



**International surveillance network for
the enteric infections -
Salmonella, VTEC O157 and Campylobacter**

Funded by the European Centre for Disease Control

Project Team Prof Noël Gill Prof John Threlfall

Enter-net Quarterly VTEC Report 2006/4
October-December 2006
Confidential

Summary.

This report gives details of the number of isolates identified by the national reference laboratories in the 4th quarter of 2006 and incorporated in the Enter-net VTEC database. Twenty countries have supplied the relevant data electronically (or reported a nil return). Six hundred and twenty-three cases have been reported. *E. coli* O157 was the most commonly identified serogroup; other serogroups identified are detailed in table 1, within the 42 (9.7%) others there were 29 different serogroups, 11 cases (1.8%) were non-O157s with no specific serogroup identified. One case of O157 was co-infected with O26, and there was one case infected with serogroups O11 and O121.

Details in tables 1 & 2 refer to the sixteen countries that have supplied data electronically for 2006 and 2005. Tables 3-7 show the results from all cases that are in the database.

Quarterly data – major trends.

The total number of reports in the database shows a decrease of 12.7% over the same period last year with 623 cases as compared to 714 in 2005, although the data for 2005 includes the large outbreak in E&W. Where phage typing is performed PT21/28 was the predominant strain whereas in 2005 it was PT32 (table 2). The breakdown of serogroups by country is given in table 7.

The phrase 'NT' is used throughout this report and stands for untyped, untypable or not definitively typed for whatever reason. All data are **provisional**; the month of report is based on the date of receipt in the reference laboratory.

Report prepared – February, 2007.

Serogroup	2006		2005	
	Freq	%	Freq	%
O157	363	58.3	505	70.7
O145	30	4.8	10	1.4
O26	27	4.3	25	3.5
O103	18	2.9	11	1.5
O91	15	2.4	19	2.7
O146	8	1.3	7	1.0
O76	7	1.1	4	0.6
O55	6	1.0	2	0.3
O128	5	0.8	4	0.6
O111	4	0.6	9	1.3
Non-O157	11	1.8	3	0.4
NT	87	14.0	82	11.5
Other	42	6.7	33	4.6
Total	623		714	

Table 1

O157 PT	2006		2005	
	Freq	%	Freq	%
21/28	32	20.3	20	8.9
32	26	16.5	31	13.8
7	13	8.2	0	0.0
8	8	5.1	19	8.4
4	5	3.2	8	3.6
88	5	3.2	0	0.0
14	4	2.5	4	1.8
2	3	1.9	10	4.4
31	3	1.9	0	0.0
34	3	1.9	1	0.4
NT	52	32.9	128	56.9
Other	4	2.5	4	1.8
Total	158		225	

Table 2

Antimicrobial susceptibility testing results.

Antimicrobial susceptibility test results were available for 190 records. The majority of these are tested against the full panel of antimicrobials recommended by Enter-net, although not all strains are necessarily tested against each one. The frequency and percent in the categories resistant, intermediate and sensitive (as defined by each reference laboratory) are given in table 3.

AST results by each Antimicrobial							
	Resistant		Intermediate		Sensitive		Tested
Streptomycin	36	19.0	7	3.7	146	77.2	189
Gentamicin	1	0.5	6	3.2	183	96.3	190
Kanamycin	14	7.4	11	5.8	164	86.8	189
Ampicillin	26	13.7	127	66.8	37	19.5	190
Cefotaxime	1	0.5		0.0	188	99.5	189
Sulphonamides	80	42.3	61	32.3	48	25.4	189
Trimethoprim	16	8.4	1	0.5	173	91.1	190
Chloramphenicol	11	5.8		0.0	178	94.2	189
Tetracyclines	28	14.8	94	49.7	67	35.4	189
Nalidixic Acid	5	2.6		0.0	184	97.4	189
Ciprofloxacin		0.0		0.0	190	100	190

Table 3

Multi-drug resistance.

Table 4 shows the total number of strains with multi-resistance (to four or more antimicrobials) and the percent of the total for that serogroup with an associated antibiogram.

* Seven different serogroups.

Serogroup	No MDR (=4)	Total	%
untyped/untypable	6	29	20.7
O157	0	23	0.0
O26	5	19	26.3
O103	2	13	15.4
O111	2	4	50.0
O145	2	27	7.4
Others*	7	79	8.9
Total	24	190	12.6

Table 4

The age and gender breakdown is detailed in table 5.

Ageband	O157								non-O157							
	Male		Female		NK		Total		Male		Female		NK		Total	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
0-11m	5	1.4	4	1.1		0.0	9	2.5	3	1.7	5	2.8		0.0	8	4.5
1-5y	40	11.1	54	15.0	7	1.9	101	28.1	47	26.7	33	18.8	2	1.1	82	46.6
6-14y	33	9.2	24	6.7		0.0	57	15.8	9	5.1	10	5.7		0.0	19	10.8
16-64y	57	15.8	97	26.9		0.0	154	42.8	22	12.5	26	14.8	1	0.6	49	27.8
65y+	14	3.9	21	5.8		0.0	35	9.7	5	2.8	9	5.1		0.0	14	8.0
NK	2	0.6	1	0.3	1	0.3	4	1.1		0.0	4	2.3		0.0	4	2.3
Total	151	41.9	201	55.8	8	2.2	360	100	86	48.9	87	49.4	3	1.7	176	100

Table 5

Clinical manifestation.

The clinical manifestation is detailed for 292 of the cases in the database. Bloody diarrhoea is more common in cases with O157 infections compared to non-O157 infections (table 6).

Clinical Manifestation	O157		non-O157		Serogroup not known	
	Freq	%	Freq	%	Freq	%
Diarrhoea	116	57.7	41	70.7	21	63.6
Bloody diarrhoea	58	28.9	5	8.6	4	12.1
HUS	16	8.0	7	12.1	4	12.1
Asymptomatic	11	5.5	5	8.6	4	12.1
Total	201		58		33	

Table 6