

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



Feidhmeannacht na Seirbhíse Sláinte
Health Service Executive



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

Quarter 3 –2013

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This is the third quarterly report for 2013 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 3, 2013

Month	HSE area	Location	No. ill *	No. Hosp.	Date Onset	Suspect mode of transmission	Disease
Jul	S	Comm. Hosp/Long-stay unit	10	0	25/01/2013	P-P - Person-to-person	AIG
Jul	S	Comm. Hosp/Long-stay unit	9	0	01/06/2013	P-P and Airborne	AIG
Jul	S	Comm. Hosp/Long-stay unit	3	1	21/06/2013	P-P - Person-to-person	VTEC
Jul	MW	Creche	4	1	18/03/2013	P-P - Person-to-person	Salmonella
Jul	S	School	71	0	04/07/2013	P-P and Airborne	AIG
Jul	W	Hotel	21	0	-	P-P - Person-to-person	Norovirus
Aug	W	Creche	3	0	31/07/2013	P-P - Person-to-person	VTEC
Aug	E	Comm. Hosp/Long-stay unit	10	-	30/07/2013	Unknown	AIG
Aug	E	Other	29	-	-	Unknown	Suspected Norovirus
Aug	W	Community outbreak	2	0	17/06/2013	WB - Waterborne	VTEC
Aug	S	Community outbreak	11	0	04/08/2013	Not Specified	AIG
Aug	MW	Unknown	1	1	25/07/2013	Not Specified	VTEC
Aug	S	Nursing home	21	0	-	Not Specified	Norovirus
Aug	MW	Other	2	1	24/07/2013	Unknown	Salmonella
Aug	W	Nursing home	6	0	-	P-P - Person-to-person	Norovirus
Aug	NW	Unknown	3	-	01/07/2013	FB - Foodborne	Salmonella
Aug	W	Hospital	8	5	-	P-P - Person-to-person	Norovirus
Aug	SE	Hospital	3	-	12/08/2013	P-P - Person-to-person	Norovirus
Aug	SE	Hospital	5	-	14/08/2013	P-P - Person-to-person	Suspected Norovirus
Aug	S	Nursing home	18	0	17/08/2013	P-P and Airborne	AIG
Aug	S	Comm. Hosp/Long-stay unit	3	0	01/08/2013	P-P and Airborne	AIG
Sep	MW	Nursing home	22	0	-	P-P - Person-to-person	Norovirus
Sep	W	Creche	3	1	20/08/2013	P-P - Person-to-person	VTEC
Sep	MW	Other	6	0	-	P-P - Person-to-person	Norovirus
Sep	HPSC	Community outbreak	31	15	27/07/2013	Unknown	VTEC
Sep	E	Nursing home	15	-	01/09/2013	Unknown	Suspected Norovirus
Sep	MW	Hotel	16	0	29/08/2013	P-P - Person-to-person	Norovirus
Sep	MW	Hospital	-	-	-	P-P - Person-to-person	Norovirus
Sep	MW	Other	8	0	24/09/2013	P-P - Person-to-person	AIG
Sep	MW	Community outbreak	2	1	06/02/2013	Not Specified	VTEC
Sep	NW	Nursing home	2	0	25/09/2013	P-P - Person-to-person	AIG
Sep	NW	Residential institution	7	-	-	P-P - Person-to-person	AIG
Sep	S	Comm. Hosp/Long-stay unit	8	0	15/09/2013	P-P and Airborne	AIG
Sep	W	Nursing home	16	0	25/09/2013	P-P - Person-to-person	Suspected Norovirus

Month	HSE area	Location	No. ill *	No. Hosp.	Date Onset	Suspect mode of transmission	Disease
Sep	NE	Residential institution	4	0	25/09/2013	Airborne	AIG

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 3, 2013

Month	HSE area	Location	No. ill *	No. Hosp.	Date Onset	Suspect mode of transmission	Disease
Jul	S	Private house	2	1	21/06/2013	P-P and Animal	VTEC
Jul	SE	Extended family	2	0	11/06/2013	P-P - Person-to-person	Salmonella
Jul	M	Private house	3	1	09/06/2013	Unknown	Salmonella
Jul	M	Private house	1	1	23/06/2013	WB - Waterborne	VTEC
Jul	M	Private house	2	0	25/06/2013	Unknown	VTEC
Jul	MW	Private house	2	0	30/12/2012	P-P - Person-to-person	Salmonella
Jul	W	Private house	1	0	-	P-P - Person-to-person	VTEC
Jul	SE	Private house	1	1	12/07/2013	Unknown	VTEC
Jul	M	Private house	3	-	12/07/2013	P-P - Person-to-person	Campylobacter
Jul	M	Private house	1	0	27/06/2013	WB - Waterborne	VTEC
Jul	SE	Private house	1	0	02/07/2013	Unknown	VTEC
Jul	M	Private house	-	-	21/07/2013	Unknown	VTEC
Aug	E	Not Specified	-	-	19/07/2013	Not Specified	VTEC
Aug	SE	Private house	1	1	23/07/2013	Unknown	VTEC
Aug	NW	Private house	2	2	26/07/2013	Unknown	Cryptosporidium
Aug	MW	Private house	1	1	24/07/2013	Not Specified	VTEC
Aug	E	Private house	2	0	02/07/2013	P-P - Person-to-person	VTEC
Aug	SE	Private house	1	1	31/07/2013	Unknown	VTEC
Aug	SE	Private house	1	0	19/07/2013	Animal contact	VTEC
Aug	M	Private house	-	-	17/06/2013	WB - Waterborne	VTEC
Aug	SE	Private house	2	0	23/07/2013	P-P - Person-to-person	Cryptosporidium
Aug	E	Private house	-	-	15/08/2013	Unknown	VTEC
Aug	E	Travel related	3	0	24/07/2013	FB and Animal	VTEC
Aug	SE	Extended family	4	4	19/08/2013	P-P - Person-to-person	Salmonella
Sep	MW	Extended family	1	1	21/08/2013	P-P - Person-to-person	VTEC
Sep	E	Private house	1	1	27/08/2013	Unknown	VTEC
Sep	M	Private house	1	0	29/08/2013	Unknown	VTEC
Sep	NE	Private house	3	0	20/08/2013	Unknown	VTEC
Sep	MW	Private house	3	1	02/09/2013	P-P - Person-to-person	VTEC
Sep	MW	Private house	2	1	23/08/2013	P-P - Person-to-person	VTEC
Sep	E	Private house			29/08/2013	Unknown	VTEC
Sep	M	Private house	1	0	08/09/2013	Unknown	VTEC

Sep	MW	Extended family	5	2	25/08/2013	Unknown	Shigella
Sep	W	Private house	2	0	24/08/2013	P-P - Person-to-person	VTEC

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 3, 2013

Month	HSE area	Type of outbreak	Location	No. ill *	No. Hosp.	Date Onset	Suspect mode of transmission	Organism
Jul	W	General	Hospital	**	-	-	Other	<i>Pseudomonas aeruginosa</i>
Jul	HPSC	General	Travel related	2	-	30/01/2013	Unknown	Hepatitis A
Jul	S	General	Workplace	3	3	15/11/2012	P-P and Airborne	Tuberculosis
Aug	NW	General	Residential institution	11	-	06/08/2013	P-P - Person-to-person	Influenza like Illness
Aug	SE	Family	Private house	2	-	03/06/2013	P-P and Airborne	Pertussis
Aug	E	General	Residential institution	9	0	-	Unknown	Possible Scabies
Aug	E	General	Hospital	2	-	-	P-P - Person-to-person	CRE
Sep	E	Family	Private house	2	-	09/08/2013	Unknown	Mumps
Sep	S	General	School	2	0	26/08/2013	P-P and Airborne	Pertussis
Sep	NW	General	Community outbreak	4	3	-	P-P - Person-to-person	Enterovirus
Sep	E	Family	Travel related	5	5	12/09/2013	Vectorborne	Malaria
Sep	S	General	Comm. Hosp/Long-stay unit	6	0	13/09/2013	Airborne	Influenza-like illness

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

CRE denotes Carbapenem resistant *Enterobacteriaceae*

* Total numbers ill does not include asymptomatic cases

** Two patients colonised with *pseudomonas aeruginosa*

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 third quarter of 2013. There were 35 general and 34 family IID outbreaks reported during this period, resulting in at least 457 people being ill.

Acute infectious gastroenteritis (n=16) was responsible for the most general outbreaks of IID (47% of all general outbreaks), followed by confirmed Norovirus (n=9).

The most common causes of family outbreaks of IID were VTEC (n=26) [74%]. The other diseases responsible for family outbreaks were campylobacteriosis, cryptosporidiosis, Norovirus, salmonellosis and shigellosis. (Table 2).

Twenty-three general IID outbreaks were transmitted person-to-person/person-to-person and airborne (65%). Nineteen general outbreaks (56%) were reported to have occurred in healthcare

settings, i.e. hospitals or residential institutions, during this period.

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

Table 4 outlines the outbreak rate per HSE-area for outbreaks notified during Q3 2013.

Table 4. Number of Infectious Disease Outbreaks by HSE Area, Q3 2013

HSE Area	No. of outbreaks	Rate per 100,000 population
E	13	0.8
M	9	3.2
MW	15	4.0
NE	2	0.5
NW	6	2.3
SE	11	2.2
S	13	2.0
W	10	2.3
Total	79	2.0

NOTIFICATIONS OF INFECTIOUS INTESTINAL, ZONOTIC AND VECTORBORNE DISEASE

The number of notifications of infectious intestinal, zoonotic and vectorborne disease by HSE-Area for the third quarter of 2013 is shown in Table 5.

Table 5. Intestinal Infectious, Zoonotic and Vectorborne Disease Notifications Quarter 3, 2013 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
<i>Campylobacter</i> infection	211	37	63	55	32	102	103	78	681
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	5	5	12	2	4	9	9	10	56
Giardiasis	5	3	1	1	0	1	3	1	15
Listeriosis	0	0	0	0	0	0	0	1	1
Noroviral infection	30	4	37	12	2	1	7	13	106
Paratyphoid	0	0	0	0	0	0	0	0	0
Rotavirus infection ^a	15	14	11	13	12	29	43	17	154
Salmonellosis	43	7	13	8	7	17	19	15	129
Shigellosis	6	0	10	0	0	0	5	1	22
Staphylococcal food poisoning	0	0	0	0	0	0	0	0	0
Typhoid	~	~	~	~	~	~	~	~	3
Verotoxigenic <i>Escherichia coli</i> infection ^b	37	28	48	5	4	48	53	45	268
Yersiniosis	0	0	0	1	0	0	0	0	1
Zoonotic Disease									
Anthrax	0	0	0	0	0	0	0	0	0
Brucellosis	0	0	0	0	0	1	0	0	1
Echinococcosis	0	0	0	0	0	0	0	0	0
Leptospirosis	0	0	0	2	0	0	0	1	3
Plague	0	0	0	0	0	0	0	0	0
Q Fever	0	0	0	0	0	0	0	0	0
Rabies	0	0	0	0	0	0	0	0	0
Toxoplasmosis	4	1	1	0	0	0	0	0	6
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	1	0	0	0	0	1	4
Lyme disease (neuroborreliosis) ^c	0	1	0	0	2	1	3	2	9
Malaria	18	1	1	6	1	2	0	4	33
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 third quarter of 2013. Comparison of trends with previous years is shown in Figure 1.

Table 6. Salmonellosis Notifications by HSE-Area and Month, Q3 2013

Month	E	M	MW	NE	NW	SE	S	W	Total
Jul	13	3	7	2	3	8	3	5	44
Aug	12	3	4	3	2	3	8	6	41
Sep	18	1	2	3	2	6	8	4	44
Total	43	7	13	8	7	17	19	15	129

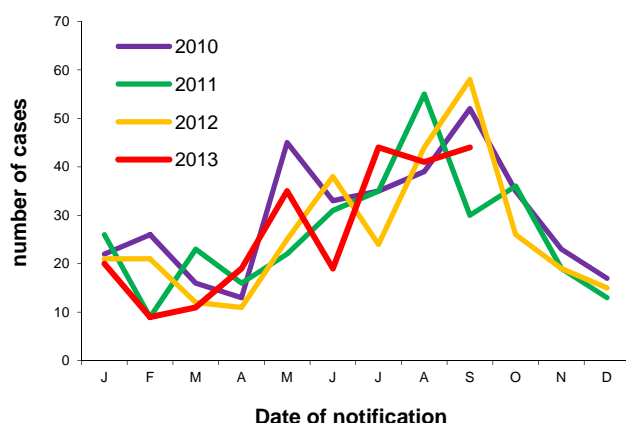


Figure 1. Seasonal Distribution of Human Salmonellosis Notifications, 2010 to end quarter 3 2013

Table 7 shows the serotypes for the *Salmonella* isolates typed by the NSSLRL in the third quarter of 2013 by HSE area (n=137). The commonest human serotypes isolated were *S. Typhimurium** (n= 55, 40%) and *S. Enteritidis* (n= 24, 18%).

Thirty (22%) *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 3, 2013 (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:-	3	1	1	0	1	5	8	0	19
Agona	1	0	0	0	0	0	0	0	1
Alachua	1	0	0	0	0	0	0	0	1
Anatum	1	1	0	0	0	0	0	0	2
Ball	0	0	0	1	0	0	0	1	2
Bovismorbificans	0	0	0	1	0	1	0	0	2
Braenderup	0	1	0	0	0	0	0	0	1
Charity	1	0	0	0	0	0	0	0	1
Colindale	1	0	0	0	0	0	0	0	1
Corvallis	0	0	0	0	0	0	0	1	1
Emek	0	0	0	0	0	0	0	1	1
Enteritidis	12	0	2	2	1	1	3	3	24
Hull	1	0	0	0	0	0	0	0	1
Infantis	3	0	0	2	0	0	1	0	6
Java	0	1	0	0	0	0	0	0	1
Javiana	0	0	0	0	0	0	0	1	1
Kentucky	0	0	0	0	0	0	1	0	1
Mbandaka	1	0	0	0	0	0	0	0	1
Mikawasima	0	0	0	0	0	1	0	0	1
Montevideo	1	0	0	0	3	0	1	0	5
Muenchen	0	0	0	0	0	0	0	1	1
Newport	1	2	0	0	1	0	0	0	4
Oranienburg	1	0	0	0	0	0	0	0	1
Oslo	1	0	0	0	0	0	0	0	1
Paratyphi A	1	0	0	0	0	0	0	0	1
Poona	0	1	0	0	0	0	0	0	1
Reading	1	0	0	0	0	0	0	0	1
Rissen	1	1	0	0	0	0	0	0	2
Saintpaul	0	0	0	0	0	0	0	1	1
Senftenberg	0	0	0	0	0	0	0	1	1
Stanley	0	0	0	1	0	1	0	0	2
Stourbridge	1	0	0	0	0	0	0	0	1
Teitelkebir	0	0	1	1	0	0	0	0	2
Thompson	1	0	0	0	0	0	0	0	1
Typhi	0	0	0	1	0	1	1	0	3
Typhimurium	9	1	9	2	1	5	4	5	36
Unnamed	2	0	0	1	0	0	0	0	3
Virchow	0	1	0	0	0	1	0	0	2
Total	45	10	13	12	7	16	19	15	137

Table 8. Confirmed Salmonella notifications by Serotype and Travel Status, Q3 2013 [n(%)]

Serotype	Indigenous	Travel-associated	Unk/not specified	Total
S. Enteritidis	3 (6%)	15 (32%)	6 (21%)	24 (19%)
S. Typhimurium	31 (57%)	10 (21%)	11 (39%)	52 (40%)
Other	18 (33%)	22 (47%)	10 (36%)	50 (39%)
Salmonella spp	2 (4%)	0 (0%)	1 (4%)	3 (2%)
Total	54 (100%)	47 (100%)	28 (100%)	129 (100%)

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

* –includes 19 cases of monophasic *S. Typhimurium* 4,5,12:i:-

S. Typhi and S. Paratyphi

There were no cases of paratyphoid reported on CIDR in Q3 2013. There were three cases of typhoid notified this quarter, associated with travel to Pakistan, Nigeria and Indonesia (Table 5).

Outbreaks of Salmonellosis

There were three general and four family outbreaks of salmonellosis notified in Q3 2013 (Tables 1 & 2).

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.

Two-hundred and sixty eight cases of VTEC were notified this quarter, the regional distribution of which is shown in Table 9. This compares with 257 VTEC cases notified in Q3 2012 and 97 in Q3 2011 (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, Q3 2013.

Table 9. Number VTEC notified by case classification and HSE-area, Q3 2013

Case classification	E	M	MW	NE	NW	SE	S	W	Total
Conf	35	27	35	5	4	45	52	36	239
Prob	2	1	13	0	0	2	1	9	28
Poss	0	0	0	0	0	1	0	0	1
Total	37	28	48	5	4	48	53	45	268

Table 10. VTEC notified by Serogroup and Month, Q3 2013

Month	O157	O26	Other	None*	Total
Jul	15	36	34	1	86
Aug	45	20	30	2	97
Sep	40	23	21	1	85
Total	100	79	85	4	268

*Includes two events epi-linked to *E. coli* O157 events, one epi-linked to an *E. coli* O26 case, and one case reported as a suspected VTEC case.

Fourteen VTEC cases notified during this quarter were reported as having developed HUS. Four were infected with *E. coli* O157, three with *E. coli* O26, two with *E. coli* O55, four with other VTEC strains, and one was reported as a suspected VTEC case.

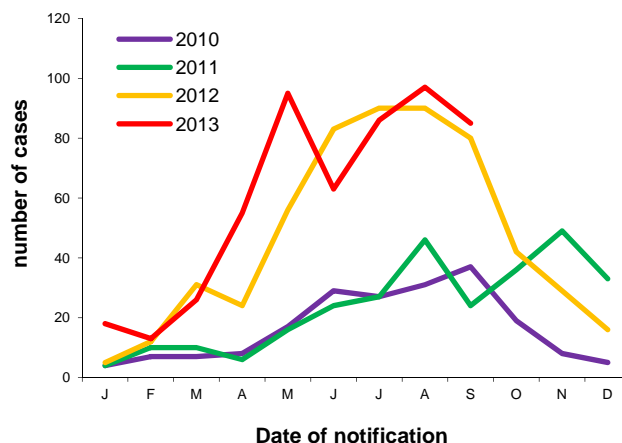


Figure 2. Seasonal distribution of VTEC cases notified 2010 to end quarter 3 2013

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 cases notified in Q3 2013.

Table 11. Verotoxin typing profiles of *E. coli* referred to the HSE DML Public Health Laboratory, Cherry Orchard Hospital in Q3 2013 (Data are provided courtesy of Dr. Eleanor McNamara and Dr. Anne Carroll).

Serogroup	vt1	vt2	vt1+vt2	Total
O157	0	87	13	100
O26	33	8	37	79*
Other	35	33	17	85
Total	68	128	67	264

Note: Four events reported as epi-linked or suspected VTEC cases are not included as no isolates are available.

*includes one case diagnosed by serodiagnosis only –no vt result

Outbreaks of VTEC infection

During this quarter, there were seven general outbreaks and twenty-six family outbreaks of VTEC infection 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 third quarter of 2013 are shown in Table 12. There were 681 notifications this quarter, compared to 736 in the same period last year and 674 in Q3 2011 (figure 3).

Table 12. *Campylobacter* notifications by HSE-Area and month, Q3 2013

Month	E	M	MW	NE	NW	SE	S	W	Total
Jul	101	13	29	26	18	52	33	32	304
Aug	62	12	25	13	7	22	36	24	201
Sep	48	12	9	16	7	28	34	22	176
Total	211	37	63	55	32	102	103	78	681

Outbreaks of *Campylobacter* infection

There was one family outbreak of campylobacteriosis reported in Q3 2013 (Tables 1 and 2).

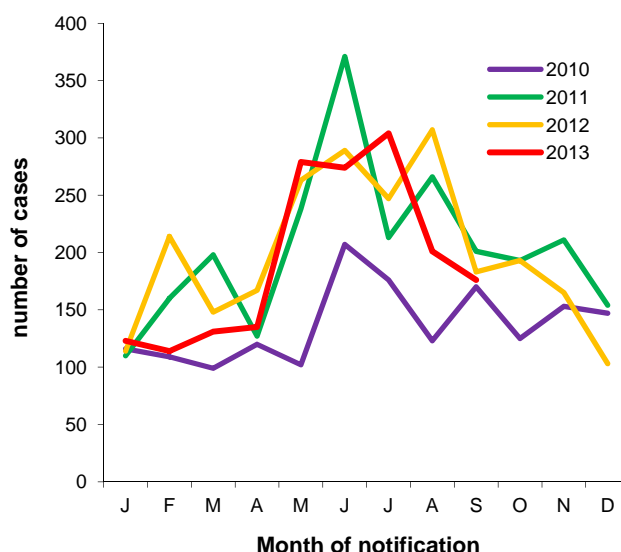


Figure 3. Seasonal distribution of *Campylobacter* notifications 2010 to end quarter 3 2013

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 Q3 2013, 56 cases of cryptosporidiosis were notified (Table 13), compared to 103 in the same period in 2012 and 69 in Q3 2011 (Figure 4).

Table 13. Cryptosporidiosis Notifications by HSE-Area and Month, Q3 2013

Month	E	M	MW	NE	NW	SE	S	W	Total
Jul	1	4	9	1	2	1	3	8	29
Aug	3	0	3	0	1	7	4	2	20
Sep	1	1	0	1	1	1	2	0	7
Total	5	5	12	2	4	9	9	10	56

Outbreaks of cryptosporidiosis

There were two family outbreaks of cryptosporidiosis reported in quarter 3 2013 (Tables 1 and 2).

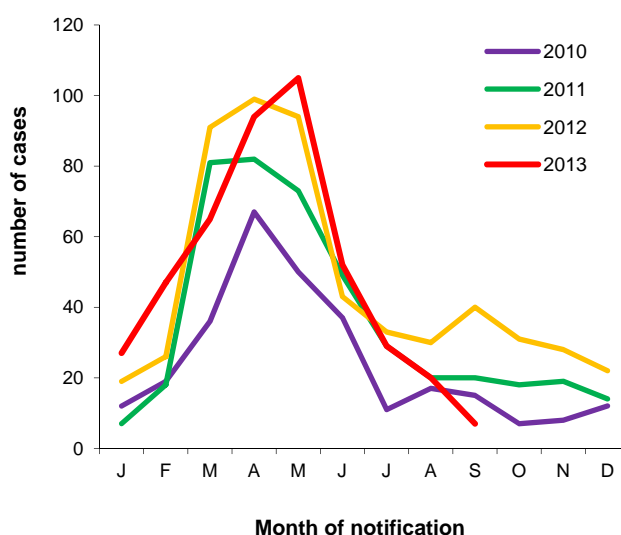


Figure 4. Seasonal distribution of cryptosporidiosis notifications 2010 to end quarter 3 2013

NOROVIRUS

Human noroviral infection became a notifiable disease on January 1st 2004. There were 106 cases notified in the third quarter of 2013 (Table 14). 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, Q3 2013

Month	E	M	MW	NE	NW	SE	S	W	Total
Jul	10	2	9	7	0	0	2	5	35
Aug	19	2	3	3	0	1	4	7	39
Sep	1	0	25	2	2	0	1	1	32
Total	30	4	37	12	2	1	7	13	106

Norovirus outbreaks

Norovirus or suspect viral aetiology is the commonest cause of outbreaks of acute gastroenteritis in Ireland. In the third quarter of 2013, there were nine outbreaks confirmed as being caused by this virus, involving at least 103 people

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

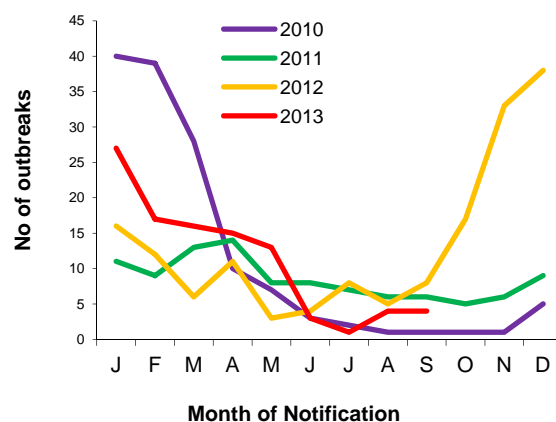


Figure 5. Seasonal distribution of confirmed norovirus outbreaks, 2010 to end quarter 3 2013

SHIGELLA

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

During Q3 2013, twenty-two cases of shigellosis were notified (Table 5). This compares with nine cases notified in Q3 2012 and eleven in Q3 2011. Five were reported as probable cases on the basis of being epidemiologically linked to confirmed cases. The distribution by serotype of the 17 confirmed cases is shown in Table 15.

Nine cases were travel related (six associated with travel to India, two to Ethiopia and one to Turkey), Ireland was reported as country of infection for ten cases and country of infection was reported as not specified for the remaining three cases.

Outbreaks of shigellosis

There was one family outbreak of shigellosis notified in Q3 2013 (Table 2).

Table 15: Species and serotype distribution of Q3 2013 human *Shigella* isolates (Shigella typing services are provided courtesy of Prof. Martin Cormican and staff at the National Salmonella Shigella and Listeria Reference Laboratory).

Serotype	Number of isolates
<i>Shigella sonnei</i>	11
<i>Shigella flexneri</i> 1b	1
<i>Shigella flexneri</i> 2a	3
<i>Shigella flexneri</i> 3a	1
<i>Shigella flexneri</i> 6	1
Total	17

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 3 2013, fifteen cases of giardiasis were notified (Table 5); this compares with 11 cases notified in Q3 2012 and 19 in Q3 2011.

Eleven cases (73%) were reported to have acquired their illness abroad. Country of infection was reported as Ireland for two cases and 'not specified' or 'unknown' for the remaining two cases.

Outbreaks of giardiasis

There were no outbreaks of giardiasis notified in Q3 2013 (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 was one adult case of listeriosis notified in Q3 2013, compared to three cases in quarter 3 2012 and three in quarter 3 2011. There were no isolates

referred for typing to NSSLRL this quarter (Table 16).

Table 16: Serotypes of Q3 2013 human *Listeria* isolates referred to the NSSLRL (Typing services are provided by Prof. Martin Cormican and staff at the National Salmonella Shigella and Listeria Reference Laboratory).

Serotype	Number of isolates
-	-

ROTAVIRUS INFECTION

Since 2004, rotavirus, although not specifically listed, was 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 rotavirus. Rotavirus became notifiable as a disease in its own right under the Infectious Diseases (Amendment) Regulations 2011 (S.I. No. 452 of 2011). Rotavirus notifications for the third quarter of 2013 are shown in Table 17.

Table 17. Rotavirus infection by HSE-Area and month, Q3 2013

Month	E	M	MW	NE	NW	SE	S	W	Total
Jul	7	13	9	11	11	24	39	12	126
Aug	6	1	2	2	0	3	3	3	20
Sep	2	0	0	0	1	2	1	2	8
Total	15	14	11	13	12	29	43	17	154

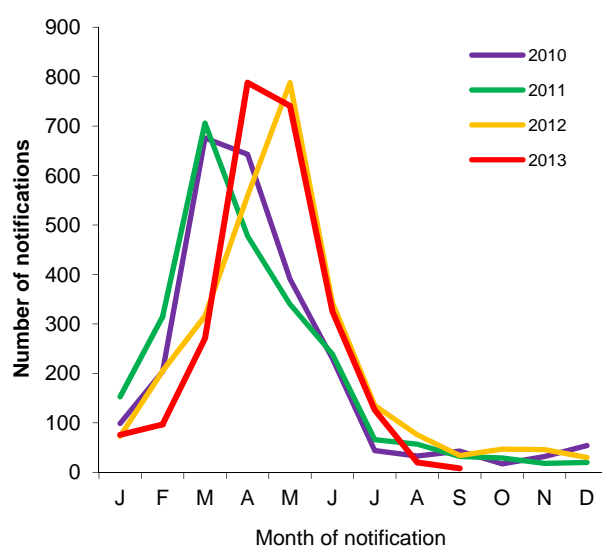


Figure 6. Seasonal distribution of rotavirus notifications, 2010 to end quarter 3 2013

Outbreaks of rotavirus

There were no 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.

NON-IID ZONOTIC DISEASES

Non-IID zoonoses now notifiable include: anthrax, brucellosis, echinococcosis, leptospirosis, plague, Q fever, toxoplasmosis, trichinosis and rabies. The Q3 2013 notifications of these zoonotic diseases are reported by HSE-Area in Table 5.

Six cases of toxoplasmosis were notified in this quarter. This compares with six cases notified in the same period in 2012 and eight cases in Q3 2011.

There were three cases of leptospirosis notified in Q3 2013; this compares with five in Q3 2012 and

seven in Q3 2011. Two cases acquired their illness abroad and one is thought to have had animal exposure occupationally.

There were no cases of Q fever notified in Q3 2013; this compares with none in Q3 2012 and two in Q3 2011.

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

MALARIA

Malaria is a notifiable disease for many years. The Q3 2013 notifications are reported in Table 5 by HSE-Area.

Thirty-three cases of malaria were notified in Q3 2013. This compares with thirty-six cases reported in Q3 2012 and thirty in Q3 2011.

Twenty-seven cases were reported as *P. falciparum*, one as *P. ovale* and one *P. vivax*. The organism was not specified for the remaining four cases.

Twenty-three cases were exposed in Africa and the country of infection is unknown/not specified for the remaining ten cases.

The reason for travel for seventeen cases was reported as 'visiting family in country of origin'. Two cases were in foreign visitors ill while in Ireland and one case was reported in an Irish citizen living abroad. The reason for travel was not specified/unknown for the remaining thirteen 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 Q3 2013 notifications are reported in Table 5 by HSE-Area.

There were nine cases of Lyme disease (neuroborreliosis) and four cases of Dengue fever reported in Q3 2013.

There were no notifications of Chikungunya disease or West Nile fever this quarter.

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