SURVEILLANCE OF INFECTIOUS INTESTINAL (IID), ZOONOTIC 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 2 –2015 **August 2015**

This is the second quarterly report for 2015 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 2, 2015

Month	HSE area	Location	No. ill *	No. Hosp.	Date Onset	Suspect mode of transmission	Disease
Apr	NW	Comm. Hosp/Long-stay unit	27	0	24/03/2015	P-P	Noroviral infection
Apr	W	Childcare facility	9	0	-	P-P	AIG
Apr	E	Comm. Hosp/Long-stay unit	12	-	04/04/2015	P-P & AB	AIG
Apr	E	Nursing home	13	0	11/04/2015	P-P & AB	Noroviral infection
Apr	S	Comm. Hosp/Long-stay unit	38	1	29/03/2015	P-P	AIG
Apr	E	School	15	0	14/03/2015	P-P	AIG
Apr	SE	Residential institution	5	-	18/04/2015	P-P	Noroviral infection
Apr	W	Community outbreak	5	2	29/03/2015	P-P	Salmonellosis
Apr	S	Comm. Hosp/Long-stay unit	15	0	14/04/2015	P-P	Noroviral infection
Apr	S	Comm. Hosp/Long-stay unit	7	0	26/04/2015	P-P	Sapovirus
May	E	Nursing home	19	0	04/05/2015	P-P	Noroviral infection
May	E	Nursing home	31	1	15/04/2015	P-P	Noroviral infection
May	NE	Nursing home	21	-	02/05/2015	P-P	Noroviral infection
May	W	Community outbreak	8	2	19/03/2015	Unknown	Cryptosporidiosis
May	W	Nursing home	4	0	06/05/2015	P-P	AIG
May	E	Comm. Hosp/Long-stay unit	-	-	05/05/2015	P-P	Noroviral infection
May	S	Comm. Hosp/Long-stay unit	8	1	07/05/2015	P-P	Noroviral infection
May	E	Nursing home	10	-	28/03/2015	P-P	Noroviral infection
May	E	Nursing home	2	-	12/05/2015	P-P	AIG
May	W	Comm. Hosp/Long-stay unit	7	0	08/05/2015	P-P	AIG
May	E	Nursing home	27	-	02/04/2015	P-P	Noroviral infection
May	NE	Nursing home	8	-	16/05/2015	P-P & AB	Noroviral infection
May	S	Private house	1	0	02/05/2015	P-P & Animal	VTEC
May	S	Private house	2	0	06/04/2015	P-P & Animal	Cryptosporidiosis
May	E	Residential institution	7	0	15/05/2015	P-P	Noroviral infection
May	NW	Hospital	-	-	17/05/2015	P-P & AB	Noroviral infection
May	W	Residential institution	10	0	22/05/2015	P-P	AIG
May	W	Community outbreak	44	3	04/05/2015	WB	VTEC
May	S	Comm. Hosp/Long-stay unit	24	0	12/05/2015	P-P	AIG
May	SE	Nursing home	12	-	13/05/2015	P-P	AIG
May	E	Nursing home	5	-	26/05/2015	Not Specified	AIG
May	E	Nursing home	38	0	27/05/2015	P-P & AB	AIG
Jun	NE	Hospital	2	2	07/04/2015	Unknown	Salmonellosis
Jun	NE	Nursing home	4	0	24/05/2015	P-P	Noroviral infection
Jun	W	School	26	0	-	P-P	Noroviral infection
Jun	SE	Comm. Hosp/Long-stay unit	15	-	01/06/2015	P-P	Noroviral infection
Jun	W	Private house	3	0	01/05/2015	P-P	VTEC
Jun	SE	Hospital	38	-	26/05/2015	P-P	Noroviral infection
Jun	S	Comm. Hosp/Long-stay unit	19	1	02/06/2015	P-P	Noroviral infection
Jun	S	Comm. Hosp/Long-stay unit	16	0	05/06/2015	P-P	Noroviral infection
Jun	SE	Nursing home	25	0	09/06/2015	P-P	Noroviral infection
Jun	NW	Comm. Hosp/Long-stay unit	6	0	06/06/2015	P-P	AIG
Jun	W	Hospital	3	3	-	P-P	Clostridium difficile infection
Jun	M	Other	25	0	-	P-P	Noroviral infection

Month	HSE area	Location	No. ill *	No. Hosp.	Date Onset	Suspect mode of transmission	Disease
Jun	SE	Childcare facility	5	0	30/05/2015	Unknown	VTEC
Jun	E	Residential institution	-	-	27/05/2015	P-P & AB	Noroviral infection
Jun	SE	Community outbreak	6	1	29/05/2015	P-P	Cryptosporidiosis
Jun	E	Nursing home	19	0	18/06/2015	Unknown	Noroviral infection
Jun	E	Nursing home	7	0	19/06/2015	Unknown	Noroviral infection
Jun	S	Comm. Hosp/Long-stay unit	36	0	26/06/2015	P-P	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 2, 2015

Month	HSE area	Location	No. ill *	No. Hosp.	Date Onset	Suspect mode of transmission	Disease
Apr	E	Extended family	2	0	-	Unknown	VTEC
Apr	SE	Private house	2	0	23/03/2015	P-P	VTEC
Apr	MW	Extended family	2	0	19/03/2015	P-P	Salmonellosis
Apr	MW	Private house	-	-	29/03/2015	P-P	VTEC
Apr	W	Extended family	3	2	05/04/2015	P-P	VTEC
Apr	S	Private house	2	-	21/03/2015	P-P	VTEC
Apr	NE	Private house	-	-	08/04/2015	P-P & Animal	VTEC
Apr	M	Private house	1	-	09/04/2015	WB	VTEC
Apr	MW	Private house	3	-	11/04/2015	P-P	VTEC
Apr	SE	Private house	3	1	31/03/2015	P-P	VTEC
Apr	SE	Private house	4	0	11/04/2015	P-P	Cryptosporidiosis
Apr	E	Private house	3	1		Unknown	Salmonellosis
Apr	W	Private house	2	1	06/04/2015	P-P	Cryptosporidiosis
Apr	NE	Private house	1	-	04/03/2015	P-P	VTEC
May	MW	Private house	7	1	01/04/2015	P-P & Animal	VTEC
May	W	Extended family	3	0	28/04/2015	P-P	Cryptosporidiosis
May	SE	Private house	1	-	09/04/2015	P-P	VTEC
May	MW	Not Specified	-	-	04/04/2015	P-P	VTEC
May	M	Private house	1	0	11/05/2015	Unknown	VTEC
May	M	Private house	-	-	07/05/2015	Unknown	Cryptosporidiosis
May	NE	Private house	2	-	10/05/2015	Unknown	Campylobacter infection
May	NW	Private house	2	2	-	P-P	Rotavirus infection
May	NW	Private house	2	1	-	P-P	Rotavirus infection
May	SE	Private house	5	0	13/05/2015	WB	VTEC
May	S	Private house	2	0	04/05/2015	P-P	Cryptosporidiosis
May	NW	Private house	2	2	-	P-P	Rotavirus infection
May	W	Private house	3	0	15/05/2015	P-P	VTEC
May	M	Private house	1	-	24/05/2015	Unknown	VTEC
Jun	W	Private house	1	-	-	P-P	Campylobacter infection
Jun	SE	Private house	2	0	25/05/2015	P-P	VTEC
Jun	SE	Private house	2	0	04/05/2015	P-P & Animal	VTEC

Jun	E	Private house	3	-	23/05/2015	Unknown	VTEC
Jun	E	Private house	3	-	18/05/2015	FB & WB	VTEC
Jun	M	Private house	1	-	04/05/2015	Unknown	VTEC
Jun	MW	Private house	2	1	17/05/2015	Not Specified	VTEC
Jun	SE	Extended family	5	1	18/05/2015	P-P	Cryptosporidiosis
Jun	SE	Private house	2	0	30/05/2015	Unknown	VTEC
Jun	NE	Private house	2	1	23/05/2015	P-P	VTEC
Jun	NW	Extended family	2	-	25/05/2015	P-P & Animal	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 2, 2015

Month	HSE area	Type of outbreak	Location	No. ill *	No. Hosp.	Date Onset	Suspect mode of transmission	Organism
Apr	W	General	Hospital	15	0	31/03/2015	P-P	Influenza
Apr	NW	General	Residential institution	19	0	19/03/2015	P-P	Influenza
Apr	S	General	Residential institution	10	3	01/04/2015	P-P & AB	Influenza
Apr	E	General	Hospital	-	-	02/01/2015	Unknown	MDR Acinetobacter
Apr	E	Family	Private house	3	-	18/03/2015	Unknown	Hepatitis A (acute)
Apr	NW	General	Comm. Hosp/Long-stay unit	13	0	06/04/2015	P-P	Influenza
Apr	NW	General	Community outbreak	10	-	02/03/2015	P-P	Mumps
Apr	MW	General	Nursing home	9	0	16/03/2015	P-P	Influenza
Apr	NW	Family	Private house	4	1	01/12/2014	P-P & AB	Tuberculosis
Apr	E	General	University/College	2	0	08/04/2015	P-P	Mumps
Apr	W	General	Nursing home	13	0	16/04/2015	P-P	Acute respiratory infection
Apr	NW	General	Residential institution	6	0	13/04/2015	P-P	Influenza
Apr	NW	General	Comm. Hosp/Long-stay unit	7	0	19/04/2015	P-P	Influenza
Apr	E	General	Hospital	3	3	14/04/2015	Unknown	Invasive E. Coli
Apr	E	General	Community outbreak			23/03/2015	P-P	Hepatitis A (acute)
Apr	NE	General	Nursing home	11	2	31/03/2015	P-P	Influenza
Apr	E	General	Hospital	297		22/01/2015	P-P	Influenza
May	NW	General	Nursing home	5	0	02/05/2015	P-P	Acute respiratory infection
May	E	General	Childcare facility	4	0	28/04/2015	P-P & AB	Suspected Group A Strep/Scarlet fever
May	NW	General	University/College	10	0	20/04/2015	P-P	Mumps
May	S	General	Comm. Hosp/Long-stay unit	6	1	23/02/2015	P-P & AB	Influenza
May	S	General	Comm. Hosp/Long-stay unit	2	0	07/03/2015	P-P & AB	Influenza
May	S	General	Comm. Hosp/Long-stay unit	19	0	01/01/2015	P-P & AB	Acute respiratory infection
May	S	General	Residential institution	10	0	04/04/2015	P-P & AB	Acute respiratory infection
May	S	General	Comm. Hosp/Long-stay unit	7	0	24/02/2015	P-P & AB	Acute respiratory infection
May	E	General	Hospital	5	-	12/05/2015	P-P	Influenza

Month	HSE area	Type of outbreak	Location	No. ill *	No. Hosp.	Date Onset	Suspect mode of transmission	Organism
May	E	General	Residential institution	15	0	28/04/2015	P-P	Influenza
May	NW	General	School	2	-	17/04/2015	P-P	Mumps
May	NW	General	University/College	-	-	11/04/2015	P-P	Mumps
May	E	Family	Private house	3	-	30/04/2015	P-P	Pertussis
Jun	E	General	Childcare facility	2	-	10/06/2015	P-P & AB	Mumps
Jun	S	General	Workplace	4	-	01/11/2014	P-P	Tuberculosis
Jun	E	General	Hospital	2	-	21/05/2015	AB	Aspergillus species

P-P denotes Person-to-Person transmission, WB denotes waterborne; AB denotes airborne; IDU denotes Injecting Drug Use; NK denotes unknown; CRE denotes Carbapenemresistant Enterobacteriaceae
* Total numbers ill does not include asymptomatic caseas

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 are 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 second quarter of 2015. There were 50 general and 39 family IID outbreaks reported during this period, resulting in at least 773 people being ill.

Norovirus (n=25) was responsible for the most general outbreaks of IID (50%), followed by acute infectious gastroenteritis (n=14).

The most common causes of family outbreaks of IID was VTEC (n=26) [67%]. The other diseases responsible for family outbreaks were campylobacter infection, cryptosporidiosis, rotavirus and salmonellosis.(Table 2).

Forty-one general IID outbreaks were transmitted person-to-person/person-to-person and airborne (82%). Thirty-eight general outbreaks (76%) were reported to have occurred in healthcare settings, i.e. hospitals or residential institutions, during this period.

There were thirty-three non-IID outbreaks reported during Q2 2015; 55% (n=18) due to influenza / acute respiratory infections (Table 3).

Table 4 outlines the outbreak rate per HSE-area for outbreaks notified during Q2 2015.

Table 4. Number of Infectious Disease Outbreaks by HSE Area, Q2 2015

HSE Area	No. of outbreaks	Rate per 100,000 population
E	31	2.0
M	6	2.1
MW	7	2.0
NE	9	2.0
NW	17	6.6
SE	16	3.2
S	19	3.0
W	17	4.0
Total	**122**	**2.7**

NOTIFICATIONS OF INFECTIOUS INTESTINAL, ZOONOTIC AND VECTORBORNE DISEASE

The number of notifications of infectious intestinal, zoonotic and vectorborne disease by HSE-Area for the second quarter of 2015 is shown in Table 5.

Table 5. Intestinal Infectious, Zoonotic and Vectorborne Disease Notifications Quarter 2, 2015 by HSE-Area

Infectious Intestinal Disease	E	M	MW	NE	NW	SE	S	W	Total
Bacillus cereus foodborne infection/intoxication	1	0	0	0	0	0	0	0	**1**
Botulism	0	0	0	0	0	0	0	0	**0**
Campylobacter infection	210	62	69	52	24	123	141	108	**789**
Cholera	0	0	0	0	0	0	0	0	**0**
Clostridium perfringens (type A) food-borne disease	0	0	0	0	0	0	0	0	**0**
Cryptosporidiosis	7	21	19	16	20	44	34	40	**201**
Giardiasis	8	1	2	3	0	0	4	1	**19**
Listeriosis	3	0	0	1	0	0	1	2	**7**
Noroviral infection	255	4	15	61	8	13	14	25	**395**
Paratyphoid	0	0	0	0	0	0	0	0	**0**
Rotavirus infection[a1]	621	167	124	174	117	167	308	252	**1930**
Salmonellosis	17	4	5	3	2	9	7	7	**54**
Shigellosis	10	0	0	1	0	0	0	1	**12**
Staphylococcal food poisoning	0	0	0	0	0	0	0	0	**0**
Typhoid	~	~	~	~	~	~	~	~	**1**
Verotoxigenic *Escherichia coli* infection[b]	20	21	41	21	9	46	31	66	**255**
Yersiniosis	1	0	0	0	0	0	0	3	**4**
Zoonotic Disease									
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	0	0	**0**
Leptospirosis	2	1	0	0	0	0	0	0	**3**
Plague	0	0	0	0	0	0	0	0	**0**
Q Fever	0	0	0	0	0	0	0	1	**1**
Rabies	0	0	0	0	0	0	0	0	**0**
Toxoplasmosis	2	0	0	0	0	1	2	2	**7**
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]	~	~	~	~	~	~	~	~	**1**
Lyme disease (neuroborreliosis) [c]	0	0	2	0	0	0	1	0	**3**
Malaria	12	0	0	3	0	0	0	1	**16**
Typhus	0	0	0	0	0	0	0	0	**0**
West Nile fever [c]	0	0	0	0	0	0	0	0	**0**

[1] Since March 2013, norovirus and rotavirus notifications from HSE-East are based on laboratory testing results rather than patient episodes. Notifications from HSE-E may also refer to area of laboratory testing rather than area of patient residence.

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 second quarter of 2015. Comparison of trends with previous years is shown in Figure 1.

Table 6. Salmonellosis Notifications by HSE-Area and Month, Q2 2015

Month	E	M	MW	NE	NW	SE	S	W	Total
Apr	10	1	3	2	1	1	2	4	**24**
May	2	3	-	-	1	5	2	2	**15**
Jum	5	-	2	1		3	3	1	**15**
Total	**17**	**4**	**5**	**3**	**2**	**9**	**7**	**7**	**54**

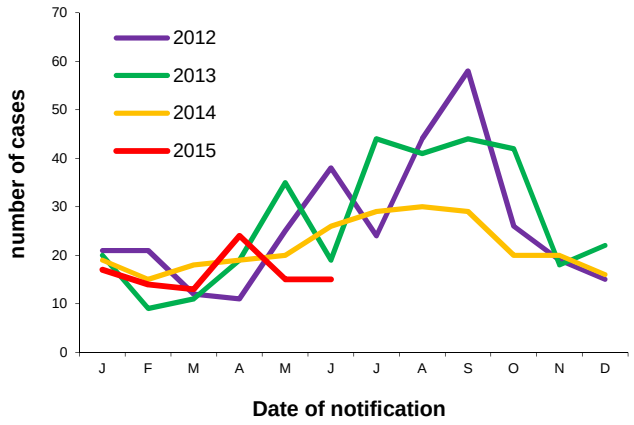

Figure 1. Seasonal Distribution of Human Salmonellosis Notifications, 2012 to end quarter 2 2015

Table 7 shows the serotypes for the *Salmonella* isolates typed by the NSSLRL in the second quarter of 2015 by HSE area (n=55). The commonest human serotypes isolated were *S.* Enteritidis (n=19, 35%) and *S.*Typhimurium[†] (n=15, 28%).

Table 8 shows the serotype distribution of confirmed *Salmonella* notifications by travel status this quarter among salmonellosis notifications on CIDR. 19% (n=10) were travel-associated, 63% (n=34) were indigenous and for 10 cases, the country of infection was unknown/not specified.

Table 7. Serotypes of human *S. enterica* isolates referred to NSSLRL in Quarter 2, 2015

Serotype	E	M	MW	NE	NW	SE	S	W	Total
4,[5],12:i:-	1	1	0	0	0	2	0	2	6
Agama	0	1	0	0	0	0	0	0	1
Bareilly	0	0	1	0	0	0	0	0	1
Bovismorbificans	0	0	0	0	0	1	0	0	1
Coeln	0	0	0	0	0	0	0	1	1
Dublin	0	0	0	0	0	0	1	0	1
Enteritidis	4	1	3	0	1	2	4	4	19
IIIb 35:i:z35	1	0	0	0	0	0	0	0	1
IIIb 61:k:5,7	1	0	0	0	0	0	0	0	1
Infantis	1	0	0	0	0	0	0	0	1
Isangi	1	0	0	0	0	0	0	0	1
Java	1	0	0	0	0	0	0	0	1
Kintambo	1	0	0	0	0	0	0	0	1
Limete	0	0	0	0	0	0	1	0	1
Mbandaka	0	0	0	0	0	1	0	0	1
Muenchen	0	0	0	0	0	0	0	1	1
Napoli	0	1	0	0	0	0	0	0	1
Newport	2	0	0	0	0	0	0	0	2
Panama	0	0	0	2	0	0	0	0	2
Saintpaul	0	0	0	0	0	0	1	0	1
Tennessee	0	0	0	1	0	0	0	0	1
Typhimurium	5	0	0	0	1	2	1	0	9
Total	**18**	**4**	**4**	**3**	**2**	**8**	**8**	**8**	**55**

Data Source: NSSLRL

Table 8.Confirmed Salmonella notifications by Serotype and Travel Status, Q2 2015 [n(%)]

Serotype	Indigenous	Travel-associated	Unk/not specified	Total
S. Enteritidis	12 (35%)	5 (50%)	1 (10%)	**18 (33%)**
S. Typhimurium*	12 (35%)	2 (20%)	2 (20%)	**16 (30%)**
Other	10 (30%)	3 (30%)	7 (70%)	**20 (37%)**
Salmonella spp	0 (0%)	0 (0%)	0 (0%)	**0 (0%)**
Total	**34 (100%)**	**10 (100%)**	**10 (100%)**	**54 (100%)**

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

* Includes monophasic S.Typhimurium 4,5,12:i:-

Outbreaks of Salmonellosis

There were four outbreaks of salmonellosis notified in Q2 2015, two family and two general outbreaks (Tables 1 &2).

S. Typhi and S. Paratyphi

There was one case of typhoid reported to CIDR in Q2 2015, associated with travel to India. There were no cases of paratyphoid notified this quarter.

[†]includes 6 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.

Two hundred and fifty-five cases of VTEC were notified this quarter, the regional distribution of which is shown in Table 9. This compares with 190 VTEC cases notified in Q2 2014 and 209 in Q2 2013 (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 2015.

Table 9. Number VTEC notified by case classification and HSE-area, Q2 2015

Case classification	E	M	MW	NE	NW	SE	S	W	Total
Conf	20	16	34	19	9	43	30	39	**210**
Prob	0	5	7	2	0	3	1	26	**44**
Poss	0	0	0	0	0	0	0	1	**1**
Total	**20**	**21**	**41**	**21**	**9**	**46**	**31**	**66**	**255**

Table 10. VTEC notified by serogroup and month, Q2 2015

Month	O157	O26	Other	Total
Apr	11	19	33	**63**
May	18	31	59	**108**
Jun	13	35	36	**84**
Total	**42**	**85**	**128**	**255**

Eight VTEC cases notified this quarter was reported as having developed HUS. 3 VTEC O26, 1 O145, one clinical HUS and the remainder ungroupable/pending. This is similar to Q2 2014 when 9 HUS cases were notified (4 O26, 1 O111 and 4 O157).

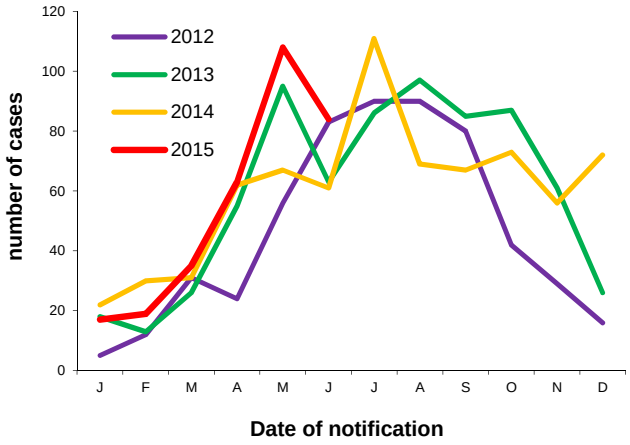

Figure 2. Seasonal distribution of VTEC cases notified 2012 to end quarter 2 2015

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 Q2 2015.

Table 11. Verotoxin typing profiles of *E. coli* referred to the HSE DML Public Health Laboratory, Cherry Orchard Hospital in Q2 2015

Serogroup	*vt1*	*vt2*	*vt1+vt2*	Not spec.	Total
O157	0	32	6	4	**42**
O26	26	4	53	2	**85**
Other	41	39	19	29	**128**
Total	**67**	**75**	**78**	**35**	**255**

Data Source: PHL Cherry Orchard

Outbreaks of VTEC infection

During this quarter, four general and twenty-six family outbreaks of VTEC infection were reported, including a waterborne outbreak resulting in 44 people ill (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 second quarter of 2015 are shown in Table 12. There were 789 cases of campylobacteriosis notified in Q2 2015 compared to 829 in the same period in 2014 and 688 in Q2 2013 (Figure 3).

Table 12. *Campylobacter* notifications by HSE-Area and month, Q2 2015

Month	E	M	MW	NE	NW	SE	S	W	Total
Apr	59	21	21	10	12	23	33	43	**222**
May	77	28	26	22	3	67	66	38	**327**
Jun	74	13	22	20	9	33	42	27	**240**
Total	**210**	**62**	**69**	**52**	**24**	**123**	**141**	**108**	**789**

Outbreaks of *Campylobacter* infection

There were two family outbreaks of campylobacteriosis reported in Q2 2015 (Tables 1 and 2).

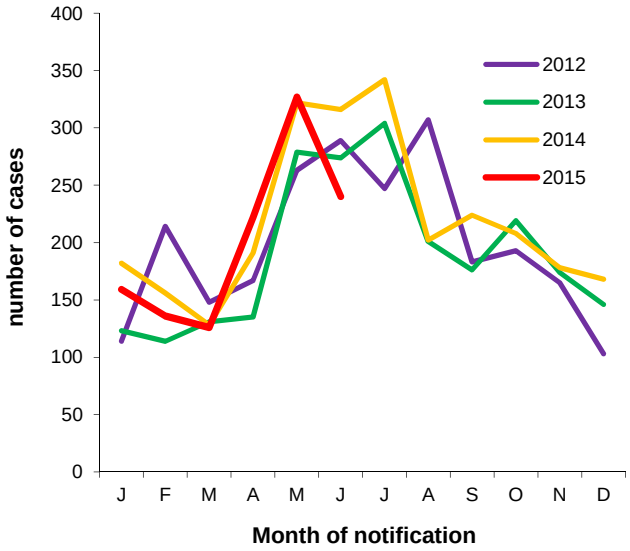

Figure 3. Seasonal distribution of *Campylobacter* notifications 2012 to end quarter 2 2015

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 Q2 2015, 201 cases of cryptosporidiosis were notified (Table 13), compared to 206 in the same period in 2014 and 250 in Q2 2013 (Figure 4).

Table 13. Cryptosporidiosis notifications by HSE-Area and month, Q2 2015

Month	E	M	MW	NE	NW	SE	S	W	Total
Apr	3	7	10	5	10	20	16	19	**90**
May	3	10	6	8	6	11	14	11	**69**
Jun	1	4	3	3	4	13	4	10	42
Total	**7**	**21**	**19**	**16**	**20**	**44**	**34**	**40**	**201**

Outbreaks of cryptosporidiosis

There were three general and six family outbreaks of cryptosporidiosis reported in quarter 2 2015. (Tables 1 and 2).

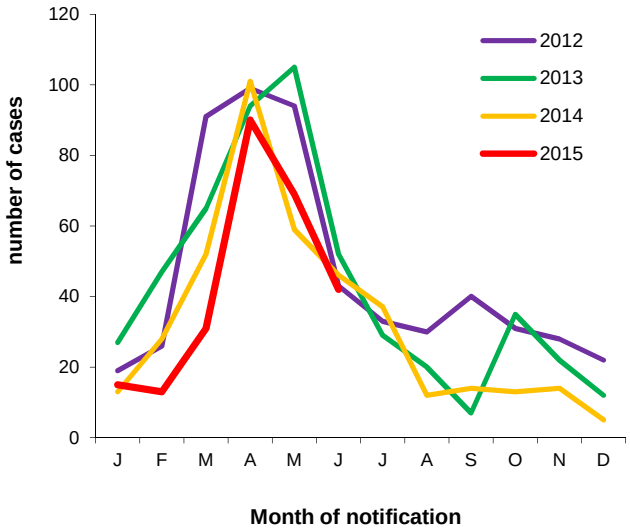

Figure 4. Seasonal distribution of cryptosporidiosis notifications 2012 to end quarter 2 2015

NOROVIRUS

Human noroviral infection became a notifiable disease on January 1st 2004. Since March 2013, noravirus notifications from HSE-East are based on laboratory testing results rather than patient episodes. Notifications from HSE-E may also refer to area of laboratory testing rather than area of patient residence.

There were 395 cases notified in the second quarter of 2015 (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, Q2 2015

Month	E	M	MW	NE	NW	SE	S	W	Total
Apr	167	2	4	22	3	2	7	8	**215**
May	51	2	10	23	3	-	3	11	**103**
Jun	37	-	1	16	2	11	4	6	**77**
Total	**255**	**4**	**15**	**61**	**8**	**13**	**14**	**25**	**395**

Norovirus outbreaks

Norovirus or suspect viral aetiology is the commonest cause of outbreaks of acute gastroenteritis in Ireland. In the second quarter of 2015, there were 25 outbreaks confirmed as being caused by this virus, involving at least 385 people becoming ill, as outlined in tables 1 & 2. The seasonal trend is outlined in figure 5.

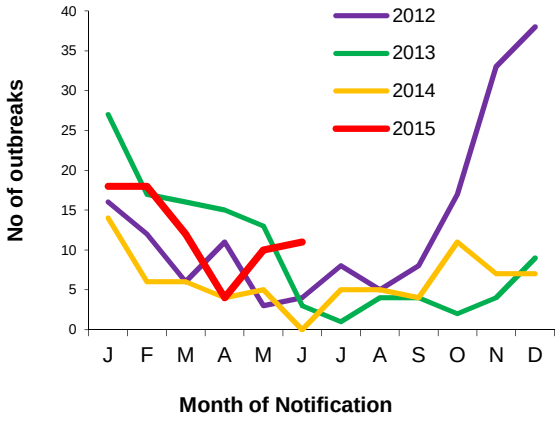

Figure 5. Seasonal distribution of confirmed norovirus outbreaks, 2012 to end quarter 2 2015

SHIGELLA

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

During Q2 2015, twelve cases of shigellosis were notified (Table 5). This compares with eight cases notified in Q2 2014 and seven in Q2 2013.

Three cases were travel related (two cases were associated with travel to Pakistan and one case associated with travel Sri Lanka). The country of infection was reported as unknown/not specified for the remaining nine cases.

Table 15: Species and serotype distribution of Q2 2015 human *Shigella* isolates referred to the NSSLRL.

Serotype	Number of isolates
Shigella flexneri X variant	1
Shigella flexneri 2a	1
Shigella sonnei	3
Total	**10**

Data Source: NSSLRL

Outbreaks of shigellosis

There were no outbreaks of shigellosis notified in Q2 2015 (Table 2).

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 2 2015, nineteen cases of giardiasis were notified (table 5); this compares with 16 cases notified in Q2 2014 and 6 in Q2 2013.

Four cases were reported to have acquired their illness abroad. Country of infection was reported as Ireland for five cases and 'not specified' or 'unknown' for the remaining ten cases.

Outbreaks of giardiasis

There were no outbreaks of giardiasis notified in Q2 2015 (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 seven cases (six adult and one neonatal) of listeriosis notified in Q2 2015, compared to four cases in quarter 2 2014 and one in quarter 2 2013.

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

Table 16: Serotypes of Q2 2015 human *Listeria* isolates referred to the NSSLRL

Serotype	Number of isolates
1/2a	3
4b	3
Total	**6**

Data Source: NSSLRL

ROTAVIRUS INFECTION

Prior to 2004, rotavirus cases were notified under the "Gastroenteritis in children under two years" disease category. From 2004 to 2010, rotavirus was notifiable in all age groups under the "Acute Infectious Gastroenteritis" (AIG) disease category, until it became notifiable as a disease in its own right under the Infectious Diseases (Amendment) Regulations 2011 (S.I. No. 452 of 2011). Since March 2013, rotavirus notifications from HSE-East are based on laboratory testing results rather than patient episodes. Notifications from HSE-E may also refer to area of laboratory testing rather than area of patient residence.
Rotavirus notifications for the second quarter of 2015 are shown in Table 17 and Figure 6.

Table 17. Rotavirus infection by HSE-Area and month, Q2 2015

Month	E	M	MW	NE	NW	SE	S	W	Total
Apr	310	93	56	70	50	93	181	135	**988**
May	163	64	38	70	42	50	81	66	**574**
Jun	148	10	30	34	25	24	46	51	**368**
Total	**621**	**167**	**124**	**174**	**117**	**167**	**308**	**252**	**1930**

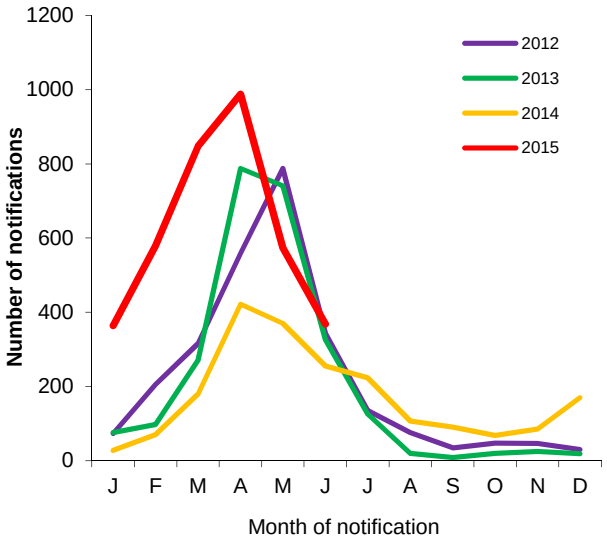

Figure 6. Seasonal distribution of rotavirus notifications, 2012 to end quarter 2 2015

Outbreaks of rotavirus

There were three family outbreaks of rotavirus notified this quarter (Table 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 1st 2004. Prior to this, these diseases were notified under the category of 'Food Poisoning (bacterial other than Salmonella)'.

There was one case of *Bacillus cereus* foodborne infection/intoxication notified this quarter.

NON-IID ZOONOTIC DISEASES

Non-IID zoonoses now notifiable include: anthrax, brucellosis, echinococcosis, leptospirosis, plague, Q fever, toxoplasmosis, trichinosis and rabies. The Q2 2015 notifications of these zoonotic diseases are reported by HSE-Area in table 5.

Seven cases of toxoplasmosis were notified in this quarter. This compares with seven cases notified in the same period in 2014 and eight cases in Q2 2013.

There were three cases of leptospirosis notified in Q2 2015; this compares with six in Q2 2014 and one in Q2 2013.

There were no cases of brucellosis, echinococcosis or trichinosis notified this quarter. One case of Q Fever was reported in Q2 2015.

MALARIA

Malaria is a notifiable disease for many years. The Q2 2015 notifications are reported in table 5 by HSE-Area.

Sixteen cases of malaria were notified in Q2 2015. This compares with fourteen cases reported in Q2 2014 and nine in Q2 2013.

Thirteen cases were reported as *P. falciparum*, two as *P. ovale* and one case as *P. vivax*.

Three cases were exposed in Africa and the country of infection is unknown/not specified for the remaining thirteen cases.

The reason for travel for two cases was reported as 'visiting family in country of origin', one case occurred in an Irish citizen working abroad and 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 Q2 2015 notifications are reported in Table 5 by HSE-Area.

There were three cases of Lyme disease (neuroborreliosis) and one case of Dengue fever reported in Q2 2015.

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

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