



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

Funded by the European Commission – DG SANCO

Project Team Prof Noël Gill Prof Bill Reilly Prof John Threlfall

**Enter-net Quarterly *Campylobacter* Report Jan-Mar 2006/1**

**Summary.**

Data on campylobacteriosis were supplied by ten participating countries. In total there were 4,048 cases of *Campylobacter* infection reported to Enter-net during the first quarter of 2006. Rates of infection varied from 0.4 to 15.1 per 100,000 of the population. The average across the countries reporting was 5.3. However, the surveillance systems which monitor *Campylobacter* infection vary considerably. In some countries campylobacteriosis is a notifiable disease, whilst in others, surveillance is carried out on a voluntary basis, and some countries are only just introducing national reference facilities.

**Species Differentiation.**

Species differentiation among all or a sub-set of *Campylobacter* isolates was undertaken by six of the countries that submitted data (60.0%). In the other countries no further identification is done. *Campylobacter jejuni* was the predominant species identified (11.4% of the total, 90.8% of those with a species identified), *C. coli* was 0.8% of the total, 6.8% of those speciated and other types represented 0.3% of the total and 2.4% of those speciated, however, this proportion varied by country (Table 1).

**Table 1** Number and proportion of isolates by species.

Species	Number	% of total	% of those speciated
<i>C. jejuni</i>	462	11.4	90.8
<i>C. coli</i>	34	0.8	6.8
Other	13	0.3	1.1
Not identified	3,539	87.4	
<b>Total</b>	<b>4,048</b>	<b>100.0</b>	<b>100.0</b>

**Age and gender.**

Just over 60% of all cases were between 15 and 64 years of age (Table 2). There were more males than females in each age group.

	Male		Female		Not known		All	
	Freq*	%	Freq*	%	Freq*	%	Freq*	%
0-11m	56	1.4	50	1.2	1	0.0	107	2.6
1-5y	274	6.8	197	4.9	6	0.1	477	11.8
6-14y	168	4.2	116	2.9	1	0.0	285	7.0
15-64y	1,389	34.3	1,209	29.9	5	0.1	2,603	64.3
65y+	204	5.0	199	4.9	2	0.0	405	10.0
Not known	11	0.3	8	0.2	152	3.8	171	4.2
<b>Total</b>	<b>2,102</b>	<b>51.9</b>	<b>1,779</b>	<b>43.9</b>	<b>167</b>	<b>4.1</b>	<b>4,048</b>	<b>100.0</b>

**Table 2** Age and gender breakdown of all *Campylobacter* isolates reported to Enter-net during the first quarter of 2006

Scientific Co-ordinator: **Ian Fisher**  
Administrator: **Francine Stalham**

HPA Centre for Infections  
61 Colindale Ave, London NW9 5EQ, UK  
Ph: +44-20-8200-6868 Fax: +44-20-8327-7112  
Email: enter-net@hpa.org.uk

### Travel associated cases.

Travel data are available for 1,181 cases. The majority were travel-associated but with the country not stated (362, 30.7%). The top ten destinations were Thailand (345 cases, 29.2%), India (163, 13.8%), Spain (119, 10.1%), Morocco (76, 6.4%), France (31, 2.6%), Venezuela (16, 1.4%), Tanzania (16, 1.4%), Peru (14, 1.2%), Tunisia (13, 1.1%), and Egypt (11, 0.9%), the remaining 15 cases (1.3%) were from five other countries.

### Antimicrobial resistance.

Antimicrobial susceptibility testing of *Campylobacter* isolates was undertaken by two of the countries that submitted data (20.0%). The most common antimicrobials tested against were Erythromycin, Tetracyclines and Ciprofloxacin. The proportion of resistant isolates varied by species (Table 3).

Antimicrobial agent	Number tested	Proportion of isolates resistant (%)				
		<i>C. jejuni</i>	<i>C. coli</i>	Other	NI	All
Gentamicin	31	0.0	0.0	0.0	0.0	0.0
Ampicillin	31	17.9	50.0	100.0	0.0	22.6
Amoxicillin/Clavulanic acid	31	0.0	0.0	0.0	0.0	0.0
Erythromycin	93	3.4	20.0	0.0	0.0	4.3
Tetracyclines	31	17.9	50.0	0.0	0.0	19.4
Nalidixic acid	83	56.3	100.0	100.0	0.0	57.8
Ciprofloxacin	83	48.8	50.0	100.0	0.0	49.4

**Table 3** Antimicrobial susceptibility testing results showing the proportion (%) of isolates resistant to the testing panel of antimicrobials by species.

Multi-drug resistance was seen in 6.5% per cent of *Campylobacter* isolates tested (Table 4).

Number MDR ( $\geq 4$ ) by species			
Species	No. MDR ( $\geq 4$ )	Total tested	%
<i>Jejuni</i>	1	28	3.6
<i>Coli</i>	1	2	50.0
Others	0	1	0.0
Total	2	31	6.5

**Table 4** Multi-drug resistance results showing the proportion (%) of isolates by species that were found to be resistant to four or more different classes of antimicrobials.

This report was prepared by Ian Fisher on behalf of the Enter-net participants. Report prepared July 2006.