

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 –2015

June 2015

This is the first 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 1 2015

Month	HSE area	Location	No. ill *	No. Hosp.	Date Onset	Suspect mode of transmission	Disease
Jan	S	Nursing home	37	0	27/11/2014	P-P	Noroviral infection
Jan	NE	Nursing home	30	0	25/12/2014	P-P	Noroviral infection
Jan	E	Hospital	6	-	-	P-P	Noroviral infection
Jan	NW	Comm. Hosp/Long-stay unit	13	-	03/01/2015	P-P	AIG
Jan	SE	Hospital	14	-	04/01/2015	P-P	Noroviral infection
Jan	M	Nursing home	35	0	02/01/2015	P-P & Airborne	Noroviral infection
Jan	E	Residential institution	3	-	-	P-P	AIG
Jan	SE	Nursing home	11	-	04/01/2015	P-P	AIG
Jan	SE	Nursing home	12	0	04/01/2015	P-P	Noroviral infection
Jan	NE	Nursing home	14	-	10/12/2014	P-P	AIG
Jan	M	Nursing home	11	0	-	Unknown	Noroviral infection
Jan	E	Hospital	6	-	29/12/2014	P-P	Noroviral infection
Jan	E	Nursing home	5	0	08/01/2015	P-P	AIG
Jan	M	Comm. Hosp/Long-stay unit	66	-	09/01/2015	P-P & Airborne	Noroviral infection
Jan	SE	Residential institution	23	-	09/01/2015	P-P	Noroviral infection
Jan	SE	Residential institution	5	-	09/01/2015	P-P	AIG
Jan	SE	Residential institution	18	-	12/01/2015	P-P	Noroviral infection
Jan	MW	Hospital	15	3	-	P-P	Noroviral infection
Jan	SE	Residential institution	4	-	11/01/2015	P-P	AIG
Jan	E	Workplace	15	0	04/01/2015	P-P & FB	AIG
Jan	NW	Residential institution	11	-	-	Not Specified	AIG
Jan	M	Hospital	2	-	16/01/2015	Unknown	AIG
Jan	M	Nursing home	6	0	-	Unknown	Noroviral infection
Jan	S	Nursing home	21	0	23/12/2014	P-P	AIG
Jan	NW	Residential institution	2	0	20/01/2015	Not Specified	AIG
Jan	S	Nursing home	28	0	09/12/2014	P-P	Noroviral infection
Jan	S	Nursing home	-	-	14/12/2014	P-P	Noroviral infection
Jan	E	Nursing home	10	0	22/01/2015	P-P	AIG
Jan	NW	Residential institution	6	-	23/01/2015	P-P	AIG
Jan	E	Nursing home	25	0	23/01/2015	P-P	Noroviral infection
Jan	W	Residential institution	8	-	21/01/2015	P-P	Noroviral infection
Jan	E	Comm. Hosp/Long-stay unit	6	0	25/01/2015	P-P	AIG
Jan	W	Hospital	31	-	22/01/2015	P-P	Noroviral infection
Jan	W	Hospital	3	0	21/01/2015	P-P	AIG
Feb	W	Nursing home	14	-	-	P-P	Noroviral infection
Feb	W	Comm. Hosp/Long-stay unit	5	-	-	P-P	Noroviral infection
Feb	SE	Comm. Hosp/Long-stay unit	4	-	23/01/2015	Unknown	AIG
Feb	E	Other	4	0	04/02/2015	P-P	AIG
Feb	NW	Nursing home	17	-	03/02/2015	P-P	Noroviral infection
Feb	NW	Comm. Hosp/Long-stay unit	4	-	02/02/2015	P-P	AIG
Feb	E	Nursing home	22	0	04/02/2015	P-P	Noroviral infection
Feb	W	Public house	20	0	02/02/2015	P-P	Noroviral infection
Feb	S	Nursing home	18	0	28/01/2015	P-P	Noroviral infection
Feb	E	Other	3	0	31/01/2015	P-P	Clostridium difficile
Feb	NE	Hospital	11	11	02/02/2015	P-P	Noroviral infection

Month	HSE area	Location	No. ill *	No. Hosp.	Date Onset	Suspect mode of transmission	Disease
Feb	W	Comm. Hosp/Long-stay unit	8	-	08/02/2015	P-P	Noroviral infection
Feb	E	Nursing home	27	-	03/02/2015	P-P	Noroviral infection
Feb	SE	School	100	-	11/02/2015	Unknown	AIG
Feb	E	Nursing home	13	0	13/02/2015	P-P	AIG
Feb	NW	Nursing home	17	-	10/02/2015	P-P	Noroviral infection
Feb	E	Nursing home	21	0	16/02/2015	P-P	Noroviral infection
Feb	MW	Nursing home	-	-	16/02/2015	P-P	Noroviral infection
Feb	NW	Comm. Hosp/Long-stay unit	9	0	15/02/2015	P-P	Noroviral infection
Feb	NE	Restaurant / Cafe	80	-	15/02/2015	Unknown	Noroviral infection
Feb	E	Residential institution	3	0	15/02/2015	P-P	AIG
Feb	NW	Nursing home	19	-	22/02/2015	P-P	Noroviral infection
Feb	MW	Nursing home	23	0	22/02/2015	P-P	AIG
Feb	S	Comm. Hosp/Long-stay unit	31	1	23/02/2015	P-P	Noroviral infection
Feb	S	Comm. Hosp/Long-stay unit	9	-	21/02/2015	P-P	Noroviral infection
Feb	NE	Childcare facility	17	3	13/02/2015	P-P	Rotavirus
Feb	E	Other	2	1	16/02/2015	Animal contact	Cryptosporidiosis
Feb	E	Nursing home	8	0	21/02/2015	P-P	Noroviral infection
Mar	W	Nursing home	23	0	20/02/2015	P-P	Noroviral infection
Mar	SE	Hospital	17	-	28/01/2015	P-P	Noroviral infection
Mar	S	Comm. Hosp/Long-stay unit	21	0	25/02/2015	P-P	Noroviral infection
Mar	W	Hospital	3	3	-	P-P	Clostridium difficile
Mar	W	Hospital	3	3	-	P-P	Noroviral infection
Mar	NE	Hospital	-	-	10/02/2015	P-P	Noroviral infection
Mar	MW	Hospital	4	4	18/09/2014	Unknown	Clostridium difficile
Mar	W	Nursing home	5	0	04/03/2015	P-P	Noroviral infection
Mar	NE	Childcare facility	-	-	27/02/2015	P-P	Rotavirus
Mar	E	Hospital	2	-	-	P-P	Clostridium difficile
Mar	E	Hospital	2	-	-	P-P	Clostridium difficile
Mar	E	Comm. Hosp/Long-stay unit	9	0	08/03/2015	P-P & Airborne	Noroviral infection
Mar	E	Nursing home	3	0	03/03/2015	P-P	Noroviral infection
Mar	E	Nursing home	7	0	05/03/2015	P-P	Noroviral infection
Mar	SE	Childcare facility	15	0	05/03/2015	P-P	AIG
Mar	E	Nursing home	10	0	14/03/2015	P-P	AIG
Mar	NW	Nursing home	21	-	12/03/2015	P-P	Noroviral infection
Mar	S	Comm. Hosp/Long-stay unit	44	0	12/03/2015	P-P	Noroviral infection
Mar	MW	Residential institution	3	1	16/03/2015	Unknown	VTEC
Mar	E	Other	11	-	26/02/2015	P-P	AIG
Mar	NW	Hospital	4	4	15/03/2015	P-P	Noroviral infection

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 2015

Month	HSE area	Location	No. ill *	No. Hosp.	Date Onset	Suspect mode of transmission	Disease
Jan	M	Private house	1	1	01/01/2015	Animal contact	VTEC
Jan	MW	Private house	1	0	01/11/2014	P-P	VTEC
Jan	MW	Private house	4	0	26/11/2014	P-P	VTEC
Jan	MW	Private house	1	1	18/11/2014	P-P	VTEC
Jan	NE	Private house	1	1	12/12/2014	P-P	VTEC
Jan	M	Private house	3	-	07/01/2015	Unknown	Cryptosporidiosis
Jan	M	Not Specified	2	0	-	P-P	AIG
Jan	S	Private house	2	-	02/11/2014	P-P	VTEC
Jan	S	Private house	3	-	06/12/2014	P-P	VTEC
Feb	M	Private house	2	1	12/01/2015	Unknown	Shigellosis
Mar	E	Private house	2	0	-	P-P	Salmonellosis
Mar	SE	Private house	1	0	24/02/2015	P-P & Animal	VTEC
Mar	SE	Private house	2	0	08/03/2015	Unknown	VTEC
Mar	M	Private house	2	0	20/02/2015	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 2015

Month	HSE area	Type of outbreak	Location	No. ill *	No. Hosp.	Date Onset	Suspect mode of transmission	Organism
Jan	MW	General	Residential institution	22	1	29/12/2014	P-P & Airborne	Influenza
Jan	NW	General	Comm. Hosp/Long-stay unit	10	-	23/12/2014	P-P	Respiratory syncytial virus
Jan	NW	General	Residential institution	18	2	28/12/2014	P-P	Influenza
Jan	E	General	Comm. Hosp/Long-stay unit	11	0	-	P-P & Airborne	Suspected RSV
Jan	W	General	Residential institution	6	3	04/01/2015	P-P	Respiratory syncytial virus
Jan	E	General	Nursing home	43	2	10/12/2014	P-P	Influenza
Jan	E	General	Nursing home	4	2	-	Not Specified	Acute respiratory infection
Jan	NW	General	Comm. Hosp/Long-stay unit	5	0	10/01/2015	P-P	Acute respiratory infection
Jan	W	Family	Private house	3	-	-	P-P	Influenza
Jan	NW	General	Nursing home	27	0	22/01/2015	Not Specified	Influenza
Jan	E	General	Hospital	8	-	-	P-P	Vancomycin-Resistant Enterococcus (VRE)
Jan	E	General	University/College	13	-	22/10/2014	Unknown	Mumps
Jan	M	General	Extended family	4	0	18/12/2014	P-P	Hepatitis A
Jan	NW	General	Comm. Hosp/Long-stay unit	10	3	14/01/2015	P-P	Influenza
Jan	M	Family	Private house	4	0	-	P-P	Mumps
Jan	E	General	Residential institution	17	1	29/12/2014	P-P & Airborne	Influenza
Jan	NW	General	School			04/01/2015	Not Specified	Mumps
Jan	SE	General	School	17	0	17/01/2015	P-P & Airborne	Influenza-like illness
Jan	M	General	Comm. Hosp/Long-stay unit	11	1	-	Unknown	Influenza
Jan	S	General	Nursing home	15	2	17/12/2014	P-P & Airborne	Influenza
Jan	S	General	Comm. Hosp/Long-stay unit	14	0	30/12/2014	P-P & Airborne	Influenza
Jan	S	General	Comm. Hosp/Long-stay unit	28	0	15/01/2015	P-P & Airborne	Influenza
Jan	E	General	Comm. Hosp/Long-stay unit	23	0	13/01/2015	P-P & Airborne	Human metapneumovirus
Jan	W	General	Residential institution	11	8	18/01/2015	P-P	Influenza
Jan	MW	General	Comm. Hosp/Long-stay unit	20	18	16/01/2015	P-P	Influenza
Jan	NE	General	Comm. Hosp/Long-stay unit	8	-	-	P-P & Airborne	Influenza
Jan	E	General	Residential institution	7	0	22/01/2015	P-P	Influenza-like illness
Jan	NW	General	Nursing home	5	1	-	P-P	Influenza
Feb	E	General	Comm. Hosp/Long-stay unit	6	-	-	P-P	Human metapneumovirus
Feb	E	General	Hospital	11	-	30/01/2015	P-P	Influenza
Feb	M	General	Comm. Hosp/Long-stay unit	14	0	11/07/1923	P-P	Influenza
Feb	SE	General	Nursing home	24	4	-	P-P	Influenza
Feb	S	General	Comm. Hosp/Long-stay unit	16	8	04/01/2015	P-P	Influenza

Month	HSE area	Type of outbreak	Location	No. ill *	No. Hosp.	Date Onset	Suspect mode of transmission	Organism
Feb	NW	General	Comm. Hosp/Long-stay unit	21	-	29/01/2015	P-P	Influenza
Feb	M	General	Nursing home	9	0	02/02/2015	P-P	Influenza
Feb	E	General	Hospital	8	-	06/02/2015	P-P	Influenza
Feb	NW	General	Nursing home	17	-	30/01/2015	P-P	Influenza
Feb	E	General	Nursing home	16	2	07/02/2015	P-P	Human Metapneumovirus
Feb	MW	General	School	4	-	17/01/2015	P-P	Mumps
Feb	E	General	Hospital	-	-	26/12/2014	P-P	Influenza
Feb	W	General	Comm. Hosp/Long-stay unit	4	-	08/02/2015	P-P	Influenza
Feb	S	General	Hospital	4	-	03/02/2015	P-P	Influenza
Feb	S	General	Nursing home	18	0	08/02/2015	P-P & Airborne	Influenza
Feb	S	General	Nursing home	15	0	07/02/2015	P-P & Airborne	Influenza
Feb	NW	General	Residential institution	4	-	17/02/2015	P-P	Influenza
Feb	NW	General	Residential institution	2	-	-	P-P	Influenza
Feb	W	Family	Private house	2	0	06/02/2015	P-P	Influenza
Feb	SE	General	Nursing home	29	1	05/02/2015	P-P	Influenza
Feb	S	General	Comm. Hosp/Long-stay unit	70	4	12/02/2015	P-P	Influenza
Feb	SE	General	Nursing home	18	0	04/02/2015	P-P & Airborne	Influenza
Feb	W	General	Nursing home	18	-	-	P-P	Acute respiratory infection
Feb	E	General	Hospital	8	-	02/01/2015	P-P & Airborne	Influenza
Feb	SE	General	Comm. Hosp/Long-stay unit	35	1	14/01/2015	P-P & Airborne	Human metapneumovirus
Feb	S	General	Hospital	3	1	06/02/2015	P-P	Influenza
Feb	E	General	Nursing home			12/02/2015	P-P	Influenza
Feb	S	General	Comm. Hosp/Long-stay unit	8	0	09/02/2015	P-P & Airborne	Acute respiratory infection
Feb	S	Family	Private house	-	-	-	P-P & Airborne	Influenza
Feb	SE	General	Comm. Hosp/Long-stay unit	14	-	11/02/2015	P-P	Influenza
Feb	NE	General	Nursing home	23	-	09/02/2015	P-P & Airborne	Influenza
Feb	NE	General	Nursing home	9	-	13/02/2015	P-P & Airborne	Influenza
Feb	E	General	Childcare facility	3	-	10/02/2015	P-P & Airborne	Suspected mumps
Feb	E	General	Residential institution	12	-	14/02/2015	P-P & Airborne	Influenza
Feb	E	General	Nursing home	9	0	16/02/2015	P-P	Influenza
Feb	NW	General	Comm. Hosp/Long-stay unit	13	-	11/02/2015	P-P	Influenza
Feb	S	General	Comm. Hosp/Long-stay unit	10	0	14/02/2015	P-P & Airborne	Influenza
Feb	S	General	Hospital	2	-	16/02/2015	P-P & Airborne	Influenza
Feb	S	General	Comm. Hosp/Long-stay unit	25	1	14/02/2015	P-P & Airborne	Influenza

Month	HSE area	Type of outbreak	Location	No. ill *	No. Hosp.	Date Onset	Suspect mode of transmission	Organism
Feb	E	Family	Private house	3	2	11/01/2015	P-P	Streptococcus Group A
Feb	SE	General	Comm. Hosp/Long-stay unit	5	0	20/02/2015	P-P	Influenza
Feb	E	Family	Private house	2	1	03/02/2015	P-P	Pertussis
Feb	SE	General	Nursing home	15	1	10/02/2015	P-P & Airborne	Influenza
Feb	SE	General	Nursing home	10	-	15/02/2015	P-P & Airborne	Acute respiratory infection
Feb	NW	General	Comm. Hosp/Long-stay unit	11	0	20/02/2015	P-P	Acute respiratory infection
Feb	M	General	Nursing home	9	0	12/02/2014	P-P	Influenza
Feb	S	General	Nursing home	34	-	25/02/2015	P-P & Airborne	Influenza
Feb	E	General	Hospital	3	-	18/02/2015	P-P & Airborne	Influenza
Feb	E	Family	Private house	2	-	-	P-P & Airborne	Pertussis
Feb	W	General	Nursing home	9	0	16/02/2015	P-P	Influenza
Feb	E	General	Nursing home	17	0	25/02/2015	P-P	Influenza
Feb	E	General	Hospital	3	-	16/02/2015	P-P	Influenza
Feb	M	General	Nursing home	15	1	-	P-P	Influenza
Mar	E	General	Extended family	4	0	11/02/2015	P-P & Airborne	Mumps
Mar	NE	General	School	-	-	12/02/2015	AB	Mumps
Mar	E	General	University/College	3	0	24/02/2015	P-P & Airborne	Mumps
Mar	E	General	Nursing home	8	-	09/02/2015	P-P	Influenza
Mar	E	General	Hospital	-	-	26/02/2015	P-P	Influenza
Mar	E	General	School	2	0	28/02/2015	P-P	Possible Mumps
Mar	NE	General	School	-	-	22/01/2015	P-P & Airborne	Mumps
Mar	SE	General	Nursing home	5	1	24/02/2015	P-P	Influenza
Mar	S	General	Comm. Hosp/Long-stay unit	10	0	25/02/2015	P-P & Airborne	Acute respiratory infection
Mar	MW	General	Hospital	3	3	27/02/2015	P-P & Airborne	Influenza
Mar	E	General	Hospital	5	0	01/03/2015	P-P	Influenza
Mar	NW	General	Comm. Hosp/Long-stay unit	3	-	18/02/2015	P-P	Influenza
Mar	E	General	Hospital	4	-	05/03/2015	P-P	Influenza
Mar	E	General	Comm. Hosp/Long-stay unit	3	0	03/03/2015	P-P & Airborne	Influenza
Mar	E	General	School	6	1	11/02/2015	P-P & Airborne	Mumps
Mar	NE	General	Nursing home	13	-	17/02/2015	P-P	Influenza
Mar	E	General	Nursing home	10	-	14/02/2015	P-P	Influenza
Mar	SE	General	Residential institution	4	-	03/03/2015	P-P	Influenza
Mar	MW	General	Comm. Hosp/Long-stay unit	10	1	04/03/2015	P-P	Influenza
Mar	E	General	Workplace	4	-	24/02/2015	P-P	possible mumps
Mar	E	General	Nursing home	14	0	23/02/2015	P-P	Influenza
Mar	SE	General	Residential institution	9	2	09/03/2015	P-P	Influenza

Month	HSE area	Type of outbreak	Location	No. ill *	No. Hosp.	Date Onset	Suspect mode of transmission	Organism
Mar	S	General	Comm. Hosp/Long-stay unit	11	2	03/03/2015	P-P & Airborne	Influenza
Mar	E	General	Hospital	5	-	09/03/2015	P-P	Influenza
Mar	MW	General	Residential institution	6	1	25/02/2015	Unknown	Influenza
Mar	MW	General	University/College	10	-	20/02/2015	P-P & Airborne	Mumps
Mar	MW	General	Comm. Hosp/Long-stay unit	8	-	03/03/2015	P-P	Influenza
Mar	E	General	Nursing home	9	0	12/03/2015	P-P	Influenza
Mar	S	General	Comm. Hosp/Long-stay unit	14	1	11/03/2015	P-P & Airborne	Suspected Influenza
Mar	E	General	Nursing home	34	1	20/03/2015	P-P	Influenza
Mar	E	General	School	9	0	26/02/2015	P-P & Airborne	Mumps
Mar	NW	General	Nursing home	24	4	14/03/2015	P-P & Airborne	Influenza
Mar	E	General	Hospital	13	-	16/03/2015	P-P	Respiratory syncytial virus
Mar	S	General	Residential institution	22	-	11/03/2015	P-P & Airborne	Acute respiratory infection
Mar	SE	General	Comm. Hosp/Long-stay unit	3	0	23/03/2015	AB	Influenza

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

Since July 2001, outbreaks have been reported to HPSC. Preliminary information is provided by a public health professional when the outbreak is first notified. Further information is provided by the lead investigator once more complete data are available. The data requested includes information on the source of reporting of the outbreak, the extent of the outbreak, mode of transmission, location, pathogen involved, laboratory investigation, morbidity and mortality data, suspect vehicle and factors contributing to the outbreak. The data provided is crucial in providing information on the reasons why the outbreak occurred, the factors that lead to the spread of disease and the lessons that can be learnt to prevent further such outbreaks.

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

Tables 1 and 2 present a line listing of all general and family outbreaks of IID reported to HPSC in the first quarter of 2015. There were 83 general and 14 family IID outbreaks reported during this period, resulting in at least 1,245 people being ill.

Norovirus (n=48) was responsible for the most general outbreaks of IID (58%), followed by acute infectious gastroenteritis (n=26).

The most common causes of family outbreaks of IID was VTEC (n=10) [71%]. The other diseases responsible for family outbreaks were acute infectious gastroenteritis, cryptosporidiosis, shigellosis and salmonellosis.(Table 2).

Seventy-one general IID outbreaks were transmitted person-to-person/person-to-person and airborne (86%). Seventy-two general outbreaks (87%) were reported to have occurred in healthcare settings, i.e. hospitals or residential institutions, during this period.

There were one hundred and sixteen non-IID outbreaks reported during quarter 1 - see table 3.

Table 4 outlines the outbreak rate per HSE-area for outbreaks notified during Q1 2015.

Table 4. Number of Infectious Disease Outbreaks by HSE Area, Quarter 1 2015

HSE Area	No. of outbreaks	Rate per 100,000 population
E	66	4.0
M	17	6.0
MW	16	4.2
NE	14	3.2
NW	26	10.0
SE	26	5.2
S	30	5.0
W	18	4.0
Total	213	5.0

NOTIFICATIONS OF INFECTIOUS INTESTINAL, ZONOTIC AND VECTORBORNE DISEASE

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

Table 5. Intestinal Infectious, Zoonotic and Vectorborne Disease Notifications Quarter 1 2015 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	140	34	39	25	8	65	63	47	421
Cholera	0	0	0	0	0	0	0	0	0
<i>Clostridium perfringens</i> (type A) food-borne disease	1	0	0	0	0	0	0	0	1
Cryptosporidiosis	6	10	12	5	2	9	7	8	59
Giardiasis	5	2	2	0	0	1	8	6	24
Listeriosis	4	0	0	0	0	1	0	0	5
Noroviral infection	282	18	25	79	21	21	39	79	564
Paratyphoid	0	0	0	0	0	0	0	0	0
Rotavirus infection ^a	518	135	95	147	43	348	318	186	1790
Salmonellosis	17	1	3	6	4	5	4	4	44
Shigellosis	4	3	1	0	0	0	1	1	10
Staphylococcal food poisoning	0	0	0	0	0	0	0	0	0
Typhoid	~	~	~	~	~	~	~	~	1
Verotoxigenic <i>Escherichia coli</i> infection ^b	5	9	18	5	2	17	11	4	71
Yersiniosis	2	0	0	0	0	0	1	0	3
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	0	0	0	0	0	0	0	0	0
Plague	0	0	0	0	0	0	0	0	0
Q Fever	0	0	0	0	0	1	0	1	2
Rabies	0	0	0	0	0	0	0	0	0
Toxoplasmosis	2	0	0	0	0	0	1	4	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	0	0	0	0	0	0	0	1
Lyme disease (neuroborreliosis) ^c	1	0	1	0	0	0	0	0	2
Malaria	9	0	3	3	0	1	2	0	18
Typhus	0	0	0	0	0	0	0	0	0
West Nile fever ^c	0	0	0	0	0	0	0	0	0

^aNotifiable under the category Acute Infectious Gastroenteritis 2004-2011

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

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

SALMONELLA ENTERICA

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

Table 6. Salmonellosis Notifications by HSE-Area and Month, Quarter 1 2015

Month	E	M	MW	NE	NW	SE	S	W	Total
Jan	11	1	2	2	1	0	0	0	17
Feb	3	0		2	2	4	2	1	14
Mar	3	0	1	2	1	1	2	3	13
Total	17	1	3	6	4	5	4	4	44

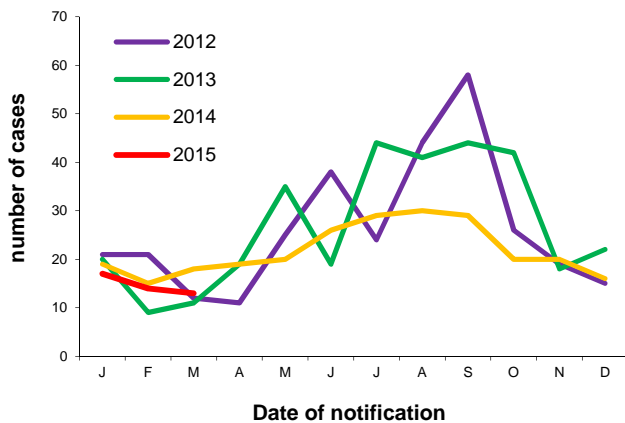


Figure 1. Seasonal Distribution of Human Salmonellosis Notifications, 2012 to end Quarter 1, 2015

Table 7 shows the serotypes for the *Salmonella* isolates typed by the NSSLRL in the first quarter of 2015 by HSE area (n=41). The commonest human serotypes isolated were *S. Typhimurium** (n=16, 39%) and *S. Enteritidis* (n= 8, 19%).

Table 8 shows the serotype distribution of confirmed *Salmonella* notifications by travel status this quarter among salmonellosis notifications on CIDR. 20% (n=9) were travel-associated, 36% (n=16) were indigenous and for 19 cases, the country of infection was unknown/not specified.

Table 7. Serotypes of *S. enterica* referred to NSSLRL in Quarter 1 2015 (Data are provided courtesy of Prof. Martin Cormican & Dr. Niall de Lappe, NSSLRL).

Serotype	E	M	MW	NE	NW	SE	S	W	Total
4,[5],12:i:-	0	0	0	1	0	0	0	0	1
Bovismorbificans	0	0	0	0	0	0	0	1	1
Derby	0	0	0	0	0	0	1	0	1
Dublin	0	0	0	0	0	0	1	0	1
Enteritidis	5	1	0	0	0	1	1	0	8
Hadar	0	0	0	0	0	0	1	0	1
Infantis	2	0	1	0	0	0	0	0	3
Java	0	0	0	2	0	0	0	1	3
Newport	1	0	0	0	0	0	0	1	2
Poona	1	0	0	0	0	0	0	0	1
Rissen	0	0	0	1	0	0	0	0	1
Thompson	0	0	0	0	0	1	0	0	1
Typhi	0	0	0	0	0	1	0	0	1
Typhimurium	5	1	1	1	3	3	1	0	15
Wilhelmsburg	0	0	0	0	0	0	0	1	1
Grand Total	14	2	2	5	3	6	5	4	41

Table 8. Confirmed Salmonella notifications by Serotype and Travel Status, Quarter 1 2015 [n(%)]

Serotype	Indigenous	Travel-associated	Unk/not specified	Total
S. Enteritidis	1 (6%)	3 (33%)	4 (21%)	8 (18%)
S. Typhimurium	10 (63%)	3 (33%)	6 (32%)	19 (43%)
Other	5 (31%)	3 (33%)	8 (42%)	16 (36%)
Salmonella spp	0 (0%)	0 (0%)	1 (5%)	1 (3%)
Total	16 (100%)	9 (100%)	19 (100%)	44 (100%)

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

Outbreaks of Salmonellosis

There was one family outbreak of salmonellosis notified in Q1 2015 (Tables 1 & 2).

S. Typhi and *S. Paratyphi*

There was one case of typhoid reported to CIDR in Q1 2015, associated with travel to East Africa.

* includes 1 case 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.

Seventy-one cases of VTEC were notified this quarter, the regional distribution of which is shown in Table 9. This compares with 78 VTEC cases notified in Q1 2014 and 56 in Q1 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, Q1 2015

Case classification	E	M	MW	NE	NW	SE	S	W	Total
Conf	5	7	14	5	2	15	8	3	59
Prob	0	1	4	0	0	2	3	0	10
Poss	0	1	0	0	0	0	0	1	2
Total	5	9	18	5	2	17	11	4	71

Table 10. VTEC notified by serogroup and month, Q1 2015

Month	O157	O26	Other	Total
Jan	4	3	10	17
Feb	0	5	14	19
Mar	4	11	20	35
Total	8	19	44	71

Two VTEC cases notified this quarter was reported as having developed HUS. One case was identified by serodiagnosis and the second was clinical HUS.

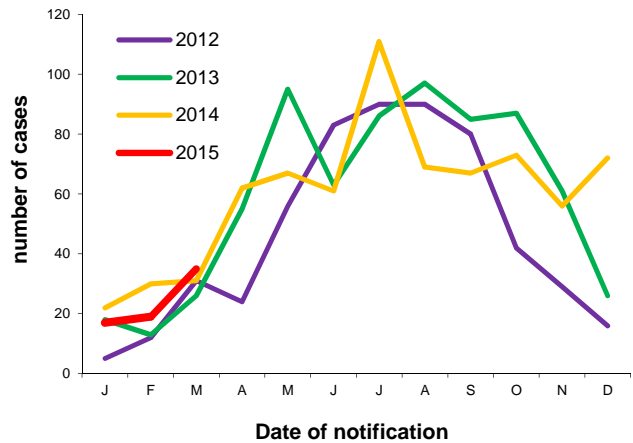


Figure 2. Seasonal distribution of VTEC cases notified 2012 to end quarter 1 2015

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 (*vt*) detection and VTEC molecular typing. Table 11 shows the *vt* types of VTEC cases notified in Q1 2015.

Table 11. Verotoxin typing profiles of *E. coli* referred to the HSE DML Public Health Laboratory, Cherry Orchard Hospital in Q1 2015 (Data are provided courtesy of Dr. Eleanor McNamara and Dr. Anne Carroll).

Serogroup	<i>vt1</i>	<i>vt2</i>	<i>vt1+vt2</i>	Not spec.	Total
O157	1	6	1	0	8
O26	1	0	16	2	19
Other	7	19	9	9	44
Total	9	25	26	11	71

Outbreaks of VTEC infection

During this quarter, one general and ten family outbreaks of VTEC infection were reported (see Table 2).

CAMPYLOBACTER

Human campylobacteriosis became a notifiable disease on January 1st 2004. Prior to this, human campylobacter infection was notified under the category of 'Food Poisoning (bacterial other than Salmonella)'. The notifications for the first quarter of 2014 are shown in Table 12.

Table 12. *Campylobacter* notifications by HSE-Area and month, Q1 2015

Month	E	M	MW	NE	NW	SE	S	W	Total
Jan	54	12	12	14	3	25	22	17	159
Feb	46	15	12	6	3	15	21	18	136
Mar	40	7	15	5	2	25	20	12	126
Total	140	34	39	25	8	65	63	47	421

Outbreaks of *Campylobacter* infection

There were no outbreaks of campylobacteriosis reported in Q1 2015 (Tables 1 and 2).

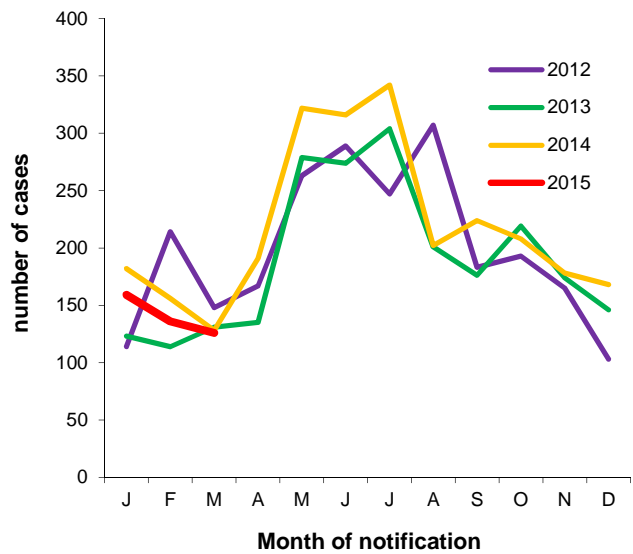


Figure 3. Seasonal distribution of *Campylobacter* notifications 2012 to end quarter 1 2015

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 Q1 2015, 59 cases of cryptosporidiosis were notified (Table 13), compared to 93 in the same period in 2014 and 139 in Q1 2013 (Figure 4).

Table 13. *Cryptosporidiosis* notifications by HSE-Area and month, Q1 2015

Month	E	M	MW	NE	NW	SE	S	W	Total
Jan	2	3	1	1	1		3	4	15
Feb	2	4	3	0	0	2	1	1	13
Mar	2	3	8	4	1	7	3	3	31
Total	6	10	12	5	2	9	7	8	59

Outbreaks of cryptosporidiosis

There were two outbreaks of cryptosporidiosis reported in quarter 1 2015 – one family outbreak and one general outbreak. (Tables 1 and 2).

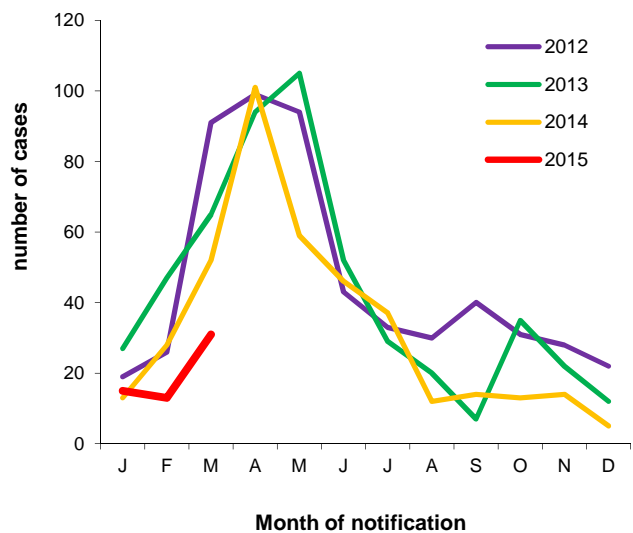


Figure 4. Seasonal distribution of *Cryptosporidium* notifications 2012 to end quarter 1 2015

NOROVIRUS

Human noroviral infection became a notifiable disease on January 1st 2004. There were 226 cases notified in the first quarter of 2014 (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 2015

Month	E	M	MW	NE	NW	SE	S	W	Total
Jan	111	14	6	21	1	13	12	10	188
Feb	84	3	5	22	13	6	4	33	170
Mar	87	1	14	36	7	2	23	36	206
Total	282	18	25	79	21	21	39	79	564

Norovirus outbreaks

Norovirus or suspect viral aetiology is the commonest cause of outbreaks of acute gastroenteritis in Ireland. In the first quarter of 2015, there were 48 outbreaks confirmed as being caused by this virus, involving at least 664 people

becoming ill, as outlined in tables 1 & 2. The seasonal trend is outlined in figure 5.

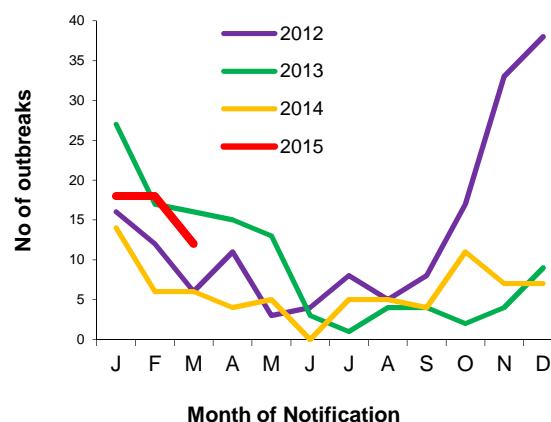


Figure 5. Seasonal distribution of confirmed norovirus outbreaks, 2012 to end quarter 1 2015

SHIGELLA

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

During Q1 2015, ten cases of shigellosis were notified (Table 5). This compares with seven cases notified in Q1 2014 and seven in Q1 2013.

Five cases were travel related (two cases were associated with travel to Pakistan, and one case each associated with travel to India, Indonesia and Tanzania). The country of infection was reported as unknown/not specified for the remaining five cases.

Table 15: Species and serotype distribution of Q1 2015 human *Shigella* isolates (Shigella typing services are provided courtesy of Prof. Martin Cormican & Dr. Niall de Lappe, NSSLRL).

Serotype	Number of isolates
<i>Shigella boydii</i>	1
<i>Shigella flexneri</i> 1b	2
<i>Shigella flexneri</i> 2	1
<i>Shigella flexneri</i> 2a	2
<i>Shigella flexneri</i> 3a	1
<i>Shigella sonnei</i>	3
Total	10

Outbreaks of shigellosis

There was one family outbreak of shigellosis notified in Q1 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 1 2015, twenty-four cases of giardiasis were notified (Table 5); this compares with 17 cases notified in Q1 2014 and 11 in Q1 2013.

Seven cases were reported to have acquired their illness abroad. Country of infection was reported as

Ireland for eight cases and 'not specified' or 'unknown' for the remaining nine cases.

Outbreaks of giardiasis

There were no outbreaks of giardiasis notified in Q1 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 five adult cases of listeriosis notified in Q1 2015, compared to three cases in Q1 2014 and four in Q1 2013. Five isolates were referred for typing to NSSLRL this quarter (Table 16).

Table 16: Serotypes of Q1 2015 human *Listeria* isolates referred to the NSSLRL (Typing services are provided by Prof. Martin Cormican & Dr. Niall de Lappe, NSSLRL).

Serotype	Number of isolates
1/2a	3
4b	2
Total	5

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 2015 are shown in Table 17. The number of notifications is considerably fewer than in quarter 1 in previous years (Figure 6).

Table 17. Rotavirus infection by HSE-Area and month, Q1 2015

Month	E	M	MW	NE	NW	SE	S	W	Total
Jan	124	19	12	21	12	123	27	26	364
Feb	169	59	26	54	14	109	97	51	579
Mar	225	57	57	72	17	116	194	109	847
Total	518	135	95	147	43	348	318	186	1790

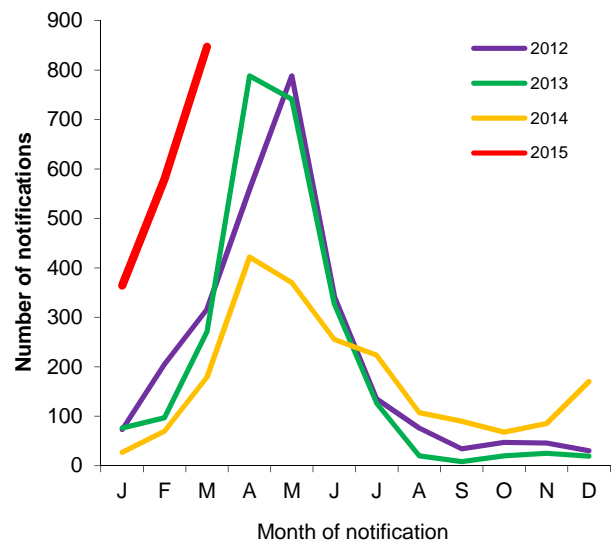


Figure 6. Seasonal distribution of rotavirus notifications, 2012 to end quarter 1 2015

Outbreaks of rotavirus

There were two general 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 *Clostridium perfringens* (type A) food-borne disease 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 Q1 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 ten cases in Q1 2013.

There were no cases of leptospirosis notified in Q1 2015; this compares with two in Q1 2014 and three in Q1 2013.

There were no cases of brucellosis, echinococcosis or trichinosis notified this quarter. Two cases of Q Fever were reported in Q1 2015.

MALARIA

Malaria is a notifiable disease for many years. The Q1 2015 notifications are reported in table 5 by HSE-Area.

Eighteen cases of malaria were notified in Q1 2015. This compares with nine cases reported in Q1 2014 and ten in Q1 2013.

Fourteen cases were reported as *P. falciparum*, three as *P. ovale* and one case as *P. vivax*.

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

The reason for travel for eight cases was reported as 'visiting family in country of origin', one case occurred in an Irish citizen living abroad and the reason for travel was not specified/unknown for the remaining nine cases.

OTHER NOTIFIABLE VECTORBORNE DISEASES

Under Infectious Diseases (Amendment) Regulations 2011 (S.I. No. 452 of 2011) (Sept 2011), Chikungunya disease, Dengue, Lyme disease (neuroborreliosis) and West Nile fever were made notifiable. The Q1 2015 notifications are reported in Table 5 by HSE-Area.

There were two cases of Lyme disease (neuroborreliosis) and one case of Dengue fever reported in Q1 2015.

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

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