ECDC SURVEILLANCE REPORT

Food- and Waterborne Diseases and Zoonoses Surveillance Network

Quarterly STEC/VTEC Report Q1 2008, January–March 2008

Overview

This report provides detailed information on the number of confirmed STEC/VTEC[1] cases identified by national surveillance centres in EU Member States and EEA/EFTA countries in the first quarter of 2008.

Ten countries submitted case-based data for the first quarter of 2008 and of these, seven countries also submitted data for Q1 2007. All tables use 'notification' data, except for those on antimicrobial susceptibility testing, which use more comprehensive laboratory data.

The 15 most frequently identified serotypes are listed in Table 1. Table 2 illustrates the phage types for serogroup O157. Table 3 presents the age and gender distribution for cases infected with serogroup O157 and non-O157, respectively, and Table 4 presents the clinical manifestation. Antimicrobial susceptibility testing (AST) results were very scarce, so no conclusions could be drawn for Q1 2008.

Note: This report was prepared by the ECDC FWD team on behalf of the participating countries.

Quarterly data trends

For the first quarter of 2008, a total of 262 confirmed cases were reported by ten countries. 256 cases reported by seven countries were included in the analysis[2]. In the corresponding quarter in 2007, 169 cases were reported by these seven countries. When compared with Q1 2007, there was a 51% increase of STEC/VTEC cases reported in Q1 2008. Serogroup O157 was the most common serogroup identified, representing 66.8% of all cases (Table 1). The most common phage types of VTEC O157 in Q1 of 2008 were PT 21/28, PT 32 and PT 8 (Table 2). By comparison, PT 8 and PT 21/28 were most frequently reported in Q1 of 2007.

[1] Shiga toxin-producing *Escherichia coli* (STEC), also called verotoxin-producing *E. coli* (VTEC)

[2] Only countries that reported data for the same quarter over two subsequent years (2007/2008) were included in the analysis.
In some tables, totals do not add up to the total number of cases reported for each quarter due to missing values.

Table 1. **Top 10 serogroups in Q1 2008 and Q1 2007**

Serogroup	2008		2007	
	Freq	%	Freq	%
O157	171	66.8	100	59.2
O103	7	2.7	3	1.8
O26	6	2.3	21	12.4
O117	4	1.6	4	2.4
O128	3	1.2	1	0.6
O146	3	1.2	2	1.2
O11	2	0.8	0	0.0
O121	2	0.8	1	0.6
O5	2	0.8	0	0.0
O111	1	0.4	0	0.0
Other	12	4.7	18	10.7
NT*	43	16.8	19	11.2
Total	**256**	**100**	**169**	**100**

**NT: untyped, untypable, or not definitively typed*

Table 2. **Top 10 phage types of O157 serogroup in Q1 2008 and Q1 2007**

O157 phage type	2008		2007	
	Freq	%	Freq	%
21/28	57	33.1	25	27.2
32	18	10.5	16	17.4
8	16	9.3	27	29.3
RDNC	11	6.4	4	4.3
31	9	5.2	0	0.0
14	7	4.1	1	1.1
2	7	4.1	2	2.2
43	3	1.7	1	1.1
1	2	1.2	0	0.0
34	1	0.6	0	0.0
Other	6	3.5	7	7.6
NT*	35	20.3	9	9.8
Total	**172**	**100**	**92**	**100**

** NT: untyped, untypable, or not definitively typed. Includes unknown phage types*

Age and gender

Table 3a. **Age and gender distribution for cases with serogroup O157**

Age group	O157										
	Male (M)			Female (F)			Unknown (U)			Total	
	Freq	% M	% Total	Freq	% F	% Total	Freq	% U	% Total	Freq	%
0-4 years	31	39.2	51.7	28	31.1	46.7	1	50.0	1.7	60	35.1
5-14 years	9	11.4	31.0	19	21.1	65.5	1	50.0	3.4	29	17.0
15-24 years	6	7.6	54.5	5	5.6	45.5	0	0.0	0.0	11	6.4
25-44 years	14	17.7	42.4	19	21.1	57.6	0	0.0	0.0	33	19.3
45-64 years	13	16.5	54.2	11	12.2	45.8	0	0.0	0.0	24	14.0
>=65 years	6	7.6	42.9	8	8.9	57.1	0	0.0	0.0	14	8.2
Total	**79**	**100.0**	**46.2**	**90**	**100.0**	**52.6**	**2**	**100.0**	**1.2**	**171**	**100.0**

Table3b. Age and gender distribution for cases with serogroup non-O157

	Non-O157										
Age group	**Male (M)**			**Female (F)**			**Unknown (U)**			**Total**	
	Freq	**% M**	**% Total**	**Freq**	**% F**	**% Total**	**Freq**	**% U**	**% Total**	**Freq**	**%**
0-4 years	8	38.1	44.4	10	43.5	55.6	0	0.0	0.0	18	40.9
5-14 years	2	9.5	66.7	1	4.3	33.3	0	0.0	0.0	3	6.8
15-24 years	1	4.8	100.0	0	0.0	0.0	0	0.0	0.0	1	2.3
25-44 years	2	9.5	40.0	3	13.0	60.0	0	0.0	0.0	5	11.4
45-64 years	5	23.8	41.7	7	30.4	58.3	0	0.0	0.0	12	27.3
>=65 years	3	14.3	60.0	2	8.7	40.0	0	0.0	0.0	5	11.4
Total	**21**	**100.0**	**47.7**	**23**	**100.0**	**52.3**	**0**	**0.0**	**0.0**	**44**	**100.0**

Clinical manifestation

Bloody diarrhoea was much more common (23.3%) in cases with serogroup O157 than in those with non-O157 (2.2%) (Table 4). Although the total number of non-O157 cases was small, there was however a higher proportion of cases with diarrhoea and HUS reported among the non-O157 than the O157 cases (78.3% versus 29.0%, and 4.3% versus 2.3%, respectively).

Table 4. Clinical manifestations, Q1 of 2008

Clinical manifestation	**O157**		**non-O157**		**Not typed/untypable**		**All serogroups**	
	Freq	**%**	**Freq**	**%**	**Freq**	**%**	**Freq**	**%**
Diarrhoea	51	29.0	36	78.3	1	2.3	88	33.2
Bloody diarrhoea	41	23.3	1	2.2	0	0.0	42	15.8
HUS	4	2.3	2	4.3	0	0.0	6	2.3
Asymptomatic	11	6.3	0	0.0	0	0.0	11	4.2
Unknown	69	39.2	7	15.2	42	97.7	118	44.5
Total	**176**	**100.0**	**46**	**100.0**	**43**	**100.0**	**265**	**100.0**

Antimicrobial susceptibility testing results

Only limited results of antimicrobial susceptibility testing were provided for Q1 2008. No conclusions could be made regarding AST as only two strains were tested by the same countries in both 2007 and 2008.

Multi-drug resistance

No strains with multi-drug resistance (to four or more antimicrobials) were reported in Q1 2008; however data were only available for two strains this quarter.