



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

Funded by the European Commission – DG
SANCO

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Enter-net Quarterly Salmonella Report - 03/2 April – June

Summary.

This report gives details of the number of isolates identified by the national reference laboratories in the second quarter of 2003 and incorporated in the Enter-net salmonella database. Fifteen countries have supplied data. Table one illustrates Salmonella drug resistance data received for the quarter. Table two gives further details on multi-resistant isolates. Figure one and associated text gives details of serotypes with unusual increase over the period and gives comparable data for the same period of 2002 where available. Table three details the top fifteen serotypes isolated and gives comparable data for the same period in 2002 where available. The total number of human salmonella isolates reported this quarter are 11,943 with 9,493 (79.4%) being *S. Enteritidis*, *S. Typhimurium*, *S. Virchow* or *S. Hadar*.

Quarterly data - major trends.

Details below refer to the fifteen countries that have supplied comparable data for 2003 and 2002. The total number of reports in the database shows a decrease over the same period of 2002 from 13,006 to 11,943 down 8.2%. Most of the main serotypes have decreased in comparison to isolates in the 2nd quarter of 2002, however *S. Enteritidis* (6,821 isolates in the 2nd quarter of 2003, 57.1% of the total) has increased by 5.7%, *S. Typhimurium* (2,353, 19.7%) decreased by 14.3%, *S. Virchow* (209, 1.7%) by 35.5% and *S. Hadar* (110, 0.9%) by 54.5%. Two other serotypes were identified more than 100 times during the quarter. *S. Typhi* (121, 1.0%) and *S. Infantis* (116, 1.0%) Eight serotypes were isolated between 50 and 99 times, *S. Saintpaul*, *S. Agona*, *S. Stanley*, *S. Newport*, *S. Paratyphi A*, *S. Bovismorbificans*, *S. Anatum*, *S. Derby* – 638 of the total, 5.3%. Forty-six serotypes were reported between 10 and 49 times totaling 1,152, 9.6% and 327, 2.8% serotypes were reported less than 10 times, 96, 0.8% isolates have not been serotyped at the time of report. *S. Hadar* has dropped out of the top four serotypes as it did in the first quarter of 2003.

August, 2003

All data are provisional

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Antimicrobial susceptibility testing results¹

Antimicrobial susceptibility test results were available for 1,333 cases. The majority of these are tested against the full panel of 11 antimicrobials recommended by Enter-net, although not all strains are tested against each one. The frequency and percent in the categories resistant, intermediate and sensitive (as defined by each reference laboratory) are given in table 1.

Antimicrobial agent	Resistant Freq (%)	Intermed Freq (%)	Sensitive Freq (%)
Streptomycin	396 (29.7)	109 (8.2)	828 (62.1)
Gentamicin	34 (2.6)	101 (7.6)	1,198 (89.9)
Kanamycin	53 (4.0)	156 (11.7)	1,124 (84.3)
Ampicillin	376 (28.2)	46 (3.5)	910 (68.3)
Cefotaxime	18 (1.4)	6 (0.6)	1,309 (98.2)
Sulphonamides	683 (51.2)	14 (1.1)	636 (47.7)
Trimethoprim	73 (5.5)	16 (1.2)	1,244 (93.3)
Chloramphenicol	193 (14.5)	4 (0.4)	1,135 (85.1)
Tetracyclines	410 (30.8)	291 (21.8)	632 (47.4)
Nalidixic Acid	280 (21.9)	2 (0.2)	1,051 (78.8)
Ciprofloxacin	14 (1.1)	1(0.1)	1,302(97.7)

Table 1

Serotype	N° MR	Total	%	Serotype	N° MR	Total	%
Agona	1	87	1.1	Kentucky	2	11	18.1
Blockley	6	30	20.0	Mbandaka	1	24	4.1
Bredeney	1	31	3.2	Montevideo	1	49	2.0
Corvallis	1	34	2.9	Muenchen	1	45	2.2
Enteritidis	4	6,821	0.1	Paratyphi B	5	39	12.8
Essen	1	1	100	Saintpaul	7	91	7.6
Give	1	14	7.1	Stanley	2	85	2.3
Hadar	13	110	11.8	Typhi	3	121	2.4
Heidelberg	3	46	6.5	Typhimurium	245	2,353	10.4
Infantis	3	116	2.5	Virchow	5	209	2.3

Table 2

Multi-drug resistance; Table two shows the total number of strains with multiple-resistance (to five or more antimicrobials) by serotype and the percent of the total for that serotype.

Serotypes with unusual increases Q2 2003 (Q2 2002)
(number of cases/number of countries reporting)

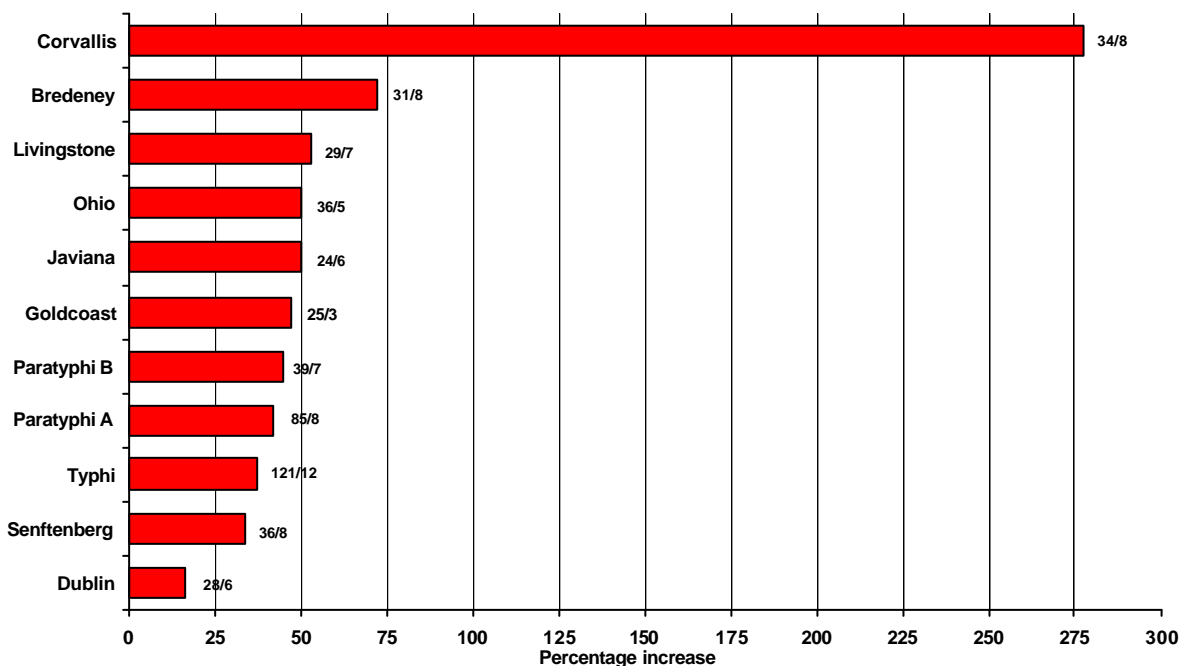


Table 3 – Top 15 serotypes reported in Q2 2003 (Q2 2002).		
Serotype	Freq	%
Enteritidis	6,821 (6,454)	57.1 (49.8)
Typhimurium	2,353 (2,722)	19.7 (21.0)
Virchow	209 (318)	1.7 (2.5)
Typhi	121 (88)	1.0 (0.7)
Infantis	116 (125)	1.0 (1.9)
Hadar	110 (242)	0.9 (1.0)
Agona	85 (125)	0.7 (1.0)
Newport	79 (88)	0.6 (0.7)
Paratyphi A	78 (59)	0.6 (0.5)
Stanley	72 (113)	0.6 (0.9)
Derby	61 (55)	0.5 (0.4)
Anatum	52 (60)	0.4 (0.5)
Saintpaul	52 (206)	0.4 (1.6)
Paratyphi B	43 (27)	0.4 (0.9)
Bovismorbificans	40 (120)	0.3 (0.9)
Others	1,651 (2,204)	14.1 (16.6)
Total	11,943	100

Serotypes with unusual increases this quarter;

S. Corvallis – 34 cases reported in total. One male and one female aged 0-11m, one male aged 1-5y, one male and one female aged 6-14y, nine males and 12 females aged 15-64y. Others were unspecified. Seven cases were related to travel; four to Malaysia and one to Thailand.

S. Javiana – 24 cases reported this quarter. One female aged 0-11m, four females and two males aged 1-5y, one male and one female aged 6-14y, three males and seven females aged 15-64y, three males were 65y+. One case travelled to Thailand.

S. Livingstone – Of the 29 reported there was one male, one female aged 0-11m, one male, two females aged 15-64y, one male, one female aged 65y+. There were 19 unspecified cases. No travel related cases

S. Ohio – Of the 36 cases reported there was one male aged 0-11m, six males and five females aged 1-5y, two females, 6-14y, five males and four females aged 15-64y, one male and three females aged 65y+. There were no cases related to travel.

S. Bredeney – 31 cases reported in total. Four males and three females aged 1-5y, two males and one female aged 6-14y, three males, six females aged 15-64 and two females aged 65y+. One case travelled to Cuba and one unspecified.

S. Goldcoast – Of the 25 cases reported there was one female aged 0-11m, two females aged 1-5y, one male and two females aged 15-64y and one female aged 65y+. There were no travel related cases.

S. Typhi – Of the 121 cases reported there were eight males and 10 females aged 1-5y, 10 males and five

females aged 6-14y, 40 males, 25 females aged 15-64y, one female aged 65y+. Fifty-six cases were related to travel; 25 to India, 24 to Pakistan, the remainder of travel related cases traveled to Bangladesh, Indonesia and the Philippines.

S. Paratyphi A – 85 cases reported in total. One male and two females aged 1-5y, three males and one female aged 6-14y, five males and five females aged 6-14y, 40 males and 22 females aged 15-64y, two males and two females aged 65y+. Forty-nine cases were travel related, 24 to India and 15 to Pakistan. The remainder travelled to China, Bangladesh and Honduras.

S. Senftenberg – 36 cases reported this quarter there was two males aged 0-11m, three males and three females aged 1-5y, one female aged 6-14y, seven males, nine females aged 15-64y, one male and two females were aged 65y+. Six cases were travel related.

S. Paratyphi B – Of the 43 cases reported there were three females aged 0-11m, five males, four females aged 1-5y, four females aged 6-14y, 12 males, 15 females aged 15-64y, eight males, five females aged 65y+. Two cases traveled to Pakistan and one was unspecified.

S. Dublin – 28 cases reported this quarter. One female aged 0-11m, one male, one female aged 1-5y, eight females and five males aged 15-64y, three males and four females aged 65y+. None of the cases reported were travel related.