

SURVEILLANCE of INFECTIOUS INTESTINAL (IID), ZOO NOTIC AND VECTORBORNE DISEASE, and OUTBREAKS of INFECTIOUS DISEASE



A quarterly report by the Health Protection Surveillance Centre in collaboration with the Departments of Public Health

Quarter 4–2007

April 2008

This is the fourth quarterly report for 2007 produced by the Gastroenteric Unit of the Health Protection Surveillance Centre.

The production of this quarterly report would not be possible without the valuable input and commitment from the Directors of Public Health, Specialists in Public Health Medicine, Surveillance Scientists, Clinical Microbiologists, General Practitioners, Hospital Clinicians, Infection Control, Environmental Health and laboratory personnel, and other professionals who provide the data for the HPSC's surveillance systems.

Note: Data are collected and analysed using the Computerised Infectious Disease Reporting (CIDR) system. The data in this report are provisional and will not be regarded as final until all returns are received and data have been validated.

OUTBREAK SURVEILLANCE

Table 1. General Outbreaks of Infectious Intestinal Disease (IID) in Quarter 4, 2007

Month	HSE region	Location	No. ill *	No. Hosp.	Date Onset	Suspect mode of transmission	Disease
Oct	S	Hotel	13	0	10-Oct-07	Not Specified	AIG
Oct	S	Comm. Hosp/Long-stay unit	11	0	10-Oct-07	P-P & AB	Norovirus
Oct	S	Creche	2	-	13-Sep-07	P-P	Cryptosporidiosis
Oct	SE	Hospital	19	-	6-Oct-07	Not Specified	Norovirus
Oct	W	Hospital	14	14	-	P-P	Norovirus
Oct	E	Residential institution	27	-	-	Not Specified	Norovirus
Oct	S	Other	3	0	12-Oct-07	Not Specified	AIG
Oct	MW	Hospital	6	-	17-Oct-07	P-P	Norovirus
Oct	NE	Comm. Hosp/Long-stay unit	16	-	22-Oct-07	P-P & AB	AIG
Oct	E	Comm. Hosp/Long-stay unit	12	11	-	P-P	Norovirus
Oct	NW	Creche	9	0	-	P-P	EHEC
Nov	E	Comm. Hosp/Long-stay unit	9	8	-	Not Specified	AIG
Nov	NW	Comm. Hosp/Long-stay unit	39	0	-	P-P	Norovirus
Nov	NE	Residential institution	93	3	-	P-P & AB	Norovirus
Nov	E	Creche	10	-	-	P-P	Norovirus
Nov	E	Hospital	21	0	-	P-P	Norovirus
Nov	NE	Hospital	4	4	-	P-P & AB	Norovirus
Nov	E	Hospital	5	-	8-Nov-07	Not Specified	AIG
Nov	E	Comm. Hosp/Long-stay unit	4	3	-	P-P	Norovirus
Nov	SE	Residential institution	4	-	11-Nov-07	P-P	AIG
Nov	E	Comm. Hosp/Long-stay unit	11	-	13-Nov-07	Unknown	AIG
Nov	SE	Comm. Hosp/Long-stay unit	43	-	23-Oct-07	P-P	AIG
Nov	S	Hospital	26	26	-	P-P	Norovirus
Nov	E	Hospital	340	259	2-Nov-07	P-P	Norovirus
Nov	SE	Hospital	10	-	27-Nov-07	P-P	AIG
Nov	SE	Hospital	11	-	24-Nov-07	P-P	AIG
Nov	S	Hospital	7	6	-	P-P	Norovirus
Nov	S	Hospital	21	0	-	P-P & AB	Norovirus
Dec	S	Creche	57	-	-	P-P	Norovirus
Dec	E	Comm. Hosp/Long-stay unit	27	-	1-Dec-07	Not Specified	Norovirus
Dec	S	Comm. Hosp/Long-stay unit	16	0	-	P-P	Norovirus
Dec	SE	Hospital	4	-	6-Nov-07	Not Specified	AIG
Dec	M	Hospital	10	10	-	P-P & AB	Norovirus
Dec	SE	Hospital	6	-	28-Nov-07	Not Specified	Norovirus
Dec	SE	Hospital	7	-	15-Nov-07	Unknown	AIG
Dec	S	Comm. Hosp/Long-stay unit	4	0	2-Dec-07	Not Specified	AIG
Dec	E	Hospital	88	-	-	Not Specified	Norovirus
Dec	NE	Hospital	43	-	-	P-P & AB	Norovirus
Dec	E	Residential institution	70	1	6-Dec-07	Not Specified	Norovirus
Dec	E	Residential institution	14	-	20-Nov-07	P-P	Norovirus

Dec	SE	Residential institution	7	-	7-Dec-07	P-P	AIG
Dec	NW	Hospital	6	6	-	P-P & AB	Norovirus
Dec	MW	Hospital	46	46	1-Jan-07	Unknown	<i>C. difficile</i>
Dec	S	Other	8	0	6-Dec-07	P-P & AB	Norovirus
Dec	M	Residential institution	26	0	12-Dec-07	P-P & AB	Norovirus
Dec	HPSC	Community outbreak	8	4	11-Nov-07	FB	Salmonellosis
Dec	NE	Hospital	30	17	-	P-P	Norovirus

P-P denotes Person-to-Person transmission, FB denotes foodborne, WB denotes waterborne; AIG denotes Acute Infectious Gastroenteritis; EHEC denotes Enterohaemorrhagic *E. coli*

* Total numbers ill does not include asymptomatic cases

Table 2. Family Outbreaks of Infectious Intestinal Disease (IID) in Quarter 4, 2007

Month	HSE region	Location	No. ill *	No. Hosp.	Date Onset	Suspect mode of transmission	Disease
Oct	E	Travel related	5	1	-	FB	Salmonellosis
Oct	E	Private house	2	0	5-Sep-07	Not Specified	Cryptosporidiosis
Oct	NE	Residential institution	25	0	-	P-P & AB	Norovirus
Oct	S	Private house	2	0	13-Oct-07	P-P	EHEC
Oct	S	Private house	3	-	-	Not Specified	Campylobacter infection
Oct	E	Private house	2	--	13-Oct-07	P-P and FB	Salmonellosis
Nov	S	Hotel	5	0	30-Oct-07	Unknown	AIG
Nov	SE	Private house	2	0	17-Oct-07	P-P	Cryptosporidiosis
Nov	S	Private house	2	-	2-Sep-07	P-P	Salmonellosis
Nov	E	Private house	2	-	1-Nov-07	WB	EHEC
Nov	E	Private house	3	0	19-Oct-07	Not Specified	EHEC
Nov	E	Restaurant / Cafe	7	-	-	Unknown	Norovirus
Dec	SE	Private house	1	1	31-Oct-07	Unknown	EHEC
Dec	NE	Private house	2	0	1-Nov-07	P-P	Campylobacter infection
Dec	E	Private house	2	-	-	P-P	Rotavirus

P-P denotes Person-to-Person transmission, FB denotes foodborne; AIG denotes Acute Infectious Gastroenteritis

* Total numbers ill does not include asymptomatic cases

Table 3. Non-IID Outbreaks in Quarter 4, 2007

Month	HSE region	Type of outbreak	Location	No. ill *	No. Hosp.	Date Onset	Suspect mode of transmission	Organism
Oct	E	General	School	7	0	3-Sep-07	P-P & AB	Measles
Nov	E	Family	Not Specified	2	-	1-Oct-07	Not Specified	Hepatitis A (acute)
Nov	E	Family	Travel related	2	-	6-Nov-07	Not Specified	Hepatitis A (acute)
Nov	E	General	Not Specified	2	2	16-Nov-07	Not Specified	Meningococcal disease
Dec	S	Family	Private house	2	1	24-Oct-07	P-P	Hepatitis A (acute)
Dec	SE	General	Community outbreak	4	-	15-Feb-06	AB	Tuberculosis
Dec	MW	General	Not Specified	3	1	27-Nov-07	P-P	Measles

P-P denotes Person-to-Person transmission, FB denotes foodborne

* Total numbers ill does not include asymptomatic cases

Since July 2001, outbreaks have been reported to HPSC. Initial information is provided by a public health professional using a preliminary notification form (by fax or email). A full report is then forwarded by the lead investigator once more complete data are available. The data requested includes information on the source of reporting of the outbreak, the extent of the outbreak, mode of transmission, location, pathogen involved, laboratory investigation, morbidity and mortality data, suspect vehicle and factors contributing to the outbreak. The data provided on final reports is crucial in providing information on the reasons why the outbreak occurred, the factors that lead to the spread of disease and the lessons that can be learnt to prevent further such outbreaks.

Since the 1st January 2004, with the amendment to the Infectious Diseases Regulations (2003), there is a statutory requirement for medical practitioners and clinical directors of a diagnostic laboratory to notify to the medical officer of health 'any unusual clusters or changing patterns of any illness, and individual cases thereof, that may be of public health concern'.

Tables 1 and 2 present a line listing of all general and family outbreaks of IID reported to HPSC in the fourth quarter of 2007. There were 47 general and 15 family IID outbreaks reported during this period, resulting in at least 1332 people being ill.

Norovirus (either confirmed or suspected) was responsible for the majority of general outbreaks of IID with 29 outbreaks alone confirmed to be caused by this organism (62% of all general outbreaks).

The most common cause of family outbreaks of IID was EHEC, with four outbreaks (27% of all family outbreaks) caused by this pathogen. The other pathogens responsible for family outbreaks were AIG, campylobacter infection, cryptosporidiosis, norovirus and salmonellosis. (Table 2).

Most general outbreaks were transmitted person-to-person (66%). Thirty-nine general outbreaks (83%) were reported to have occurred in healthcare settings, i.e. hospitals or residential institutions, during this period.

There were 7 non-IID outbreaks reported during Quarter 4 - see Table 3.

Table 4 outlines the outbreak rate per HSE-area for outbreaks notified during Q4 2007.

Table 4. No. of infectious disease outbreaks per HSE region

HSE Area	No. of outbreaks	Rate per 100,000 population
E	24	1.6
M	2	0.8
MW	3	0.8
NE	7	1.8
NW	3	1.3
SE	12	2.6
S	16	2.6
W	1	0.2
Total	68	-

NOTIFICATIONS OF INFECTIOUS INTESTINAL, ZOOBOTIC AND VECTORBORNE DISEASE

The number of notifications of infectious intestinal, zoonotic and vectorborne disease by HSE-Area for the fourth quarter of 2007 is shown in Table 5.

Table 5. Intestinal Infectious, Zoonotic and Vectorborne Disease Notifications Quarter 4, 2007 by HSE-Area

Infectious Intestinal Disease	E	M	MW	NE	NW	SE	S	W	Total
Acute infectious gastroenteritis (incl. rotavirus)	73	8	7	9	7	15	35	7	161
<i>Bacillus cereus</i> foodborne infection/intoxication	0	0	0	0	0	0	0	0	0
Botulism	0	0	0	0	0	0	0	0	0
Campylobacter infection	119	24	46	25	27	33	75	45	394
Cholera	0	0	0	0	0	0	0	0	0
<i>Clostridium perfringens</i> (type A) food-borne disease	0	0	0	0	0	0	0	0	0
Cryptosporidiosis	2	0	4	3	4	11	10	4	38
Enterohaemorrhagic <i>Escherichia coli</i>	11	2	3	1	6	2	3	4	32
Giardiasis	6	0	2	1	0	1	2	3	15
Listeriosis	6	0	0	1	0	0	0	0	7
Noroviral infection	287	8	9	54	19	21	38	25	461
Paratyphoid	~	~	~	~	~	~	~	~	1
Salmonellosis	35	3	12	7	6	8	20	8	99
Shigellosis	4	0	2	0	0	1	2	1	10
Staphylococcal food poisoning	0	0	0	0	0	0	0	0	0
Typhoid	~	~	~	~	~	~	~	~	3
Yersiniosis	0	0	0	0	0	0	0	0	0
Zoonotic Disease	E	M	MW	NE	NW	SE	S	W	Total
Anthrax	0	0	0	0	0	0	0	0	0
Brucellosis	0	2	6	0	0	0	0	0	8
Echinococcosis	0	0	0	0	0	0	0	0	0
Leptospirosis	3	0	1	1	1	1	0	1	8
Plague	0	0	0	0	0	0	0	0	0
Q Fever	0	0	1	0	0	0	1	0	2
Rabies	0	0	0	0	0	0	0	0	0
Toxoplasmosis	6	2	0	1	1	1	2	1	14
Trichinosis	0	0	0	0	0	0	0	0	0
Typhus	0	0	0	0	0	0	0	0	0
Vectorborne Disease	E	M	MW	NE	NW	SE	S	W	Total
Malaria	7	2	2	1	0	2	3	1	18

SALMONELLA ENTERICA

Human salmonellosis (*S. enterica*) is a notifiable disease. The National Reference Laboratory for Salmonella (NSRL) in Ireland was established in 2000 in the Dept. of Medical Microbiology, University College Hospital, Galway. This laboratory accepts *S. enterica* isolates from all clinical and food laboratories in Ireland for serotyping, phage typing and antimicrobial sensitivity testing. Table 6 shows the number of salmonellosis notifications by HSE-Area and month for the fourth quarter of 2007. Comparison of trends with previous years is shown in Figure 1 below.

Table 6. Salmonellosis Notifications by HSE-Area and Month, Q4 2007

Salmonellosis	E	M	MW	NE	NW	SE	S	W	Total
Oct	15	0	8	3	3	3	13	3	48
Nov	10	1	2	3	3	4	6	4	33
Dec	10	2	2	1	0	1	1	1	18
Total	35	3	12	7	6	8	20	8	99

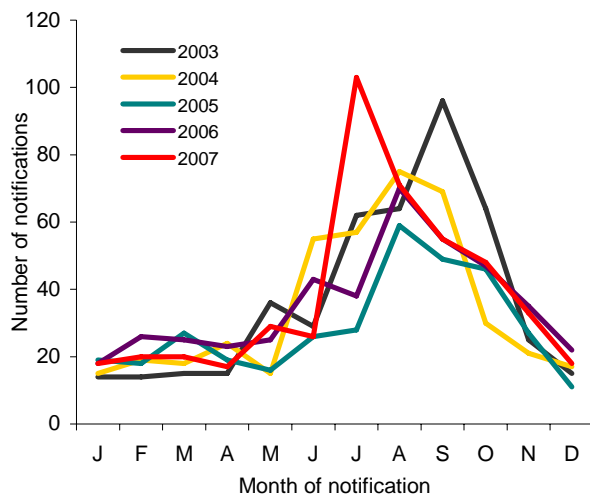


Figure 1. Seasonal Distribution of Human Salmonellosis Notifications, 2003-2007

Table 7 shows the *S. enterica* isolates typed by the NSRL in the fourth quarter of 2007 (n=108). The commonest human serotypes isolated were *S. Enteritidis* (n=32 [30%]) and *S. Typhimurium* (n= 32 [30%]).

Sixteen (15%) *S. enterica* isolates were reported to be associated with travel outside of Ireland during this quarter.

S. Typhi and *S. Paratyphi*

There was one case of paratyphoid (associated with travel to Pakistan), and three cases of typhoid (2 associated with travel to India and one to Pakistan) notified during Quarter 4, 2007.

Outbreaks of salmonellosis

There were four outbreaks of salmonellosis reported in Q4 2007, one general and 3 family outbreaks (see Table 1 and Table 2).

Table 7. Serotypes of *S. enterica* referred to NSRL in Quarter 4, 2007 (Data are provided courtesy of Prof. Martin Cormican and Dr Geraldine Corbett-Feeney, NSRL).

Serotype	E	M	MW	NE	NW	SE	S	W	Total
Agona	1	0	0	0	0	0	1	0	2
Alachua	0	0	0	0	0	0	1	0	1
Anatum	1	0	0	0	0	0	0	0	1
Bere	0	0	0	0	0	1	0	0	1
Blockley	0	0	0	1	0	0	0	0	1
Bredeney	1	0	0	0	0	0	0	0	1
Dublin	0	0	0	0	0	0	0	1	1
Durban	1	0	0	0	0	0	0	0	1
Enteritidis	11	1	5	5	2	4	1	3	32
Give	1	0	0	0	0	0	0	0	1
Grumpensis	0	0	0	1	0	0	0	0	1
Haifa	0	0	1	0	0	0	0	0	1
Hull	1	0	0	0	0	0	0	0	1
Java	1	0	0	0	0	0	0	2	3
Kentucky	1	0	0	0	0	1	0	1	3
Montevideo	1	0	0	0	1	0	0	0	2
Muenchen	1	0	0	0	0	0	1	0	2
Newport	2	0	0	1	0	0	1	0	4
Oranienburg	0	0	1	0	0	0	0	0	1
Patatyphi A	~	~	~	~	~	~	~	~	1
Richmond	0	0	0	0	0	0	0	1	1
Senftenberg	0	0	0	0	0	0	1	0	1
Stanley	0	0	0	0	0	0	1	0	1
Sundsvall	1	0	0	0	0	0	0	0	1
Teitelkebir	1	0	0	0	0	0	0	0	1
Thompson	0	0	0	0	0	1	0	0	1
Typhi	~	~	~	~	~	~	~	~	2
Typhimurium	9	1	5	1	1	4	8	3	32
Unnamed	1	0	0	0	0	0	0	0	1
Virchow	1	0	0	1	0	0	0	0	2
4,5,12:i:-	2	0	0	0	2	0	0	0	4
Total	39	2	12	10	6	12	16	11	108

VEROTOXIGENIC *E. COLI* (VTEC)

Illness caused by enterohaemorrhagic *E. coli* (EHEC) became a notifiable disease on January 1st 2004. Under EHEC, all verotoxin positive *E. coli*, and *E. coli* of serogroups O157, O26, O111, O103, O145 regardless of whether verotoxin producers, are reported. Previously, VTEC were notified under the category of 'Food Poisoning (bacterial other than Salmonella)'.

The number of EHEC notified in Q4 2007 is shown in Table 5. Under the legislation, it is required that information on EHEC be gathered and reported. However, because of their clinical and public health significance, it is important to distinguish between those isolates that are verotoxin-producers and those that are not.

Thirty-two EHEC were notified in this quarter, 24 of which are VTEC (all confirmed -Table 8). This compares with 50 VTEC cases notified in Q4 2006 and 46 in Q4 2005 (Figure 2). Table 8 shows the number of VTEC cases reported by serogroup and month, Q4 2007.

Table 8. Confirmed and Probable VTEC Notified by Serogroup and Month, Q4 2007

Month	O157	O26	Other	Total
Oct	9	4	0	13
Nov	5	4	1	10
Dec	0	0	1	1
Total	14	8	2	24

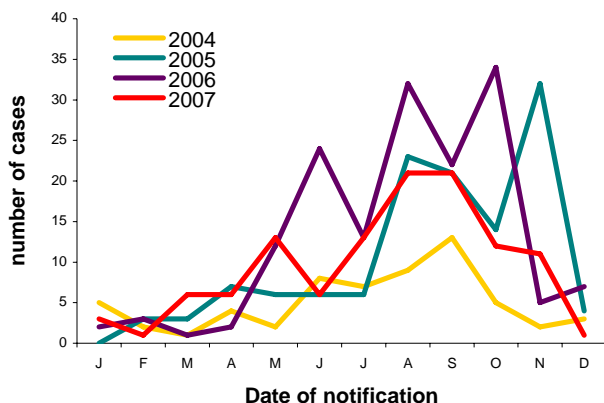


Figure 2. Seasonal distribution of confirmed and probable VTEC cases notified 2004-2007

Enhanced information is provided by HSE-Area personnel on all VTEC cases. One case of HUS due to VTEC was notified in this quarter, associated with an Ungroupable strain.

The HSE DML Public Health Laboratory at Cherry Orchard Hospital, Dublin provides a national *E. coli* O157 and non-O157 diagnostic service for clinical samples, including *E. coli* serotyping, verotoxin detection and VTEC molecular typing. Tables 9 and 10 show the phage types and VT types of VTEC isolates referred to this laboratory in Q4 2007.

Table 9. Phage Types of VTEC O157 isolates referred to the HSE DML Public Health Laboratory, Cherry Orchard Hospital in Q4 2007. (Data are provided courtesy of Dr. Eleanor McNamara and Dr. Anne Carroll).

Phage type	Number of isolates
32	9
51	2
8	1
34	1
RDNC	1
Total	14

Table 10. Verotoxin typing results of VTEC isolates referred to the HSE DML Public Health Laboratory, Cherry Orchard Hospital in Q4 2007. (Data are provided courtesy of Dr. Eleanor McNamara and Dr. Anne Carroll).

Serogroup	vt1	vt2	vt1+vt2	Total
<i>E. coli</i> O157	0	12	2	14
<i>E. coli</i> O26	8	0	0	8
<i>E. coli</i> Ungroupable	1	1	0	2

Outbreaks of VTEC infection

During this quarter, four family outbreaks and one general outbreak of VTEC infection were reported; Two were due to *E. coli* O157, two were due to *E. coli* O26, and one was due to a mix of strains (see Table 1 and Table 2).

CAMPYLOBACTER

Human campylobacteriosis became a notifiable disease on January 1st 2004. Prior to this, human campylobacter infection was notified under the category of 'Food Poisoning (bacterial other than Salmonella)'. The notifications for the fourth quarter of 2007 are shown in Table 11. The seasonal trend is broadly similar to the same period for the last year as depicted in Figure 3.

Table 11. Campylobacter Notifications by HSE-Area and Month, Q4 2007

Campylobacter Infection	E	M	MW	NE	NW	SE	S	W	Total
Oct	61	6	19	7	9	17	53	22	194
Nov	36	12	20	8	12	10	15	14	127
Dec	22	6	7	10	6	6	7	9	73
Total	119	24	46	25	27	33	75	45	394

Outbreaks of Campylobacter infection

There were two family outbreaks of campylobacteriosis reported in Q4 2007 (Table 2).

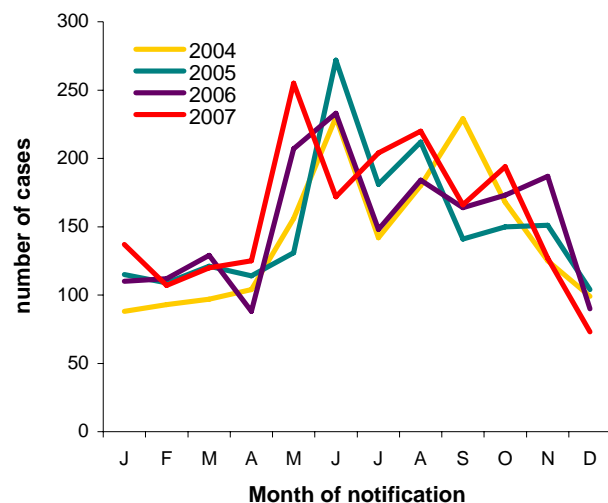


Figure 3. Seasonal distribution of Campylobacter notifications 2004-2007

CRYPTOSPORIDIUM

Human cryptosporidiosis became a notifiable disease on January 1st 2004. Prior to this, cryptosporidiosis was notifiable in Ireland only in young children under the category 'Gastroenteritis in Children Under 2'. In Q4 2007, 38 cases of cryptosporidiosis were notified (Table 12), compared to 47 in the same period last year and 64 in Q4 2005 (Figure 4).

Table 12. Cryptosporidiosis Notifications by HSE-Area and Month, Q4 2007

Cryptosporidiosis	E	M	MW	NE	NW	SE	S	W	Total
Oct	2	0	1	2	1	7	9	1	23
Nov	0	0	1	0	1	1	0	1	4
Dec	0	0	2	1	2	3	1	2	11
Total	2	0	4	3	4	11	10	4	38

Outbreaks of cryptosporidiosis

In quarter 4, there was one general and two family outbreaks of cryptosporidiosis reported (Table 1 and Table 2).

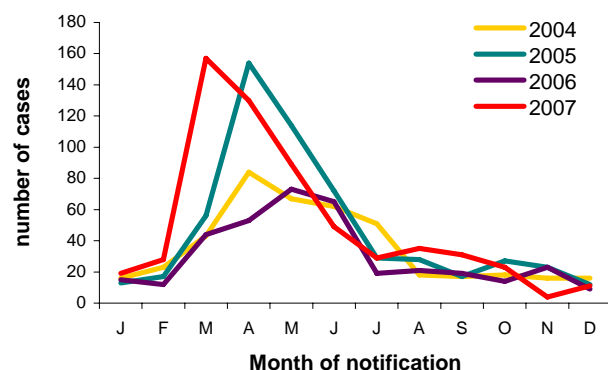


Figure 4. Seasonal distribution of cryptosporidiosis notifications 2004-2007

NOROVIRUS

Human noroviral infection became a notifiable disease on January 1st 2004. There were 461 cases reported in the fourth quarter of 2007, as shown in Table 13. These data are certainly an under-ascertainment of the true burden of disease due to this pathogen.

Table 13. Norovirus Notifications by HSE-Area and Month, Q4 2007

Noroviral Infection	E	M	MW	NE	NW	SE	S	W	Total
Oct	56	1	3	12	2	5	4	11	94
Nov	143	3	4	21	16	6	14	12	219
Dec	88	4	2	21	1	10	20	2	148
Total	287	8	9	54	19	21	38	25	461

Norovirus outbreaks

Norovirus or suspect viral aetiology is the commonest cause of outbreaks of acute gastroenteritis in Ireland. In the fourth quarter of 2007 there were 31 outbreaks

confirmed as being caused by this virus, involving at least 1087 people becoming ill, as outlined in Tables 1 & 2. The seasonal trend is outlined in Figure 5.

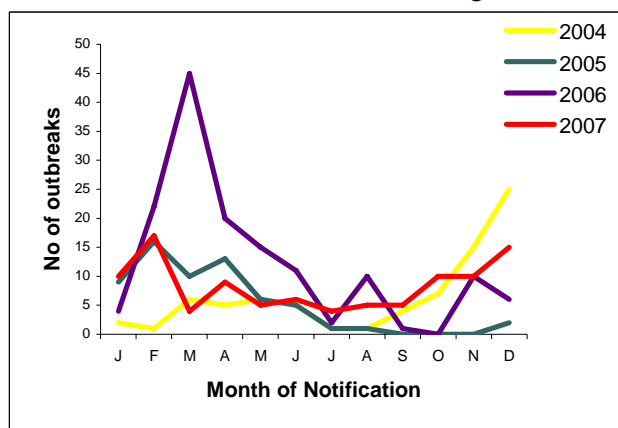


Figure 5. Seasonal distribution of confirmed norovirus outbreaks, 2004-2007.

LISTERIA

Human listeriosis became a notifiable disease on January 1st 2004. Prior to this, listeriosis was notified under the category of 'Food Poisoning (bacterial other than Salmonella)' or 'Bacterial Meningitis' as appropriate.

There were seven cases of listeriosis notified in Q4 2007, compared to one in quarter 4 2006 and two in quarter 4 2005. Four cases were pregnancy-related, and three were non-pregnancy related adult cases.¹

1. Garvey P and P. McKeown. 2007. Increase in listeriosis in Ireland 2007. Epi-Insight 8(12):2-3

SHIGELLA

On January 1st 2004, infection with *Shigella* spp. became notifiable as 'Shigellosis'. Prior to this, it was notifiable as 'Bacillary Dysentery'.

During Q4 2007, ten cases of shigellosis were notified (Table 5). This compares with 12 cases notified as shigellosis in Q4 in 2006 and seven in Q4 2005. Five cases were reported as *S. sonnei*, one as *S. flexneri*, one as *S. boydii* and three as *S. species*.

Travel data recorded on CIDR for shigellosis cases has improved substantially this year. During this quarter, four cases (40%) were reported to have acquired their illness abroad, one each in Egypt, Ghana, India and Morocco. Country of infection was reported as 'not specified' or 'unknown for the remaining six cases.

GIARDIA

Human giardiasis became a notifiable disease on January 1st 2004. Prior to this, giardiasis was notifiable in Ireland only in young children under the category 'gastroenteritis in children under 2 years'.

During Quarter 4 2007, 15 cases of giardiasis were notified (Table 5); this compares with 20 cases notified in Q4 2006 and 21 in Q4 2005.

FOODBORNE INTOXICATIONS

Bacillus cereus foodborne infection/intoxication, botulism, *Clostridium perfringens* (type A) foodborne disease and staphylococcal food poisoning became notifiable diseases on January 1st 2004. Prior

to this, these diseases were notified under the category of 'Food Poisoning (bacterial other than Salmonella)'.

There were no cases of foodborne intoxications notified in Q4 2007 (Table 5).

ACUTE INFECTIOUS GASTROENTERITIS incl. ROTAVIRUS

Since 1st January 2004, there is a notifiable disease category termed 'Acute Infectious Gastroenteritis'. This includes all unspecified causes of gastroenteritis and also specifically, gastroenteritis due to rotavirus. It should be noted that acute infectious gastroenteritis is now notifiable in all age groups, unlike the former notifiable disease category of 'Gastroenteritis in children under 2 years'.

During Quarter 4 2007, there were 161 notifications of acute infectious gastroenteritis. 140 of these (87%) were reported as rotavirus (as shown in Table 14).

Table 14. Rotaviral Infections Notified under the Category of 'Acute Infectious Gastroenteritis' by HSE-Area and Month, Q4 2007

Rotaviral Infection	E	M	MW	NE	NW	SE	S	W	Total
Oct	27	3	0	2	3	9	17	3	64
Nov	10	3	4	3	2	1	11	1	35
Dec	19	2	3	4	2	1	7	3	41
Total	56	8	7	9	7	11	35	7	140

NON-IID ZOONOTIC DISEASES

Non-IID zoonoses now notifiable include: anthrax, brucellosis, echinococcosis, leptospirosis, plague, Q Fever, toxoplasmosis, trichinosis, typhus and rabies. The Q4 2007 notifications of these zoonotic diseases are reported by HSE-Area in Table 5.

Fourteen cases of toxoplasmosis were notified in this quarter. This compares with 10 cases notified in the same period in 2006 and 13 cases in Q4 2005.

There were eight cases of brucellosis reported during this quarter compared with six in Q4 2006 and ten in Q4 2005.

Eight cases of leptospirosis was notified in Q4 2007; this compares with ten in Q4 2006 and seven in Q4 2005. Two were reported as occupationally acquired and four as acquired through leisure activities. For one case, no obvious exposure was identified and for one case, no exposure was specified.

There were also two cases of Q fever notified this quarter, compared to three in Q4 in 2006 and one in Q4 2005.

MALARIA

Malaria is a notifiable disease for many years. The Q4 2007 notifications are reported in Table 5 by HSE-Area.

Eighteen cases of malaria were notified in Q4 2007. This compares with 19 cases reported in Q4 2006 and seven in Q4 2005.

Ten cases were reported as *P. falciparum*, one as *P. vivax*, two as *P. ovale*, two as *P. malariae* and for three notification, the species was not specified.

Thirteen cases were exposed in Sub-Saharan Africa, one in Asia, while no data were provided on country of infection for the remaining four cases.

The reason for travel for nine cases was reported as visiting family in country of origin. There were two new entrants, one case associated with holiday travel, one case where reason for travel was reported as other, with the reason for travel not specified for five cases.

Report prepared by:

Ms Fiona Cloak
Dr Barbara Foley
Dr Patricia Garvey
Dr Paul McKeown