



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

Funded by the European Centre for Disease Control

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**Enter-net Quarterly VTEC Report 2006/3**  
**July-September 2006**

**Summary.**

This report gives details of the number of isolates identified by the national reference laboratories in the 3<sup>rd</sup> quarter of 2006 and incorporated in the Enter-net VTEC database. Seventeen countries have supplied the relevant data electronically (or reported a nil return). Six hundred and five cases have been reported. The most common serogroups identified are detailed in table 1; within the 72 (11.9%) others there were 34 different serogroups, five cases (0.8%) were non-O157s with no specific serogroup identified.

Serogroup	2006		2005	
	Freq	%	Freq	%
O157	253	41.8	368	49.3
O26	61	10.1	66	8.8
O145	30	5.0	17	2.3
O103	20	3.3	38	5.1
O91	16	2.6	21	2.8
O121	13	2.1	9	1.2
O111	10	1.7	15	2.0
O55	9	1.5	4	0.5
O146	8	1.3	0	0.0
O128	6	1.0	2	0.3
Untyped/untypable	107	17.7	156	20.9
Other	72	11.9	51	6.8
Total	605		747	

Table 1

O157 Phage type	2006		2005	
	Freq	%	Freq	%
21/28	61	40.7	24	20.9
8	30	20.0	31	27.0
32	22	14.7	32	27.8
14	6	4.0	5	4.3
2	4	2.7	5	4.3
88	4	2.7	1	0.9
51	3	2.0	0	0.0
4	1	0.7	0	0.0
34	1	0.7	2	1.7
		0.0		0.0
Untyped/untypable	18	12.0	5	4.3
Other	0	0.0	10	8.7
Total	150		115	

Table 2

**Quarterly data – major trends.**

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

The total number of reports in the database shows a decrease of 19.0% over the same period last year with 605 cases as compared to 747 in 2005.

*E. coli* O157 was the most commonly identified serogroup (table 1). 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 or 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.

6 November, 2006.

### Antimicrobial susceptibility testing results.

Antimicrobial susceptibility test results were available for 245 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	43	17.7	10	4.1	190	78.2	243
Gentamicin	5	2.0	6	2.5	233	95.5	244
Kanamycin	6	2.5	18	7.4	219	90.1	243
Ampicillin	32	13.1	164	66.9	49	20.0	245
Cefotaxime		0.0		0.0	244	100.0	244
Sulphonamides	145	59.4	64	26.2	35	14.3	244
Trimethoprim	22	9.0		0.0	222	91.0	244
Chloramphenicol	13	5.3		0.0	230	94.7	243
Tetracyclines	35	14.4	130	53.5	78	32.1	243
Nalidixic Acid	3	1.2		0.0	240	98.8	243
Ciprofloxacin		0.0		0.0	245	100.0	245

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.

\* Five different serogroups.

Serogroup	No MDR (≥4)	Total	%
untyped/untypable	3	40	7.5
O157	1	29	3.4
O26	8	38	21.1
O80	5	5	100.0
O91	2	13	15.4
Others*	7	120	5.8
Total	26	245	10.6

Table 4

### Age and gender.

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	3	1.2	3	1.2		0.0	6	2.4	9	3.7	4	1.6		0.0	13	5.3
1-5y	42	16.6	35	13.8	4	1.6	81	32.0	55	22.4	63	25.7	6	2.4	124	50.6
6-14y	26	10.3	12	4.7		0.0	38	15.0	11	4.5	11	4.5		0.0	22	9.0
16-64y	38	15.0	67	26.5		0.0	105	41.5	22	9.0	31	12.7	1	0.4	54	22.0
65y+	9	3.6	9	3.6		0.0	18	7.1	4	1.6	5	2.0		0.0	9	3.7
NK		0.0	2	0.8	3	1.2	5	2.0	10	4.1	13	5.3		0.0	23	9.4
Total	118	46.6	128	50.6	7	2.8	253	100	111	45.3	127	51.8	7	2.9	245	100

Table 5

### Clinical manifestation.

The clinical manifestation is detailed for 270 of the cases in the database. Bloody diarrhoea and HUS 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	44	38.6	76	72.4	36	70.6
Bloody diarrhoea	38	33.3	11	10.5	3	5.9
HUS	11	9.6	7	6.7	2	3.9
Asymptomatic	21	18.4	11	10.5	10	19.6
Total	114		105		51	

Table 6

This report was prepared by Ian Fisher, Scientific Co-ordinator and Francine Stalham, Administrator, on behalf of the Enter-net participants.