

SURVEILLANCE OF INFECTIOUS INTESTINAL DISEASE (IID) AND ZOOSES



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

Quarter 2 –2004

August 2004

This is the second quarterly report produced by the Gastroenteric Unit of the National Disease Surveillance Centre.

In July 2004, the first confirmed cases of West Nile virus (WNV) in Ireland or the UK were found in two Irish travellers recently returned from the Algarve region of Portugal. The initial diagnosis was made at the National Virus Reference Laboratory in UCD. As a result of this, NDSC is urging intending travellers to countries where mosquitoes are prevalent to take routine preventative measures against insect bites. Further information on WNV as well as general travel advice are available on the NDSC website at <http://www.ndsc.ie/DiseaseTopicsA-Z/>

During this quarter, a cross-health board general outbreak of verocytotoxin-producing *E. coli* (VTEC) O157 occurred at a recreational venue in the NEHB region. Four confirmed cases were identified, with three of these hospitalised. All have subsequently recovered. The mode of transmission was deemed to be waterborne, as samples of water from a private supply serving the venue were found to be positive for the same VTEC strain. The outbreak was managed by the NEHB in collaboration with colleagues in other regions, and laboratory diagnostics were carried out at Cherry Orchard, Public Health Laboratory.

The Swedish Authorities are currently investigating an outbreak of VTEC O157 amongst participants at a youth football tournament, the Gothia Cup, in Gothenburg, Sweden. At least 7 confirmed and 3 suspected cases of infection with *E. coli* O157 are associated with this event. This year's event took place between 11-17 July with more than 32 000 participants (representing 1 500 youth football teams) from all over the world. So far, all the identified cases have been Swedish. No common source has so far been identified in the ongoing investigations.

An important report in the field of infectious intestinal disease and foodborne illness was recently published. *Preventing Foodborne Disease: A Focus on the Infected Foodhandler*, a report of the Foodhandler Subcommittee of the NDSC Scientific Advisory Committee will be launched by the Minister of Health and Children in early September. The report will be available on the NDSC website thereafter.

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. In addition, certain 2003 data remain provisional.

SURVEILLANCE OF OUTBREAKS OF IID

Table 1. Outbreaks of IID reported to NDSC in Quarter 2, 2004

Month	HB	Type of outbreak	Location	No. ill	No. Hosp.	Date Onset	Suspect mode of transmission	Organism
Apr	ERHA	General	Residential Institution	30	0	19/04/2004	P-P	Suspect viral
Apr	ERHA	General	Party	3	0	19/04/2004	Unknown	Suspect viral
Apr	ERHA	General	Hospital	4	3		P-P	Suspect viral
Apr	NEHB	General	Community	4	1	10/04/2004	Waterborne	<i>Cryptosporidium parvum</i>
Apr	NWHB	General	Hospital	38	0	06/04/2004	P-P	Suspect viral
Apr	NWHB	General	Hospital	64	0	12/04/2004	P-P	Suspect viral
Apr	NWHB	General	Hospital	71		06/04/2004	P-P	Suspect viral
Apr	NWHB	General	Crèche	11	0	26/04/2004	P-P	Suspect viral
Apr	SHB	General	Hotel	10	0	16/04/2004	P-P	Suspect viral
Apr	SHB	General	Hospital	30	0	10/04/2004	P-P	Norovirus
Apr	SHB	General	Hospital	17	0	19/04/2004	P-P	Suspect viral
Apr	SHB	General	Hospital	20	0	06/04/2004	P-P	Norovirus
Apr	SHB	General	Hospital	15	0	15/04/2004	P-P	Norovirus
Apr	WHB	General	Restaurant	10	3	07/04/2004	Foodborne	<i>Salmonella</i> Typhimurium
May	ERHA	General	Sports Club	14	0	23/05/2004	Foodborne	<i>Clostridium perfringens</i>
May	MHB	General	Community	9	2	25/05/2004	Waterborne	<i>Cryptosporidium</i> sp
May	SEHB	General	Residential Institution	16	0	01/05/2004	P-P	Norovirus
May	SEHB	Family	Private Home	2	1	27/05/2004	Point Source	<i>Escherichia coli</i> O157
May	SEHB	General	Residential Institution	28	0	14/05/2004	P-P	Norovirus
May	SEHB	General	Hospital	15	0	01/05/2004	P-P	Norovirus
May	SHB	General	Hospital	5	0	27/05/2004	P-P	Suspect viral
May	SHB	General	Restaurant/Café	4	1	21/05/2004	Foodborne	Not identified
May	WHB	General	Private Home	2	1	26/05/2004	Animal Contact	<i>Salmonella</i> Newport
Jun	ERHA	General	Leisure Complex	8	0	20/06/2004	Foodborne	<i>Staphylococcus aureus</i>
Jun	ERHA	General	Residential Institution	5	0	21/06/2004	P-P	Norovirus
Jun	ERHA	General	Hotel	15	0	11/06/2004	P-P	Norovirus
Jun	ERHA	Family	Private Home	3	0	14/06/2004	P-P and Foodborne	<i>Salmonella</i> Enteritidis
Jun	ERHA	Family	Private Home	2	1	22/06/2004	NK	HAV
Jun	NEHB	General	Sports Club	4	3	23/06/2004	Waterborne	<i>Escherichia coli</i> O157
Jun	SEHB	Family	Private Home	4	0	09/06/2004	Point Source/Travel	<i>Salmonella</i> sp
Jun	SHB	General	Hotel	4	0		P-P and Foodborne	Suspect viral
Jun	SHB	General	Day Care Centre	11	0	03/06/2004	P-P	Suspect viral
Jun	SHB	General	Residential Institution	7	0	12/06/2004	P-P	Suspect viral
Jun	SHB	General	Crèche	2	0	NK	P-P	HAV
Jun	ERHA	Family	Private Home	2	0	NK	Foodborne	<i>Salmonella</i> Enteritidis
Jun	ERHA	Family	Private Home	4	0	NK	P-P and Foodborne	<i>Salmonella</i> Bredeney

P-P denotes person to person transmission; NK – not known

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 second quarter of 2004. There were 36 outbreaks reported during this period, resulting in at least 493 people being ill. The most common cause of outbreaks during this period was norovirus with 21 outbreaks being either confirmed or suspect norovirus (58% of all outbreaks). There was an increase in the number of Salmonella outbreaks with seven outbreaks reported in Q2 compared to one in Q1. There were eight suspect foodborne outbreaks, while three outbreaks were deemed to be waterborne. 16 outbreaks (44%) occurred in healthcare settings, hospitals or residential institutions. The majority of reported outbreaks occurred in the SHB (n=11), and the ERHA (n=11).

NOTIFICATIONS OF INTESTINAL INFECTIOUS AND ZOOONOTIC DISEASE

The number of notifications of intestinal infectious and zoonotic disease by health board and month for the second quarter of 2004 is shown in Table 2.

Table 2. Intestinal Infectious and Zoonotic Disease Notifications Quarter 2 2004 by Health Board

Infectious Intestinal Disease	E	M	MW	NE	NW	SE	S	W	Total
Acute infectious gastroenteritis (incl. rotavirus)	167	35	2	66	20	82	129	37	538
<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	160	30	7	29	27	53	67	77	450
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	0	37	26	16	24	36	26	30	195
Enterohaemorrhagic <i>Escherichia coli</i>	2	0	0	2	2	3	3	1	13
Giardiasis	2	0	0	0	0	0	2	2	6
Listeriosis	1	0	0	0	0	1	0	0	2
Noroviral infection	7	5	1	1	0	10	3	4	31
Paratyphoid	1	0	0	0	0	0	0	0	1
Salmonellosis	33	19	2	5	0	12	7	16	94
Shigellosis	4	0	0	1	0	3	0	2	10
Staphylococcal food poisoning	1	0	0	0	0	0	0	0	1
Typhoid	0	0	0	0	1	0	0	0	1
Yersiniosis	0	0	0	0	0	0	0	0	0
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	0	0	0	1
Plague	0	0	0	0	0	0	0	0	0
Q Fever	0	0	0	0	0	0	0	0	0
Toxoplasmosis	0	0	0	0	0	0	0	0	0
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

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 3 shows the number of salmonellosis notifications by health board and month for the second 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 3. Salmonellosis notifications by Health Board and month, Q2 2004

Salmonellosis	E	M	MW	NE	NW	SE	S	W	Total
Apr	5	11	1	1	0	1	3	5	27
May	5	1	0	2	0	2	1	3	14
Jun	23	7	1	2	0	9	3	8	53
Total	33	19	2	5	0	12	7	16	94

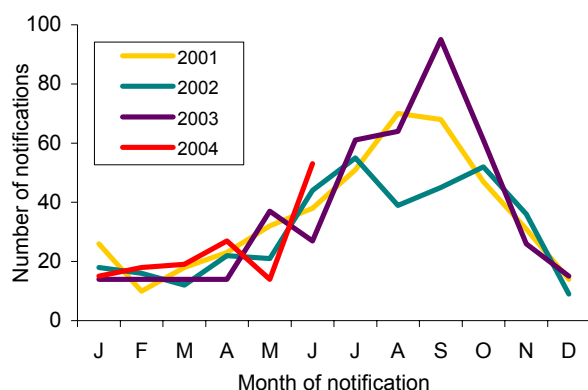


Figure 1. Seasonal Distribution of Human Salmonellosis Notifications, 2001-2003 and to end Q2 2004

Table 4 shows the *Salmonella enterica* isolates typed by the National Reference Laboratory in the second

quarter of 2004 (n=84). The commonest human serotype isolated was *S. Enteritidis* (n=33 [39%]) followed by *S. Typhimurium* (n=22 [26%]).

21/84 (25%) of *S. enterica* isolates were reported to be associated with travel outside of Ireland during this quarter.

Salmonellosis outbreaks

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

S. Typhi and S. Paratyphi

There was 1 case of paratyphoid and 1 case of typhoid fever notified during quarter 2. The typhoid case was associated with travel to India.

Table 4. Serotypes of *S. enterica* referred to NSRL in quarter 2, 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
Albany	1	0	0	0	0	0	0	0	1
Anatum	0	0	0	1	0	0	0	0	1
Berkeley	0	0	0	0	0	0	1	0	1
Bredeney	3	0	0	0	0	0	0	0	3
Dublin	0	0	0	0	0	0	0	1	1
Enteritidis	14	6	0	0	0	4	3	6	33
Hadar	1	0	0	0	0	0	0	1	2
Havana	0	1	0	0	0	0	0	0	1
Indiana	0	0	0	0	0	1	0	0	1
Kottbus	1	0	0	1	0	0	0	2	4
Montevideo	1	0	0	0	0	0	0	0	1
Othmarschen	1	0	0	0	0	0	0	0	1
Paratyphi A	1	0	0	0	0	1	0	0	2
Potsdam	1	0	0	0	0	0	0	0	1
Reading	1	0	0	0	0	0	0	0	1
Senftenberg	1	0	0	0	0	0	0	0	1
Typhi	0	0	0	0	0	1	0	0	1
Typhimurium	4	7	1	1		2	1	6	22
Unnamed	1	0	0	0	1	0	0	0	2
Virchow	0	0	1	0	0	3	0	0	4
Total	31	14	2	3	1	12	5	16	84

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. Because of their clinical and public health importance, it is important to distinguish between those isolates that are verotoxin-producers and those that are not.

Of 13 EHEC notified in this quarter, 11 were *E. coli* serogroup O157, with one each *E. coli* O26 and O111 also notified. All were verotoxin positive.

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 here is based on date of onset and these figures may differ from the number of cases notified by individual health boards during the quarter.

Table 5. Confirmed VTEC O157 reported to the enhanced surveillance system by Health Board and month, Q2 2004

VTEC O157	E	M	MW	NE	NW	SE	S	W	Total
Apr	0	0	0	0	0	1	0	0	1
May	2	0	1	1	0	2	0	0	6
Jun	2	0	0	1	1	0	1	0	5
Total	4	0	1	2	1	3	1	0	12

12 confirmed cases of VTEC O157 were reported which had a date of onset between April 1st and June 30th 2004 (Table 5), 6 males and 6 females. This compares with 22 cases in Q2 2003, and 15 cases in Q2 2002 (Figure 2).

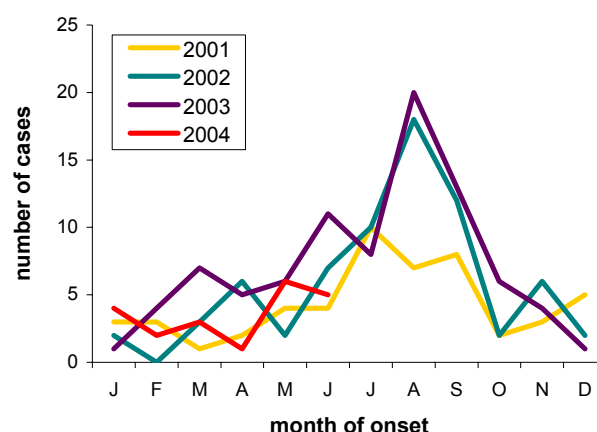


Figure 2. Seasonal distribution of confirmed VTEC O157 cases, 2001-2003 and to end Q2 2004

Outbreaks of VTEC O157

A cross-health board general outbreak was reported comprising 4 confirmed cases that had attended a recreational venue in the NEHB region; 3 of the cases were hospitalised. The venue was served by a private water supply, which was found to be contaminated with verotoxin positive *E. coli* O157.

There was also a family outbreak in the SEHB with 2 cases, one of whom was asymptomatic.

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 2004 are shown in Table 6, with the highest number recorded in June.

Table 6. Campylobacter notifications by Health Board and month, Q2 2004

Campylobacter Infection	E	M	MW	NE	NW	SE	S	W	Total
Apr	40	7	0	3	10	11	12	16	99
May	38	8	3	12	7	21	25	21	135
Jun	82	15	4	14	10	21	30	40	216
Total	160	30	7	29	27	53	67	77	450

CRYPTOSPORIDIUM

Table 7. Cryptosporidiosis notifications by Health Board and month, Q2 2004

Cryptosporidiosis	E	M	MW	NE	NW	SE	S	W	Total
Apr	0	8	10	7	12	12	12	14	75
May	0	8	10	6	8	13	8	10	63
Jun	0	21	6	3	4	11	6	6	57
Total	0	37	26	16	24	36	26	30	195

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 2004, 196 cases of cryptosporidiosis were notified (Table 7). As expected given the seasonal distribution of this disease, this was considerably higher than the number of cases reported in Q1.

Cryptosporidiosis outbreaks

Two waterborne outbreaks of cryptosporidiosis were reported in Q2 2004, one each in the MHB and NEHB. In total, 13 persons were reported ill (Table 1).

NOROVIRUS

Human noroviral infection became a notifiable disease on January 1st 2004. There were 31 cases reported in the second quarter of 2004, as shown in Table 8. 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 second quarter of 2004 there were 21 outbreaks confirmed or suspected to be caused by this virus, representing 58% of outbreaks reported to NDSC

during this period, and involving at least 419 people becoming ill, as outlined in Table 1.

Table 8. Norovirus notifications by Health Board and month, Q2 2004

Noroviral Infection	E	M	MW	NE	NW	SE	S	W	Total
Apr	3	2	0	1	0	0	2	1	9
May	2	3	1	0	0	9	0	3	18
Jun	2	0	0	0	0	1	1	0	4
Total	7	5	1	1	0	10	3	4	31

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.

Two cases of listeriosis were notified in Q2 2004 (Table 2); both were reported as being pregnancy-associated.

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 2 2004, 6 cases of giardiasis were notified (Table 2).

SHIGELLA

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

During quarter 2 2004, 10 cases of shigellosis were notified (Table 2). This compares with 8 cases notified as bacillary dysentery in quarter 2 in 2003 and 7 in 2002.

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 2004, there were 538 notifications of acute infectious gastroenteritis. 445 were reported as rotavirus (Table 9) and 79% of these were under 2 years of age.

Table 9. Rotaviral infections notified under the category of 'Acute Infectious Gastroenteritis' by Health Board and month, Q2 2004

Rotaviral Infection	E	M	MW	NE	NW	SE	S	W	Total
Apr	49	12	0	23	9	42	20	15	170
May	30	15	0	17	5	23	27	5	122
Jun	21	8	1	15	4	11	77	16	153
Total	100	35	1	55	18	76	124	36	445

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 Q2 2004 (Table 2).

Outbreak

There was one *Clostridium perfringens* outbreak reported to NDSC during Q2 2004. It occurred in a sports club and was responsible for 14 persons being ill.

NON-IID ZOONOTIC 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 2.

One case of leptospirosis was notified, the same as in the same period in 2002; none were notified in Q2 2003.

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