



# Data collection on VTEC in the European Community

P-A. Beloeil  
Zoonoses Data Collection Unit

- VTEC in humans
- VTEC in food
- VTEC in animals
- Foodborne outbreaks caused by pathogenic *E. coli*
- New WG on harmonised monitoring programme of VTEC

- **VTEC in humans**
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# Reported VTEC human cases Incidence in for confirmed cases (Enter-net)

		2006			2005	2004	2003
	Report type <sup>2</sup>	Total cases	Confirmed cases	Confirmed cases/100,000 population <sup>1</sup>	Total cases		
Austria	C	41	41	0.5	53	45	28
Belgium	A	47	47	0.4	-	36	39
Czech Republic	C	1,561	1,558	15.2	-	1,743	-
Denmark	C	146	146	2.7	154	163	128
Estonia	C	8	8	0.6	19	0	
Finland	C	14	14	0.3	21	10	14
France	C	67	67	0.1	-	-	-
Germany	C	1,183	1,183	1.4	1,162	903	1,100
Greece	C	1	1	<0.1	-	-	-
Hungary	C	3	3	<0.1	-	7	-
Ireland	C	158	153	3.6	125	61	95
Italy	-	17	17	<0.1	-	3	5
Lithuania	A	0	0	<0.1	-	-	-
Luxembourg	C	2	2	0.4	8	-	-
Malta	C	21	21	5.2	23	-	-
Netherlands	C	41	41	0.3	64	30	51
Poland	C	4	4	<0.1	4	3	-
Slovakia	C	8	8	0.1	61	4	1
Slovenia	C	30	30	1.5	-	2	-
Spain	C	13	13	<0.1	16	-	-
Sweden <sup>3</sup>	C	265	265	2.9	336	149	52
United Kingdom	C	1,294	1,294	2.1	1,171	926	974
<b>EU Total</b>		<b>4,924</b>	<b>4,916</b>	<b>1.1</b>	<b>3,217</b>	<b>4,085</b>	<b>2,487</b>
Iceland	C	1	1	0.3	-	-	-
Norway	C	50	50	1.1	18	12	15

**34 MS**

Cases  
confirmed:  
**4,916**

Incidence:  
**1.1/100,000**

**UK  
CZ  
D**

1. EU-total incidence is based on population in reporting countries

2. A: Aggregated data; C: Case based

3. In Sweden, in July 2004 the reporting system changed so all serovars became notifiable, before this date only VTEC O157 was notifiable

# Reported confirmed VTEC human cases by serogroup (top 10) - 2006

TESSy				Enter-net		
Serogroup	No. of cases	%Total	%Known	Serogroup	No. of cases	%Known
<b>O157</b>	1,635	33.7	33.7	<b>O157</b>	1,745	69
<b>O26</b>	574	11.8	11.8	<b>O26</b>	168	6.6
<b>O126</b>	183	3.8	3.8	<b>O103</b>	124	4.9
<b>O55</b>	150	3.1	3.1	<b>O91</b>	84	3.3
<b>O127</b>	135	2.8	2.8	<b>O145</b>	56	2.2
<b>O25</b>	129	2.7	2.7	<b>Other</b>	351	13.9
<b>O103</b>	87	1.8	1.8			
<b>O128</b>	87	1.8	1.8			
<b>O119</b>	86	1.8	1.8			
<b>Other</b>	448	9.2	9.2			
<b>Unknown</b>	1,338					
<b>Total</b>	<b>4,852</b>				<b>2,528</b>	

# VTEC serogroups in humans by country - 2006 (TESSy data)

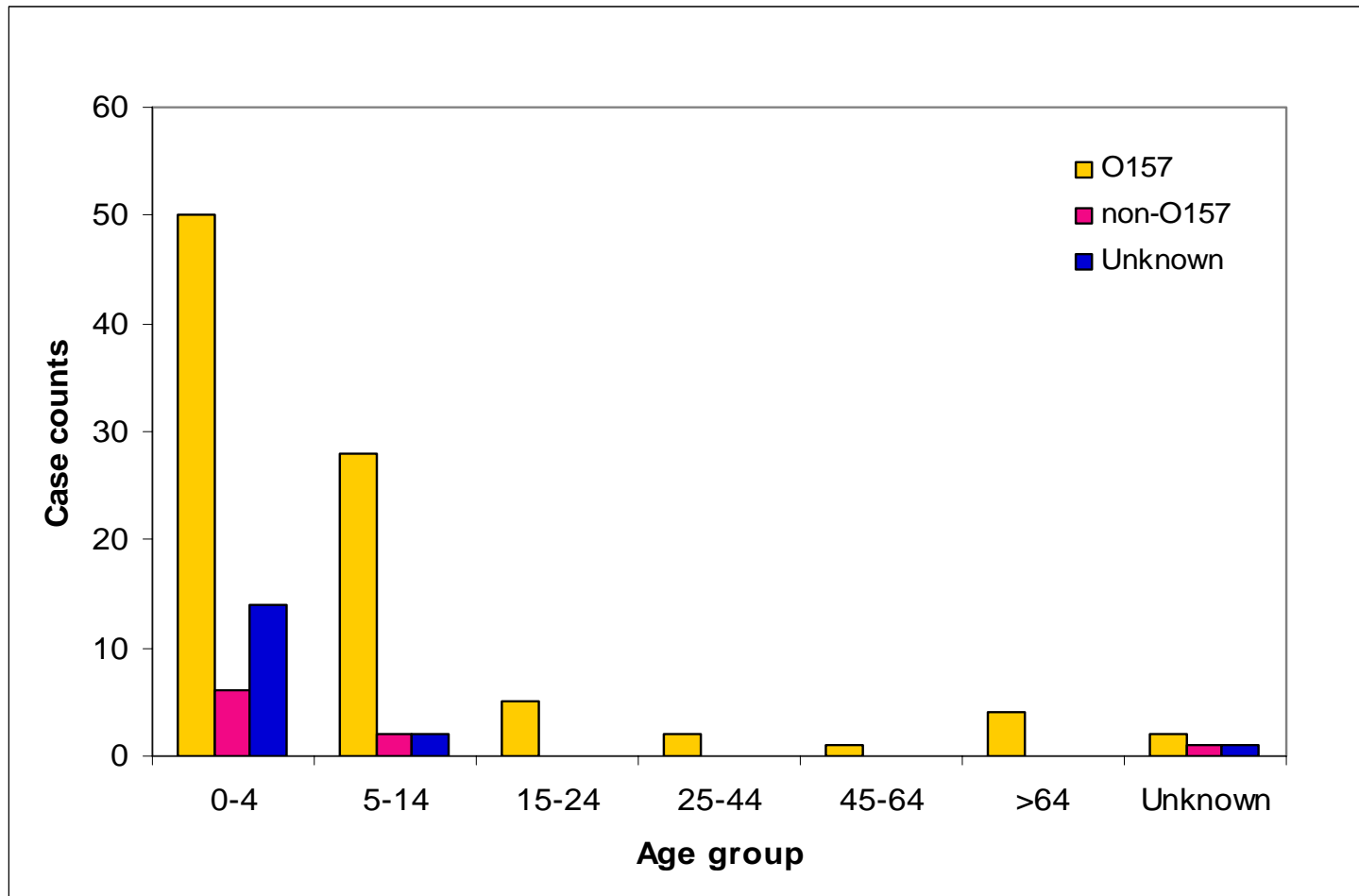
Country	Serogroup										
	O157	O26	O126	O55	O127	O25	O103	O128	O125	O91	O145
Austria	10	2	-	-	-	-	4	-	-	-	-
Czech Republic	52	451	178	142	132	125	1	68	76	-	-
Estonia	6	-	-	-	-	-	-	1	-	-	-
Finland	5	-	-	-	-	-	-	-	-	-	-
France	26	6	-	-	-	-	-	1	-	-	1
Germany	79	75	4	8	1	4	79	10	6	42	30
Hungary	1	2	-	-	-	-	-	-	-	-	-
Ireland	119	30	-	-	-	-	2	-	-	-	-
Malta	6	3	1	-	2	-	-	6	1	-	-
Netherlands	40	-	-	-	-	-	-	-	-	-	-
Poland	4	-	-	-	-	-	-	-	-	-	-
Spain	12	-	-	-	-	-	-	-	-	-	-
United Kingdom	1,275	5	-	-	-	-	1	1	-	-	-
<b>EU Total</b>	<b>1,635</b>	<b>574</b>	<b>183</b>	<b>150</b>	<b>135</b>	<b>129</b>	<b>87</b>	<b>87</b>	<b>83</b>	<b>42</b>	<b>31</b>
Norway	8	5	-	-	-	-	25	1	-	-	4

84% of VTEC cases aged five and older : O157

< 4 years of age : non-O157 and VTEC O26 > VTEC O157

- Confirmed HUS cases recorded by:
  - France (38), Hungary (1), Ireland (15), the NL (3), Norway (10) and the UK (57)
  - DK and D cases were not included for analysis in this report
- HUS cases for 2006: 126
- Distribution of HUS cases according to the serogroup:
  - O157: 92
  - O103: 10
  - O26: 3
  - O111, O145, O80, O86: 1 case each
  - 16 HUS cases reported without serogroup specification
- HUS data heavily influenced by France and the UK
  - The UK reported O157
  - F, EI, H, No: non-O157 serogroups
  - 10 O103 cases reported by Norway and all associated with the same outbreak

# Hemolytic Uremic Syndrome (HUS) [2] by age and serogroup – 2006

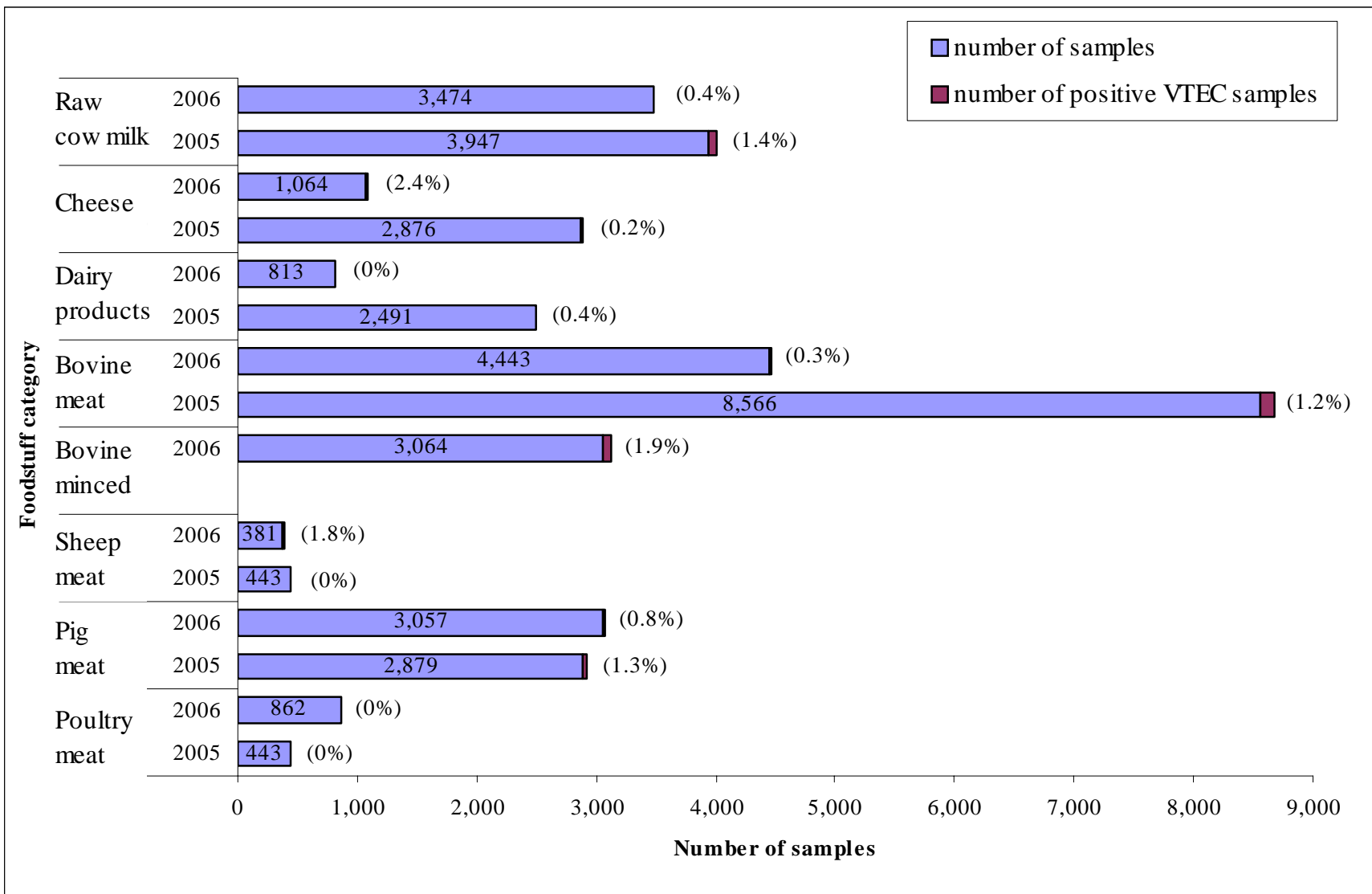




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▶ Data from different investigations are not directly comparable due to difference in sampling strategies and applied analytical methods across community.

# Number of food samples tested for VTEC by food category – 2005 and 2006



- Data provided by 12 MS, of which 9 reported findings of VTEC
- Proportion of positive samples was generally very low
- France: 7.2%
- VTEC O157 rarely detected in fresh bovine meats:
  - 4 MS reported findings of O157
- VTEC findings: slaughter, processing and retail levels
- O1:H10, O2/H6, O26, O110:H-, O113:H4, O128abc:H2 (Austria and Germany)
- O26 and O128: frequently reported serogroups causing disease in humans

- 5 MS reported data: 2 MS reported VTEC findings
- Raw cow's milk:
  - raw cow's milk intended for human consumption:
    - Germany and Italy
    - 2 VTEC positive samples (1.4%) were reported from Germany
  - raw cow's milk intended for manufacture of heat treated products:
    - Germany, Italy and Romania
    - In Germany, 1.0% of 977 samples were positive for VTEC
    - Isolated strains included serogroups O2, O8, O21, O22
    - None of these serogroups are frequently reported to cause disease in humans in the EU
  - Italy reported findings of VTEC O157 in milk
- Dairy products:
  - Products made of raw or low heat-treated milk
  - VTEC: 10/825 samples of cheeses made of cow's milk
  - VTEC O157: Cheeses made from both milk from cows and sheep
  - VTEC was not detected in any other dairy products besides cheeses

- Meat of sheep:
  - 3 investigations reported: Italy detected O157 (0.7%)
- Pig meat:
  - VTEC: 19.7% in a Spanish investigation
  - VTEC O157 recovered in 3 Italian surveys (4.1%, 2.1%, 0.1%)
  - Pork is not considered to be an important source of O157 infections!?
- Broiler and turkey meat:
  - VTEC were not detected in any poultry meat samples
- Other foodstuffs:
  - VTEC was not detected in any vegetables of the reported surveys
  - Spain isolated VTEC from 3.7% of unspecified fishery products
  - VTEC was not recovered from any of the investigated samples of:
    - Juice, Eggs, Fruits

→ Reported levels of VTEC and VTEC O157 in foodstuffs in 2006 were comparable with the reported findings in 2005 and 2004

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▶ Animal data from different studies are not directly comparable due to difference in the sampling and testing schemes.

- 11 MS reported on occurrence of VTEC in animals
- VTEC in cattle:
  - 10 MS reported VTEC findings in cattle
  - Occurrence at animal level: 0.1% to 76%
  - Findings were made from calves, dairy cows and meat production animals
  - 8 MS reported O157 serogroup findings: 0% to 13.7%
  - Other serogroups were also recovered from cattle
  - Ear samples may be a sensitive sample at the abattoir
- VTEC in animals other than cattle
  - Isolated from: sheep, goats, rabbits
  - Not isolated from: poultry, cats, dogs and solipeds

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- 10 MS and 2 non-MS reported 48 outbreaks caused by *E. coli* in 2006
- 19 outbreaks were caused by VTEC:
  - 111 persons
  - 42 hospitalisations (38%)
  - 1 death (in Norway)
- 1 small but severe outbreak in Norway:
  - VTEC O103:H25
  - 17 persons
  - 10 HUS (1 child died)
  - Norwegian traditional sausage mad from sheep meat

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- **BIOHAZ panel opinion on:**
  - Identification of the human pathogenic VTEC strains
  - Monitoring and analyses methods in food and animals
- **Harmonisation of monitoring:**
  - Based on recommendations of the panel on:
    - **Monitoring in animal population and foodstuffs**
    - **Serotypes of VTEC to be monitored**
    - **Analytical methods for monitoring of VTEC**
  - **New WG under the Zoonoses Task Force**
    - **Draft harmonised monitoring programme of VTEC**
    - **CRL-VTEC will be invited to participate**

Grazie per attenzione!