

SURVEILLANCE of INFECTIOUS INTESTINAL (IID), ZOO NOTIC AND VECTORBORNE DISEASE, and OUTBREAKS of INFECTIOUS DISEASE



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

Quarter 1 –2010

June 2010

This is the first quarterly report for 2010 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, 2010

Month	HSE area	Location	No. ill *	No. Hosp.	Date Onset	Suspect mode of transmission	Disease
Jan	S	Residential institution	37	0	-	Not Specified	Noroviral infection
Jan	SE	Residential institution	24	0	27/12/2009	P-P	Noroviral infection
Jan	E	Residential institution	19	0	04/01/2010	Not Specified	Noroviral infection
Jan	SE	Residential institution	22	-	23/12/2009	P-P	Noroviral infection
Jan	NW	Residential institution	19	-	-	P-P	Noroviral infection
Jan	E	Hospital	461	-	06/01/2010	P-P	Noroviral infection
Jan	E	Residential institution	7	-	03/01/2010	Not Specified	Noroviral infection
Jan	W	Hospital	46	29	06/01/2010	P-P & AB	Noroviral infection
Jan	NW	Hospital	23	20	-	P-P & AB	Noroviral infection
Jan	NW	Residential institution	14	-	-	P-P	Noroviral infection
Jan	M	Hospital	26	-	30/12/2009	P-P & AB	Noroviral infection
Jan	M	Residential institution	3	-	-	P-P & AB	Noroviral infection
Jan	SE	Residential institution	29	-	27/12/2009	P-P	AIG
Jan	SE	Hospital	41	-	03/01/2010	P-P	Noroviral infection
Jan	E	Residential institution	6	-	-	P-P	Noroviral infection
Jan	S	Hospital	4	-	-	Not Specified	Noroviral infection
Jan	E	Residential institution	37	0	15/01/2010	Not Specified	Noroviral infection
Jan	E	Residential institution	12	-	15/01/2010	P-P	Noroviral infection
Jan	W	Hospital	21	14	12/01/2009	P-P & AB	Noroviral infection
Jan	S	Residential institution	15	0	-	P-P & AB	Noroviral infection
Jan	E	Hospital	31	-	15/01/2010	Not Specified	Noroviral infection
Jan	E	Hospital	42	-	11/01/2010	P-P	Noroviral infection
Jan	MW	Hospital	119	119	-	P-P	Noroviral infection
Jan	M	Residential institution	7	-	-	P-P & AB	Noroviral infection
Jan	SE	Hospital	11	-	04/01/2010	P-P	AIG
Jan	M	Residential institution	51	-	12/01/2010	P-P & AB	Noroviral infection
Jan	NW	Comm. Hosp/Long-stay unit	30	0	13/01/2010	P-P	AIG
Jan	NW	Residential institution	16	0	15/01/2010	P-P	AIG
Jan	NE	Hospital	2	2	-	P-P & AB	Noroviral infection
Jan	SE	Residential institution	17	-	11/01/2010	P-P	Noroviral infection
Jan	SE	Hospital	6	-	18/01/2010	P-P	Noroviral infection
Jan	E	Residential institution	40	-	22/01/2010	P-P	AIG
Jan	E	Residential institution	9	-	19/01/2010	P-P	Noroviral infection
Jan	S	Restaurant / Cafe	3	0	-	Unknown	Noroviral infection
Jan	E	Residential institution	16	-	15/01/2010	P-P	Noroviral infection
Jan	E	Residential institution	4	-	-	Not Specified	AIG
Jan	W	Hospital	25	25	22/01/2010	P-P & AB	Noroviral infection
Jan	E	Residential institution	21	-	19/01/2010	P-P	Noroviral infection
Jan	E	Hospital	75	47	21/01/2010	P-P	Noroviral infection
Jan	S	Residential institution	8	-	-	P-P & AB	Noroviral infection
Jan	NW	Comm. Hosp/Long-stay unit	2	2	21/01/2010	P-P	Noroviral infection
Jan	NE	Residential institution	12	0	23/01/2010	P-P	AIG

Jan	NE	Residential institution	13	0	-	P-P	Noroviral infection
Jan	SE	Other	8	-	24/01/2010	P-P	Noroviral infection
Jan	S	Hospital	4	-	-	Unknown	Noroviral infection
Jan	MW	Residential institution	12	-	22/01/2010	P-P	Noroviral infection
Jan	W	Comm. Hosp/Long-stay unit	17	-	-	P-P	Noroviral infection
Feb	SE	Residential institution	34	-	29/01/2010	P-P	AIG
Feb	SE	Residential institution	10	-	28/01/2010	P-P	Noroviral infection
Feb	W	Comm. Hosp/Long-stay unit	36	1	-	P-P	Noroviral infection
Feb	M	Residential institution	4		01/04/2010	P-P & AB	AIG
Feb	W	Hospital	7	7	-	P-P	Noroviral infection
Feb	E	Comm. Hosp/Long-stay unit	19	-	02/02/2010	P-P	Noroviral infection
Feb	E	Comm. Hosp/Long-stay unit	10	-	06/02/2010	P-P	AIG
Feb	S	Hospital	81	-	-	Not Specified	Noroviral infection
Feb	SE	Residential institution	38		05/02/2010	P-P	Noroviral infection
Feb	S	Comm. Hosp/Long-stay unit	16	1	-	P-P & AB	Noroviral infection
Feb	W	Comm. Hosp/Long-stay unit	17	0	-	P-P & AB	AIG
Feb	NW	Comm. Hosp/Long-stay unit	3	1	27/01/2010	P-P	Noroviral infection
Feb	W	Comm. Hosp/Long-stay unit	51	0	-	P-P	Noroviral infection
Feb	W	Comm. Hosp/Long-stay unit	11	0	10/02/2010	P-P	Noroviral infection
Feb	W	Comm. Hosp/Long-stay unit	8	2	-	P-P	Noroviral infection
Feb	W	Comm. Hosp/Long-stay unit	16	0	-	P-P	Noroviral infection
Feb	NE	Comm. Hosp/Long-stay unit	5	0	-	P-P	Noroviral infection
Feb	W	Comm. Hosp/Long-stay unit	2	0	09/02/2010	P-P	AIG
Feb	E	Comm. Hosp/Long-stay unit	18	-	11/02/2010	P-P	Noroviral infection
Feb	E	Residential institution	10	-	08/02/2010	P-P	Noroviral infection
Feb	W	Hospital	3	3	-	P-P	Noroviral infection
Feb	W	Comm. Hosp/Long-stay unit	28	-	-	P-P	Noroviral infection
Feb	S	Hospital	20	-	10/02/2010	P-P	Noroviral infection
Feb	SE	Residential institution	12	-	07/02/2010	P-P	Noroviral infection
Feb	E	Residential institution	6	-	-	P-P & Environmental	Clostridium difficile
Feb	M	Hospital	23		14/02/2010	P-P & AB	Noroviral infection
Feb	W	Comm. Hosp/Long-stay unit	3	-	-	P-P	Noroviral infection
Feb	SE	Creche	9	2	01/02/2010	P-P	Rotavirus
Feb	NW	Comm. Hosp/Long-stay unit	7	5	-	P-P	Noroviral infection
Feb	M	Hospital	9		31/01/2010	P-P & AB	Noroviral infection
Feb	NW	Comm. Hosp/Long-stay unit	19	11	13/02/2010	P-P	Noroviral infection
Feb	E	Residential institution	13	0	12/02/2010	Not Specified	AIG
Feb	S	Comm. Hosp/Long-stay unit	67	-	-	P-P & AB	Noroviral infection
Feb	E	Hospital	192	152	12/02/2010	P-P	Noroviral infection
Feb	NE	Hospital	2	-	-	P-P	Noroviral infection
Feb	E	Residential institution	26	0	15/02/2010	P-P	Noroviral infection
Feb	M	Hospital	21	-	-	P-P & AB	Noroviral infection
Feb	MW	Residential institution	20	-	17/02/2010	P-P	Noroviral infection
Feb	M	Hospital	4	-	-	P-P & AB	Noroviral infection
Feb	NE	Residential institution	8	0	-	P-P	Noroviral infection
Feb	E	Comm. Hosp/Long-stay unit	42	-	22/02/2010	P-P	Noroviral infection

Feb	E	Comm. Hosp/Long-stay unit	4	-	12/02/2010	P-P	Noroviral infection
Feb	NE	Community outbreak	3	2	-	P-P and FB	Salmonellosis
Feb	NW	Comm. Hosp/Long-stay unit	6	0	-	P-P	Noroviral infection
Feb	E	Comm. Hosp/Long-stay unit	8	-	21/02/2010	P-P	AIG
Feb	E	Residential institution	19	-	16/02/2010	P-P	Noroviral infection
Feb	E	Creche	25	-	12/02/2010	P-P	AIG
Feb	E	Hospital	117	89	20/02/2010	P-P	Noroviral infection
Feb	SE	Residential institution	20	-	17/02/2010	P-P	AIG
Feb	SE	Hospital	14	-	14/02/2010	P-P	AIG
Feb	SE	Hospital	14	-	19/02/2010	P-P	Noroviral infection
Feb	SE	Residential institution	5	-	25/02/2010	P-P	AIG
Feb	SE	Hospital	99	-	08/02/2010	P-P	Noroviral infection
Mar	E	Residential institution	28	-	24/02/2010	P-P	Noroviral infection
Mar	SE	Residential institution	8	0	27/02/2010	P-P	AIG
Mar	W	Hospital	3	3	-	P-P & AB	AIG
Mar	W	Comm. Hosp/Long-stay unit	16	0	-	P-P & AB	AIG
Mar	MW	Hospital	7	-	28/02/2010	P-P	Noroviral infection
Mar	S	Comm. Hosp/Long-stay unit	11	-	11/02/2010	Not Specified	Noroviral infection
Mar	S	Hospital	7	-	-	P-P	Noroviral infection
Mar	S	Other	15	-	16/02/2010	Not Specified	Noroviral infection
Mar	S	Hospital	5	-	-	Not Specified	Noroviral infection
Mar	S	Comm. Hosp/Long-stay unit	49	-	-	P-P & AB	Noroviral infection
Mar	S	Residential institution	5	0	-	P-P	Noroviral infection
Mar	E	Residential institution	16	0	01/03/2010	P-P	AIG
Mar	NE	Hospital	14	7	-	P-P & AB	Noroviral infection
Mar	W	Comm. Hosp/Long-stay unit	3	0	07/03/2010	P-P & AB	AIG
Mar	M	Residential institution	36	-	-	P-P & AB	Noroviral infection
Mar	E	Residential institution	9	-	02/03/2010	P-P	Noroviral infection
Mar	W	Comm. Hosp/Long-stay unit	7	0	-	P-P & AB	Noroviral infection
Mar	M	Residential institution	-	-	-	P-P & AB	Noroviral infection
Mar	NW	Comm. Hosp/Long-stay unit	15	0	-	P-P	Noroviral infection
Mar	S	Residential institution	18	-	13/03/2010	P-P	Noroviral infection
Mar	E	Residential institution	19	0	07/03/2010	P-P	AIG
Mar	E	Residential institution	8	0	05/03/2010	P-P	Noroviral infection
Mar	W	Hospital	2	2	-	P-P	Noroviral infection
Mar	W	Hospital	7	7	-	P-P	Noroviral infection
Mar	S	Hospital	7	-	-	P-P & AB	Noroviral infection
Mar	S	Comm. Hosp/Long-stay unit	4	-	08/03/2010	Not Specified	Noroviral infection
Mar	E	Residential institution	13	-	15/03/2010	Unknown	AIG
Mar	NE	Hospital	3	3	11/03/2010	P-P & AB	AIG
Mar	SE	Hospital	18	-	11/03/2010	P-P	Noroviral infection
Mar	SE	Hospital	15	-	16/03/2010	P-P	AIG
Mar	M	Residential institution	5	-	-	P-P & AB	Noroviral infection
Mar	M	Residential institution	2	0	-	P-P	Clostridium difficile
Mar	NW	Comm. Hosp/Long-stay unit	33	0	-	P-P	Noroviral infection
Mar	HPSC	Community outbreak	8	4	27/01/2010	FB	Salmonellosis

Mar	NW	Hospital	6	6	20/03/2010	P-P	Noroviral infection
Mar	NW	Hotel	2	0	21/03/2010	Unknown	AIG
Mar	E	Hospital	29	15	22/03/2010	P-P	Noroviral infection
Mar	E	Comm. Hosp/Long-stay unit	6	-	-	P-P	Noroviral infection
Mar	NE	Comm. Hosp/Long-stay unit	2	0	25/03/2010	P-P	Noroviral infection
Mar	SE	Hospital	5	-	27/03/2010	P-P	AIG
Mar	E	Comm. Hosp/Long-stay unit	36	28	28/04/2010	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; EHEC denotes infection with Enterohaemorrhagic *E. coli*; NK=unknown

* Total numbers ill does not include asymptomatic cases

Table 2. Family Outbreaks of Infectious Intestinal Disease (IID) in Quarter 1, 2010

Month	HSE region	Location	No. ill *	No. Hosp.	Date Onset	Suspect mode of transmission	Disease
Jan	MW	Private house	3	1	-	Unknown	EHEC
Jan	E	Private house	2	2	-	Animal contact	Salmonellosis
Jan	MW	Private house	1	1	27/11/2009	P-P	EHEC
Jan	E	Private house	2	-	-	P-P	Salmonellosis
Jan	S	Private house	2	0	06/12/2009	P-P & WB	EHEC
Jan	MW	Private house	2	-	-	P-P	EHEC
Feb	NW	Private house	4	0	-	P-P	AIG
Feb	NW	Private house	3	1	02/02/2010	P-P	EHEC
Feb	E	Restaurant / Cafe	7	0	07/02/2010	Other	AIG
Feb	NW	Extended family	15	0	10/02/2010	P-P	Campylobacter
Mar	NW	Private house	2	0	-	P-P	Rotavirus
Mar	NW	Private house	2	2	-	P-P	Rotavirus
Mar	W	Private house	2	-	-	Unknown	Giardiasis
Mar	W	Private house	2	-	-	P-P	Rotavirus
Mar	S	Private house	2	-	26/02/2010	P-P	Cryptosporidiosis
Mar	S	Private house	2	-	-	P-P	EHEC
Mar	M	Private house	1	0	15/03/2010	Not Specified	EHEC
Mar	SE	Private house	2	0	12/03/2010	P-P	Cryptosporidiosis

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

* Total numbers ill does not include asymptomatic cases

Table 3. Non-IID Outbreaks in Quarter 1, 2010

Month	HSE area	Type of outbreak	Location	No. ill *	No. Hosp.	Date Onset	Suspect mode of transmission	Organism
Jan	M	Family	Private house	2	2	30/11/2009	P-P	Measles
Jan	S	Family	Extended family	5	0	13/12/2009	P-P	Measles
Jan	S	Family	Private house	2	0	20/12/2009	P-P	Measles
Jan	M	Family	Private house	2	-	26/12/2009	P-P	Measles
Jan	E	General	Community outbreak	15	-	02/12/2009	P-P	Measles
Jan	S	Family	Private house	2	1	11/01/2010	P-P	Measles
Jan	W	Family	Private house	9	2	07/01/2010	P-P	Measles
Jan	MW	General	Community outbreak	3	1	22/12/2009	P-P	Measles
Jan	S	Family	Private house	4	0	-	P-P	Measles
Jan	S	Family	Private house	2	1	13/01/2010	P-P	Measles
Jan	W	Family	Private house	3	2	20/01/2010	Airborne	Measles

Jan	E	General	Hospital	4	4	19/12/2009	P-P & AB	Measles
Jan	E	General	Community outbreak	3	2	09/01/2010	P-P & AB	Measles
Feb	W	General	School	2	-	20/01/2010	P-P	Measles
Feb	E	General	Creche	2	2	29/01/2010	P-P & AB	Measles
Feb	E	General	Creche	6	4	09/01/2010	P-P & AB	Measles
Feb	MW	Family	Private house	4	1	-	P-P	Measles
Feb	E	General	Creche	9	-	08/02/2010	P-P	Suspected streptococcal /staphylococcal infection (Impetigo)
Feb	S	Family	Private house	2	0	18/01/2010	P-P	Measles
Feb	S	Family	Private house	3	0	16/01/2010	P-P	Measles
Feb	S	Family	Not Specified	2	0	24/01/2010	Not Specified	Measles
Mar	E	Family	Private house	2	0	20/02/2010	Airborne	Measles
Mar	E	Family	Extended family	3	0	29/01/2010	P-P & AB	Measles
Mar	E	Family	Extended family	2	0	04/02/2010	Airborne	Measles
Mar	E	General	University/College	2	0	01/03/2010	P-P	Mumps
Mar	E	General	School	2	0	10/02/2010	P-P & AB	Measles
Mar	NW	General	Private house	2	2	27/09/2009	P-P	Hepatitis B (acute and chronic)
Mar	E	General	School	2	0	23/02/2010	P-P	Measles
Mar	W	Family	Not Specified	2	-	12/02/2010	P-P	Varicella
Mar	E	General	School	7	0	21/02/2010	P-P & AB	Measles
Mar	NW	General	Residential institution	6	0	08/03/2010	P-P & AB	Varicella
Mar	E	General	Residential institution	9	2	23/03/2010	P-P & AB	Measles
Mar	S	Family	Not Specified	3	0	21/02/2010	P-P	Measles
Mar	S	General	School	9	1	26/02/2010	P-P	Measles
Mar	W	General	Hospital	7	0	26/02/2010	P-P	MRSA
Mar	E	Family	Private house	3	2	14/02/2010	P-P	Hepatitis A (acute)
Mar	E	Family	Private house	3	0	02/03/2010	P-P & AB	Measles
Mar	E	Family	Private house	3	0	08/03/2010	P-P	Mumps
Mar	S	General	Extended family	6	3	03/03/2010	P-P	Hepatitis A (acute)

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. Initial information is provided by a public health professional using a preliminary notification form (by fax or email). A full report is then forwarded 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 on final reports 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 2010. There were 141 general and 18 family IID outbreaks reported during this period, resulting in at least 3289 people being ill.

Norovirus (n = 107) and AIG (n = 29) were responsible for the majority of general outbreaks of IID (96% of all general outbreaks).

The most common cause of family outbreaks of IID was EHEC, with seven outbreaks (39% of all family outbreaks) caused by this pathogen. The other pathogens responsible for family outbreaks were AIG, Campylobacter, Cryptosporidiosis, Rotavirus and salmonellosis (Table 2).

Many general IID outbreaks were transmitted person-to-person (87%). One hundred and thirty-three general outbreaks (94%) were reported to have occurred in healthcare settings, i.e. hospitals or residential institutions, during this period.

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

Table 4 outlines the outbreak rate per HSE-area for outbreaks notified during Q1 2010.

Table 4. No. of infectious disease outbreaks per HSE region, Q1 2010

HSE Area	No. of outbreaks	Rate per 100,000 population
E	57	3.8
M	16	6.4
MW	9	2.5
NE	10	2.5
NW	21	8.9
SE	23	5.0
S	33	5.3
W	28	6.8
Total	197	4.6

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 2010 is shown in Table 5.

Table 5. Intestinal Infectious, Zoonotic and Vectorborne Disease Notifications Quarter 1, 2010 by HSE-Area

Infectious Intestinal Disease	E	M	MW	NE	NW	SE	S	W	Total
Acute infectious gastroenteritis* (incl. rotavirus & <i>C. difficile</i>)	359	161	8	68	93	282	216	208	1395
<i>Bacillus cereus</i> foodborne infection/intoxication	0	0	0	0	0	0	0	0	0
Botulism	0	0	0	0	0	0	0	0	0
Campylobacter infection	97	26	19	28	17	49	33	49	318
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	4	8	3	1	8	17	14	12	67
Enterohaemorrhagic <i>Escherichia coli</i>	2	2	0	1	3	0	8	0	16
Giardiasis	7	0	0	0	0	0	2	5	14
Listeriosis	0	0	0	0	0	0	1	0	1
Noroviral infection	495	102	45	140	55	98	172	202	1309
Paratyphoid	~	~	~	~	~	~	~	~	1
Salmonellosis	27	3	1	7	3	7	7	5	60
Shigellosis	4	1	1	1	0	0	2	0	9
Staphylococcal food poisoning	0	0	0	0	0	0	0	0	0
Typhoid	~	~	~	~	~	~	~	~	3
Yersiniosis	1	0	0	0	0	0	1	0	2
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	1	0	0	0	0	1	2	2	6
Plague	0	0	0	0	0	0	0	0	0
Q Fever	0	0	0	0	0	0	5	0	5
Rabies	0	0	0	0	0	0	0	0	0
Toxoplasmosis	5	1	0	0	1	0	4	1	12
Trichinosis	0	0	0	0	0	0	0	0	0
Typhus	0	0	0	0	0	0	0	0	0
Vectorborne Disease									
Malaria	12	1	1	1	1	0	1	1	18

*Since May 4th 2008, the category Acute Infectious Gastroenteritis (AIG) has included *C. difficile*. Note that data for AIG since this time is not directly comparable with data collected previous to this

Human salmonellosis (*S. enterica*) is a notifiable disease. The National Reference Laboratory for Salmonella (NSRL) 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 2010. Comparison of trends with previous years is shown in Figure 1.

Table 6. Salmonellosis Notifications by HSE-Area and Month, Q1 2010

Month	E	M	MW	NE	NW	SE	S	W	Total
Jan	12	3	1	0	1	1	2	2	22
Feb	18	0	0	6	1	3	2	3	23
Mar	7	0	0	1	1	3	3	0	15
Total	27	3	1	7	3	7	7	5	60

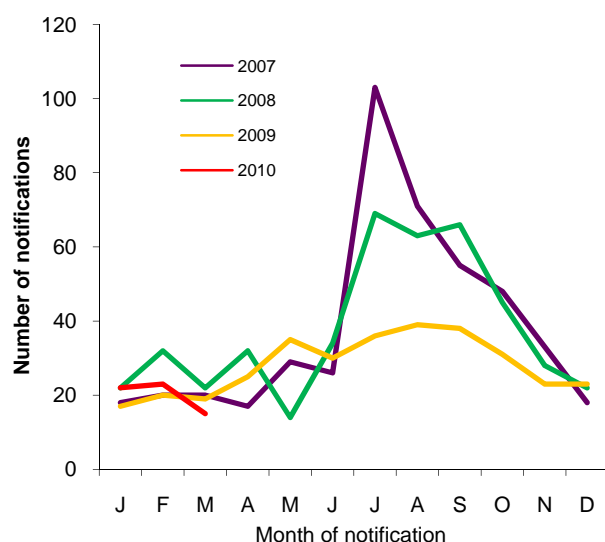


Figure 1. Seasonal Distribution of Human Salmonellosis Notifications, 2007 to end quarter 1 2010

Table 7 shows the *S. enterica* isolates typed by the NSRL in the first quarter of 2010 by HSE area (n=73). The commonest human serotypes isolated were *S. Enteritidis* (n= 21 [29%]) and *S. Typhimurium* (n=14 [19%]).

Nineteen (26%) *S. enterica* isolates were reported to NSRL as being associated with travel outside of Ireland during this quarter.

Table 7. Serotypes of *S. enterica* referred to NSRL in Quarter 1, 2010 (Data are provided courtesy of Prof. Martin Cormican and staff, NSRL).

Serotype	E	M	MW	NE	NW	SE	S	W	Total
4,5,12:i:-	2	0	0	1	0	2	0	0	5
Braenderup	1	0	0	0	0	0	0	0	1
Enteritidis	7	3	2	0	1	4	3	1	21
Give	1	0	0	0	0	0	0	0	1
Hadar	2	0	0	0	0	0	0	0	2
Il 13,23:g,s,t	1	0	0	0	0	0	0	0	1
Infantis	3	0	0	0	0	0	0	0	3
Javiana	1	0	0	0	0	0	0	0	1
Monschau	1	0	0	0	0	0	0	0	1
Montevideo	0	0	0	3	0	0	0	0	3
Newport	1	0	0	0	0	0	0	0	1
Nima	0	0	0	0	0	0	1	0	1
Oranienburg	3	0	0	0	0	0	0	0	3
Panama	1	0	0	0	0	0	0	0	1
Paratyphi A	~	~	~	~	~	~	~	~	1
Rissen	0	0	1	0	0	0	0	0	1
Saintpaul	0	0	1	0	0	1	1	0	3
Stanley	0	0	0	0	0	0	1	0	1
Typhi	~	~	~	~	~	~	~	~	3
Typhimurium	5	0	0	2	2	1	2	2	14
Unnamed	1	1	1	0	0	0	0	0	3
Virchow	0	0	0	0	0	0	0	1	1
Weltevreden	1	0	0	0	0	0	0	0	1
Total	35	4	5	6	3	8	8	4	73

Table 8 shows the serotype distribution of salmonellosis notifications by travel status this quarter.

Table 8. Salmonellosis notifications by serotype and travel status, Q1 2010 [n(%)]

Serotype	Indigenous	Travel-associated	Unk/not specified	Total
<i>S. Enteritidis</i>	6 (32%)	6 (35%)	4 (17%)	16 (27%)
<i>S. Typhimurium</i>	5 (26%)	0 (0%)	8 (33%)	13 (22%)
Other	4 (21%)	9 (53%)	10 (42%)	23 (38%)
Not specified	4 (21%)	2 (12%)	2 (8%)	8 (13%)
Total	19 (100%)	17 (100%)	24 (100%)	60

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

S. Typhi* and *S. Paratyphi

There were three notifications of *S. Typhi* reported during Q1 2010, which were associated with travel to India (n=2) and Guinea (n=1). There was one notification of *S. Paratyphi* reported during Q1 2010, travel history unknown.

Outbreaks of salmonellosis

There were four outbreaks of salmonellosis reported in Q1 2010, two family outbreaks and two general outbreaks (Tables 1&2).

VEROTOXIGENIC *E. COLI* (VTEC)

Illness caused by enterohaemorrhagic *E. coli* (EHEC) became a notifiable disease on January 1st 2004. Under EHEC, all verotoxin positive *E. coli*, and *E. coli* of serogroups O157, O26, O111, O103, O145 regardless of whether verotoxin producers, are reported. Previously, VTEC were notified under the category of 'Food Poisoning (bacterial other than Salmonella)'.

The number of EHEC notified in Q1 2010 is shown in Table 5. Under the legislation, it is required that information on EHEC be gathered and reported. However, because of their clinical and public health significance, it is important to distinguish between those isolates that are verotoxin-producers and those that are not.

Sixteen EHEC were notified in this quarter, all of which were confirmed VTEC (Table 9). This compares with 15 VTEC cases notified in Q1 2009 and 33 in Q1 2008 (Figure 2). Table 9 shows the number of VTEC cases reported by serogroup and month, Q1 2010.

Table 9. Confirmed and Probable VTEC Notified by Serogroup and Month, Q1 2010

Month	O157	O26	Other	Total
Jan	4	0	0	4
Feb	7	0	0	7
Mar	5	0	0	5
Total	16	0	0	16

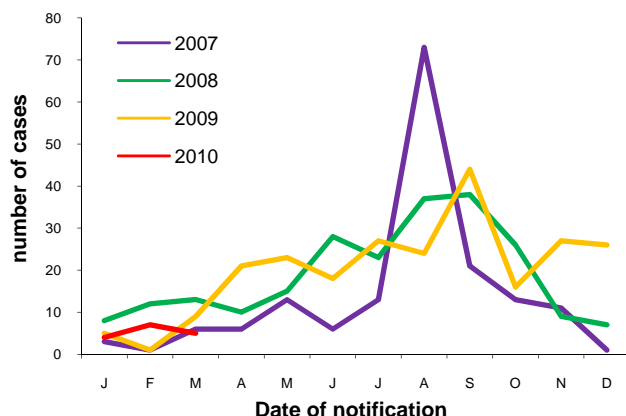


Figure 2. Seasonal distribution of confirmed and probable VTEC cases notified 2007 to end quarter 1 2010

Three cases notified during this quarter were reported as having developed HUS –all were infected with *E. coli* O157.

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. Tables 10 and 11 show the phage types and *vt* types of VTEC isolates referred to the laboratory in Q1 2010.

Table 10. Phage Types of VTEC O157 isolates referred to the HSE DML Public Health Laboratory, Cherry Orchard Hospital in Q1 2010. (Data are provided courtesy of Dr. Eleanor McNamara and Dr. Anne Carroll).

Phage type	Number of isolates
32	2
8	1
UNK	13
Total	16

Includes isolates from confirmed cases only. All phage typing was undertaken at the HPA Laboratory of Enteric Pathogens (LEP), Colindale, UK

Table 11. Verotoxin typing results of VTEC isolates referred to the HSE DML Public Health Laboratory, Cherry Orchard Hospital in Q1 2010. (Data are provided courtesy of Dr. Eleanor McNamara and Dr. Anne Carroll).

Serogroup	vt1	vt2	vt1+vt2	Pending	Total
O157	0	15	1	0	16
O26	0	0	0	0	0
Other	0	0	0	0	0
Total	0	15	1	0	16

Outbreaks of VTEC infection

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

CAMPYLOBACTER

Human campylobacteriosis became a notifiable disease on January 1st 2004. Prior to this, human campylobacter infection was notified under the category of 'Food Poisoning (bacterial other than Salmonella)'. The notifications for the first quarter of 2010 are shown in Table 12. The number of cases notified this quarter is similar to quarter 1 in previous years (Figure 3).

Table 12. Campylobacter Notifications by HSE-Area and Month, Q1 2010

Month	E	M	MW	NE	NW	SE	S	W	Total
Jan	32	9	13	9	7	20	8	18	116
Feb	36	8	3	7	7	18	10	14	103
Mar	29	9	3	12	3	11	15	17	99
Total	97	26	19	28	17	49	33	49	318

Outbreaks of Campylobacter infection

There was one family outbreak of campylobacteriosis reported in Q1 2010 (Table 2).

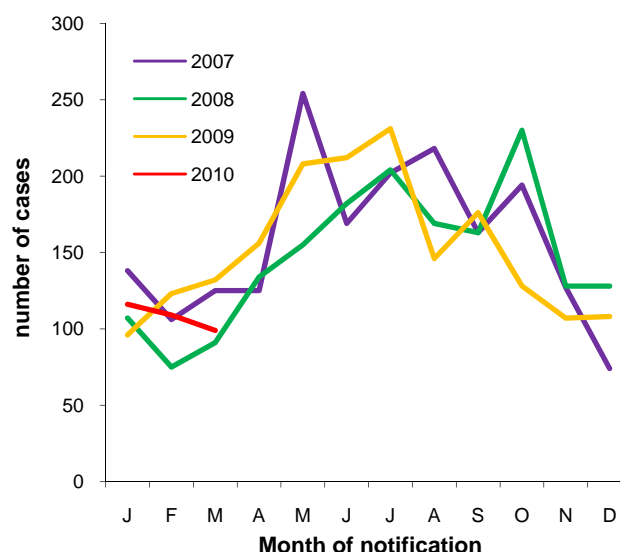


Figure 3. Seasonal distribution of Campylobacter notifications 2007 to end quarter 1 2010

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 2010, 67 cases of cryptosporidiosis were notified (Table 13), compared to 62 in the same period last year and 88 in Q1 2008 (Figure 4).

Table 13. Cryptosporidiosis Notifications by HSE-Area and Month, Q1 2010

Month	E	M	MW	NE	NW	SE	S	W	Total
Jan	2	1	1	0	2	3	2	1	12
Feb	1	5	0	0	2	4	4	3	19
Mar	1	2	2	1	4	10	8	8	36
Total	4	8	3	1	8	17	14	12	67

Outbreaks of cryptosporidiosis

There were two family outbreaks of cryptosporidiosis reported in Quarter 1 (Tables 1&2).

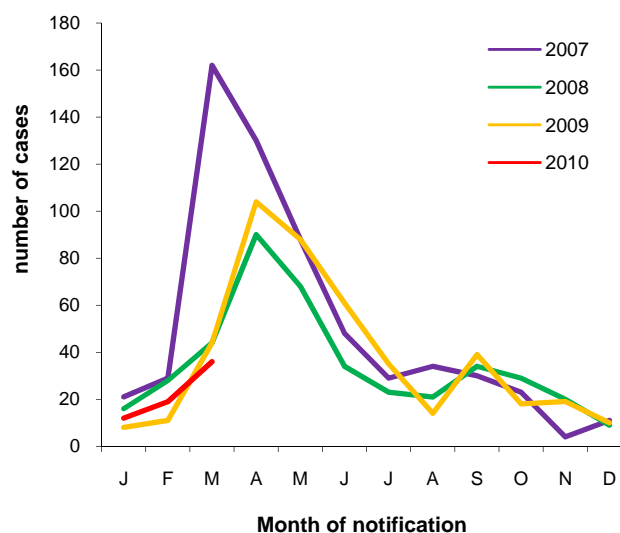


Figure 4. Seasonal distribution of cryptosporidiosis notifications 2007 to end quarter 1 2010

NOROVIRUS

Human noroviral infection became a notifiable disease on January 1st 2004. There were 1309 cases reported in the first quarter of 2010, as shown in 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 2010

Month	E	M	MW	NE	NW	SE	S	W	Total
Jan	119	31	28	26	19	43	27	59	352
Feb	215	22	2	63	13	38	51	111	515
Mar	161	49	15	51	23	17	94	32	442
Total	495	102	45	140	55	98	172	202	1309

Norovirus outbreaks

Norovirus or suspect viral aetiology is the commonest cause of outbreaks of acute gastroenteritis in Ireland. In the first quarter of 2010 there were 107 outbreaks confirmed as being caused by this virus, involving at

least 2808 people becoming ill, as outlined in Table 1. The seasonal trend is outlined in Figure 5.

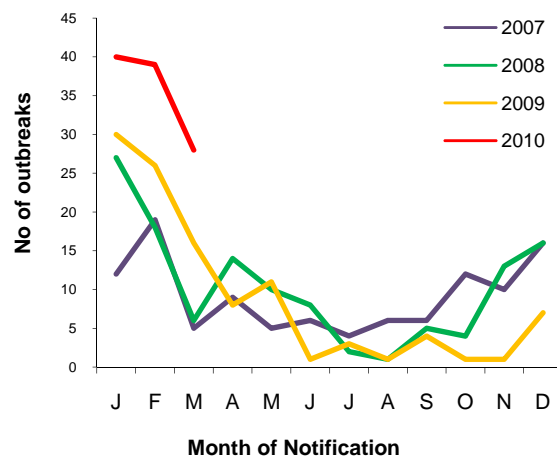


Figure 5. Seasonal distribution of confirmed norovirus outbreaks, 2007 to end quarter 1 2010.

LISTERIA

Human listeriosis became a notifiable disease on January 1st 2004. Prior to this, listeriosis was notified under the category of 'Food Poisoning (bacterial other than Salmonella)' or 'Bacterial Meningitis' as appropriate.

There was one case of listeriosis notified in Q1 2010, compared to two in quarter 1 2009 and three in quarter 1 2008. This was a non-pregnancy related adult case. No isolates were referred to the NSRL this quarter.

SHIGELLA

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

During Q1 2010, nine cases of shigellosis were notified (Table 5). This compares with 15 cases notified as shigellosis in Q1 in 2009 and 13 in Q1 2008. Four cases were reported as *S. sonnei*, and five as *S. flexneri*.

One case (11%) was reported to have acquired their illness abroad, in Haiti. Country of infection was reported as Ireland for five cases and 'not specified' or 'unknown' for the remaining three cases.

Outbreaks of shigellosis

There were no outbreaks of shigellosis reported in Q1 2010 (Tables 1 & 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 2010, 14 cases of giardiasis were notified (Table 5); this compares with 16 cases notified in Q1 2009 and 20 in Q1 2008.

Outbreaks of giardiasis

There was one family outbreak of giardiasis notified in Q1 2010 (Tables 1&2).

FOODBORNE INTOXICATIONS

Bacillus cereus foodborne infection/intoxication, botulism, *Clostridium perfringens* (type A) foodborne disease and staphylococcal food poisoning became notifiable diseases on January 1st 2004. Prior to this, these diseases were notified under the category of 'Food Poisoning (bacterial other than Salmonella)'.

There were no cases of foodborne infection/intoxication notified during this quarter.

Outbreaks of foodborne intoxications

There were no outbreaks of food-borne infection/intoxication notified this quarter (Table 2).

ACUTE INFECTIOUS GASTROENTERITIS incl. ROTAVIRUS

Since 1st January 2004, there is a notifiable disease category termed 'Acute Infectious Gastroenteritis'. Until May 3rd 2008, this included all unspecified causes of gastroenteritis and also specifically, gastroenteritis due to rotavirus. Since May 4th 2008, it has also specifically included *Clostridium difficile* associated disease (CDAD). AIG cases due to unspecified causes or to rotavirus are notifiable in all age groups, unlike the former notifiable disease category of 'Gastroenteritis in children under 2 years'. CDAD cases are only notifiable in patients two years or older that meet the case definition.

Table 15. Rotaviral Infections Notified under the Category of 'Acute Infectious Gastroenteritis' by HSE-Area and Month, Q1 2010

Month	E	M	MW	NE	NW	SE	S	W	Total
Jan	4	4	4	7	6	39	23	12	99
Feb	32	25	0	7	14	64	36	26	204
Mar	149	118	0	38	56	102	108	105	676
Total	185	147	4	52	76	205	167	143	979

During Quarter 1 2010, there were 1395 notifications of acute infectious gastroenteritis. Of these, 979 (70%)

were reported as rotavirus (as shown in Table 15 & Figure 6).

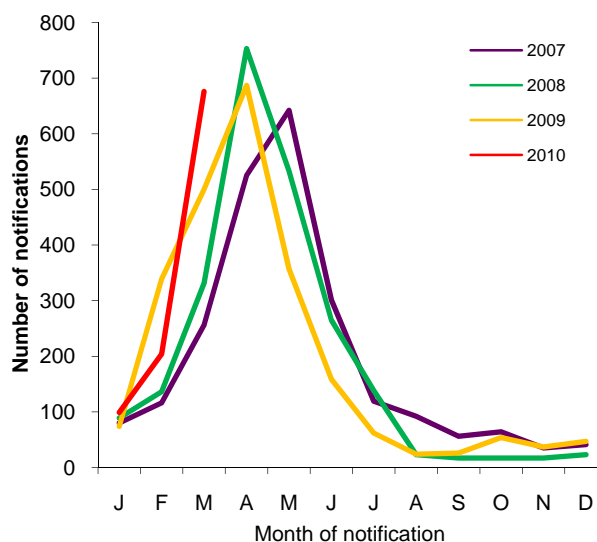


Figure 6. Seasonal distribution of rotavirus notifications 2007 to end quarter 4 2009

Outbreaks of Rotavirus

There were one general and three family outbreaks of rotavirus this quarter (Tables 1 & 2).

NON-IID ZONOTIC DISEASES

Non-IID zoonoses now notifiable include: anthrax, brucellosis, echinococcosis, leptospirosis, plague, Q fever, toxoplasmosis, trichinosis, typhus and rabies. The Q1 2010 notifications of these zoonotic diseases are reported by HSE-Area in Table 5.

Twelve cases of toxoplasmosis were notified in this quarter. This compares with 14 cases notified in the same period in 2009 and 17 cases in Q1 2008.

There were no cases of brucellosis reported during this quarter compared with none in Q1 2009 and two in Q1 2008.

Six cases of leptospirosis were notified in Q1 2010; this compares with 5 in Q1 2009 and six in Q1 2008. Three cases were reported as occupational and the exposure for one case was reported as other; no exposure information was provided for the remaining two cases.

There were five cases of Q fever notified this quarter, compared to three in Q1 in 2009 and four in Q1 2008.

MALARIA

Malaria is a notifiable disease for many years. The Q4 2009 notifications are reported in Table 5 by HSE-Area.

Eighteen cases of malaria were notified in Q1 2010. This compares with 13 cases reported in Q1 2009 and 15 in Q1 2008.

Fifteen cases were reported as *P. falciparum*, one *P. ovale* and the species was not specified for two cases.

Twelve cases were exposed in Sub-Saharan Africa. No data were provided on country of infection for the remaining six cases.

The reason for travel for six cases was reported as visiting family in country of origin, with one case reported as a new entrant, one as a foreign visitor ill while in Ireland, one Irish citizen living abroad and the reason for travel for one case was reported as other. The reason for travel was not specified/unknown for eight cases.

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