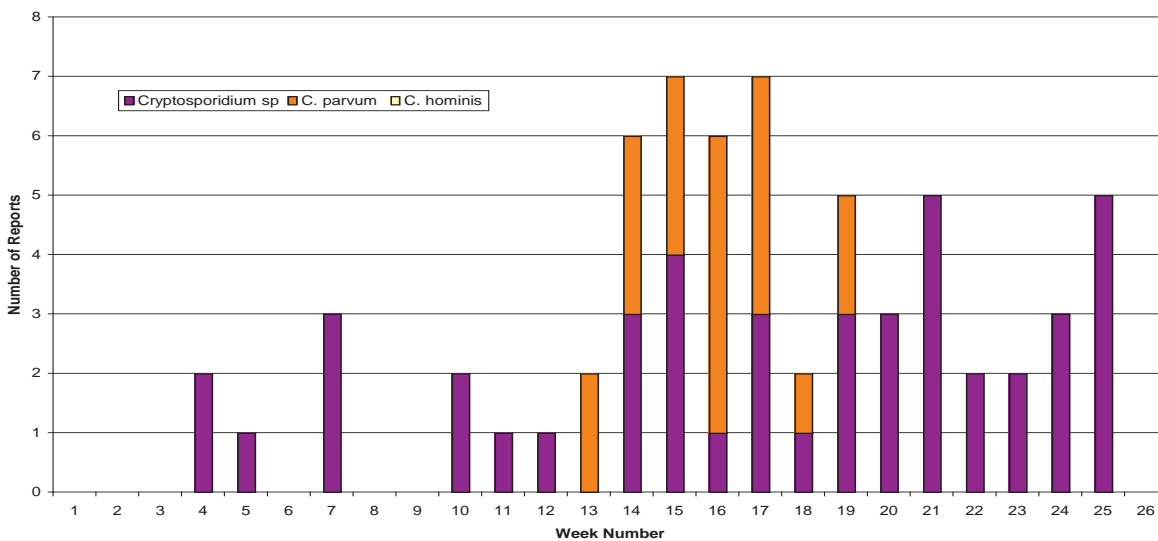
Cryptosporidiosis exhibits a marked seasonal pattern with a rise in the spring and often a further, although smaller, rise in the autumn. Sixty-five reports were received between January and June 2008 compared with 77 and 59 in the first half of 2006 and 2007 respectively. Figure 4 shows the seasonal distribution of reports received from 2006 - 2008.

Figure 4: Laboratory reports of cryptosporidium, by month, January 2006 – June 2007, Northern Ireland



Since January 2008 isolates of cryptosporidium have been sent to the Cryptosporidium Reference Unit in Swansea for typing. All the typing information received so far indicates a strong association between the spring peak and *c. parvum*, as shown in figure 5.

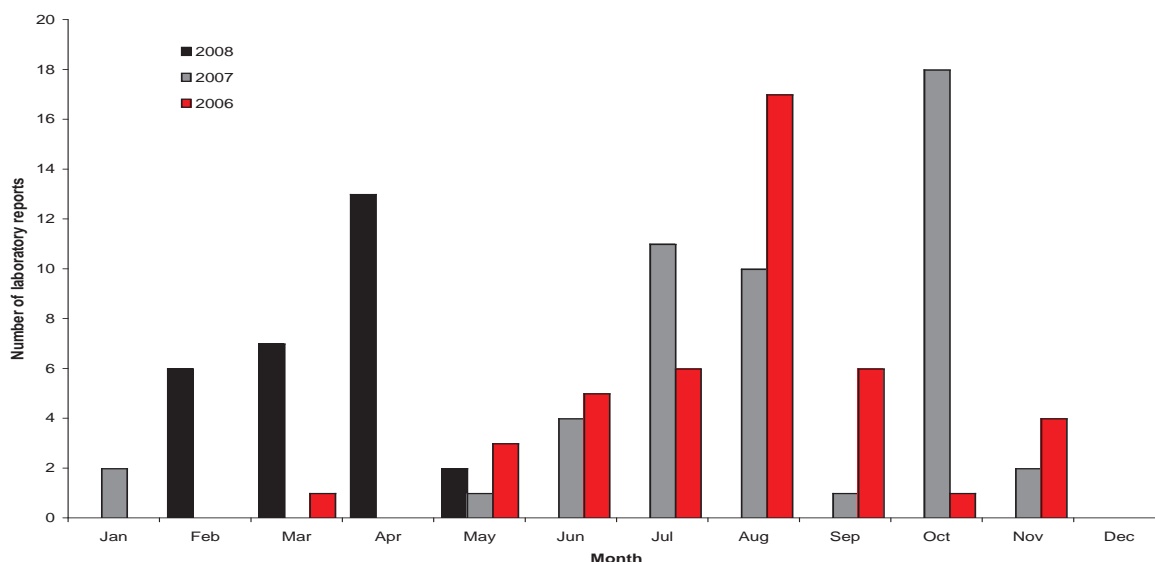
Figure 5: Laboratory reports of cryptosporidium, by type, weeks 1 – 26, 2008, Northern Ireland



Vero-toxin producing *Escherichia coli* O 157 (VTEC O 157)

Twenty eight reports were received to the end of June 2008, compared with 9 and 7 in the first half of 2006 and 2007 respectively. Laboratory reports do not tend to peak until the third quarter of the year and this large increase is mostly due to an outbreak of *E. coli* O 157 in February 2008 (17/28). Figure 6 shows the seasonal distribution of reports received from 2006 - 2008.

Figure 6: Laboratory reports of VTEC O 157, by month, January 2006 – June 2008, Northern Ireland



Travel-associated gastrointestinal infections – January - June 2008

Most travel related gastrointestinal infections are reported in the third quarter of the year. Gastrointestinal infections with a history of having travelled abroad reported to CDSC (NI) in the first half of 2008 are listed in Table 3.

Table 3: Laboratory reports of gastrointestinal infections and countries where infection was thought to have been acquired, January – June 2008, Northern Ireland

Organism	Number of reports received	Number thought to have been acquired abroad	Countries visited
Campylobacter	365	15 (4%)	France, India (6), Morocco, Poland, Portugal (2), Spain (4)
Cryptosporidium	65	1 (2%)	Turkey
E Coli O 157	28	1 (4%)	Portugal
Salmonella	54	15 (28%)	Cuba, Hungary, India, Mexico, Portugal, Spain (7), Turkey (2), Thailand

Twenty-eight per cent of salmonella infections reported to CDSC (NI) during the first six months of 2008 were thought to have been acquired abroad. Seven were associated with travel to Spain (including Canary Islands and Balearic Islands). These areas are amongst the most popular holiday destinations for local travellers, but the majority of travel-related salmonella infections tend to be acquired in the second half of the year, reflecting local travel patterns. Further information is provided in Table 4.

Table 4: Laboratory reports of Salmonella and countries where infection was thought to have been acquired, January – June 2008, Northern Ireland

Serotype	Number of reports received	Number thought to have been acquired abroad	Countries visited
<i>S. agona</i>	2		
<i>S. anatum</i>	1	1 (100%)	Spain
<i>S. bairdii</i>	1		
<i>S. bredeney</i>	1		
<i>S. dublin</i>	1		
<i>S. enteritidis</i>	14	7 (50%)	Cuba, Hungary, Mexico, Portugal, Spain (3)
<i>S. hadar</i>	1	1 (100%)	Spain
<i>S. indiana</i>	1		
<i>S. kottbus</i>	1		
<i>S. newport</i>	1		
<i>S. paratyphi A</i>	1	1 (100%)	India
<i>S. saint-paul</i>	1		
<i>S. schwarzengrund</i>	1		
<i>S. sp</i>	14	3 (21%)	Thailand, Turkey (2)
<i>S. thompson</i>	1		
<i>S. typhimurium</i>	10	2 (20%)	Spain (2)
<i>S. virchow</i>	2		
Total	54	15 (26%)	

Foodborne and gastrointestinal outbreaks: April-June 2008

Outbreak surveillance is primarily based on reports received from Consultants in Communicable Disease Control (CCDCs). 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 second quarter of 2008. One outbreak of Listeria in hospital in-patients is presumed to be foodborne, with investigations underway.

Fourteen non-foodborne outbreaks of gastrointestinal illness were reported to CDSC (NI) affecting at least 144 people. Three outbreaks occurred in hospitals, ten occurred in nursing/residential homes and one occurred in a day centre.

Table 5: General outbreaks of foodborne and other gastrointestinal illness reported to CDSC (NI), April – June 2008

Foodborne outbreaks					
HSSB	Location	Organism	Suspect vehicle	No. ill	No +ve
E	Hospital	Listeria	Unknown	n/a	6
Other gastrointestinal outbreaks					
HSSB	No of outbreaks reported	Location	Organism*	No ill	No +ve
E	1	Hospital	Norovirus	n/a	3
N	4	Residential institution	Nil identified	40	n/a
	1	Residential institution	C. difficile	4	n/a
	1	Day Centre	Nil identified	5	0
S	1	Hospital	Norovirus	n/a	2
	5	Residential institution	Norovirus	88	16
W	1	Hospital	Norovirus	7	1

*In norovirus outbreaks once the causative organism is identified it is not normal practice for all other symptomatic individuals to be tested. Therefore, in norovirus outbreaks the number of symptomatic individuals is considerably in excess of the number of laboratory confirmed cases.

Enhanced Surveillance of Meningococcal Disease, Northern Ireland

Quarter 2, Apr-Jun 2008 (provisional data)

Cases

12 cases were reported during Q2. 9 (75%) were laboratory confirmed, 6 of which were Serogroup B (Table 1).

Deaths

There were no deaths during Q2.

Table 1: Invasive Meningococcal disease, by serogroup, by HSSB area of residence, Northern Ireland April – June 2008

	B	C	Others & ungrouped	Not confirmed	Total
EHSSB	3	0	2	0	5
NHSSB	1	0	1	0	2
SHSSB	2	0	0	1	3
WHSSB	0	0	0	2	2
Total	6	0	3	3	12

ESCAIDE CONFERENCE: BERLIN 19-21 NOVEMBER 2008

On 19-21st November, the 2nd European Scientific Conference on Applied Infectious Disease Epidemiology (ESCAIDE) will take place in Berlin (Germany).

This annual conference features presentations on a wide range of topics related to applied infectious disease epidemiology. The link below provides details of the programme and how to register.

<http://www.escaide.eu/en/articles/escaide/welcome.cfm>

Monthly surveillance figures for Creutzfeldt-Jakob Disease

The incidence of Creutzfeldt-Jakob Disease (CJD) is monitored in the UK by the National CJD Surveillance Unit (NCJDSU) based at the Western General Hospital in Edinburgh, Scotland.

The Unit has issued the latest information about the number of known cases of Creutzfeldt-Jakob disease. This includes cases of variant Creutzfeldt-Jakob disease (vCJD) – the form of the disease thought to be linked to BSE.

Further information can be accessed on the NCJDSU website <http://www.cjd.ed.ac.uk>

These figures show the number of **suspect** cases referred to the CJD Surveillance Unit in Edinburgh, and the number of deaths of definite and probable cases in the UK, up to 4th August 2008.

Table 6: Creutzfeldt-Jakob Disease in the UK By Calendar Year

Referrals of Suspect CJD		Deaths of Definite and Probable CJD						
Year	Referrals	Year	Sporadic	Iatrogenic	Familial	GSS	vCJD	Total Deaths
1990	[53]	1990	28	5	0	0	-	33
1991	75	1991	32	1	3	0	-	36
1992	96	1992	45	2	5	1	-	53
1993	78	1993	37	4	3	2	-	46
1994	118	1994	53	1	4	3	-	61
1995	87	1995	35	4	2	3	3	47
1996	133	1996	40	4	2	4	10	60
1997	162	1997	60	6	4	1	10	81
1998	154	1998	63	3	3	2	18	89
1999	170	1999	62	6	2	0	15	85
2000	178	2000	50	1	2	1	28	82
2001	179	2001	58	4	4	2	20	88
2002	163	2002	72	0	4	1	17	94
2003	162	2003	79	5	4	2	18	108
2004	114	2004	50	2	4	2	9	67
2005	124	2005	66	4	8	5	5	88
2006	110	2006	68	1	6	3	5	83
2007	115	2007	62	2	7	1	5	77
2008*	78	2008	44	4	1	3	1	53
Total Referrals	2349	Total Deaths	1004	59	68	36	164	1331

*As at 4th August 2008

Summary of vCJD cases

Deaths

Deaths from definite vCJD (confirmed):	115
Deaths from probable vCJD (without neuropathological confirmation):	49
Deaths from probable vCJD (neuropathological confirmation pending):	0
Number of deaths from definite or probable vCJD:	164

Alive

Number of definite/probable vCJD cases still alive:	3
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Total number of definite or probable vCJD cases (dead and alive):	167
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Positive blood cultures: Laboratory reports, weeks 01-28

	2008/ 01-28	2007/01-28	2006/01-28
Gram negative bacteria			
<i>Acinetobacter sp</i>	28	18	15
<i>Aeromonas sp</i>	1	1	1
<i>Brucella sp</i>	0	0	1
<i>Campylobacter sp</i>	0	1	0
<i>Citrobacter sp</i>	10	11	11
<i>Enterobacter sp</i>	42	51	40
<i>Escherichia coli</i>	438	414	422
<i>Escherichia sp</i>	0	0	1
<i>Haemophilus influenzae</i> (all types)	11	9	8
<i>Haemophilus parainfluenzae</i>	0	0	0
<i>Klebsiella sp</i>	87	83	83
<i>Legionella sp</i>	0	0	0
<i>Leptospira</i>	0	0	0
<i>Neisseria meningitidis</i>	10	15	9
<i>Neisseria sp</i>	0	0	0
<i>Proteus sp</i>	35	37	32
<i>Providencia sp</i>	1	2	1
<i>Pseudomonas aeruginosa</i>	45	27	36
<i>Pseudomonas sp</i>	22	24	29
<i>Salmonella sp</i>	4	3	0
<i>Serratia sp</i>	30	43	46
Other gram negative bacteria	12	9	22
Total	776	748	757
Gram positive bacteria			
<i>Corynebacterium sp</i> & Diphtheroids	3	9	3
Staphylococci:			
<i>S. aureus</i>	294	301	317
coagulase negative	234	260	242
Streptococci*:			
group A	23	22	16
group B	27	26	21
group C	11	1	2
group G	9	7	4
'anguinosus group'	12	9	13
'bovis group'	6	5	6
'mitis group'	13	12	8
'mutans group'	2	0	1
'salivarius group'	5	0	4
'sanguinis group'	11	7	4
<i>S. pneumoniae</i>	80	92	100
Other Streptococci	14	17	21
Enterococci:			
<i>E. faecalis</i>	56	72	67
<i>E. faecium</i>	62	55	62
Other Enterococci	12	8	8
<i>Listeria monocytogenes</i>	7	2	0
Other gram positive bacteria	16	20	18
Total	897	925	917
Anaerobic bacteria			
Anaerobic cocci	4	4	0
<i>Bacteroides sp</i>	19	18	37
<i>Clostridium sp</i>	15	10	22
Other anaerobic bacteria	1	1	3
Total	39	33	62
Grand Total	1712	1706	1736

* 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.

**Foodborne and gastrointestinal tract infections: Laboratory reports,
Weeks 25-32**

	Number of Reports received		Cumulative total	
	08/25-32	07/25-32	08/01-32	07/01-32
<i>Campylobacter</i>	184	184	510	530
<i>C. difficile</i> Toxin	253	184	1070	763
<i>C. perfringens</i>	1	4	21	9
<i>E. coli</i> O 157	5	22	33	26
<i>Salmonella</i> total	38	35	87	90
<i>S. enteritidis</i> (PT 4)	9 (1)	20 (1)	23 (3)	31 (1)
<i>S. typhimurium</i> (DT 104)	8 (1)	5 (0)	16 (3)	19 (0)
<i>Salmonella</i> other	21	10	48	40
<i>Shigella</i>	4	6	7	11
<i>Cryptosporidium</i>	15	9	75	66
<i>Giardia</i>	0	1	2	3
Adenovirus (faeces)	41	11	208	66
Enterovirus (faeces)	5	8	24	15
Rotavirus	114	23	659	347
Norovirus	34	15	322	256

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

<i>S. kentucky</i>	1
<i>S. kottbus</i>	1
<i>S. risen</i>	1
<i>S. saint-paul</i>	1
<i>S. sp</i>	4
<i>S. thompson</i>	1
<i>S. typhi</i>	1
<i>S. unnamed</i>	10
<i>S. zanzibar</i>	1

Comment:

Table 7: Infection associated with foreign travel, weeks 25 – 32, 2008, Northern Ireland

Organism	Countries visited
Campylobacter (10)	Argentina (1), France (2), India (1), Portugal (2), Spain (4)
Cryptosporidium (3)	France (1), India (1), Turkey (1),
E Coli O 157 (1)	Spain
Norovirus (1)	Spain
S. enteritidis (1)	Spain
S. kentucky (1)	Tunisia
S. saint-paul (1)	Egypt
S. typhi (1)	Ghana
S. typhimurium (1)	Spain
S. zanzibar (1)	Tunisia
S. spp (3)	Cambodia (1), Spain (1), Thailand (1)

Hepatitis: Laboratory reports quarter 2 (April - June 2008)

	Number of Reports received			
	Quarter 2, 2008	Quarter 2, 2007	Cumulative Total to June 2008	Cumulative Total to June 2007
Hepatitis A	1	0	4	0
Hepatitis B	29	32	55	55
Hepatitis C	37 (6)	34 (4)	74 (6)	64 (11)

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 was 1 report of Hepatitis A during the second quarter of 2008.

Hepatitis B

29 cases of Hepatitis B were reported during this reporting period, 7 of which were classified as acute Hepatitis B infection. 22 were male, aged between 18 and 68 years; 7 cases were female, aged between 20 and 85 years.

Hepatitis C

34 cases of Hepatitis C were reported during the second quarter of 2008. 22 cases were male, aged between 27 years and 67 years; 11 cases were female, aged between 26 and 85 years. Sex was unknown in 1 case.

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