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

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Enter-net Quarterly *Campylobacter* Report Oct-Dec 2005/4

Summary.

Data on campylobacteriosis were supplied by twelve participating countries. In total there were 6,026 cases of *Campylobacter* infection reported to Enter-net during the fourth quarter of 2005. Rates of infection varied from 0.1 to 15.0 per 100,000 of the population. The average across the countries reporting was 5.6. 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 (50.0%). *Campylobacter jejuni* was the predominant species identified (13.2% of the total, 92.6% of those with a species identified), *C. coli* was 0.9% of the total, 6.3% of those speciated and other types represented 0.2% of the total and 1.1% of those speciated (Table 1).

Table 1 Number and proportion of isolates by species.

Species	Number	% of total	% of those speciated
C. jejuni	798	13.2	92.6
C. coli	54	0.9	6.3
Other	10	0.2	1.1
Not identified	5,164	85.7	
Total	**6,026**	**100.0**	**100.0**

Age and gender.

Almost 60% of all cases were between 15 and 64 years of age (Table 2). There were more males than females in each age group with the exception of those over 65y.

Age group	Males (%)	Females (%)	Unknown (%)	Total (%)
<1 year	129 (2.1)	107 (1.8)	3 (0.1)	239 (4.0)
1-5 years	464 (7.7)	343 (5.7)	5 (0.1)	812 (13.5)
6-14 years	322 (5.3)	237 (3.9)	5 (0.1)	564 (9.4)
15-64 years	1,893 (31.4)	1,635 (27.1)	22 (0.3)	3,550 (58.9)
>65 years	264 (4.4)	434 (7.2)	4 (0.1)	702 (11.6)
Unknown	15 (0.3)	39 (0.7)	105 (1.7)	159 (2.6)
Total	3,087 (51.2)	2,765 (46.4)	144 (2.4)	6,026 (100.0)

Table 2 Age and gender breakdown of all *Campylobacter* isolates reported to Enter-net during the fourth quarter of 2005

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Travel associated cases.

Travel data are available for 149 cases. The majority were travel-associated but with the country not stated (136, 91.3%). Those with a destination stated included the Czech Republic (5 cases, 3.4%), the EU (2, 1.3%), and other countries (6, 4.0%).

Antimicrobial resistance.

Antimicrobial susceptibility testing of *Campylobacter* isolates was undertaken by five of the countries that submitted data (41.7%). 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 (%)				
		C. jejuni	*C. coli*	Other	NI	All
Gentamicin	81	2.8	0.0	0.0	0.0	2.5
Ampicillin	82	21.9	14.3	0.0	0.0	20.7
Amoxicillin/Clavulanic acid	62	0.0	0.0	0.0	0.0	0.0
Erythromycin	733	1.6	5.6	25.0	3.6	2.3
Tetracyclines	573	19.7	23.9	28.6	31.8	21.1
Nalidixic acid	144	54.8	37.5	0.0	0.0	53.5
Ciprofloxacin	788	39.9	36.2	28.6	36.8	39.3

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 50.0% per cent of *Campylobacter* isolates tested (Table 4).

Number MDR (≥4) by species			
Species	**No. MDR (≥4)**	**Total tested**	**%**
Jejuni	7	13	53.8
Coli	1	3	33.3
Others	0	0	0.0
Total	8	16	50.0

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.