



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

Funded by the European Centre for Disease Prevention and Control

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Enter-net Quarterly *Campylobacter* Report 2007/1
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Summary.

Data on campylobacteriosis were supplied by 19 of the participating countries (including five nil returns). In total there were 19,836 cases of *Campylobacter* infection reported to Enter-net during the first quarter of 2007. Rates of infection varied 0.0 to 34.4 per 100,000 population. The average across the countries reporting was 5.5. 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. It is not therefore possible to directly compare the infection rates of different countries.

Species Differentiation.

Species differentiation among all or a sub-set of *Campylobacter* isolates was undertaken by 11 of the countries that submitted data (78.6%). In the other countries no further identification is done. *Campylobacter jejuni* was the predominant species identified (Table 1).

Table 1 Number and proportion of isolates by species.

Species	Number	% of total	% of those speciated
<i>C. jejuni</i>	4,546	22.9	92.7
<i>C. coli</i>	159	0.8	3.2
Other	199	1.0	4.1
Not speciated	14,932	75.3	
Total	19,836	100.0	100.0

Age and gender.

Just over 60% of all cases were between 15 and 64 years of age (Table 4). There were more males than females below the age of 14 than above.

	Male		Female		Not known		All	
	Freq*	%	Freq*	%	Freq*	%	Freq*	%
0-11m	198	2.3	137	1.6	2	0.0	337	4.0
1-5y	773	9.1	677	8.0	6	0.1	1,456	17.2
6-14y	481	5.7	356	4.2	2	0.0	839	9.9
15-64y	2,454	29.0	2,623	31.0	15	0.2	5,092	60.1
65y+	315	3.7	393	4.6	0	0.0	708	8.4
Not known	6	0.1	5	0.1	26	0.3	37	0.4
Total	4,227	49.9	4,191	49.5	51	0.6	8,469	100.0

Table 2 Age and gender breakdown of all *Campylobacter* isolates reported to Enter-net during the first quarter of 2007.

May 2007

All data are provisional

Travel associated cases.

Travel data were available for 2,265 cases. A large number were travel-associated but with the country not stated/other (1,329, 58.7%). The top ten destinations were Thailand (358, 15.8%), India (260, 11.5%), Morocco (95, 4.2%), Spain (61, 2.7%), Venezuela (54, 2.4%), Kenya (34, 1.5%), Tanzania (30, 1.3%), France (6, 0.3%), Brazil (5, 0.2%), and Poland (5, 0.2%), the remaining 28 cases (1.2%) were from 21 other countries.

Antimicrobial resistance.

Antimicrobial susceptibility testing of *Campylobacter* isolates was undertaken by six of the countries that submitted data (42.9%). 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	NT	All
Gentamicin	526	0.2	1.0	0.0	0.0	0.4
Ampicillin	526	30.8	25.3	14.3	100.0	29.7
Amoxicillin/Clavulanic acid	444	1.2	0.0	0.0	None	0.9
Erythromycin	935	2.6	12.5	13.8	16.3	4.8
Tetracyclines	892	24.5	52.9	26.9	28.9	28.6
Nalidixic acid	526	43.0	51.5	100.0	75.0	47.1
Ciprofloxacin	1,025	46.1	48.8	20.7	56.8	46.1

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

Number MDR (≥ 4) by species			
Species	No. MDR (≥ 4)	Total tested	%
Jejuni	67	366	18.3
Coli	37	97	38.1
Others	3	21	14.3
Not typed	4	4	100.0
Total	111	488	22.7

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. MDR was seen in 22.7% of *Campylobacter* isolates tested.