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

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Enter-net Quarterly VTEC Report 2006/1

Summary.

This report gives details of the number of isolates identified by the national reference laboratories in the 1st quarter of 2006 and incorporated in the Enter-net VTEC database. Twenty-one countries have supplied the relevant data electronically (or reported a nil return). Three hundred and thirty cases have been reported. The most common serogroups identified were O157 (88 cases, 26.7%), O103 (39, 11.8%), O91 (31, 9.4%), O146 (12, 3.6%), O26 (11, 3.3%), O145 (10, 3.0%), O117 (8, 2.4%), O113 (7, 2.1%), O2 (5, 1.5%), O111 (5, 1.5%) and O177 (5, 1.5%), these were the only serogroups with five-or-more cases. Sixty-four cases (19.6%) were untyped or untypable; the remaining 45 cases (13.6%) consisted of 27 other serogroups.

Serogroup	Freq	%	Freq	%
	2006		2005	
O157	43	17.1	67	27.0
O103	34	13.5	23	9.3
O91	30	11.9	24	9.7
O146	12	4.8	11	4.4
O26	9	3.6	16	6.5
O145	8	3.2	10	4.0
O113	6	2.4	6	2.4
O117	6	2.4	5	2.0
O2	5	2.0	2	0.8
O177	5	2.0	0	0.0
NT	47	18.7	42	16.9
Other	47	18.7	42	16.9
Total	252		248	

Table 1

O157 Phage type	Freq	%	Freq	%
	2006		2005	
21/28	7	33.3	12	26.1
8	3	14.3	9	19.6
14	2	9.5	0	0.0
51	2	9.5	1	2.2
2	1	4.8	5	10.9
32	1	4.8	4	8.7
34	1	4.8	2	4.3
70	1	4.8	0	0.0
88	0	0.0	11	23.9
		0.0		0.0
NT	3	14.3	1	2.2
Other	0	0.0	1	2.2
Total	21		46	

Table 2

Quarterly data – major trends.

Details in tables 1 & 2 refer to the fifteen 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 slight increase of 1.6% over the same period last year with 252 cases as compared to 248 in 2005. The increase in serogroup O103 is due in part to the outbreak of HUS in Norway (http://www.eurosurveillance.org/ew/2006/060302.asp#1).

E. coli O157 was the most commonly identified serogroup (table 1). Where phage typing is performed phage type 21/28 was the predominant strain the same as in 2005 (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.

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Antimicrobial susceptibility testing results.

Antimicrobial susceptibility test results were available for 162 records. The majority of these are tested against the panel of 11 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	23	14.3	13	8.1	125	77.6	161
Gentamicin	4	2.5	0	0.0	157	97.5	161
Kanamycin	4	2.5	7	4.3	150	93.2	161
Ampicillin	23	14.2	87	53.7	52	32.1	162
Cefotaxime		0.0		0.0	161	100.0	161
Sulphonamides	89	55.3	39	24.2	33	20.5	161
Trimethoprim	23	14.3		0.0	138	85.7	161
Chloramphenicol	4	2.5		0.0	157	97.5	161
Tetracyclines	22	13.8	43	26.9	95	59.4	160
Nalidixic Acid		0.0		0.0	160	100.0	160
Ciprofloxacin		0.0		0.0	161	100.0	161

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.

* Four different serogroups.

Serogroup	No MDR (≥4)	Total	%
O143	2	2	100.0
O55	2	4	50.0
O26	3	7	42.9
O157	1	12	8.3
NT	3	28	10.7
Other*	4	107	3.7
Total	15	162	9.3

Table 4

Age and gender.

The age and gender breakdown is detailed in table 5.

	O157								non-O157							
	Male		Female		NK		Total		Male		Female		NK		Total	
Ageband	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
0-11m	1	1.1		0.0		0.0	1	1.1	4	2.0	1	0.5		0.0	5	2.5
1-5y	16	18.2	17	19.3		0.0	33	37.5	28	13.9	31	15.4	7	3.5	66	32.8
6-14y	9	10.2	10	11.4		0.0	19	21.6	10	5.0	22	10.9	2	1.0	34	16.9
16-64y	12	13.6	14	15.9		0.0	26	29.5	35	17.4	32	15.9	6	3.0	73	36.3
65y+	3	3.4	5	5.7		0.0	8	9.1	11	5.5	7	3.5		0.0	18	9.0
NK		0.0	1	1.1		0.0	1	1.1	1	0.5	2	1.0	2	1.0	5	2.5
Total	41	46.6	47	53.4	0	0.0	88	100	89	44.3	95	47.3	17	8.5	201	100

Table 5

Clinical manifestation.

The clinical manifestation is detailed for 106 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	8	28.6	47	74.6	12	80.0
Bloody diarrhoea	8	28.6	9	14.3	1	6.7
HUS	6	21.4	6	9.5		0.0
Asymptomatic	6	21.4	1	1.6	2	13.3
Total	28		63		15	

Table 6

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