

# **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 –2013**

**June 2013**

This is the first 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 1, 2013**

Month	HSE area	Location	No. ill *	No. Hosp.	Date Onset	Suspect mode of transmission	Disease
Jan	MW	Residential institution	18	1	27/12/2012	P-P & AB	Norovirus
Jan	NW	Hotel	24	0	-	P-P	Norovirus
Jan	W	Residential institution	35	0	30/12/2012	P-P	AIG (unspecified)
Jan	E	Residential institution	22	-	08/12/2012	P-P	Norovirus
Jan	M	Residential institution	36	-	11/12/2012	P-P & AB	Norovirus
Jan	SE	Residential institution	11	-	01/01/2013	P-P	AIG (unspecified)
Jan	NW	Hospital	19	13	01/01/2013	P-P	Norovirus
Jan	E	Comm. Hosp/Long-stay unit	6	-	28/12/2012	P-P	Norovirus
Jan	SE	Hospital	6	-	28/12/2012	P-P	Norovirus
Jan	S	Comm. Hosp/Long-stay unit	22	0	17/12/2012	P-P & AB	AIG (unspecified)
Jan	MW	Residential institution	6	0	-	P-P	Norovirus
Jan	NW	Residential institution	7	-	04/01/2013	P-P	Norovirus
Jan	NW	Comm. Hosp/Long-stay unit	9	9	02/01/2013	P-P	AIG (unspecified)
Jan	W	Hospital	10	10	14/01/2013	P-P	Norovirus
Jan	W	Hospital	6	6	-	P-P	Clostridium difficile
Jan	MW	Hotel	-	-	-	P-P	Norovirus
Jan	E	Comm. Hosp/Long-stay unit	9	-	07/01/2013	P-P	Norovirus
Jan	S	Comm. Hosp/Long-stay unit	3	0	09/01/2013	P-P & AB	AIG (unspecified)
Jan	W	Residential institution	2	0	-	P-P	AIG (unspecified)
Jan	SE	Hospital	17	-	07/01/2013	P-P	Norovirus
Jan	SE	Residential institution	34	-	09/01/2013	P-P	Norovirus
Jan	E	Comm. Hosp/Long-stay unit	11	-	10/01/2013	P-P	AIG (unspecified)
Jan	NW	Comm. Hosp/Long-stay unit	15	0	13/01/2013	P-P	Norovirus
Jan	E	Residential institution	8	-	12/01/2013	P-P	AIG (unspecified)
Jan	W	Residential institution	10	0	-	P-P	Norovirus
Jan	E	Comm. Hosp/Long-stay unit	12	-	14/01/2013	P-P	Norovirus
Jan	SE	Hospital	2	-	16/01/2013	P-P	AIG (unspecified)
Jan	W	Hospital	2	2	-	P-P & AB	Norovirus
Jan	E	Comm. Hosp/Long-stay unit	13	-	14/01/2013	P-P	Norovirus
Jan	NE	Residential institution	8	0	-	P-P & AB	Norovirus
Jan	NE	Residential institution	26	0	-	P-P & AB	AIG (unspecified)
Jan	NW	Residential institution	4	0	21/01/2013	P-P	Norovirus
Jan	M	Restaurant / Cafe	16	-	18/01/2013	Unknown	Norovirus
Jan	SE	Hospital	3	-	17/01/2013	P-P	AIG (unspecified)
Jan	M	Hospital	3	0	-	P-P & AB	Norovirus
Jan	W	Comm. Hosp/Long-stay unit	9	0	18/01/2013	P-P	AIG (unspecified)
Jan	SE	Hospital	17	-	14/01/2013	P-P	Norovirus
Jan	NW	Residential institution	10	0	19/01/2013	P-P	AIG (unspecified)
Jan	W	Comm. Hosp/Long-stay unit	16	0	20/01/2013	P-P	AIG (unspecified)
Jan	NE	Residential institution	17	0	17/01/2013	P-P	Norovirus
Jan	SE	Residential institution	12	-	20/01/2013	P-P	Norovirus
Jan	SE	Hospital	2	-	22/01/2013	P-P	AIG (unspecified)
Jan	W	Comm. Hosp/Long-stay unit	5	5	-	P-P	Norovirus
Jan	SE	Residential institution	10	-	26/01/2013	P-P	AIG (unspecified)

Month	HSE area	Location	No. ill *	No. Hosp.	Date Onset	Suspect mode of transmission	Disease
Feb	S	Comm. Hosp/Long-stay unit	39	0	08/01/2013	P-P & AB	AIG (unspecified)
Feb	E	Hospital	116		20/02/2013	P-P	Norovirus
Feb	E	Comm. Hosp/Long-stay unit	20	-	02/02/2013	P-P	Norovirus
Feb	W	Comm. Hosp/Long-stay unit	14	0	01/02/2013	P-P	AIG (unspecified)
Feb	S	Comm. Hosp/Long-stay unit	2	0	31/01/2013	P-P & AB	AIG (unspecified)
Feb	S	Comm. Hosp/Long-stay unit	3	0	04/02/2013	P-P & AB	AIG (unspecified)
Feb	E	Residential institution	30	-	02/02/2013	Unknown	AIG (unspecified)
Feb	S	Comm. Hosp/Long-stay unit	6	-	08/02/2013	Not Specified	AIG (unspecified)
Feb	NW	Comm. Hosp/Long-stay unit	15	0	25/01/2013	P-P & AB	AIG (unspecified)
Feb	NE	Hospital	10	8	-	P-P & AB	Norovirus
Feb	E	Hospital	20	16	30/01/2013	P-P	Norovirus
Feb	E	Not Specified	8	-	03/02/2013	P-P	Norovirus
Feb	E	Residential institution	10	-	11/02/2013	P-P	Norovirus
Feb	E	Public house	17	0	12/02/2013	Unknown	AIG (unspecified)
Feb	E	Hospital	10	-	06/02/2013	P-P	Norovirus
Feb	E	Residential institution	10	-	07/02/2013	Not Specified	AIG (unspecified)
Feb	NW	Comm. Hosp/Long-stay unit	22	0	13/02/2013	P-P	Norovirus
Feb	MW	Hospital	5	5	-	Unknown	Norovirus
Feb	MW	Hospital	4	4	12/02/2013	P-P	Norovirus
Feb	E	Comm. Hosp/Long-stay unit	28	-	19/02/2013	P-P	Norovirus
Feb	E	Comm. Hosp/Long-stay unit	60	-	-	P-P	Norovirus
Feb	NW	Comm. Hosp/Long-stay unit	22	0	22/02/2013	Not Specified	Norovirus
Feb	NE	Hospital	5	5	21/02/2013	P-P & AB	AIG (unspecified)
Feb	E	Residential institution	14	-	21/02/2013	Not Specified	Norovirus
Feb	NW	Comm. Hosp/Long-stay unit	4	0	23/02/2013	P-P	AIG (unspecified)
Feb	SE	Residential institution	24	-	24/02/2013	P-P	Norovirus
Feb	E	Comm. Hosp/Long-stay unit	80	-	22/02/2013	P-P	Norovirus
Feb	M	Residential institution	6	-	-	P-P & AB	Norovirus
Feb	S	Comm. Hosp/Long-stay unit	2	0	19/02/2012	Unknown	Campylobacter
Mar	S	Comm. Hosp/Long-stay unit	20	0	-	P-P & AB	Norovirus
Mar	SE	Residential institution	11	-	27/02/2013	P-P & AB	Norovirus
Mar	W	Hospital	4	4	-	P-P	AIG (unspecified)
Mar	E	Residential institution	6	-	25/02/2013	Not Specified	AIG (unspecified)
Mar	E	Residential institution	32	-	01/03/2013	P-P	Norovirus
Mar	E	Residential institution	10	-	03/03/2013	Unknown	AIG (unspecified)
Mar	M	Hospital	16	-	-	P-P & AB	Norovirus
Mar	SE	Residential institution	42	-	03/03/2013	P-P	Norovirus
Mar	W	Residential institution	14	0	-	P-P	Norovirus
Mar	W	Hospital	3	3	-	P-P	Norovirus
Mar	E	Residential institution	30	-	05/03/2013	Unknown	AIG (unspecified)
Mar	NW	Hospital	24	-	-	P-P	Norovirus
Mar	NW	Residential institution	5	0	08/03/2013	P-P	AIG (unspecified)
Mar	W	Private house	2	0	09/02/2013	P-P	Salmonella
Mar	NW	Comm. Hosp/Long-stay unit	33	-	12/03/2013	P-P	Norovirus
Mar	E	Residential institution	36	-	16/03/2013	Not Specified	AIG (unspecified)
Mar	E	Residential institution	25	-	18/03/2013	Not Specified	Norovirus
Mar	NE	Hospital	9	9	-	P-P & AB	Norovirus

Month	HSE area	Location	No. ill *	No. Hosp.	Date Onset	Suspect mode of transmission	Disease
Mar	NW	Comm. Hosp/Long-stay unit	8	-	-	P-P & AB	Norovirus
Mar	S	Comm. Hosp/Long-stay unit	12	1	17/03/2013	P-P & AB	AIG (unspecified)
Mar	M	Hospital	3	-	25/03/2013	P-P	Norovirus
Mar	W	Residential institution	29	0	-	Not Specified	Norovirus
Mar	SE	Residential institution	9	-	23/03/2013	P-P	Norovirus
Mar	E	Residential institution	10	-	23/03/2013	Unknown	AIG (unspecified)
Mar	NW	Comm. Hosp/Long-stay unit	2	-	-	P-P	AIG (unspecified)
Mar	W	Comm. Hosp/Long-stay unit	9	0	-	P-P	Norovirus

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, 2013**

Month	HSE area	Location	No. ill *	No. Hosp.	Date Onset	Suspect mode of transmission	Disease
Jan	W	Private house	3	1	11/01/2013	Unknown	VTEC
Jan	S	Private house	2	1	14/08/2012	Not Specified	VTEC
Jan	M	Private house	3	-	16/01/2013	P-P	Shigella
Feb	MW	Extended family	2	0	16/01/2013	WB	Giardia
Feb	SE	Private house	3	2	12/05/2012	P-P	Salmonella
Feb	SE	Private house	2	0	26/01/2013	P-P	Cryptosporidium
Feb	SE	Private house	2	0	30/01/2013	Unknown	VTEC
Feb	W	Private house	2	0	09/02/2013	Unknown	Cryptosporidium
Mar	SE	Private house	2	0	14/02/2013	P-P	Cryptosporidium
Mar	SE	Private house	2	-	24/02/2013	Unknown	Cryptosporidium
Mar	MW	Private house	2	1	04/03/2013	Not Specified	Cryptosporidium
Mar	E	Extended family	1	1	02/03/2013	P-P	VTEC
Mar	M	Private house	2	1	15/03/2013	Unknown	VTEC
Mar	MW	Private house	2	0	-	P-P	Campylobacter
Mar	M	Private house	1	1	-	Unknown	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 1, 2013**

Month	HSE area	Type of outbreak	Location	No. ill *	No. Hosp.	Date Onset	Suspect mode of transmission	Organism
Jan	NW	Family	Private house	2	2	-	P-P	RSV
Jan	E	General	Residential institution	2	0	01/01/2013	Unknown	Influenza
Jan	E	General	Residential institution	15	0	-	P-P	RSV
Jan	NW	General	Comm. Hosp/Long-stay unit	20	0	-	P-P	Influenza
Jan	NW	General	Residential institution	4	-	02/01/2013	P-P	Influenza like illness
Jan	NW	Family	Private house	2	2	-	P-P	RSV
Jan	E	General	Residential institution	6	0	06/01/2013	P-P	Influenza
Jan	S	General	Comm. Hosp/Long-stay unit	4	0	14/01/2013	AB	Influenza
Jan	S	General	Comm. Hosp/Long-stay unit	3	0	06/01/2013	AB	Influenza
Jan	S	Family	Extended family	-	-	-	Not Specified	Tuberculosis

Month	HSE area	Type of outbreak	Location	No. ill *	No. Hosp.	Date Onset	Suspect mode of transmission	Organism
Jan	MW	General	Hospital	0	0		Environmental / Fomite	ESBL E.coli
Jan	W	General	School	44	0	15/01/2013	P-P	Influenza-like illness
Jan	W	General	Community outbreak	4	1	01/11/2012	P-P	Tuberculosis
Jan	S	General	Comm. Hosp/Long-stay unit	7	0	27/01/2013	AB	Influenza
Jan	SE	General	Residential institution	12	3	24/01/2013	P-P	Influenza
Feb	S	General	Comm. Hosp/Long-stay unit	18	2	19/01/2013	Not Specified	Respiratory Illness
Feb	W	General	Comm. Hosp/Long-stay unit	18	10	25/01/2013	P-P	Influenza like illness
Feb	NW	General	Residential institution	16	0	08/02/2013	P-P	Influenza
Feb	NW	General	Residential institution	9	0	26/01/2013	P-P	Influenza
Feb	W	General	Comm. Hosp/Long-stay unit	20	0	-	P-P	Influenza
Feb	E	General	Other	3	1	05/09/2012	P-P & AB	Tuberculosis
Feb	E	General	Comm. Hosp/Long-stay unit	21	2	16/02/2013	P-P	Influenza
Feb	NW	General	Residential institution	10	0	11/02/2013	P-P	Influenza Like Illness
Feb	E	General	School	5	0	11/02/2013	P-P	Parvovirus suspected
Feb	E	General	School	3	0	08/02/2013	P-P	Parvovirus (suspected)
Feb	E	General	Comm. Hosp/Long-stay unit	17	2	08/02/2013	P-P	Influenza
Feb	NW	General	Residential institution	11	0	-	P-P	Influenza
Feb	E	General	School	7	0	04/02/2013	P-P	Suspected parvovirus
Feb	E	General	School	6	0	11/02/2013	P-P	Suspected parvovirus
Feb	E	General	Other	12	3	14/02/2013	P-P & AB	Influenza
Feb	E	General	Hospital	324		20/02/2013	P-P & AB	Influenza
Feb	S	General	Comm. Hosp/Long-stay unit	3	0	-	AB	Influenza
Feb	NW	General	Residential institution	4	0	-	P-P	Influenza
Mar	E	Family	Extended family	3		02/01/2013	P-P & AB	Tuberculosis
Mar	W	General	Residential institution	3	3	-	P-P	Influenza
Mar	NW	General	Residential institution	7	0	01/03/2013	P-P	Influenza
Mar	S	General	Residential institution	8	2	05/03/2013	AB	Influenza
Mar	S	General	Comm. Hosp/Long-stay unit	10	0	03/03/2013	Not Specified	Acute respiratory illness
Mar	W	General	Residential institution	6	4	-	P-P	Influenza-like illness
Mar	E	General	Residential institution	15	-	27/02/2013	P-P & AB	Influenza
Mar	NW	General	Hospital	2	-	01/03/2013	P-P	Streptococcus Group A
Mar	W	General	Comm. Hosp/Long-stay unit	16	2	-	P-P	Influenza
Mar	NW	General	Comm. Hosp/Long-stay unit	11	0	07/03/2013	P-P	Influenza
Mar	S	General	School	15	1	25/02/2013	AB	Influenza-like illness
Mar	M	General	Hospital	7		01/03/2013	AB	Influenza
Mar	SE	General	Community outbreak	7	6	18/05/2011	AB	Tuberculosis
Mar	NW	General	Comm. Hosp/Long-stay unit	30	7	19/03/2013	P-P & AB	Influenza
Mar	E	General	University/College	2	0	13/02/2013	P-P	Mumps
Mar	NW	General	Comm. Hosp/Long-stay unit	6	-	17/03/2013	P-P	Influenza like illness

Month	HSE area	Type of outbreak	Location	No. ill *	No. Hosp.	Date Onset	Suspect mode of transmission	Organism
Mar	NE	General	Residential institution	12	0	09/03/2013	P-P	Influenza
Mar	S	Family	Private house	2	-	02/03/2013	P-P	Mumps
Mar	E	General	Residential institution	29	-	-	P-P & AB	Influenza
Mar	E	General	Residential institution	102	-	21/03/2013	P-P & AB	Influenza
Mar	E	General	Residential institution	12	-	-	P-P & AB	Influenza
Mar	M	General	Comm. Hosp/Long-stay unit	65	4	-	P-P & AB	Influenza
Mar	E	General	Residential institution	19	-	-	P-P & AB	Influenza
Mar	E	General	Residential institution	42	1	23/03/2013	P-P & AB	Influenza
Mar	NE	General	Comm. Hosp/Long-stay unit	17	0	-	Not Specified	Human Metapneumovirus (hMPV)
Mar	W	Family	Extended family	5	1	01/08/2012	P-P	Tuberculosis
Mar	E	General	Residential institution	7	-	-	P-P & AB	Influenza
Mar	E	General	Residential institution	15	-	-	Unknown	Influenza
Mar	MW	General	Hospital	1	5	22/03/2013	P-P	ESBL E coli
Mar	NW	General	Residential institution	2	1	-	P-P & AB	Influenza
Mar	E	General	Residential institution	8	-	-	P-P & AB	Influenza

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 1<sup>st</sup> 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 2013. There were 99 general and 15 family IID outbreaks reported during this period, resulting in at least 1,574 people being ill.

Norovirus (n=60) was responsible for the most general outbreaks of IID (61% of all general outbreaks), followed by Acute Infectious Gastroenteritis (n=36).

The most common causes of family outbreaks of IID were VTEC (n=6) [40%]. The other diseases responsible for family outbreaks were campylobacteriosis, cryptosporidiosis, giardiasis, salmonellosis and shigellosis. (Table 2).

Eighty-three general IID outbreaks were transmitted person-to-person/person-to-person and airborne (84%). Ninety-three general outbreaks (94%) were reported to have occurred in healthcare settings, i.e. hospitals or residential institutions, during this period.

There were sixty-four non-IID outbreaks reported during Quarter 1 - see Table 3.

Table 4 outlines the outbreak rate per HSE-area for outbreaks notified during Q1 2013.

**Table 4. Number of Infectious Disease Outbreaks by HSE Area, Q1 2013**

HSE Area	No. of outbreaks	Rate per 100,000 population
<b>E</b>	51	3.1
<b>M</b>	11	4.0
<b>MW</b>	10	2.6
<b>NE</b>	8	2.0
<b>NW</b>	31	12.0
<b>SE</b>	21	4.2
<b>S</b>	20	3.0
<b>W</b>	26	6.0
<b>Total</b>	<b>178</b>	<b>4.0</b>



## 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 2013 is shown in Table 5.

**Table 5. Intestinal Infectious, Zoonotic and Vectorborne Disease Notifications Quarter 1, 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	108	35	36	25	15	65	64	20	368
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	8	7	17	13	16	37	21	20	139
Giardiasis	2	2	3	0	1	0	3	0	11
Listeriosis	0	1	2	0	1	0	0	0	4
Noroviral infection	371	54	79	99	49	42	24	51	769
Paratyphoid	~	~	~	~	~	~	~	~	2
Rotavirus infection <sup>a</sup>	132	77	20	52	18	62	45	38	444
Salmonellosis	14	1	5	5	2	2	6	5	40
Shigellosis	1	3	0	1	0	1	1	0	7
Staphylococcal food poisoning	0	0	0	0	0	0	0	0	0
Typhoid	~	~	~	~	~	~	~	~	0
Verotoxigenic <i>Escherichia coli</i> infection <sup>b</sup>	6	4	11	0	0	18	8	10	57
Yersiniosis	0	0	0	0	0	0	0	0	0
<b>Zoonotic Disease</b>									
Anthrax	0	0	0	0	0	0	0	0	0
Brucellosis	0	0	0	0	0	0	0	0	0
Echinococcosis	0	0	0	0	0	0	1	0	1
Leptospirosis	2	0	0	0	0	0	1	0	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	1	0	2	1	10
Trichinosis	0	0	0	0	0	0	0	0	0
<b>Vectorborne Disease</b>									
Chikungunya disease <sup>c</sup>	0	0	0	0	0	0	0	0	0
Dengue <sup>c</sup>	1	0	0	0	0	1	0	0	2
Lyme disease (neuroborreliosis) <sup>c</sup>	0	0	1	0	0	0	0	0	1
Malaria	7	1	0	0	0	2	0	0	10
Typhus	0	0	0	0	0	0	0	0	0
West Nile fever <sup>c</sup>	0	0	0	0	0	0	0	0	0

<sup>a</sup> Notifiable under the category Acute Infectious Gastroenteritis 2004-2011

<sup>b</sup> Notifiable under the category Enterohaemorrhagic *E. coli* 2004-2011

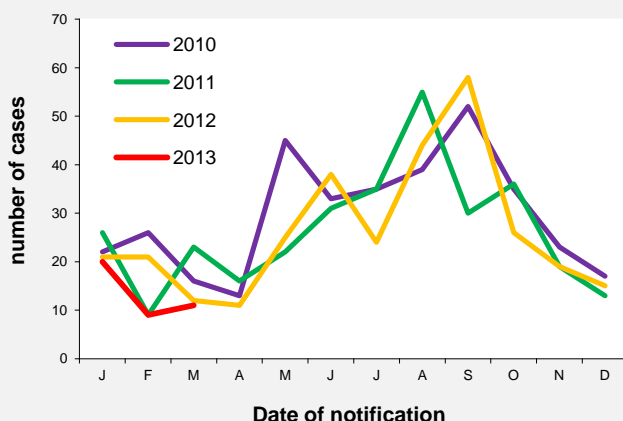
<sup>c</sup> Newly added to the list of notifiable diseases in 2012 under Infectious Diseases (Amendment) Regulations 2011 (S.I. No. 452 of 2011)



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 2013. Comparison of trends with previous years is shown in Figure 1.

**Table 6. Salmonellosis Notifications by HSE-Area and Month, Q1 2013**

Month	E	M	MW	NE	NW	SE	S	W	Total
Jan	7	1	3	3	1	1	2	2	20
Feb	3	0	0	1	1	0	3	1	9
Mar	4	0	2	1	0	1	1	2	11
Total	14	1	5	5	2	2	6	5	40



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

Table 7 shows the serotypes for the *Salmonella* isolates typed by the NSSLRL in the first quarter of 2013 by HSE area (n=41). The commonest human serotypes isolated were *S. Typhimurium*\* (n= 19, 46%) and *S. Enteritidis* (n= 3, 7%).

Twelve (30%) *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, 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:-	6	0	0	0	0	2	2	2	12
Anatum	0	1	0	1	0	0	0	0	2
Bareilly	1	0	0	0	0	0	0	0	1
Cerro	0	0	0	0	1	0	0	0	1
Enteritidis	1	0	0	0	0	1	0	1	3
Heidelberg	0	0	1	0	0	0	0	0	1
Infantis	0	0	0	0	0	1	0	0	1
IV 16:z4,z32:-	1	0	0	0	0	0	0	0	1
Java	1	0	0	0	0	0	0	0	1
Javiana	1	0	0	0	0	0	0	0	1
Kasenyi	0	0	0	1	0	0	0	0	1
Newport	1	0	0	0	0	0	0	0	1
Paratyphi B	~	~	~	~	~	~	~	~	1
Pomona	0	1	0	0	0	0	0	0	1
Poona	0	0	0	0	1	0	0	0	1
Teitelkebir	0	0	0	0	0	0	0	1	1
Typhimurium	2	0	2	1	0	1	0	1	7
Unnamed	0	0	3	0	0	0	0	0	3
Virchow	1	0	0	0	0	0	0	0	1
Total	16	2	6	3	2	5	2	5	41

**Table 8. Confirmed Salmonella notifications by Serotype and Travel Status, Q1 2013 [n(%)]**

Serotype	Indigenous	Travel-associated	Unk/not specified	Total
<i>S. Enteritidis</i>	0 (0%)	1 (6%)	1 (7%)	2 (5%)
<i>S. Typhimurium</i>	6 (60%)	7 (44%)	7 (50%)	20 (50%)
Other	4 (40%)	8 (50%)	5 (36%)	17 (43%)
<i>Salmonella</i> spp	0 (0%)	0 (0%)	1 (7%)	1 (2%)
Total	10 (100%)	16 (100%)	14 (100%)	40 (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 was one case of Paratyphi A associated with travel to Pakistan and one case of Paratyphi B associated with travel to South America reported in Q1 2013. There were no cases of typhoid notified this quarter (Table 5).

### Outbreaks of Salmonellosis

There were two outbreaks of salmonellosis notified in Q1 2013 (Tables 1 & 2).

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

## VEROTOXIGENIC *E. COLI* (VTEC)

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

Fifty-seven cases of VTEC were notified this quarter, the regional distribution of which is shown in Table 9. This compares with 49 VTEC cases notified in Q1 2012 and 24 in Q1 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, Q1 2013.

**Table 9. Number VTEC notified by case classification and HSE-area, Q1 2013**

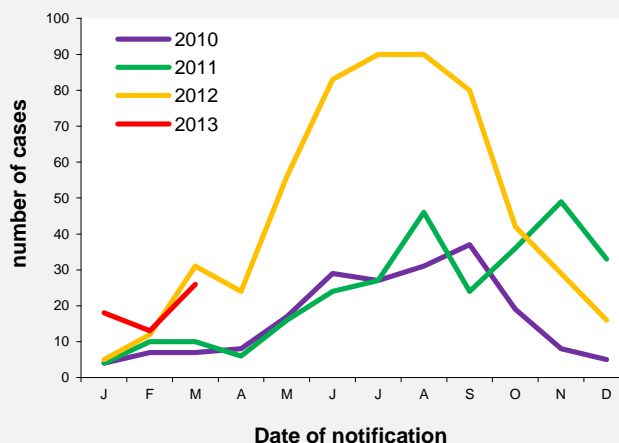
Case classification	E	M	MW	NE	NW	SE	S	W	Total
Conf	3	4	10	0	0	18	7	8	50
Prob	1	0	1	0	0	0	1	2	5
Poss	2	0	0	0	0	0	0	0	2
<b>Total</b>	<b>6</b>	<b>4</b>	<b>11</b>	<b>0</b>	<b>0</b>	<b>18</b>	<b>8</b>	<b>10</b>	<b>57</b>

**Table 10. VTEC notified by Serogroup and Month, Q1 2013**

Month	O157	O26	Other	None*	Total
Jan	2	2	10	4	18
Feb	6	3	4	0	13
Mar	11	6	9	0	26
<b>Total</b>	<b>19</b>	<b>11</b>	<b>23</b>	<b>4</b>	<b>57</b>

\*Includes 2 cases reported as epidemiologically-linked cases and 2 as possible VTEC cases

Five VTEC cases notified during this quarter were reported as having developed HUS. One was infected with *E. coli* O157, two with Ungroupable strains and two were reported as possible VTEC cases.



**Figure 2. Seasonal distribution of VTEC cases notified 2010 to end quarter 1 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 Q1 2013.

**Table 11. Verotoxin typing profiles of *E. coli* referred to the HSE DML Public Health Laboratory, Cherry Orchard Hospital in Q1 2013** (Data are provided courtesy of Dr. Eleanor McNamara and Dr. Anne Carroll).

Serogroup	vt1	vt2	vt1+vt2	Total
O157	0	17	2	19
O26	3	0	8	11
Other	10	7	6	23
<b>Total</b>	<b>13</b>	<b>24</b>	<b>16</b>	<b>53</b>

\*Excludes four notifications reported as probable on the basis of epidemiological link or reported as possible VTEC cases, as no strains available

### Outbreaks of VTEC infection

During this quarter, six family outbreaks of VTEC infection were reported (see Tables 1 & 2).

## CAMPYLOBACTER

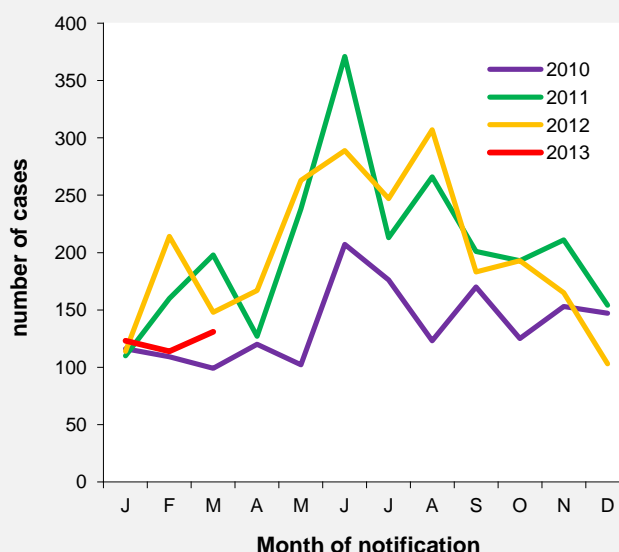
Human campylobacteriosis became a notifiable disease on January 1<sup>st</sup> 2004. Prior to this, human campylobacter infection was notified under the category of 'Food Poisoning (bacterial other than Salmonella)'. The notifications for the first quarter of 2013 are shown in Table 12. There were 369 notifications this quarter, lower than the number notified in the same period in 2012 (n=475) and 2011 (n=468) (figure 3).

**Table 12. *Campylobacter* notifications by HSE-Area and month, Q1 2013**

Month	E	M	MW	NE	NW	SE	S	W	Total
Jan	39	10	10	10	6	20	26	2	123
Feb	24	15	10	9	2	25	19	10	115
Mar	45	10	16	6	7	20	19	8	131
Total	108	35	36	25	15	65	64	20	369

### Outbreaks of *Campylobacter* infection

There was one family outbreak and one general outbreak of campylobacteriosis reported in Q1 2013 (Tables 1 and 2).



**Figure 3. Seasonal distribution of *Campylobacter* notifications 2010 to end quarter 1 2013**

## CRYPTOSPORIDIUM

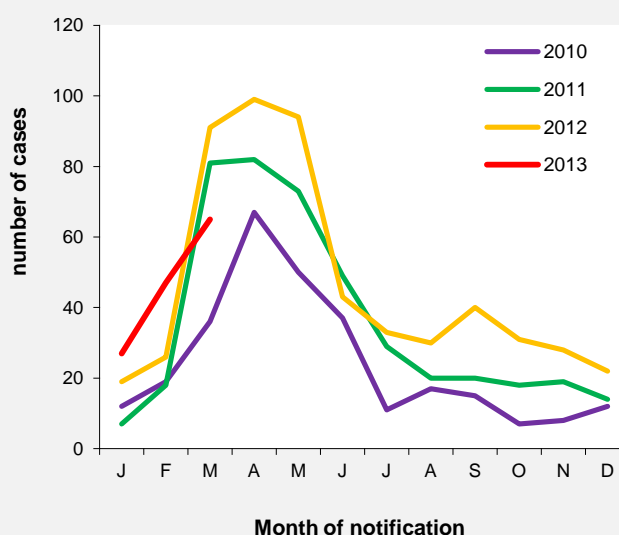
Human cryptosporidiosis became a notifiable disease on January 1<sup>st</sup> 2004. Prior to this, cryptosporidiosis was notifiable in Ireland only in young children under the category 'Gastroenteritis in Children Under 2'. In Q1 2013, 139 cases of cryptosporidiosis were notified (Table 13), compared to 136 in the same period in 2012 and 106 in Q1 2011 (Figure 4).

**Table 13. Cryptosporidiosis Notifications by HSE-Area and Month, Q1 2013**

Month	E	M	MW	NE	NW	SE	S	W	Total
Jan	2	1	4	4	2	5	6	3	27
Feb	2	1	5	3	7	12	7	10	47
Mar	4	5	8	6	7	20	8	7	65
Total	8	7	17	13	16	37	21	20	139

### Outbreaks of cryptosporidiosis

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



**Figure 4. Seasonal distribution of cryptosporidiosis notifications 2010 to end quarter 1 2013**

## NOROVIRUS

Human noroviral infection became a notifiable disease on January 1<sup>st</sup> 2004. There were 769 cases notified in the first quarter of 2013 (Table 14). These data are certainly an under-ascertainment of the true burden of disease due to this pathogen.

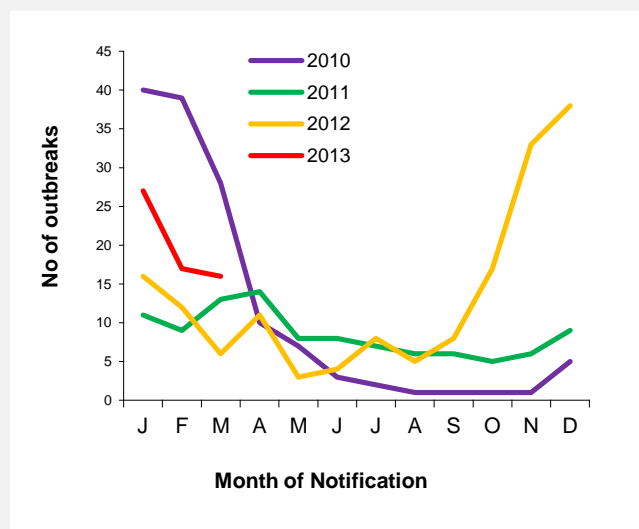
**Table 14. Norovirus notifications by HSE-Area and month, Q1 2013**

Month	E	M	MW	NE	NW	SE	S	W	Total
Jan	137	29	52	56	21	27	13	30	365
Feb	110	4	14	20	3	8	5	8	172
Mar	124	21	13	23	25	7	6	13	232
Total	371	54	79	99	49	42	24	51	769

### Norovirus outbreaks

Norovirus or suspect viral aetiology is the commonest cause of outbreaks of acute gastroenteritis in Ireland. In the first quarter of 2013 there were sixty outbreaks confirmed as being caused by this virus, involving at least 1,094 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 1 2013**

## SHIGELLA

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

During Q1 2013, seven cases of shigellosis were notified (Table 5). This compares with six cases notified in Q1 2012 and eleven in Q1 2011. The distribution by serotype is shown in Table 15.

Six cases were travel related and country of infection was reported as not specified for the remaining case.

### Outbreaks of shigellosis

There was one family outbreak of shigellosis reported in Q1 2013 (Table 2).

**Table 15: Species and serotype distribution of Q1 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>	2
<i>Shigella flexneri</i> 4a	1
<i>Shigella flexneri</i> 2a	2
<i>Shigella boydii</i>	1
<i>Shigella</i> species	1
Total	7

## GIARDIA

Human giardiasis became a notifiable disease on January 1<sup>st</sup> 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 2013, eleven cases of giardiasis were notified (Table 5); this compares with 12 cases notified in Q1 2012 and 16 in Q1 2011.

Four cases (36%) were reported to have acquired their illness abroad. Country of infection was reported as Ireland for one case and 'not specified' or 'unknown' for the remaining six cases.

### Outbreaks of giardiasis

There was one family outbreak of giardiasis notified in Q1 2013 (Table 2).

## LISTERIA

Human listeriosis became a notifiable disease on January 1<sup>st</sup> 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 notified in Q1 2013, compared to four in quarter 1 2012 and one in quarter 1 2011. Three cases this quarter were adult

cases, and there was one neonatal case. Four isolates were referred for typing to NSSLRL (Table 16).

**Table 16: Serotypes of Q1 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).

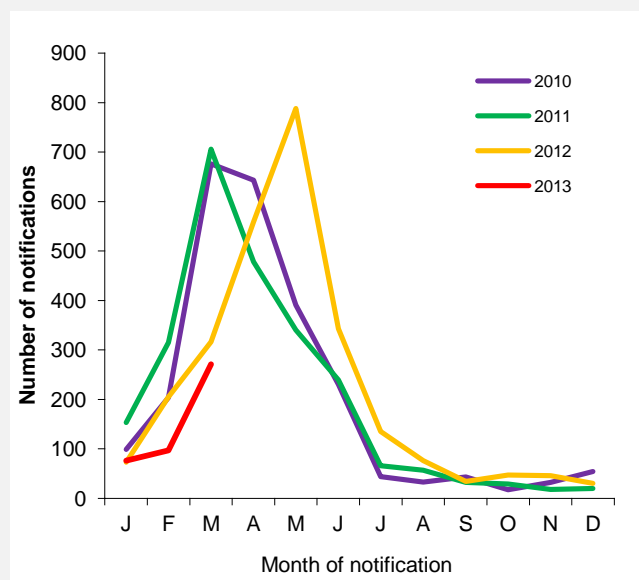
Serotype	Number of isolates
4b	4

## 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 first quarter of 2013 are shown in Table 17.

**Table 17. Rotavirus infection by HSE-Area and month, Q1 2013**

Month	E	M	MW	NE	NW	SE	S	W	Total
Jan	17	16	4	8	3	15	6	7	76
Feb	34	17	8	8	1	11	11	7	97
Mar	81	44	8	36	14	36	28	24	271
Total	132	77	20	52	18	62	45	38	444



**Figure 6. Seasonal distribution of rotavirus notifications, 2010 to end quarter 1 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) food-borne disease and staphylococcal food poisoning became notifiable diseases on January 1<sup>st</sup> 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

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Non-IID zoonoses now notifiable include: anthrax, brucellosis, echinococcosis, leptospirosis, plague, Q fever, toxoplasmosis, trichinosis and rabies. The Q1 2013 notifications of these zoonotic diseases are reported by HSE-Area in Table 5.

Ten cases of toxoplasmosis were notified in this quarter. This compares with eight cases notified in the same period in 2012 and eight cases in Q1 2011.

There were three cases of leptospirosis notified in Q1 2013; this compares with four in Q1 2012 and

three in Q1 2011. Two cases this quarter reported exposure during leisure activity and one was reported as a residential case.

There were no cases of Q fever notified in Q1 2013; this compares with one case in Q1 2012 and none in Q1 2011.

There was one case of echinococcosis and no cases of trichinosis notified this quarter.

## MALARIA

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Malaria is a notifiable disease for many years. The Q1 2013 notifications are reported in Table 5 by HSE-Area.

Ten cases of malaria were notified in Q1 2013. This compares with four cases reported in Q1 2012 and nine in Q1 2011.

Nine cases were reported as *P. falciparum* and the organism was not specified for the remaining case.

Seven cases were exposed in Africa, one in Asia, and the country of infection is unknown/not specified for the remaining two cases.

The reason for travel for two cases was reported as 'visiting family in country of origin', and holiday travel for a further two cases. One case occurred in a visitor to Ireland, one case cited business travel and one case occurred in a child visiting their parents abroad. The reason for travel was not specified/unknown for the remaining three cases.

## OTHER NOTIFIABLE VECTORBORNE DISEASES

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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 2013 notifications are reported in Table 5 by HSE-Area.

There was one case of Lyme disease (neuroborreliosis) and two cases of Dengue fever reported in Q1 2013.

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

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