

SURVEILLANCE OF INFECTIOUS INTESTINAL DISEASE (IID), ZOOSES AND OUTBREAKS



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

Quarter 3 –2004

December 2004

Since January 1st, 2004, outbreaks or unusual clusters of all infectious diseases are notifiable under Infectious Diseases (Amendment) (No.3) Regulations, 2003 (S.I. No. 707 of 2003). For the first time, we are reporting information on outbreaks of non-intestinal infectious diseases (non-IID outbreaks) in this report. These outbreaks often present considerable challenges in management and can be chronic and ongoing.

In September, a large outbreak of *Salmonella* Newport infection in England and Northern Ireland was reported by the UK. By the end of the month, 368 cases had been identified. Food histories from cases in England, the Isle of Man and Northern Ireland implicated fast-food premises and take-away restaurants as the likely source of illness. There was one associated case in the Republic of Ireland. This person was exposed in Northern Ireland. The ongoing analytical study has implicated lettuce as the likely vehicle of transmission.

In response to numerous requests for information, the Food Safety Authority of Ireland (FSAI) has recently produced a comprehensive Business Start-Up Pack on food hygiene and legislation for those who want to start up new food businesses. It contains information on market entry and relevant legislation. The Business Start-Up Pack costs €65, and businesses interested in availing of the pack should contact the Food Safety Authority of Ireland at 1890 33 66 77 or by emailing info@fsai.ie. For further information please see here http://www.fsai.ie/news/press/pr_04/pr20040621.asp.

Further afield, health authorities in France reported a case of rabies in an-illegally imported dog. The dog was present at several public gatherings during a time when numerous tourists were visiting the region. A European-wide alert was issued to trace potentially affected individuals.

A dead Daubenton's bat infected with European Bat Lyssavirus type-2 (EBLV-2) was reported in the UK in September. This brings to three the number of bats in the UK from which EBLV-2 has been isolated. EBLV-2 has not been isolated from any live bats in the UK, but antibodies to ELV have been found in live bats in Scotland and England, suggesting that bats may be able to recover from infection and become non-infectious. For a fuller account see <http://www.eurosurveillance.org/ew/2004/040930.asp>.

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 NDSC's surveillance systems.

Note: 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. Outbreaks of Infectious Intestinal Disease (IID) in Quarter 3, 2004

Month	HB	Type of outbreak	Location	No. ill	No. Hosp.	Date Onset	Suspect mode of transmission	Organism
Jul	ERHA	Family	Private Home (travel related)	5	0	17/07/2004	Foodborne	<i>Salmonella</i> spp
Jul	ERHA	General	Residential Institution	27	3	11/07/2004	P-P	Norovirus
Jul	ERHA	Family	Private Home	2	0		Unknown	<i>Salmonella</i> spp
Jul	SHB	General	Residential Institution	10	0	13/07/2004	P-P	Suspect viral
Jul	SHB	General	Hospital	17	0	18/07/2004	P-P	Norovirus
Jul	SHB	Family	Private Home	2	2	08/07/2004	Foodborne	<i>Campylobacter</i> spp
Jul	SHB	General	Hospital	6	0		P-P	Norovirus
Jul	WHB	General	College	14	1	12/07/2004	P-P	Suspect Viral
Jul	WHB	General	Hotel	18	0	01/07/2004	P-P	Suspect Viral
Aug	SHB	General	Hotel	45	0	23/08/2004	P-P and airborne	Suspect viral
Aug	ERHA	Family	Private Home	2	0	15/08/2004	Unknown	<i>Giardia lamblia</i>
Aug	ERHA	General	Residential Institution	29	1	28/08/2004	P-P	Unknown
Aug	ERHA	General	Hospital	9	0	26/08/2004	P-P	Norovirus
Sep	MWHB	General	Hotel	14	0	25/09/2004	Unknown	Suspect viral
Sep	MWHB	General	Private Home	5	0	07/09/2004	Animal contact	<i>E. coli</i> O157
Sep	WHB	Family	Private Home	4	0	03/09/2004	Waterborne	<i>E. coli</i> O157
Sep	NEHB	General	Residential Institution	24	0	15/09/2004	P-P	Suspect viral
Sep	NEHB	General	Private Home	2	1	09/09/2004	P-P	<i>E. coli</i> O157
Sep	SHB	Family	Private Home	4	0	10/09/2004	P-P	<i>Shigella sonnei</i>
Sep	SEHB	General	Hotel/Restaurant	37	0	26/09/2004	Unknown	Norovirus

P-P denotes person to person transmission

Table 2. Non-IID outbreaks in quarter 3, 2004

Month	HB	Type of outbreak	Location	No. ill	No. Hosp.	Date Onset	Suspect mode of transmission	Organism
Jul	NEHB	General	Community	3	0	07/07/2004	P-P	Measles
Jul	SHB	General	Residential Institution	7	0	12/07/2004	P-P	Measles
Jul	NWHB	General	Community	12	1	27/07/2004	P-P	Measles
Aug	ERHA	Family	Private Home	4	0	11/08/2004	P-P	MRSA
Q3	SEHB	General	Community	3	0	Reactivation from 21/04/2004	Respiratory	TB

P-P denotes person to person transmission

Since July 2001, outbreaks have been reported to the NDSC. 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'.

Table 1 shows a line listing of all general and family IID outbreaks reported to the NDSC in the third quarter of 2004. There were 20 IID outbreaks reported during this period, resulting in at least 276 people being ill. The most common cause of IID outbreaks during this period was norovirus with 11

outbreaks being either confirmed or suspect norovirus (55% of all outbreaks). There were 2 suspect foodborne outbreaks, while 1 outbreak was deemed to be waterborne. 7 outbreaks (35%) occurred in healthcare settings, hospitals or residential institutions.

Table 2 shows the non-IID outbreaks reported to NDSC in Quarter 3, 2004. There were three measles outbreaks, affecting three health board regions, one family outbreak of MRSA, and a community TB outbreak.

NOTIFICATIONS OF INFECTIOUS INTESTINAL AND ZOO NOTIC DISEASE

The number of notifications of infectious intestinal and zoonotic disease by health board and month for the third quarter of 2004 is shown in Table 3.

Table 3. Intestinal Infectious and Zoonotic Disease Notifications Quarter 3 2004 by Health Board

Infectious Intestinal Disease	E	M	MW	NE	NW	SE	S	W	Total
Acute infectious gastroenteritis (incl. rotavirus)	74	8	2	7	6	30	51	7	185
<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	185	55	13	26	30	66	69	64	508
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	19 ^a	11	3	4	7	12	15	4	75
Enterohaemorrhagic <i>Escherichia coli</i>	5	2	4	3	1	1	6	7	29
Giardiasis	8	1	0	1	1	1	0	3	15
Listeriosis	2	0	1	0	0	0	0	0	3
Noroviral infection	32	1	1	1	0	0	13	0	48
Paratyphoid	0	0	0	0	0	0	0	0	0
Salmonellosis	85	18	6	11	15	23	31	13	202
Shigellosis	7	0	1	1	1	2	7	2	21
Staphylococcal food poisoning	1	0	0	0	0	0	0	0	1
Typhoid	1	0	0	0	0	0	0	0	1
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	1	0	0	0	0	1
Echinococcosis	0	0	0	0	0	0	0	0	0
Leptospirosis	0	0	0	0	0	0	0	1	1
Plague	0	0	0	0	0	0	0	0	0
Q Fever	0	1	0	0	0	0	0	0	1
Toxoplasmosis	2	1	0	0	0	1	0	0	4
Trichinosis	0	0	0	0	0	0	0	0	0
Typhus	0	0	0	0	0	0	0	0	0
Rabies	0	0	0	0	0	0	0	0	0

^a includes a number of late notifications for cases that occurred earlier in the year.

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 4 shows the number of salmonellosis notifications by health board and month for the third quarter of 2004. The seasonal trend is broadly similar to the same period for the past three years as depicted in Figure 1 below.

Table 4. Salmonellosis notifications by Health Board and month, Q3 2004

Salmonellosis	E	M	MW	NE	NW	SE	S	W	Total
Jul	28	6	3	1	5	5	4	7	59
Aug	29	6	2	4	3	11	11	5	71
Sept	28	6	1	6	7	7	16	1	72
Total	85	18	6	11	15	23	31	13	202

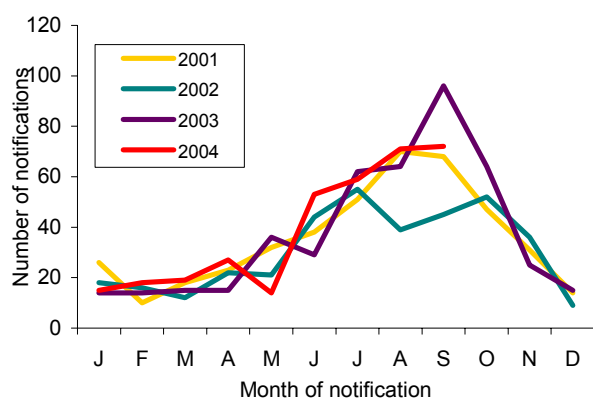


Figure 1. Seasonal Distribution of Human Salmonellosis Notifications, 2001-2003 and to end Q3 2004

Table 5 shows the *S. enterica* isolates typed by the NSRL in the third quarter of 2004 (n=208). The commonest human serotype isolated was *S. Enteritidis* (n=95 [45%]) followed by *S. Typhimurium* (n=66 [32%]).

39/208 (19%) of *S. enterica* isolates were reported to be associated with travel outside of Ireland during this quarter.

Salmonellosis outbreaks

There were 2 family outbreaks of salmonellosis reported to NDSC during this period (see Table 1).

S. Typhi and S. Paratyphi

There were two cases of typhoid fever reported during Quarter 3. One case was associated with travel to the Philippines and the other with travel to Nigeria.

Table 5. Serotypes of *S. enterica* referred to NSRL in quarter 3, 2004 (Data are provided courtesy of Prof. Martin Cormican and Dr Geraldine Corbett-Feeney, NSRL)

Serotype	E	M	MW	NE	NW	SE	S	W	Total
Adelaide	0	0	0	0	1	0	0	0	1
Agona	0	0	0	0	0	1	0	0	1
Bredeney	6	0	0	0	0	0	0	1	7
Chester	0	0	0	0	0	0	0	1	1
Corvallis	1	0	0	0	0	0	0	0	1
Enteritidis	47	11	2	6	2	8	13	6	95
Goldcoast	0	0	0	0	0	0	1	0	1
Hadar	0	0	0	0	0	0	0	1	1
Haifa	1	0	0	0	0	0	0	0	1
Infantis	0	0	0	0	0	1	0	0	1
Kentucky	3	0	0	0	0	0	0	1	4
Mbandaka	0	1	0	0	0	0	1	0	2
Muenster	1	0	0	0	0	0	0	0	1
Newport	1	0	0	0	1	0	0	0	2
Panama	1	0	0	0	0	0	0	1	2
Poona	0	0	0	0	0	0	0	1	1
Richmond	0	0	0	0	1	0	0	0	1
Rissen	0	0	0	0	0	1	0	0	1
Rubislaw	0	0	1	0	0	0	0	0	1
Saintpaul	3	0	0	0	0	0	0	0	3
Stanley	0	0	0	0	0	1	0	1	2
Thompson	0	0	0	0	0	0	2	0	2
Typhi	2	0	0	0	0	0	0	0	2
Typhimurium	18	8	6	5	6	10	12	1	66
Unnamed	0	0	0	0	0	0	1	0	1
Virchow	2	0	0	0	0	1	0	1	4
Weltevreden	0	0	0	0	0	0	1	1	2
Zanzibar	0	0	0	0	0	0	0	1	1
Total	86	20	9	11	11	23	31	17	208

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 2004 is shown in Table 2. 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.

Of 29 EHEC notified in this quarter, 28 were verotoxin positive. Table 6 shows the number of verotoxin positive notifications by serogroup and month of notification in Q3. Five non-O157 VTEC were notified in this quarter, bringing to 8 the number of non-O157 VTEC reported in the first three quarters of the year.

Table 6. Verotoxigenic *E. coli* notified by serogroup and month, Q3 2004

Month	O157	O26	O111	O145	O146	Total
Jul	5	1	0	0	1	7
Aug	6	1	1	1	0	9
Sept	12	0	0	0	0	12
Total	23	2	1	1	1	28

Enhanced surveillance of VTEC O157

Since 1999, enhanced information has been provided on all cases of verotoxigenic *E. coli* O157. The

number of cases reported below is based on date of onset and these figures may differ from the number of cases notified during the quarter.

22 confirmed cases of VTEC O157 were reported which had a date of onset between July 1st and September 30th 2004, 10 males and 12 females. This compares with 41 cases in Q3 2003, and 40 cases in Q3 2002 (Figure 2).

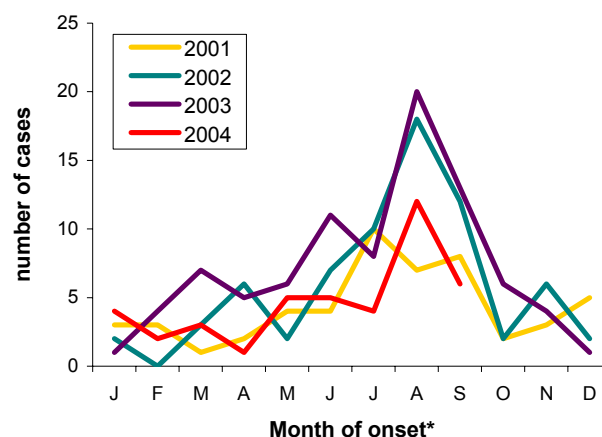


Figure 2. Seasonal distribution of confirmed VTEC O157 cases, 2001-2003 and to end Q3 2004

*where date of onset is unavailable, e.g. asymptomatic cases, the month of onset of associated cases is used

Outbreaks of VTEC O157

There were 3 outbreaks of VTEC O157 infection reported in Q3, one each in the WHB (4 cases), the MWHB (5 cases) and the NEHB (2 cases). The suspected modes of transmission reported were water, animal contact and person-to-person transmission respectively (Table 1).

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 third quarter of 2004 are shown in Table 7, with the highest number recorded in September.

Outbreak of campylobacteriosis

There was one family outbreak of campylobacteriosis reported during this quarter (Table 1).

Table 7. Campylobacter notifications by Health Board and month, Q3 2004

Campylobacter Infection	E	M	MW	NE	NW	SE	S	W	Total
Jul	46	12	0	11	10	17	19	12	127
Aug	64	31	5	10	9	26	14	14	173
Sept	75	12	8	5	11	23	36	38	208
Total	185	55	13	26	30	66	69	64	508

CRYPTOSPORIDIUM

Table 8. Cryptosporidiosis notifications by Health Board and month, Q3 2004

Cryptosporidiosis	E	M	MW	NE	NW	SE	S	W	Total
Jul	18 ^a	2	2	2	3	8	6	1	42
Aug	0	7	0	0	3	0	6	1	17
Sept	1	2	1	2	1	4	3	2	16
Total	19	11	3	4	7	12	15	4	75

^a includes a number of late notifications for cases which occurred earlier in the year.

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 Q3 2004, 75 cases of cryptosporidiosis were notified (Table 8). As expected given the seasonal distribution of this disease, this was considerably lower than the number of cases reported in Q2.

NOROVIRUS

Human noroviral infection became a notifiable disease on January 1st 2004. There were 48 cases reported in the third quarter of 2004, as shown in Table 9. These data are certainly an under-ascertainment of the true burden of disease due to this pathogen.

Norovirus outbreaks

Norovirus or suspect viral aetiology is the commonest cause of outbreaks of acute gastroenteritis in Ireland. In the third quarter of 2004 there were 11 outbreaks confirmed or suspected to be caused by this virus, representing 55% of outbreaks reported to NDSC

during this period, and involving at least 221 people becoming ill, as outlined in Table 1.

Table 9. Norovirus notifications by Health Board and month, Q3 2004

Noroviral Infection	E	M	MW	NE	NW	SE	S	W	Total
Jul	27	0	0	0	0	0	7	0	34
Aug	0	0	0	0	0	0	0	0	0
Sept	5	1	1	1	0	0	6	0	14
Total	32	1	1	1	0	0	13	0	48

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.

Three cases of listeriosis were notified in Q3 2004 (Table 3). All were non pregnancy-associated adult cases.

SHIGELLA

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

During quarter 3 2004, 21 cases of shigellosis were notified (Table 3). This compares with 9 cases notified as bacillary dysentery in quarter 3 in 2003 and 7 in 2002.

Twelve cases were reported as *S. sonnei*, 4 as *S. flexneri*, 1 as *S. boydii* and the species was not specified for the remaining 4 cases.

Outbreak of shigellosis

A family outbreak of *S. sonnei* was reported by the SHB comprising 4 confirmed cases. The suspected mode of transmission was reported as person-to-person (Table 1).

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'.

During quarter 3 2004, 15 cases of giardiasis were notified (Table 3). This compares with 4 notifications in Q1 and 6 in Q2 2004.

Outbreak of giardiasis

There was one family outbreak of giardiasis reported by the ERHA during Q3 2004 (Table 1).

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 3 2004, there were 185 notifications of acute infectious gastroenteritis. 121 were reported as rotavirus (Table 10) and 74% of these were under 2 years of age.

Table 10. Rotaviral infections notified under the category of 'Acute Infectious Gastroenteritis' by Health Board and month, Q3 2004

Rotaviral Infection	E	M	MW	NE	NW	SE	S	W	Total
Jul	24	5	0	2	4	5	15	5	60
Aug	7	0	0	1	2	0	27	0	37
Sept	8	2	0	0	0	7	7	0	24
Total	39	7	0	3	6	12	49	5	121

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)'.

One case of staphylococcal food poisoning was reported in Q3 2004 (Table 3).

NON-IID ZONOTIC DISEASES

Non-IID zoonoses now notifiable include: anthrax, brucellosis, echinococcosis, leptospirosis, plague, Q Fever, toxoplasmosis, trichinosis, typhus and rabies. The Q2 2004 notifications of these zoonotic diseases are reported by health board in Table 3.

One case of brucellosis was notified, the same as in the Q3 2003; two were notified in Q3 2002. One case of leptospirosis was notified. This compares with one notified in the same period in 2003 and three in Q3 2002.

There were also four notifications of toxoplasmosis and one of Q fever in this quarter.

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