

SURVEILLANCE of INFECTIOUS INTESTINAL (IID), ZONOTIC AND VECTORBORNE DISEASE, and OUTBREAKS of INFECTIOUS DISEASE IN IRELAND



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

Quarter 1 –2012

July 2012

This is the first quarterly report for 2012 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 1, 2012

Month	HSE area	Location	No. ill *	No. Hosp.	Date Onset	Suspect mode of transmission	Disease
Jan	E	Comm. Hosp/Long-stay unit	84		01/01/2012	P-P	Norovirus
Jan	NE	Residential institution	8	0	01/01/2012	P-P & AB	AIG (unspecified)
Jan	W	Comm. Hosp/Long-stay unit	30	0	-	P-P	Norovirus
Jan	E	Residential institution	8		-	Unknown	Norovirus
Jan	M	Residential institution	4	-	-	P-P	AIG (unspecified)
Jan	E	Hospital	36		31/12/2011	P-P	Norovirus
Jan	NE	Hospital	11	0	05/01/2012	P-P & AB	AIG (unspecified)
Jan	NW	Hospital	6	3	06/01/2012	P-P	Norovirus
Jan	SE	Residential institution	9	0	06/01/2012	Unknown	AIG (unspecified)
Jan	E	Hospital	27		31/12/2011	P-P	Norovirus
Jan	NE	Hospital	28	19	12/01/2012	P-P & AB	Norovirus
Jan	NE	Residential institution	9	0	-	P-P & AB	Norovirus
Jan	NE	Residential institution	19	0	10/01/2012	P-P & AB	AIG (unspecified)
Jan	S	Comm. Hosp/Long-stay unit	10	0	04/01/2012	P-P & AB	AIG (unspecified)
Jan	NW	Hospital	16	12	16/01/2012	P-P	Norovirus
Jan	W	Hospital	4	4	-	P-P	Norovirus
Jan	MW	Hospital	22	22	-	P-P	Norovirus
Jan	M	Community outbreak	3		03/01/2012	FB	Salmonellosis
Jan	NE	Residential institution	21	0	-	P-P & AB	Norovirus
Jan	E	Hospital	72	60	20/01/2012	P-P	Norovirus
Jan	E	Pre-school	7	0	20/01/2012	Not Specified	AIG (unspecified)
Jan	E	Residential institution	13	-	18/01/2012	Not Specified	Norovirus
Jan	E	Residential institution	37	-	22/01/2012	Not Specified	Norovirus
Jan	SE	Hospital	25	-	18/01/2012	P-P	Norovirus
Feb	W	Hospital	33	33	08/02/2012	P-P	Norovirus
Feb	M	Residential institution	2	-	-	P-P & AB	Norovirus
Feb	M	Residential institution	3	-	-	P-P & AB	Norovirus
Feb	NE	Residential institution	24	0	28/01/2012	P-P & AB	AIG (unspecified)
Feb	NE	Hospital	50	-	-	P-P & AB	Norovirus
Feb	NE	Residential institution	2	-	02/02/2012	P-P & AB	AIG (unspecified)
Feb	M	Residential institution	13	-	-	P-P & AB	Norovirus
Feb	NE	Hospital	16	-	04/02/2012	P-P & AB	AIG (unspecified)
Feb	E	Residential institution	41		-	Not Specified	Norovirus
Feb	E	Hospital	10	-	-	Not Specified	AIG (unspecified)
Feb	E	Comm. Hosp/Long-stay unit	15		06/02/2012	P-P	Norovirus
Feb	NE	Residential institution	19	0	11/02/2012	P-P & AB	AIG (unspecified)
Feb	E	Residential institution	24	-	15/02/2012	Unknown	Norovirus
Feb	MW	Hospital	16	9	-	P-P	Norovirus
Feb	E	Comm. Hosp/Long-stay unit	14	-	12/02/2012	Unknown	Norovirus
Feb	M	Hospital	12		-	P-P & AB	Norovirus
Feb	NE	Residential institution	10	0	22/02/2012	P-P & AB	AIG (unspecified)
Feb	E	Residential institution	26	-	-	P-P	Norovirus
Mar	MW	Hospital	3	3	11/03/2012	P-P	Norovirus
Mar	SE	Residential institution	4	-	02/02/2012	P-P	AIG (unspecified)

Mar	MW	Private House, Childminder	6	5	01/11/2011	P-P	VTEC
Mar	SE	Residential institution	30	0	23/02/2012	Unknown	AIG (unspecified)
Mar	W	Hospital	19	19	-	P-P	Norovirus
Mar	MW	Hospital	8	8	-	P-P	Norovirus
Mar	E	Hospital	336	260	08/03/2012	P-P	Norovirus
Mar	S	Hotel	20	0	10/03/2012	P-P	AIG (unspecified)
Mar	NW	Comm. Hosp/Long-stay unit	20	0	07/03/2012	P-P	AIG (unspecified)
Mar	E	University/College	6	1	23/02/2012	Animal contact	Cryptosporidium
Mar	W	Residential institution	8	0	13/03/2012	Not Specified	AIG (unspecified)
Mar	E	Residential institution	21		08/03/2012	P-P	Norovirus
Mar	NE	Comm. Hosp/Long-stay unit	3	0	18/03/2012	P-P & AB	AIG (unspecified)
Mar	NE	Residential institution	10	0	16/03/2012	P-P & AB	AIG (unspecified)
Mar	NE	Residential institution	11	5	11/03/2012	P-P & AB	AIG (unspecified)
Mar	E	Creche	5		23/03/2012	Unknown	AIG (unspecified)

P-P denotes Person-to-Person transmission, FB denotes foodborne, WB denotes waterborne; AB denotes airborne; AIG denotes Acute Infectious Gastroenteritis (unspecified); VTEC denotes infection with Verotoxigenic *E. coli*; NK=unknown

* Total numbers ill does not include asymptomatic cases

Table 2. Family Outbreaks of Infectious Intestinal Disease (IID) in Quarter 1, 2012

Month	HSE region	Location	No. ill *	No. Hosp.	Date Onset	Suspect mode of transmission	Disease
Jan	E	Private house	3	0	01/12/2011	Animal contact	VTEC
Jan	E	Private house	2		23/12/2011	P-P	Typhoid
Jan	W	Not Specified	2	2	22/01/2012	P-P	Listeriosis
Feb	E	Restaurant / Cafe	2	0	15/02/2012	Unknown	AIG (unspecified)
Feb	W	Private house	2	2	-	P-P	Rotavirus
Mar	M	Private house	1	-	-	FB	Salmonellosis
Mar	NE	Private house	2	1	28/01/2012	Not Specified	VTEC
Mar	S	Private house	2		22/02/2012	Not Specified	Cryptosporidium
Mar	SE	Private house	2	2	25/02/2012	Unknown	Cryptosporidium
Mar	W	Not Specified	1		01/03/2012	Unknown	VTEC
Mar	W	Private house	2	2	-	P-P	Rotavirus
Mar	SE	Private house	2	2	28/02/2012	Animal contact	Cryptosporidium
Mar	W	Private house	2	2	15/03/2012	P-P	Cryptosporidium
Mar	S	Private house	3	0	14/02/2012	Unknown	VTEC
Mar	E	Private house	3	0	04/03/2012	P-P	Shigellosis

P-P denotes Person-to-Person transmission, FB denotes foodborne, WB denotes waterborne; AB denotes airborne; AIG denotes Acute Infectious Gastroenteritis; VTEC denotes infection with Verotoxigenic *E. coli* NK denotes unknown

* Total numbers ill does not include asymptomatic cases

Table 3. Non-IID Outbreaks in Quarter 1, 2012

Month	HSE area	Type of outbreak	Location	No. ill *	No. Hosp.	Date Onset	Suspect mode of transmission	Organism
Jan	E	General	Hospital	4	4	27/12/2011	P-P	Respiratory Syncytial Virus
Jan	M	Family	Private house	3	0	01/01/2010	P-P	Tuberculosis
Jan	E	General	Hospital	14	11	03/01/2012	P-P	Influenza
Jan	S	Family	Private house	2	0	22/11/2011	P-P	Pertussis
Jan	E	General	School	15	1	09/01/2012	Unknown	Non specific respiratory illness
Jan	NW	General	Community outbreak	2	0	-	P-P	Parvovirus B19
Jan	NW	General	Community outbreak	7	0	-	P-P	Pertussis
Jan	E	General	Creche	11	0	15/01/2012	Not Specified	Coxsackievirus
Feb	M	General	School	15	-	-	P-P	Streptococcus (scarlet fever)
Feb	E	General	Comm. Hosp/Long-stay unit	20	-	30/01/2012	P-P	Influenza
Feb	MW	Family	Extended family	2	2	03/10/2011	P-P	Viral meningitis
Feb	E	General	Residential institution	73	9	14/02/2012	P-P & AB	Influenza
Feb	NE	General	Hospital	35	6	-	P-P & AB	Influenza
Feb	E	General	Creche	2		15/02/2012	P-P	Measles
Feb	E	General	School	6	0	03/02/2012	P-P & AB	Parvovirus B19
Feb	MW	General	Extended family	4	4	01/09/2011	P-P & AB	Tuberculosis
Feb	SE	Family	Private house	2	1	07/01/2012	P-P	Pertussis
Mar	NW	General	Comm. Hosp/Long-stay unit	19	1	20/02/2012	P-P	Influenza
Mar	E	General	Hospital	24	23	27/02/2012	P-P	Influenza
Mar	E	General	Comm. Hosp/Long-stay unit	13	-	-	P-P	Influenza
Mar	M	Family	Private house	3	0	29/12/2011	P-P	Pertussis
Mar	W	Family	Private house	3	-	01/12/2011	P-P	Tuberculosis
Mar	SE	General	Creche	5	0	28/02/2012	P-P & AB	Suspected hand foot and mouth
Mar	E	Family	Private house	4	1	23/11/2011	P-P	Pertussis
Mar	E	General	Residential institution	10	1	06/03/2012	P-P	Influenza
Mar	MW	General	Community outbreak	4	0	14/02/2012	P-P	Syphilis
Mar	E	General	Residential institution	10	1	-	P-P	Respiratory Syncytial Virus
Mar	E	General	Residential institution	4	-	06/12/2011	Unknown	Influenza
Mar	S	General	Community outbreak	3	-	01/07/2011	Not Specified	Tuberculosis

P-P denotes Person-to-Person transmission, WB denotes waterborne; AB denotes airborne; IDU denotes Injecting Drug Use; NK denotes unknown

* Total numbers ill does not include asymptomatic cases

Since July 2001, outbreaks have been reported to HPSC. Preliminary information is provided by a public health professional when the outbreak is first notified. Further information is provided 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 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 first quarter of 2012. There were fifty-eight general and fifteen family IID outbreaks reported during this period, resulting in at least 1380 people being ill.

Norovirus (n=33) and Acute infectious gastroenteritis (unspecified) (n = 22) were responsible for the majority of general outbreaks of IID (95% of all general outbreaks).

The most common causes of family outbreaks of IID were VTEC (n=4) [27%] and cryptosporidiosis (n=4) [27%]. The other diseases responsible for family outbreaks were acute infectious gastroenteritis (unspecified), listeriosis, rotavirus, salmonellosis, shigellosis and typhoid (Table 2).

Forty-four general IID outbreaks were transmitted person-to-person (76%). Fifty-two general outbreaks (90%) were reported to have occurred in healthcare settings, i.e. hospitals or residential institutions, during this period.

There were twenty-nine non-IID outbreaks reported during Quarter 1 - see Table 3.

Table 4 outlines the outbreak rate per HSE-area for outbreaks notified during Q1 2012.

Table 4. Number of Infectious Disease Outbreaks by HSE Area, Q1 2012

HSE Area	No. of outbreaks	Rate per 100,000 population
E	36	2.4
M	10	4.0
MW	8	2.2
NE	17	4.3
NW	6	2.5
SE	8	2.0
S	6	1.0
W	11	2.7
Total	102	2.4

NOTIFICATIONS OF INFECTIOUS INTESTINAL, ZONOTIC AND VECTORBORNE DISEASE

The number of notifications of infectious intestinal, zoonotic and vectorborne disease by HSE-Area for the first quarter of 2012 is shown in Table 5.

Table 5. Intestinal Infectious, Zoonotic and Vectorborne Disease Notifications Quarter 1, 2012 by HSE-Area

Infectious Intestinal Disease	E	M	MW	NE	NW	SE	S	W	Total
<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	160	28	48	38	23	52	78	49	476
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	12	7	27	11	9	25	24	21	136
Giardiasis	2	1	1	0	0	1	4	3	12
Listeriosis	0	0	0	0	1	0	1	2	4
Noroviral infection	266	21	76	80	7	6	5	39	500
Paratyphoid	~	~	~	~	~	~	~	~	2
Rotavirus infection ^a	141	59	35	16	38	169	75	61	594
Salmonellosis	23	8	0	5	2	4	6	6	54
Shigellosis	3	0	0	0	0	1	1	1	6
Staphylococcal food poisoning	0	0	0	0	0	0	0	0	0
Typhoid	~	~	~	~	~	~	~	~	2
Verotoxigenic <i>Escherichia coli</i> infection ^b	6	1	16	3	1	1	11	9	48
Yersiniosis	0	0	0	0	0	0	1	0	1
Zoonotic Disease									
Anthrax	0	0	0	0	0	0	0	0	0
Brucellosis	1	0	0	0	0	0	0	0	1
Echinococcosis	0	0	0	0	0	0	0	0	0
Leptospirosis	2	0	0	2	0	0	0	0	4
Plague	0	0	0	0	0	0	0	0	0
Q Fever	0	0	1	0	0	0	0	0	1
Rabies	0	0	0	0	0	0	0	0	0
Toxoplasmosis	7	0	1	0	0	0	0	0	8
Trichinosis	0	0	0	0	0	0	0	0	0
Vectorborne Disease									
Chikungunya disease ^c	0	0	0	0	0	0	0	0	0
Dengue ^c	2	0	0	0	0	0	0	1	3
Lyme disease (neuroborreliosis) ^c	0	0	1	0	0	0	1	1	3
Malaria	2	0	0	0	1	1	0	0	4
Typhus	0	0	0	0	0	0	0	0	0
West Nile fever ^c	0	0	0	0	0	0	0	0	0

^a Notifiable under the category Acute Infectious Gastroenteritis 2004-2011

^b Notifiable under the category Enterohaemorrhagic *E. coli* 2004-2011

^c Newly added to the list of notifiable diseases in 2012 under Infectious Diseases (Amendment) Regulations 2011 (S.I. No. 452 of 2011)

Human salmonellosis (*S. enterica*) is a notifiable disease. The National Salmonella, Shigella and Listeria Reference Laboratory (NSSLRL) 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 first quarter of 2012. Comparison of trends with previous years is shown in Figure 1.

Table 6. Salmonellosis Notifications by HSE-Area and Month, Q1 2012

Month	E	M	MW	NE	NW	SE	S	W	Total
Jan	10	4	0		1	1	2	3	21
Feb	8	3	0	4		2	3	1	21
Mar	5	1	0	1	1	1	1	2	12
Total	23	8	0	5	2	4	6	6	54

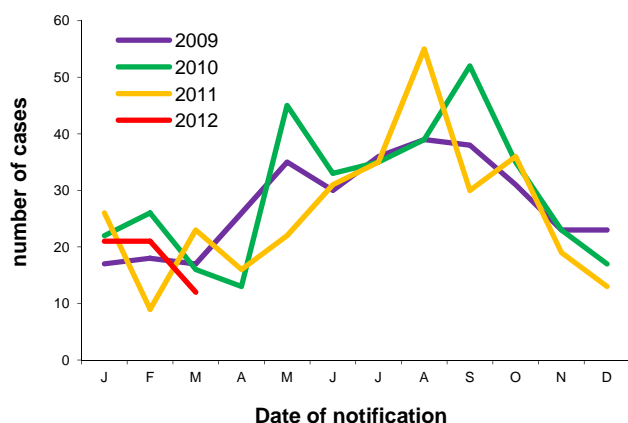


Figure 1. Seasonal Distribution of Human Salmonellosis Notifications, 2009 to end quarter 1 2012

Table 7 shows the serotypes for the *Salmonella* isolates typed by the NSSLRL in the first quarter of 2012 by HSE area (n=57). The commonest human serotypes isolated were *S. Typhimurium** (n= 15, 26%) and *S. Enteritidis* (n= 6, 10%).

Sixteen (28%) *S. enterica* isolates were reported to NSSLRL as being associated with travel outside of Ireland during this quarter.

Table 8 shows the serotype distribution of confirmed *Salmonella* notifications by travel status this quarter among salmonellosis notifications on CIDR.

Table 7. Serotypes of *S. enterica* Referred to NSSLRL in Quarter 1, 2012 (Data are provided courtesy of Prof. Martin Cormican and staff, NSSLRL).

Serotype	E	M	MW	NE	NW	SE	S	W	Total
4,[5],12:i:-	2	1	0	0	0	1	1	0	5
Agona	1	0	0	0	0	0	0	0	1
Braenderup	1	0	0	0	0	0	0	0	1
Bredeney	1	0	0	0	0	0	0	0	1
Corvallis	0	1	0	1	0	0	0	0	2
Cotham	0	1	0	0	0	0	0	0	1
Derby	1	0	0	0	0	0	0	0	1
Dublin	0	0	0	1	0	0	0	0	1
Enteritidis	2	0	0	0	1	0	3	0	6
Fomeco	0	1	0	0	0	0	0	0	1
II 1,13,23:z29:e,n,x	0	0	0	0	0	0	1	0	1
Infantis	1	0	0	0	0	0	0	0	1
Java	0	0	0	0	0	1	0	0	1
Monschau	2	0	0	0	0	0	0	0	2
Newport	1	3	0	0	0	0	0	0	4
Oranienburg	1	0	0	0	0	0	0	0	1
Paratyphi B	~	~	~	~	~	~	~	~	1
Poona	0	0	0	0	0	1	0	0	1
Rissen	1	0	0	0	0	0	0	0	1
Saintpaul	3	0	0	1	0	0	0	0	4
Stanley	1	0	0	0	0	0	0	3	4
Typhi	~	~	~	~	~	~	~	~	2
Typhimurium	1	2	0	1	0	1	2	3	10
Unnamed	1	1	0	1	0	0	0	0	3
Virchow	1	0	0	0	0	0	0	0	1
Total	23	10	0	5	1	4	7	7	57

Table 8. Confirmed Salmonella notifications by Serotype and Travel Status, Q1 2012 [n(%)]

Serotype	Indigenous	Travel-associated	Unk/not specified	Total
S. Enteritidis	2 (8%)	2 (17%)	2 (11%)	6 (11%)
S. Typhimurium	6 (25%)	1 (8%)	5 (28%)	12 (22%)
Other	16 (67%)	8 (67%)	7 (39%)	31 (58%)
Salmonella spp	0 (0%)	1 (8%)	4 (22%)	5 (9%)
Total	24 (100%)	12 (100%)	18 (100%)	54 (100%)

Note: Data source CIDR. Travel status is inferred from *Country of Infection* variable on CIDR. Note excludes probable notifications

S. Typhi* and *S. Paratyphi

There were two cases of typhoid notified this quarter. Country of infection was reported as India for one case and country of infection was unknown for the second case. Of the two paratyphoid cases notified this quarter, one was reported as Paratyphi A and associated with travel to India. The second case was reported as Paratyphi B and country of infection was not specified (Table 5). One family outbreak of typhoid in a private house was reported in quarter 1 2012 (Table 2).

Outbreaks of Salmonellosis

There was one general and one family outbreak of salmonellosis reported in Q1 2012 (Tables 1 & 2).

* –includes 5 cases of monophasic *S. Typhimurium* 4,5,12:i:-

VEROTOXIGENIC *E. COLI* (VTEC)

Verotoxigenic *E. coli* (VTEC) became a notifiable disease on January 1st 2012. Previously, VTEC were notified under the category of Enterohaemorrhagic *E. coli* between 2004 and 2011.

A marked upsurge in VTEC has resulted in 48 cases being notified this quarter, the regional distribution of which is shown in Table 5. This compares with 24 VTEC cases notified in Q1 2011 and 18 in Q1 2010 (Figure 2). Table 9 shows the number of VTEC cases reported by case classification and HSE-area and Table 10 shows the number of VTEC cases by serogroup and month, Q1 2012.

Table 9. Number VTEC notified by case classification and HSE-area, Q1 2012

Case classification	E	M	MW	NE	NW	SE	S	W	Total
Conf	6	1	12	3	0	1	10	6	39
Prob	0	0	4	0	1	0	1	3	9
Poss	0	0	0	0	0	0	0	0	0
Total	6	1	16	3	1	1	11	9	48

Table 10. Confirmed and Probable VTEC notified by Serogroup and Month, Q1 2012

Month	O157	O26	Other	Total
Jan	4	0	1	5
Feb	8	4	0	12
Mar	4	19	8	31
Total	16	23*	9	48

*Includes 3 cases reported on the basis of epidemiological link

Two VTEC cases (one O157 and one O26) notified during this quarter were reported as having developed HUS.

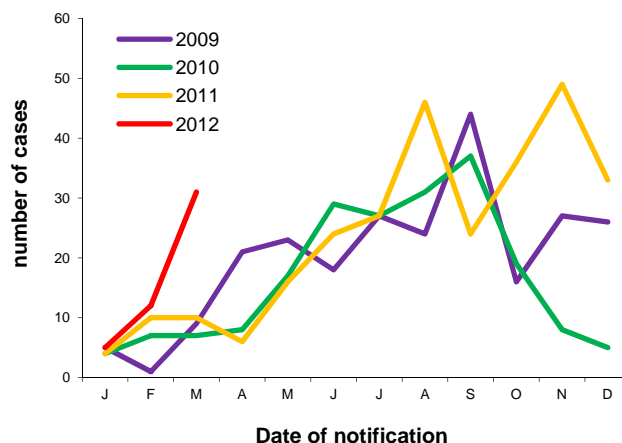


Figure 2. Seasonal distribution of VTEC cases notified 2009 to end quarter 1 2012

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. Table 11 shows the *vt* types of VTEC isolates referred to the laboratory in Q1 2012.

Table 11. Verotoxin typing results of VTEC isolates referred to the HSE DML Public Health Laboratory, Cherry Orchard Hospital in Q1 2012 (Data are provided courtesy of Dr. Eleanor McNamara and Dr. Anne Carroll).

Serogroup	vt1	vt2	vt1+vt2	Total
O157	0	16	0	16
O26	6	13	1	20
Other	5	2	2	9
Total	11	31	3	45

*Excludes 3 notifications reported on the basis of epidemiological link as no isolates available

Outbreaks of VTEC infection

During this quarter, one general and four family outbreaks of VTEC infection were reported (see Tables 1 & 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 first quarter of 2012 are shown in Table 12. Comparison with previous years is shown in Figure 3. An upsurge since 2011 involves an increase in sporadic *Campylobacter* cases. Despite analysis of the distribution of cases by age, sex and HSE-area, it has not been possible, so far, to determine the cause of this increase.

Table 12. Campylobacter Notifications by HSE-Area and Month, Q1 2012

Month	E	M	MW	NE	NW	SE	S	W	Total
Jan	31	8	10	14	6	14	19	12	114
Feb	76	11	20	17	8	22	42	18	214
Mar	53	9	18	7	9	16	17	19	148
Total	160	28	48	38	23	52	78	49	476

Outbreaks of Campylobacter infection

There were no outbreaks of campylobacteriosis reported in Q1 2012 (Tables 1 and 2).

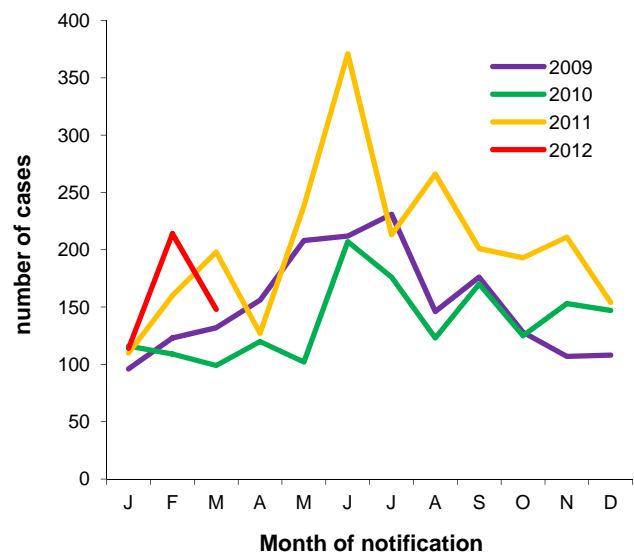


Figure 3. Seasonal distribution of Campylobacter notifications 2009 to end quarter 1 2012

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 Q1 2012, 136 cases of cryptosporidiosis were notified (Table 13), compared to 106 in the same period in 2011 and 72 in Q1 2010 (Figure 4).

Table 13. Cryptosporidiosis Notifications by HSE-Area and Month, Q1 2012

Month	E	M	MW	NE	NW	SE	S	W	Total
Jan	2	1	5	2	2	2	1	4	19
Feb	3	1	7	1	0	5	5	4	26
Mar	7	5	15	8	7	18	18	13	91
Total	12	7	27	11	9	25	24	21	136

Outbreaks of cryptosporidiosis

There was one general and four family outbreaks of cryptosporidiosis reported in quarter 1 2012 (Tables 1 and 2).

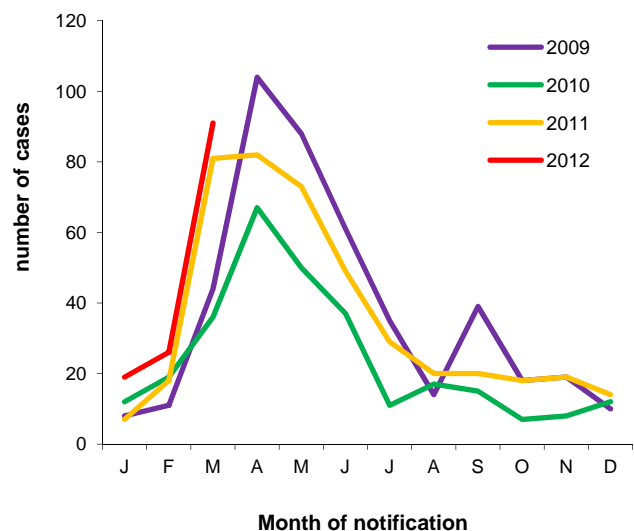


Figure 4. Seasonal distribution of cryptosporidiosis notifications 2009 to end quarter 1 2012

NOROVIRUS

Human noroviral infection became a notifiable disease on January 1st 2004. There were 500 cases notified in the first quarter of 2012 (Table 13). These data are certainly an under-ascertainment of the true burden of disease due to this pathogen.

Table 14. Norovirus Notifications by HSE-Area and Month, Q1 2012

Month	E	M	MW	NE	NW	SE	S	W	Total
Jan	119	4	25	26	6	3	4	12	199
Feb	99	17	24	39	0	2	0	15	196
Mar	48		27	15	1	1	1	12	105
Total	266	21	76	80	7	6	5	39	500

Norovirus outbreaks

Norovirus or suspect viral aetiology is the commonest cause of outbreaks of acute gastroenteritis in Ireland. In the first quarter of 2012 there were thirty-three outbreaks confirmed as being caused by this virus, involving at least 1074 people

becoming ill, as outlined in Tables 1 & 2. The seasonal trend is outlined in Figure 5.

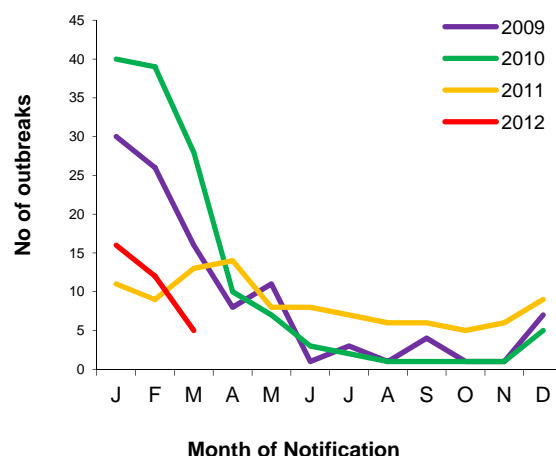


Figure 5. Seasonal Distribution of Confirmed Norovirus Outbreaks, 2009 to end quarter 1 2012

SHIGELLA

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

During Q1 2012, six cases of shigellosis were notified (Table 5). This compares with eleven cases notified as shigellosis in Q1 2011 and nine in Q1 2010. The distribution by serotype is shown in Table 15.

Two cases were reported to have acquired their illness abroad, two cases acquired their illness in Ireland while country of infection was reported as unknown or not specified for the remaining two cases.

Outbreaks of shigellosis

There was one family outbreak of shigellosis reported in Q1 2012 (Table 2).

Table 15: Species and serotype distribution of Q1 2012 human *Shigella* isolates (Data are provided courtesy of Prof. Martin Cormican and staff at the NSSLRL).

Serotype	Number of isolates
<i>Shigella dysenteriae</i>	1
<i>Shigella flexneri</i> 3a	1
<i>Shigella flexneri</i> 6	2
<i>Shigella sonnei</i>	2
Total	6

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 1 2012, twelve cases of giardiasis were notified (Table 5); this compares with 16 cases notified in Q1 2011 and 15 in Q1 2010.

Seven cases (58%) were reported to have acquired their illness abroad. Country of infection was reported as Ireland for two cases and 'not specified' for the remaining three cases.

Outbreaks of giardiasis

There were no outbreaks of giardiasis notified in Q1 2012 (Table 2).

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 four cases of listeriosis (two adult and two neonatal) notified in Q1 2012, compared to one in quarter 1 2011 and one in quarter 1 2010. All four

isolates were referred for typing to NSSLRL (Table 16).

Table 16: Serotypes of Q1 2012 human *Listeria* isolates referred to the NSSLRL
(Data are provided courtesy of Prof. Martin Cormican and staff at the NSRL).

Serotype	Number of isolates
4b	1
1/2	3

ROTAVIRUS INFECTION

Since 2004, rotavirus, although not specifically listed, has been a notifiable disease in Ireland under the Acute Infectious Gastroenteritis (AIG) disease category. Prior to 2004, rotavirus cases were notified in the former notification category of "Gastroenteritis in children under two years". In April 2008 the case definition of AIG was amended specifying definitions rotavirus. Rotavirus became notifiable as a disease in its own right under the Infectious Diseases (Amendment) Regulations 2011 (S.I. No. 452 of 2011).

Table 17. Rotavirus Infection by HSE-Area and Month, Q1 2012

Month	E	M	MW	NE	NW	SE	S	W	Total
Jan	20	20	1	4	1	17	6	4	73
Feb	63	6	13	6	7	79	14	17	205
Mar	58	33	21	6	30	73	55	40	316
Total	141	59	35	16	38	169	75	61	594

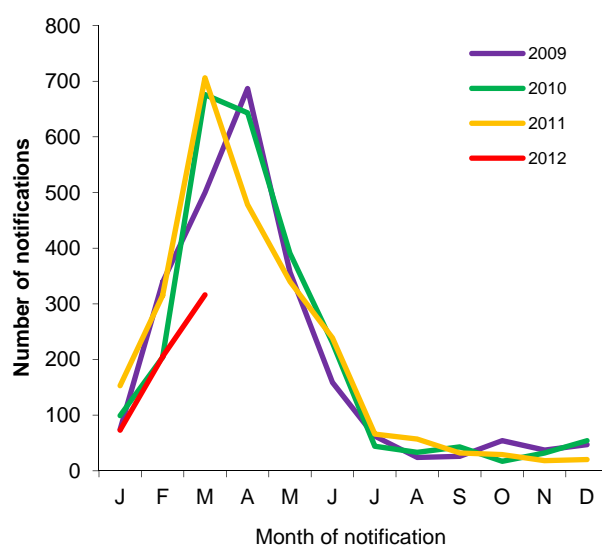


Figure 6. Seasonal Distribution of Rotavirus Notifications, 2009 to end quarter 1 2012

Outbreaks of Rotavirus

There were two family outbreaks of rotavirus notified this quarter (Tables 1 & 2).

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 intoxication notified this quarter.

Outbreaks of foodborne intoxications

There were no outbreaks of foodborne infection/intoxication notified this quarter (Tables 1 & 2).

NON-IID ZONOTIC DISEASES

Non-IID zoonoses now notifiable include: anthrax, brucellosis, echinococcosis, leptospirosis, plague, Q fever, toxoplasmosis, trichinosis and rabies. The Q1 2012 notifications of these zoonotic diseases are reported by HSE-Area in Table 5.

Eight cases of toxoplasmosis were notified in this quarter. This compares with eight cases notified in the same period in 2011 and 12 cases in Q1 2010.

Four cases of leptospirosis were notified in Q1 2012; this compares with three in Q1 2011 and six

in Q1 2010. One case reported possible occupational exposure, one recreational exposure and one was classified as a residential case. The source of infection was unknown for the remaining case.

There was one case of Q fever notified in Q1 2012; this compares with no cases in Q1 2011 and five in Q1 2010.

There were no cases of echinococcosis or trichinosis notified this quarter.

MALARIA

Malaria is a notifiable disease for many years. The Q1 2012 notifications are reported in Table 5 by HSE-Area.

Four cases of malaria were notified in Q1 2012. This compares with nine cases reported in Q1 2011 and 18 in Q1 2010.

All four cases this quarter were reported as *P. falciparum*.

Three cases were exposed in Sub-Saharan Africa and the country of infection is unknown for the remaining case.

The reason for travel for one case was reported as 'visiting family in country of origin', while another case reported business travel. The reason for travel was not specified/unknown for the remaining two cases.

OTHER NOTIFIABLE VECTORBORNE DISEASES

Under Infectious Diseases (Amendment) Regulations 2011 (S.I. No. 452 of 2011) (Sept 2011), Chikungunya disease, Dengue, Lyme disease (neuroborreliosis) and West Nile fever were made notifiable. The Q1 2012 notifications are reported in Table 5 by HSE-Area.

Three cases of Lyme disease (neuroborreliosis) were reported this quarter; one from HSE-MW, one from HSE-S and one from HSE-W.

Of three Dengue cases reported this quarter, two were associated with travel to Thailand. The country of infection was unknown for the remaining case.

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