



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

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Enter-net Quarterly Salmonella Report - 2003/3 July - Sept

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. Eighteen countries have supplied data. Population data and the total number of isolates by country this year and travel-related infections are detailed in table one. Table two illustrates Salmonella drug resistance data received for the quarter. Table three gives details on multi-resistant isolates. Table four details the top fifteen serotypes isolated this quarter and gives comparable data for the same period in 2002 where available. The total number of human salmonella isolates reported this quarter are 28,178 with 23,655 (83.9%) being *S. Enteritidis*, *S. Typhimurium*, *S. Virchow* or *S. Hadar*.

Quarterly data - major trends.

Details below refer to the eighteen countries that have supplied comparable data electronically for 2003 and 2002. The total number of reports in the database shows a decrease over the same period of 2002 from 28,785 to 28,178 down 2.1%. Most of the main serotypes have decreased in comparison to isolates in the 3rd quarter of 2002, although *S. Enteritidis* (18,533 isolates in the 3rd quarter of 2003, 65.8% of the total) has increased by 6.0%, *S. Typhimurium* (4,551 16.2%) decreased by 11.7%, *S. Virchow* (342, 1.2%) decreased by 24.3% and *S. Hadar* (229, 0.8%) by 46.5%. Nine other serotypes were identified more than 100 times during the quarter. *S. Infantis* (207, 0.7%), *S. Bareilly* (203, 0.7%), *S. Agona* (156, 0.6%), *S. Newport* (143, 0.5%), *S. Typhi* (141, 0.5%), *S. Derby* (138, 0.5%), *S. Braenderup* (136, 0.5%), *S. Saintpaul* (113, 0.4%) and *S. Brandenburg* (104, 0.4%). Twenty-one serotypes were isolated between 50 and 99 times, *S. Stanley*, *S. Napoli*, *S. Bovismorbificans*, *S. Paratyphi A*, *S. Blockley*, *S. Anatum*, *S. Heidelberg*, *S. Paratyphi B*, *S. Montevideo*, *S. Kentucky*, *S. Bredeney*, *S. Goldcoast*, *S. Kottbus*, *S. Oranienburg*, *S. Muenchen*, *S. Thompson*, *S. Mbandaka*, *S. Livingstone*, *S. Unnamed*, *S. Panama* and *S. Java* – 1,461 of the total, 5.1%. Thirty-nine serotypes were reported between 10 and 49 times totaling 882, 3.1% and 327, 2.8% serotypes were reported less than 10 times, 68, 0.2% isolates have not been serotyped at the time of report.

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All data are provisional

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Table 1 Population data in each country and cumulative isolates reported 2003.

Country	Pop (M)	Isolates this year	Travel Related (code=1)
Austria	8.0	6,730	119
Australia	20.0	5,428	311
Belgium	10.1	10,946	N/A
Czech Rep	10.3	N/A	N/A
Denmark	5.2	1,498	267
E, W & NI	52.9	11,779	2,259
Finland	5.1	1,699	N/A
France	58.3	4,132	N/A
Germany	82.0	1,924	0
Greece	10.5	481	1
Ireland	3.6	383	57
Italy	57.3	2,252	52
Luxembourg	0.4	366	19
Netherlands	15.7	1,684	117
Norway	4.3	1,235	787
Portugal	9.9	N/A	N/A
Scotland	5.0	918	266
Spain	39.5	1,819	1
Sweden	8.8	2,247	1,173
Switzerland	7.1	847	N/A
Total	413.2	53,223	4,760

N/A = Not available

Antimicrobial agent	Resistant Freq (%)	Intermed Freq (%)	Sensitive Freq (%)
Streptomycin	689 (27.4)	264(9.5)	1,835 (65.8)
Gentamicin	33 (1.1)	153 (5.0)	2,845 (93.9)
Kanamycin	71 (2.3)	137 (4.5)	2,836 (93.2)
Ampicillin	760 (23.0)	73 (2.2)	2,478 (74.8)
Cefotaxime	3 (0.0)	1 (0.0)	3,016 (99.9)
Sulphonamides	1,270 (45.2)	19 (0.7)	1,523 (54.2)
Trimethoprim	161 (5.4)	22 (0.7)	2,778 (93.8)
Chloramphenico	347 (10.5)	4 (0.1)	2,847 (89.0)
Tetracyclines	806 (25.3)	561 (17.6)	1,815 (57.0)
Nalidixic Acid	578 (19.2)	12 (0.4)	2,414 (80.4)
Ciprofloxacin	70 (2.1)	1(0.0)	3,233(97.9)

Table 2

Antimicrobial susceptibility testing results¹

Antimicrobial susceptibility test results were available for 3,315 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 2.

Serotype	N° MR	Total	%	Serotype	N° MR	Total	%
Typhimurium	423	4,551	9.2	Braenderup	1	136	0.7
	(558)	(5,198)	(10.7)		(0)	(149)	(0)
Hadar	9	229	3.9	Derby	1	138	0.7
	(51)	(429)	(11.8)		(4)	(156)	(2.5)
Enteritidis	21	18,533	0.1	Gloucester	1	8	12.5
	(24)	(17,651)	(0.1)		(0)	(0)	(0)
Blockley	17	84	20.2	Havana	1	11	9.0
	(23)	(124)	(18.5)		(0)	(26)	(0)
Panama	10	52	19.2	Heidelberg	1	79	1.2
	(1)	(74)	(1.3)		(4)	(143)	(2.7)
Kentucky	9	69	13.0	Isangi	1	5	20.0
	(3)	(44)	(6.8)		(0)	(17)	(0)
Virchow	7	342	2.0	Java	1	50	2
	(16)	(453)	(3.5)		(4)	(155)	(2.5)
Bredeney	4	67	5.9	Kottbus	1	61	1.6
	(3)	(71)	(4.2)		(0)	(54)	(0)
Paratyphi B	4	78	5.1	London	1	44	2.2
	(6)	(93)	(6.4)		(0)	(47)	(0)
Saintpaul	3	113	2.6	Newport	1	143	0.6
	(10)	(162)	(6.1)		(0)	(137)	(0)
Typhi	2	141	1.4	Rissen	1	37	2.7
	(1)	(154)	(0.6)		(1)	(38)	(2.6)
Agona	1	156	0.6	Stanley	1	95	1.0
	(1)	(209)	(0.4)		(3)	(104)	(2.8)

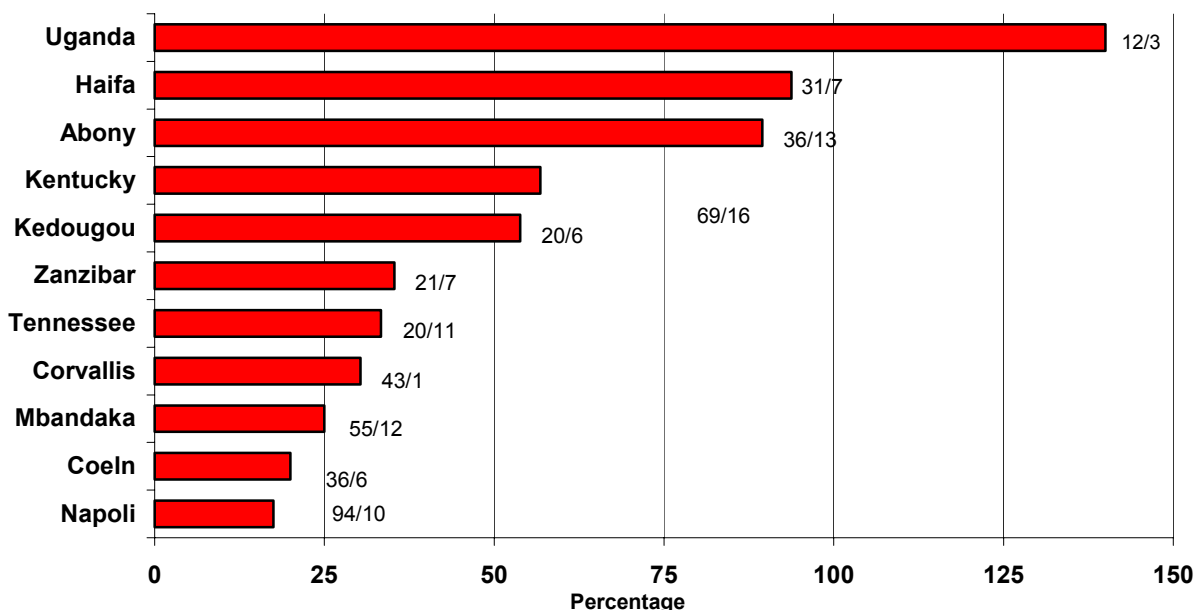
Table 3

Multi-drug resistance;

Table three shows the total number of strains with multiple-resistance (to five or more antimicrobials) with comparative data for the same period of last year by serotype and the percent of the total for that serotype.

mer-Smidt. Harmonisation of antibiotic susceptibility testing for *Salmonella* - results of a study by 18 national reference laboratories within the European Union-funded Enter-net group. *Microb Drug Resist* 1999; 5: 195-200.

**Serotypes with unusual increases Q3 2003 (Q3 2002)
(number of cases/number of countries reporting)**



Serotypes with unusual increases this quarter;

S. Uganda – 12 cases reported this quarter. Four males and one female aged 0-11m, one male aged 1-5y, two males and three females aged 15-64y one case was unspecified. Three cases were related to travel one each to Mexico, Tanzania and Uganda.

S. Haifa – Of the 31 cases there were four males and two females aged 1-5y, three males and two females aged 6-14y, six males and 11 females aged 15-64y and one male aged 65y+. Two of the cases traveled to Egypt, one case was unspecified.

S. Abony – Thirty-six cases reported, four males and one female aged 0-11m, three females aged 1-5y, two females and two males aged 6-14y, 15 males and two females aged 6-14y and there were two females aged 65y+. Three cases were related to travel; two to Tunisia and one unspecified.

S. Kentucky – 69 cases reported this quarter. There were three males, one female aged 0-11m, two males, three females aged 6-14y, 23 males, 19 females aged 15-64y, one male and one female aged 65y+ There were five cases which were incorrectly coded and nine cases unspecified. Seventeen cases were related to travel, seven to Egypt, two to Tanzania, three to India, one to Gambia. The others were unspecified.

S. Kedougou – Of the 20 cases reported there was one male aged 0-11m, two males and four females aged 1-5y, four males and two females aged 15-64y, one case each traveled to Cyprus and Gibraltar.

S. Zanzibar – Of the 23 cases reported there were one male and two females aged 0-11m, one male and two females aged 1-5y, two females and one male aged 6-14y, six males and one female aged 15-64y and two females aged 65y+. Three cases were coded incorrectly. Two cases traveled to Tunisia.

S. Tennessee - Twenty cases reported this quarter. One male and one female aged 0-11m, one male and three females aged 1-5y, two females aged 6-14y, four males and five females aged 15-64y. There were three cases incorrectly coded. Four cases were travel related one to Afghanistan, one to Malaysia and two were unspecified

S. Corvallis – Of the total, there was one female aged 1-5y, two males aged 6-14y, 15 males and 15 females aged 15-64y. There were four cases not known and two cases were incorrectly coded. There were 14 cases related to travel. Four traveled to Thailand, three to Tunisia, one to Singapore, one to Turkey and two to Malaysia.

S. Mbandaka – Fifty-five cases reported, two males aged 0-11m, five males and two females aged 1-5y, one male and two females aged 6-14y, 11 males and 15 females aged 15-64y, there were two males and three females aged 65y+. Six cases were unspecified and one case was incorrectly coded. Ten cases were related to travel; two to Mexico, one case to the Lebanon, one to India and the others traveled to Turkey and Tunisia.

S. Coeln – Thirty-six cases reported this quarter. Of these there were two males and one female aged 0-11m, one male and six females aged 1-5y, one male and two females aged 6-14y, four males and three females aged 15-64y and one female aged 65y+. Four cases were travel related two to Greece and one each to Algeria and France.

S. Napoli – Of the 93 cases reported there were two males and five females aged 0-11m, 17 males, eight females and 11 not specified (NS) aged 1-5y. Four males, six females and seven not specified aged 6-14y, eight males, six females and four NS aged 15-64y and there were two males, six females and two NS aged 65y+. Three cases had sex NS and three cases were travel related.

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ⁱ This report was prepared by Ian Fisher, Scientific Co-ordinator and Francine Stalham, Administrator on behalf of the Enter-net Collaborators