

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 2 –2008

September 2008

This is the second quarterly report for 2008 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, 2008

Month	HSE region	Location	No. ill *	No. Hosp.	Date Onset	Suspect mode of transmission	Disease
April	NW	Comm. Hosp/Long-stay unit	5	-	-	P-P	AIG
April	SE	Hospital	7	-	25/03/2008	P-P	AIG
April	E	Creche	8	1	-	P-P	Rotavirus
April	NW	Creche	6	2	-	P-P	Rotavirus
April	S	Residential institution	12	-	-	P-P & AB	C. diff & Norovirus
April	NW	Comm. Hosp/Long-stay unit	45	-	19/03/2008	P-P	Rotavirus
April	NW	Hospital	32	21	-	P-P & AB	Noroviral infection
April	NE	Hospital	24	-	28/03/2008	Not Specified	AIG
April	MW	Hospital	8	8	03/04/2008	Not Specified	Noroviral infection
April	NW	Comm. Hosp/Long-stay unit	9	-	03/04/2008	P-P	AIG
April	S	Comm. Hosp/Long-stay unit	3	-	-	P-P & AB	Noroviral infection
April	S	Other	20	0	-	P-P & AB	Noroviral infection
April	NE	Hospital	9	9	09/04/2008	Not Specified	Noroviral infection
April	S	Residential institution	10	-	-	P-P & AB	Noroviral infection
April	HPSC	Community outbreak	4	1	16/02/2008	FB	Salmonellosis
April	SE	Residential institution	15	0	12/04/2008	P-P	Noroviral infection
April	E	Creche	28	3	07/04/2008	P-P	Rotavirus
April	E	Other	15	-	-	P-P	Noroviral infection
April	S	Comm. Hosp/Long-stay unit	8	-	15/04/2008	Not Specified	Clostridium difficile
April	E	Hospital	2	2	-	P-P	Salmonellosis
April	E	Hospital	5	0	29/03/2008	Not Specified	Noroviral infection
April	NE	Hospital	14	14	-	P-P & AB	Noroviral infection
April	E	Comm. Hosp/Long-stay unit	29	22	18/04/2008	P-P	Noroviral infection
April	SE	Community outbreak	7	0	03/04/2008	P-P and Animal	Cryptosporidiosis
April	SE	Residential institution	34	0	28/04/2008	P-P	AIG
May	E	Unknown	2	0	09/03/2008	Unknown	Salmonellosis
May	NE	Other	35	0	26/04/2008	FB	AIG
May	S	Other	16	0	24/04/2008	P-P	Noroviral infection
May	MW	Residential institution	6	-	29/04/2008	P-P	Noroviral infection
May	M	Hospital	38	30	02/05/2008	Not Specified	Noroviral infection
May	E	Creche	13	0	07/05/2008	Not Specified	Noroviral infection
May	S	Hospital	3	3	-	P-P & AB	Noroviral infection
May	S	Comm. Hosp/Long-stay unit	12	0	22/04/2008	P-P & AB	Noroviral infection
May	E	Hospital	9	-	-	P-P	Noroviral infection
May	S	Other	291	0	-	Not Specified	Noroviral infection
May	NW	Creche	2	0	-	P-P	EHEC
May	E	Not Specified	-	-	13/05/2008	Unknown	AIG
May	S	Comm. Hosp/Long-stay unit	9	-	15/05/2008	P-P	Noroviral infection
May	E	Hotel	29	0	-	Not Specified	AIG
May	SE	Residential institution	6	1	25/05/2008	P-P	AIG

May	MW	Hospital	3	3	-	P-P	Noroviral infection
June	M	Creche	24	-	23/05/2008	P-P	Shigellosis
June	SE	Comm. Hosp/Long-stay unit	10	-	22/05/2008	P-P	AIG
June	E	Private house	10	2	15/05/2008	Environmental / Fomite	EHEC
June	S	Hospital	7	7	-	Unknown	Noroviral infection
June	S	Comm. Hosp/Long-stay unit	6	-	28/05/2008	P-P & AB	AIG
June	S	Comm. Hosp/Long-stay unit	6	-	-	P-P & AB	Noroviral infection
June	S	Comm. Hosp/Long-stay unit	20	0	-	Not Specified	Noroviral infection
June	S	Comm. Hosp/Long-stay unit	3	0	-	Not Specified	Noroviral infection
June	MW	Hospital	7	-	12/06/2008	P-P	Noroviral infection
June	S	Hospital	5	-	-	P-P	Clostridium difficile
June	E	Hospital	2	0	12/06/2008	P-P	Salmonellosis
June	NW	Comm. Hosp/Long-stay unit	28	0	-	P-P	Noroviral infection
June	SE	Residential institution	15	0	14/06/2008	P-P	Noroviral infection
June	NW	Hospital	12	-	-	P-P	Noroviral infection
June	NW	Comm. Hosp/Long-stay unit	5	-	-	P-P	Noroviral infection
June	W	Residential institution	20	-	25/06/2008	P-P	AIG
June	NE	Residential institution	19	0	14/06/2008	AB	AIG

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*

* Total numbers ill does not include asymptomatic cases

Table 2. Family Outbreaks of Infectious Intestinal Disease (IID) in Quarter 2, 2008

Month	HSE region	Location	No. ill *	No. Hosp.	Date Onset	Suspect mode of transmission	Disease
April	S	Private house	2	2	-	P-P & AB	Rotavirus
April	SE	Private house	2	2	27/03/2008	P-P and Animal	Salmonellosis
May	S	Private house	3	1	18/04/2008	P-P	EHEC
May	E	Travel related	2	0	-	Not Specified	Shigellosis
May	E	Family gathering	10	0	-	P-P	Noroviral infection
May	E	Private house	1	0	16/03/2008	NK	EHEC
May	S	Private house	2	2	01/05/2008	P-P & AB	Rotavirus
May	W	Private house	5	-	21/04/2008	NK	EHEC
May	S	Private house	4	2	09/05/2008	P-P	EHEC
June	E	Not Specified	2	-	-	Not Specified	Campylobacter infection
June	S	Private house	3	0	23/05/2008	P-P	AIG
June	S	Private house	1	1	22/05/2008	P-P	EHEC
June	S	Private house	2	0	03/05/2008	Animal contact	Campylobacter infection
June	S	Travel related	2	0	26/05/2008	Not Specified	Giardiasis
June	E	Private house	2	0	24/05/2008	P-P	EHEC

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*

* Total numbers ill does not include asymptomatic cases

Table 3. Non-IID Outbreaks in Quarter 2, 2008

Month	HSE region	Type of outbreak	Location	No. ill *	No. Hosp.	Date Onset	Suspect mode of transmission	Organism
April	E	General	School	7		23/03/2008	P-P	Mumps
April	SE	General	University/College	9	0	15/03/2008	NK	Mumps
April	MW	General	University/College	38		09/02/2008	P-P	Mumps
April	E	General	Residential institution	3	1	23/03/2008	P-P & AB	Varicella
April	E	General	Coach tour	13	0	16/04/2008	P-P & AB	Influenza
April	E	General	University/College	39	2	21/04/2008	P-P	Mumps
April	S	Family	Private house	2		-	AB	Mumps
April	NW	General	Creche	7	0	11/04/2008	P-P	Hand Foot & Mouth Disease
April	NW	General	Creche	4	0	11/04/2008	P-P	Varicella
April	E	General	Creche	5	0	-	P-P	Supsected hand, foot & mouth disease
April	E	General	Residential institution	-		31/01/2008	P-P & AB	Mycobacterium Tuberculosis
April	E	Family	Private house	3	0	-	P-P	Pertussis
April	NW	General	Creche	4	0	-	P-P	Suspected hand, foot & mouth disease
April	E	General	University/College	6	0	07/04/2008	P-P & AB	Mumps
May	NW	General	Creche	3	0	-	P-P	Ringworm
May	E	General	University/College	3	0	24/03/2008	P-P	Mumps
May	E	General	School	2	0	13/05/2008	Not Specified	Mumps
May	SE	General	School	3	-	27/04/2008	P-P	Mumps
May	W	General	Community outbreak	3	-	07/05/2008	Not Specified	Mumps
May	W	General	Creche	3	-	10/05/2008	Not Specified	Mumps
May	E	General	School	10	-	12/05/2008	P-P	Varicella
May	E	General	Creche	-	0	07/04/2008	Not Specified	Suspected Varicella
May	E	General	Comm. Hosp/Long-stay unit	7	-	15/05/2008	P-P	Scabies
May	E	General	University/College	2	1	16/05/2008	P-P	Mumps
May	E	General	School	14	-	-	NK	Ringworm
May	W	General	University/College	2	-	06/05/2008	P-P	Mumps
May	W	General	Hospital	7	-	-	NK	Outbreak
May	W	General	School	5	-	-	P-P	Outbreak
June	NE	General	Not Specified	2	1	30/04/2008	P-P	Hepatitis A (acute)
June	NW	General	Creche	6	0	-	P-P	Suspected hand, foot & mouth disease
June	W	Family	Private house	3	0	03/06/2008	P-P	Measles
June	NW	General	School	2		-	P-P	Suspected hand, foot & mouth disease
June	W	General	School	4	-	08/06/2008	P-P	Mumps

P-P denotes Person-to-Person transmission, WB denotes waterborne; AB denotes airborne;

* 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 second quarter of 2008. There were 58 general and 15 family IID outbreaks reported during this period, resulting in at least 1075 people being ill.

Norovirus was responsible for the majority of general outbreaks of IID with 30 outbreaks alone confirmed to be caused by this organism (52% of all general outbreaks).

The most common cause of family outbreaks of IID was EHEC, with six outbreaks (40% of all family outbreaks) caused by this pathogen. The other pathogens responsible for family outbreaks were Rotavirus, campylobacter infection, giardiasis, shigellosis, acute infectious gastroenteritis and salmonellosis (Table 2).

Most general IID outbreaks were transmitted person-to-person/P-P & airborne (67%). Forty-one general outbreaks (71%) 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 Quarter 2 - see Table 3.

Table 4 outlines the outbreak rate per HSE-area for outbreaks notified during Q2 2008.

Table 4. No. of infectious disease outbreaks per HSE region

HSE Area	No. of outbreaks	Rate per 100,000 population
E	33	2.2
M	2	0.8
MW	5	1.4
NE	6	1.5
NW	15	6.3
SE	10	2.2
S	25	4.0
W	9	2.2
Total	105	2.5

NOTIFICATIONS OF INFECTIOUS INTESTINAL, ZONOTIC AND VECTORBORNE DISEASE

The number of notifications of infectious intestinal, zoonotic and vectorborne disease by HSE-Area for the second quarter of 2008 is shown in Table 5.

Table 5. Intestinal Infectious, Zoonotic and Vectorborne Disease Notifications Quarter 2, 2008 by HSE-Area

Infectious Intestinal Disease	E	M	MW	NE	NW	SE	S	W	Total
Acute infectious gastroenteritis (incl. rotavirus)	558	240	85	122	163	259	290	311	2028
<i>Bacillus cereus</i> foodborne infection/intoxication	0	0	0	0	0	0	0	0	0
Botulism	~	~	~	~	~	~	~	~	1
Campylobacter infection	142	52	47	35	31	42	83	39	471
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	3	18	33	10	20	30	32	48	194
Enterohaemorrhagic <i>Escherichia coli</i>	20	4	2	5	6	2	12	4	55
Giardiasis	11	0	0	2	1	1	5	2	22
Listeriosis	1	0	1	0	0	0	0	0	2
Noroviral infection	100	40	82	30	22	15	70	4	363
Paratyphoid	~	~	~	~	~	~	~	~	5
Salmonellosis	27	5	8	11	3	7	12	7	80
Shigellosis	6	20	1	1	0	0	1	1	30
Staphylococcal food poisoning	0	0	0	0	0	0	0	0	0
Typhoid	~	~	~	~	~	~	~	~	2
Yersiniosis	2	0	0	0	0	0	0	0	2
Zoonotic Disease	E	M	MW	NE	NW	SE	S	W	Total
Anthrax	0	0	0	0	0	0	0	0	0
Brucellosis	0	1	0	0	0	0	0	0	1
Echinococcosis	0	0	0	0	0	0	0	0	0
Leptospirosis	1	0	0	0	1	0	1	0	3
Plague	0	0	0	0	0	0	0	0	0
Q Fever	1	0	1	0	0	0	1	0	3
Rabies	0	0	0	0	0	0	0	0	0
Toxoplasmosis	9	1	2	1	1	1	3	0	18
Trichinosis	1	0	0	0	0	0	0	0	1
Typhus	0	0	0	0	0	0	0	0	0
Vectorborne Disease									
Malaria	10	1	1	4	0	2	2	0	20

SALMONELLA ENTERICA

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 second quarter of 2008. Comparison of trends with previous years is shown in Figure 1 below.

Table 6. Salmonellosis Notifications by HSE-Area and Month, Q2 2008

Salmonellosis	E	M	MW	NE	NW	SE	S	W	Total
April	13	3	1	5	1	3	5	1	32
May	3	1	3	0	0	1	4	2	14
June	11	1	4	6	2	3	3	4	34
Total	27	5	8	11	3	7	12	7	80

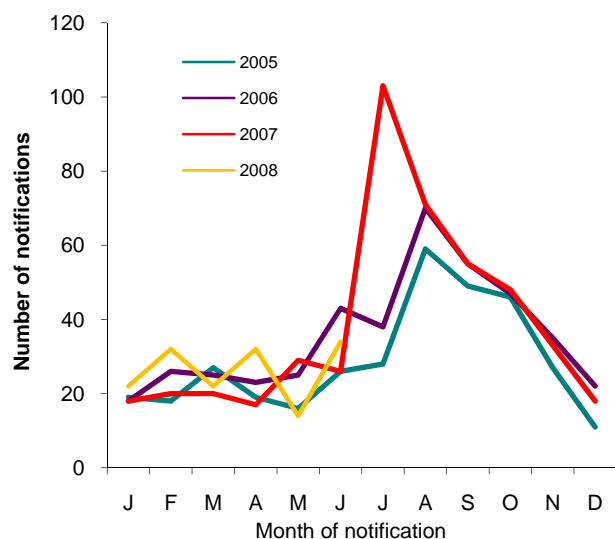


Figure 1. Seasonal Distribution of Human Salmonellosis Notifications, 2005 to end quarter 2 2008

Table 7 shows the *S. enterica* isolates typed by the NSRL in the second quarter of 2008 (n=81). The commonest human serotypes isolated were *S. Typhimurium* (n=26 [32%]) and *S. Enteritidis* (n= 20 [25%]).

Twenty-two (27%) *S. enterica* isolates were reported to be associated with travel outside of Ireland during this quarter.

S. Typhi and *S. Paratyphi*

There were two cases of *S. typhi* notified during Quarter 2, 2008, both associated with travel to India. There were also four cases of *S. Paratyphi* A notified, associated with travel to India (n=3) and Pakistan (n=1). One case of *S. Paratyphi* B was associated with travel to South America

Outbreaks of salmonellosis

There were three outbreaks of salmonellosis reported in Q2 2008, two general and one family outbreak (see Table 1 and Table 2).

Table 7. Serotypes of *S. enterica* referred to NSRL in Quarter 2, 2008 (Data are provided courtesy of Prof. Martin Cormican and Dr Geraldine Corbett-Feeney, NSRL).

Serotype	E	M	MW	NE	NW	SE	S	W	Total
Anatum	1	0	0	0	1	0	0	0	2
Blockley	0	0	1	0	0	0	0	0	1
Braenderup	1	0	0	0	0	0	0	0	1
Derby	1	0	0	0	0	0	0	0	1
Dublin	2	0	0	0	0	0	0	0	2
Durham	0	0	0	0	0	0	0	1	1
Enteritidis	5	1	1	2	1	2	6	2	20
Haifa	0	0	0	1	0	0	0	0	1
Hvitittingfoss	1	0	0	0	0	0	0	0	1
Infantis	0	1	0	0	0	0	0	0	1
Java	0	0	0	0	0	0	0	2	2
Montevideo	1	0	0	0	0	0	0	0	1
Newport	0	0	0	2	0	0	0	0	2
Oranienburg	0	0	1	0	0	0	0	0	1
Panama	0	0	0	0	0	0	0	1	1
Paratyphi A	~	~	~	~	~	~	~	~	4
Pomona	1	0	0	0	0	0	0	0	1
Senftenberg	1	0	0	0	0	0	0	0	1
Typhi	~	~	~	~	~	~	~	~	2
Typhimurium	10	2	1	3	0	1	8	1	26
Unnamed	1	0	0	1	0	1	0	0	3
Virchow	1	0	3	0	0	0	0	0	4
Worthington	0	0	0	0	0	1	0	0	1
Zega	1	0	0	0	0	0	0	0	1
Total	29	5	7	9	2	5	15	9	81

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 Q2 2008 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.

Fifty-five EHEC were notified in this quarter, 53 of which were VTEC (Table 8). This compares with 25 VTEC cases notified in Q2 2007 and 39 in Q2 2006 (Figure 2). Table 8 shows the number of VTEC cases reported by serogroup and month, Q2 2008.

Table 8. Confirmed and Probable VTEC Notified by Serogroup and Month, Q2 2008

Month	O157	O26	Other	Total
Apr	7	2	1	10
May	9 ^a	4	2	15
Jun	10	16 ^b	2	28
Total	26	22	5	53

^aone case reported as a probable case on the basis of epi-linkage

^btwo cases had mixed O26 VT2 and O26 VT1+VT2 infections

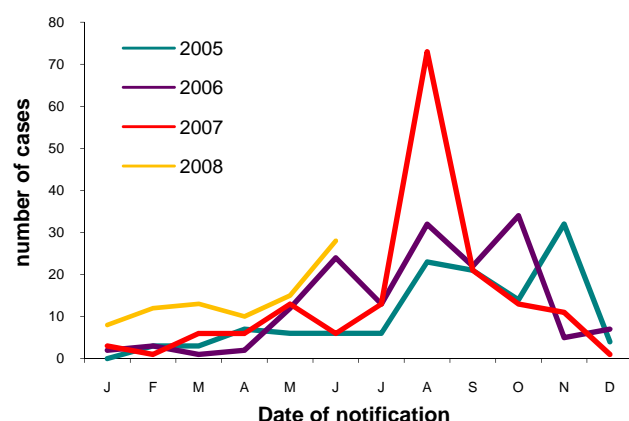


Figure 2. Seasonal distribution of confirmed and probable VTEC cases notified 2005 to end quarter 2 2008

Note includes 52 probable cases reported associated with an outbreak in Aug 2007.

Three cases notified during this quarter were reported as having developed HUS: two *E. coli* O157 cases and one *E. coli* O26 case.

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 9 and 10 show the phage types and VT types of VTEC isolates referred to the laboratory in Q2 2008.

Table 9. Phage Types of VTEC O157 isolates referred to the HSE DML Public Health Laboratory, Cherry Orchard Hospital in Q2 2008. (Data are provided courtesy of Dr. Eleanor McNamara and Dr. Anne Carroll).

Phage type	Number of isolates
32	12
21/28	5
8	3
31	3
51	1
N/K	1
Total	25

Includes isolates from confirmed cases only

Table 10. Verotoxin typing results of VTEC isolates referred to the HSE DML Public Health Laboratory, Cherry Orchard Hospital in Q2 2008. (Data are provided courtesy of Dr. Eleanor McNamara and Dr. Anne Carroll).

Serogroup	vt1	vt2	vt1+vt2	Unknwn	Total
O157	0	22	3	0	25
O26	4	9	11	0	24 ^a
Other	0	1	2	2	5
Total	4	32	16	2	54

^aIncludes all strains from mixed infections

Outbreaks of VTEC infection

During this quarter, six family outbreaks and two general outbreaks of VTEC infection were reported (see Table 1 and 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 second quarter of 2008 are shown in Table 11. The number of cases notified this quarter is slightly lower than quarter 2 in previous years (Figure 3).

Table 11. Campylobacter Notifications by HSE-Area and Month, Q2 2008

Campylobacter Infection	E	M	MW	NE	NW	SE	S	W	Total
April	44	11	12	9	15	9	24	10	134
May	36	18	14	17	6	18	29	17	155
June	62	23	21	9	10	15	30	12	182
Total	142	52	47	35	31	42	83	39	471

Outbreaks of Campylobacter infection

There were two family outbreaks of campylobacteriosis reported in Q2 2008 (Table 2).

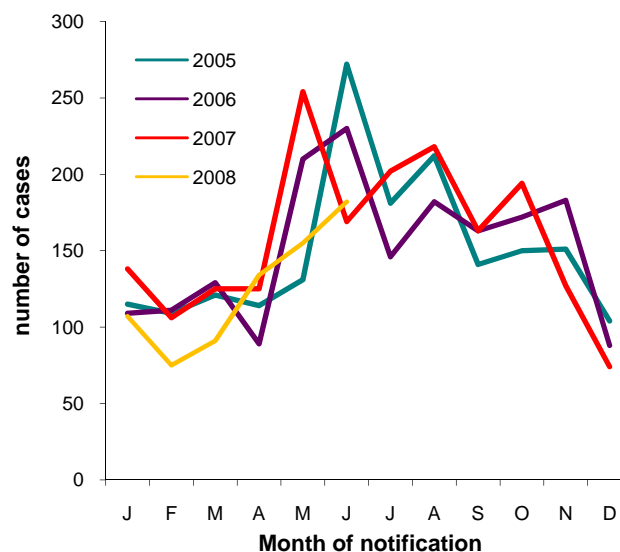


Figure 3. Seasonal distribution of Campylobacter notifications 2005 to end quarter 2 2008

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 2008, 194 cases of cryptosporidiosis were notified (Table 12), compared to 266 in the same period last year and 190 in Q2 2006 (Figure 4).

Table 12. Cryptosporidiosis Notifications by HSE-Area and Month, Q2 2008

Cryptosporidiosis	E	M	MW	NE	NW	SE	S	W	Total
April	3	13	17	5	9	13	14	17	91
May	0	4	12	3	9	6	15	19	68
June	0	1	4	2	2	11	3	12	35
Total	3	18	33	10	20	30	32	48	194

Outbreaks of cryptosporidiosis

There was one general outbreak of cryptosporidiosis reported in Quarter 2 (Table 1).

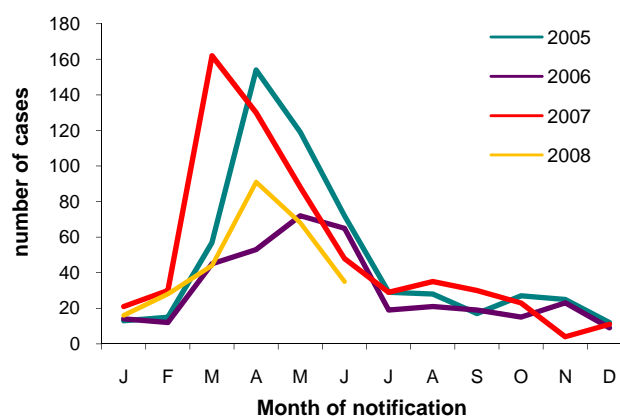


Figure 4. Seasonal distribution of cryptosporidiosis notifications 2005 to end quarter 2 2008

NOROVIRUS

Human noroviral infection became a notifiable disease on January 1st 2004. There were 363 cases reported in the second quarter of 2008, as shown in Table 13. These data are certainly an under-ascertainment of the true burden of disease due to this pathogen.

Table 13. Norovirus Notifications by HSE-Area and Month, Q2 2008

Noroviral Infection	E	M	MW	NE	NW	SE	S	W	Total
April	53	1	38	17	6	10	24	2	151
May	35	7	27	6	1	1	19	1	97
June	12	32	17	7	15	4	27	1	115
Total	100	40	82	30	22	15	70	4	363

Norovirus outbreaks

Norovirus or suspect viral aetiology is the commonest cause of outbreaks of acute gastroenteritis in Ireland. In the second quarter of 2008 there were 31 outbreaks confirmed as being caused by this virus, involving at

least 673 people becoming ill, as outlined in Table 1. The seasonal trend is outlined in Figure 5.

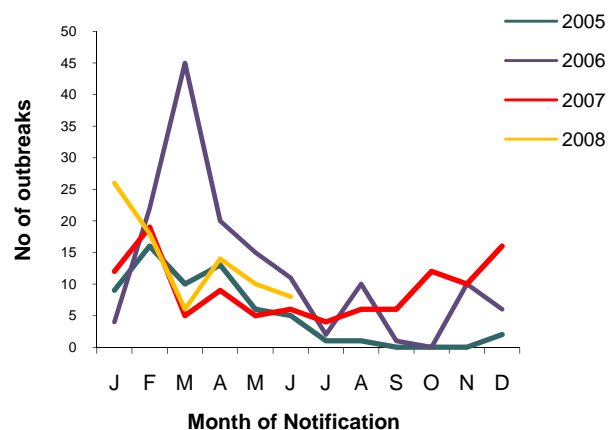


Figure 5. Seasonal distribution of confirmed norovirus outbreaks, 2005 to end quarter 2 2008.

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 two cases of listeriosis notified in Q2 2008, compared to one in quarter 2 2007 and none in quarter 2 2006. Both were non-pregnancy related adult cases.

Table 14: Serotypes of Q2 human *Listeria* isolates referred to the NSRL

Serotype	Number of isolates
1/2	1
4b	1
Total	2

SHIGELLA

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

During Q2 2008, thirty cases of shigellosis were notified (Table 5). This compares with eight cases notified as shigellosis in Q2 in 2007 and seven in Q2 2006. Twelve cases were reported as *S. sonnei*, three as *S. flexneri*, two as *S. boydii*, and thirteen as probable cases associated with an outbreak of *S. sonnei*.

During this quarter, four cases (13%) were reported to have acquired their illness abroad, two in India and one each in China and Namibia. Country of infection was reported as Ireland for 12 further cases, and as 'not specified' or 'unknown' for the remaining cases.

Outbreaks of shigellosis

There was one general and one family outbreak of shigellosis reported in Q2 2008 (Table 1 & 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 2008, 22 cases of giardiasis were notified (Table 5); this compares with 15 cases notified in Q2 2007 and 11 in Q2 2006.

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 was one case of botulism notified in Q2 2008 (Table 5).

ACUTE INFECTIOUS GASTROENTERITIS incl. ROTAVIRUS

Since 1st January 2004, there is a notifiable disease category termed 'Acute Infectious Gastroenteritis'. This includes all unspecified causes of gastroenteritis and also specifically, gastroenteritis due to rotavirus. It should be noted that acute infectious gastroenteritis is now notifiable in all age groups, unlike the former notifiable disease category of 'Gastroenteritis in children under 2 years'.

During Quarter 2 2008, there were 2028 notifications of acute infectious gastroenteritis. 1555 of these (77%) were reported as rotavirus (as shown in Table 15).

Outbreaks of rotavirus

There were four general outbreaks and one family outbreak of rotavirus infection notified during this quarter (Table 1 & Table 2).

Table 15. Rotaviral Infections Notified under the Category of 'Acute Infectious Gastroenteritis' by HSE-Area and Month, Q2 2008

Rotaviral Infection	E	M	MW	NE	NW	SE	S	W	Total
April	171	73	32	57	63	130	121	107	754
May	131	94	22	36	39	57	68	87	534
June	50	57	4	11	30	35	28	52	267
Total	352	224	58	104	132	222	217	246	1555

NON-IID ZOONOTIC DISEASES

Non-IID zoonoses now notifiable include: anthrax, brucellosis, echinococcosis, leptospirosis, plague, Q Fever, toxoplasmosis, trichinosis, typhus and rabies. The Q2 2008 notifications of these zoonotic diseases are reported by HSE-Area in Table 5.

Eighteen cases of toxoplasmosis were notified in this quarter. This compares with 15 cases notified in the same period in 2007 and seven cases in Q2 2006.

There was one case of brucellosis reported during this quarter compared with seven in Q2 2007 and eight in Q2 2006.

Three cases of leptospirosis were notified in Q2 2008; this compares with one in Q2 2007 and two in Q2 2006. One was reported as occupationally acquired.

There were three cases of Q fever notified this quarter, compared to seven in Q2 in 2007 and five in Q2 2006.

There was also one probable trichinosis case reported during this quarter.

MALARIA

Malaria is a notifiable disease for many years. The Q2 2008 notifications are reported in Table 5 by HSE-Area.

Twenty cases of malaria were notified in Q2 2008. This compares with 14 cases reported in Q2 2007 and 18 in Q2 2006.

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

Eleven cases were exposed in Sub-Saharan Africa and one in Asia, while no data were provided on country of infection for the remaining eight cases.

The reason for travel for eight cases was reported as visiting family in country of origin. There were two cases associated with holiday travel, one with reason for travel as other, and reason for travel not specified for nine cases.

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