



Feidhmeannacht na Seirbhíse Sláinte  
Health Service Executive

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Health Services Executive  
Dublin Mid-Leinster  
Cherry Orchard Hospital  
Ballyfermot  
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**2011**

**Annual Report of the National VTEC Service**

**provided by**

**Health Service Executive**

**Dublin Mid-Leinster**

**Public Health Laboratory**

**Cherry Orchard Hospital**

**Ballyfermot**

**Dublin 10**

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In 2011 4943 stool samples or isolates were received at the PHL-HSE-DML for VTEC screening or confirmation and typing, this is an increase of approx 50% from 2010 and represents a doubling in sample numbers since 2008. Of the 4943 samples or isolates received 625(12.6%) were VTEC positive, representing 270 clinical VTEC cases with 285 clinical VTEC isolates (some cases had mixed VTEC infection). 196(69%) of isolates were VTEC O157 and 89(31%) were non-O157 VTEC, of these 49(17%) were VTEC O26 and the remaining 40(14%) were various other VTEC serogroups (tables 1-3).

The most notable change in VTEC from 2010 is a 62% increase in the number of VTEC O157 cases, there was also 27% decrease in VTEC O26 and an almost doubling of the number of VTEC with serogroups other than O26 or O157.

PFGE was performed on all VTEC isolates and reports issued on relevant outbreaks. 208 VTEC O157 isolates typed into 92 PFGE patterns and 50 VTEC O26 isolates typed into 26 PFGE patterns. Attached is an example of a PFGE report.

Attached are tables and graphs that show the 2011 data in greater detail. The information in the tables and figures include 12 food and 5 water isolates (302 isolates in total). If you have any queries relating to this data or our VTEC services please do not hesitate to contact us.

In 2011 we obtained accreditation from the Irish National Accreditation Board (INAB) for our VTEC service. The scope of this accreditation can be viewed on [www.inab.ie](http://www.inab.ie). As part of our continued service development we are currently validating a change to our VTEC detection methods, this change will increase the efficiency of our service and reduce TAT on negative samples from 48 to 24 hours.

We look forward to continued service provision in 2012 and are happy to continue receiving high risk primary samples for VTEC analysis, however, we do request that urgent samples or large numbers of samples are preceded by a phone call and that all samples are accompanied by a completed PHL-VTEC request form. Each laboratory should have been sent a customised request form, if you have not received this please e mail [phl.dublin@hse.ie](mailto:phl.dublin@hse.ie) and we will send it to you. We also request that as many of the fields as possible are completed, in particular 'external lab ID', 'Technical findings' and 'DOB'.

**Table 1: PHL-HSE-DML VTEC workload 2004-2011**

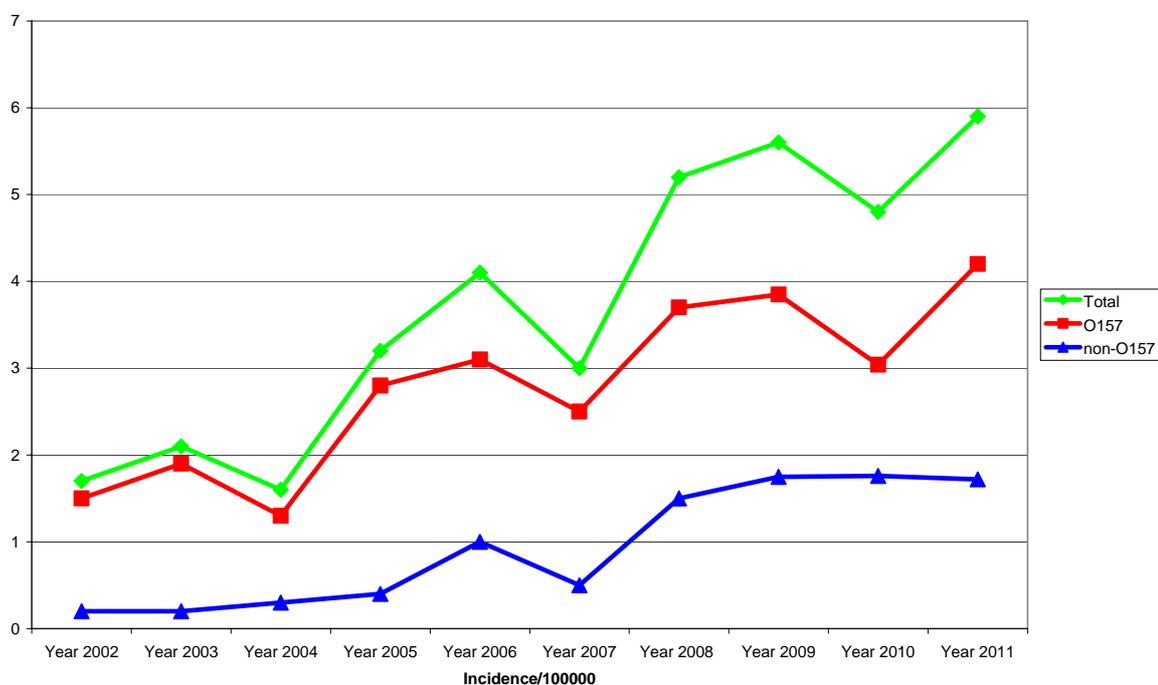
<b>Year</b>	<b>No. Samples Analysed*</b>	<b>% positive cases</b>
<b>2004</b>	<b>599</b>	<b>8.5</b>
<b>2005</b>	<b>996</b>	<b>12.3</b>
<b>2006</b>	<b>1360</b>	<b>11.7</b>
<b>2007</b>	<b>1468</b>	<b>10.8</b>
<b>2008</b>	<b>2403</b>	<b>9.3</b>
<b>2009</b>	<b>3550</b>	<b>6.8</b>
<b>2010</b>	<b>3283</b>	<b>6.2</b>
<b>2011</b>	<b>4943</b>	<b>5.5</b>

**Table 2: Numbers and incidence of VTEC in ROI 2002-2011**

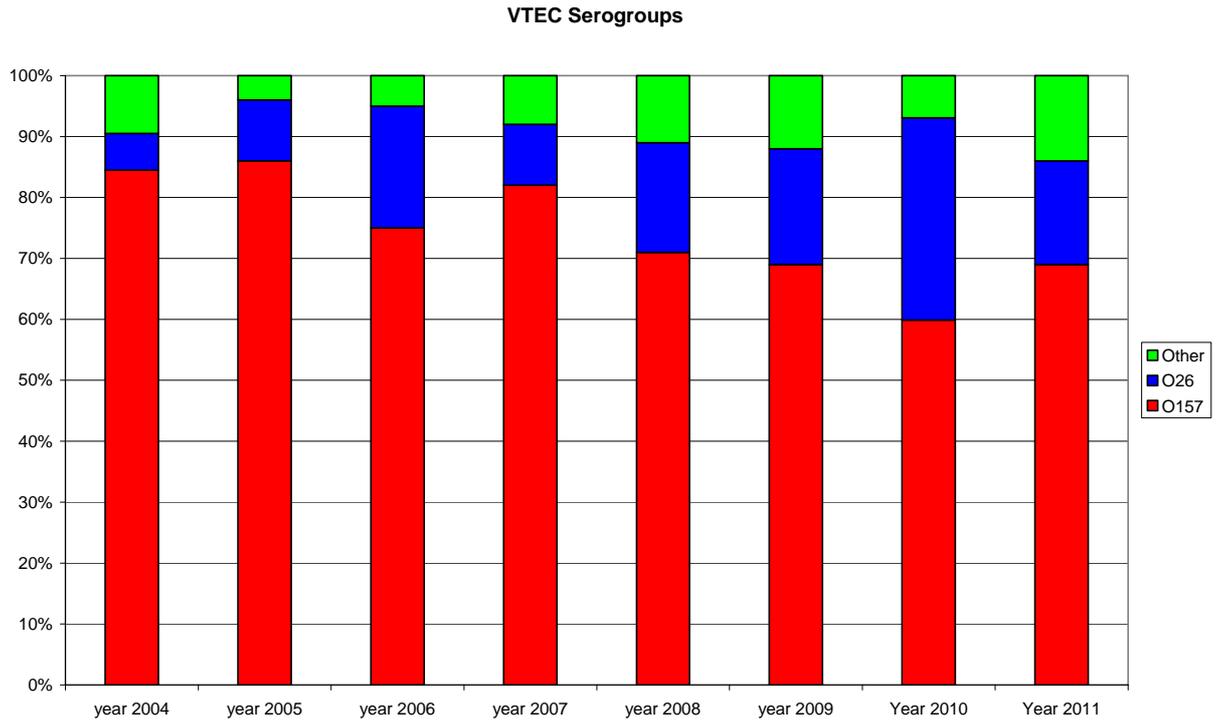
<b>Year</b>	<b>Numbers of VTEC cases</b>	<b>Incidence/100000</b>
<b>2002</b>	68	1.7
<b>2003</b>	82	2.1
<b>2004</b>	51	1.4
<b>2005</b>	123	3.0
<b>2006</b>	159	3.7
<b>2007</b>	115	3.9
<b>2008</b>	223	5.3
<b>2009</b>	240	5.7
<b>2010</b>	202	4.8
<b>2011</b>	270	5.9

**Table 3: Serogroups and toxin types of VTEC in ROI in 2011**

Serogroup	vtx1(%)	vtx2(%)	vtx1+vtx2(%)	Total No.(%)
O157	0(0)	153(72.5)	58(27.5)	211 (100)
O26	29(58)	1(2)	20(40)	50 (100)
O111	0	0	1(100)	1 (100)
O128ad	0	0	1(100)	1 (100)
O145	0	3(100)	0	3 (100)
O146	0	0	3(100)	3 (100)
O150	0	0	2(100)	2 (100)
O185	0	1(100)	0	1 (100)
O5	6(75)	0	2(25)	8 (100)
O76	1(100)	0	0	1 (100)
O44	0	1(100)	0	1 (100)
O91	0	0	1(100)	1 (100)
O130	0	1(100)	0	1 (100)
O149	1(100)	0	0	1 (100)
O166	0	0	1(100)	1 (100)
O6	4(100)	0	0	4 (100)
O8	0	1	0	1 (100)
Ungroupable	3(25)	4(33.4)	5(41.6)	12 (100)

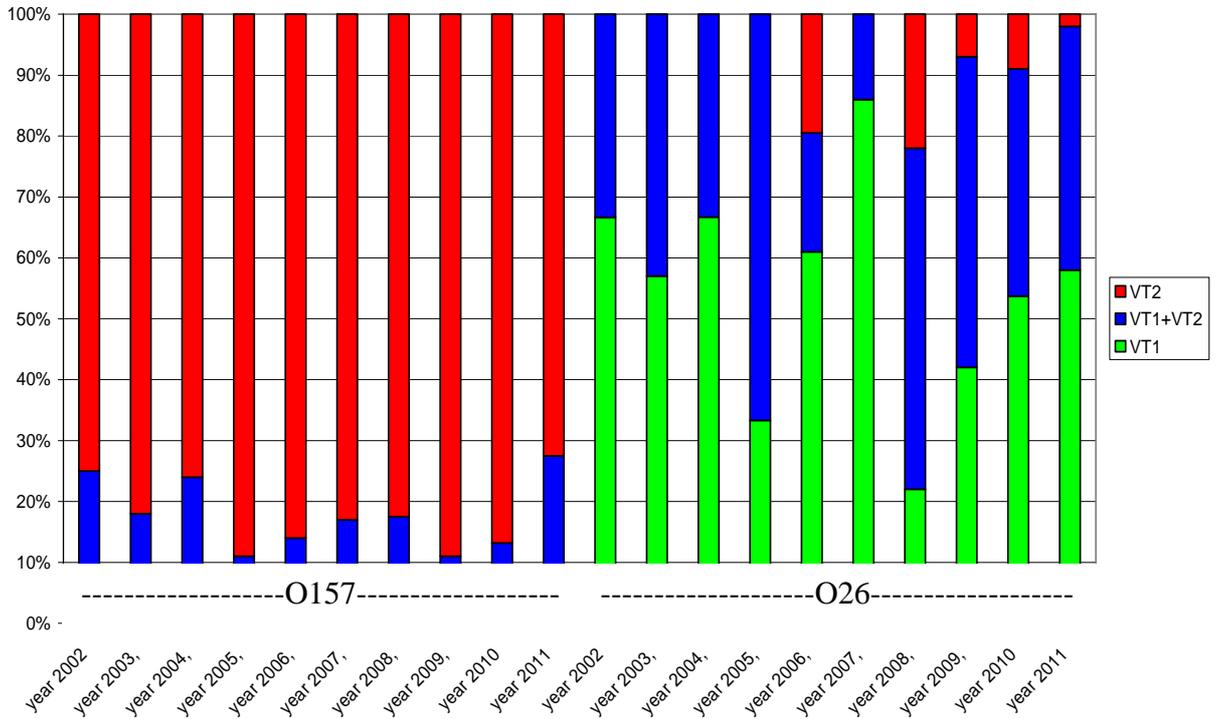


**Fig 1: VTEC incidence/100000, 2002-2011**

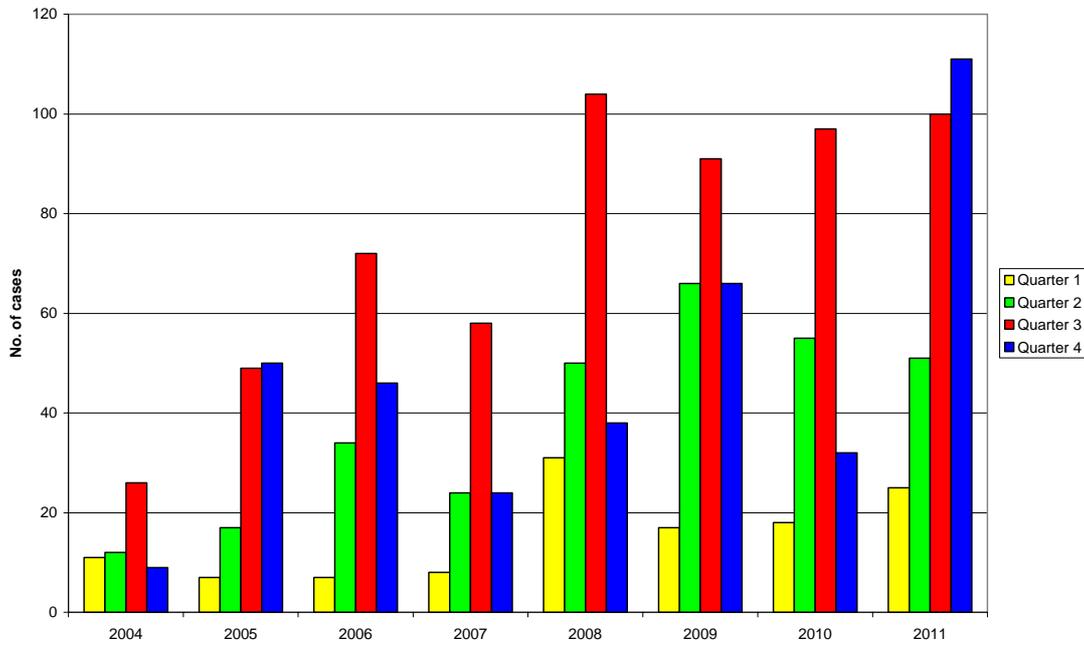


**Fig2:** VTEC Serogroups 2004-2011

**Toxin Genotypes of O157 and O26**



**Fig3: Toxin types of *E. coli* O157 and *E. coli* O26, 2002-2011**



**Fig4: Seasonality of VTEC 2004-2011**



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## VTEC PFGE Report

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Dice (Td 0.6%-0.8%) (H=0.0% S=0.0%) [0.0%-100.0%]  
PFGE PFGE

### Pulse-Field Gel Electrophoresis of 0411CCCE

8/3/2012



#### PFGE Interpretation;

- The two isolates from 0411CCCE have indistinguishable PFGE patterns and have been assigned pattern reference IE-O157-104. This pattern was seen other 3 times, all in 2011, in Louth in March, Meath in May, and the midlands in July and October.
- Please contact the PHL if further information is required.

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Consultant Microbiologist.