



## 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 - 01/3 July – September 2001

#### Summary.

This report gives details of the number of isolates identified by the national reference laboratories in the third quarter of 2001 and incorporated in the Enter-net salmonella database. Seventeen countries have supplied data, of which sixteen supplied data electronically. Serotypes with unusual increases over the same period in 2000 are shown in figure one, the total number of serotypes isolated by country this year, population data and travel-related infections are detailed in table one. Table two details the top fifteen serotypes isolated in quarter 3 and gives comparable data for the same period in 2000 where available. Table three illustrates Salmonella drug resistance data received for the quarter. The total number of human salmonella isolates reported this quarter are 36,977 with 32,596 (88.1%) being *S. Enteritidis*, *S. Typhimurium*, *S. Virchow* or *S. Hadar*

#### Quarterly data - major trends.

Details below refer to the sixteen countries that have supplied comparable data electronically for 2001 and 2000. The total number of reports in the database show a decrease over the same period of 2000 from 42,481 to 36,977, down 15.4%. All the main serotypes have decreased in comparison to isolates in the 3rd quarter of 2000, *S. Enteritidis* (27,884 isolates in the 3rd quarter of 2001, 75.4% of the total) decreased by 10.9%, *S. Typhimurium* (3,936, 10.6%) by 30.0%, *S. Virchow* (447, 1.2%) decreased by 7.8%, *S. Hadar* (329, 0.9%) by 46.8% and *S. Infantis* (278, 0.8%) by 42.7%. Eleven other serotypes were identified more than 100 times during the quarter; *S. Agona* (179, 0.5%), *S. Muenchen* (169, 0.5%), *S. Newport* (168, 0.5%), *S. Brandenburg* (158, 0.4%), *S. Braenderup* (153, 0.4%), *S. Derby* (142, 0.4%), *S. Stanley* (133, 0.4%), *S. Bovismorbificans* (129, 0.3%), *S. Blockley* (125, 0.3%), *S. Typhi* (112, 0.3%).

Seventeen other serotypes were isolated between 50 and 99 times, *S. Bredeney*, *S. Heidelberg*, *S. Saintpaul*, *S. Montevideo*, *S. Livingstone*, *S. Anatum*, *S. Paratyphi A*, *S. Java*, *S. Oranienburg*, *S. Kentucky*, *S. Corvallis*, *S. Thompson*, *S. Mbandaka*, *S. Paratyphi B*, *S. Senftenberg*, *S. Indiana*, and *S. Kottbus* – 1,275 of the total, 3.4%. Thirty-two serotypes were reported between 10 and 49 times totaling 689, 1.8% and 139 serotypes were reported less than 10 times, 798, 2.1% 151 0.4%, have not been fully serotyped at time of report.

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All data are provisional

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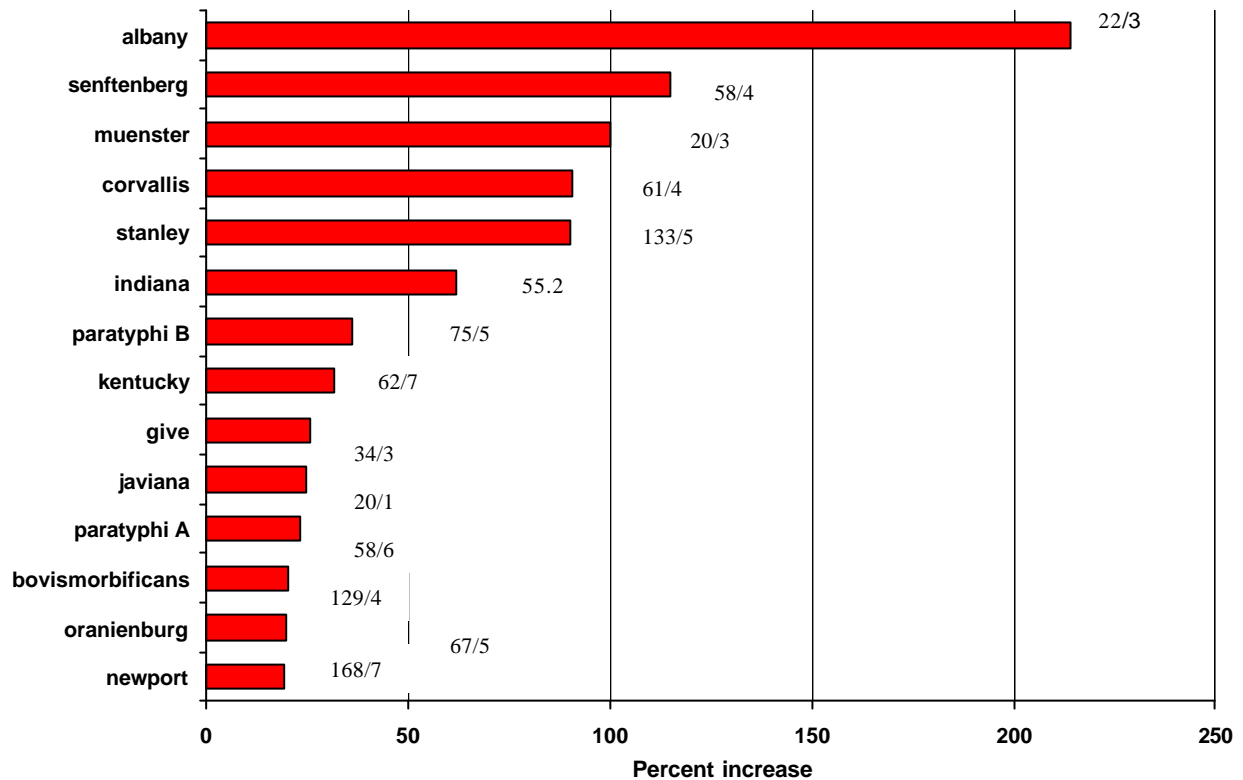
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### Serotypes with unusual increases this quarter, and number of countries reporting



#### Descriptive epidemiology of the above serotypes

**S. Newport** – 168 cases reported this quarter. Thirty-three cases were travel associated. Five traveled to Egypt, four traveled to Pakistan, three to Thailand, two to Spain, the other cases were associated to travel to countries such as India, Kenya, Madagascar.

**S. Oranienburg** - 13 were related to travel. Four travelled to Turkey four traveled to Mexico, three traveled to Greece.

**S. Paratyphi B** – 12 of the total cases reported were related to travel, five traveled to Turkey.

**S. Javiana** – Twenty cases reported in total. Four females between 0-11m, two males between 1-5y, six males and four females aged 15-64y and four unspecified. Only one case was travel related.

**S. Give** – Six cases reported to travel. Two to Hong Kong, one to Portugal, one to the Netherlands one to Egypt.

**S. Kentucky** – Twenty cases related to travel. Six traveled to Tunisia, Five to India, three to Egypt. Others traveled to Mexico, Jamaica and Slovakia.

**S. Paratyphi A** – Twenty-eight cases associated to travel to Pakistan, eight cases related to travel to India, one traveled to Eritrea, two traveled to Bangladesh, two traveled to Nepal

**Table 2 – Enter-net Salmonella database  
Top 15 serotypes reported in Q3 2001  
(Q3 2000).**

Serotype	Freq	%
Enteritidis	27,884 (31,925)	75.4 (73.0)
Typhimurium	3,936 (5,626)	10.6 (12.9)
Virchow	447 (485)	1.2 (1.1)
Hadar	329 (618)	0.9 (1.4)
Infantis	278 (485)	0.8 (1.1)
Agona	179 (218)	0.5 (0.5)
Muenchen	169 (103)	0.5 (0.2)
Newport	168 (141)	0.5 (0.3)
Brandenburg	158 (212)	0.4 (0.5)
Braenderup	153 (131)	0.4 (0.3)
Derby	142 (155)	0.4 (0.4)
Stanley	133 (70)	0.4 (0.2)
Bovismorbificans	129 (107)	0.3 (0.2)
Blockley	125 (197)	0.3 (0.2)
Typhi	112 (128)	0.3 (0.3)
Others	2,635 (3,127)	7.1 (7.2)
<b>Total</b>	<b>36,977</b>	<b>100</b>

Antimicrobial agent	Resistant Freq (%)	Intermediate Freq (%)	Sensitive Freq (%)
Streptomycin	708 (24.8)	204 (7.2)	1940 (68.0)
Gentamicin	35 (1.2)	361 (12.7)	2,456 (86.1)
Kanamycin	71 (2.4)	438 (14.5)	2,511 (83.1)
Ampicillin	696 (23.0)	55 (1.8)	2,269 (75.2)
Cefotaxime	6 (0.2)	2 (0.1)	2,844 (99.7)
Sulphonamides	1,620 (56.8)	96 (3.4)	1,135 (39.8)
Trimethoprim	182 (6.0)	43 (1.4)	2,795 (92.5)
Chloramphenicol	470 (15.6)	0 (0.0)	2,550 (84.4)
Tetracyclines	0 (0.0)	0 (0.0)	2,511 (100.0)
Nalidixic Acid	423 (14.8)	0 (0.0)	2,429 (85.2)
Ciprofloxacin	13 (0.4)	4 (0.1)	3,003 (99.4)

**S. Indiana** – Fifty-five cases reported in total. Two males between 0-11m. Two males and six females between 1-5y, five males and four females between 6-14y, 25 cases were reported between 15-64y, 11 males and 14 females. Three male and two female were aged 65y+.

**S. Stanley** – Of the total 32 cases were related to travel. Eighteen visited Thailand, nine visited Pakistan, one traveled to Malaysia, one traveled to Mexico, one traveled to Venezuela.

**S. Corvallis** – Twenty-one cases related to travel. Fifteen traveled to Tunisia, three traveled to Turkey, three traveled to Bulgaria.

**S. Muenster** – Eight cases related to travel. Five to Tunisia, two to Egypt and one traveled to Greece.

**S. Senftenberg** – 58 cases reported in total. One male aged 0-11m, two males and four females aged 1-5y. three males and 11 females between 6-14y, eight males and 17 females were aged 15-64y. Eleven cases were unstated.

**S. Albany** – Of the total cases reported seven were travel related, two cases traveled to Gambia, three to Pakistan and two to Thailand.

### Antimicrobial susceptibility testing results<sup>1</sup>

Antimicrobial susceptibility test results were available for 3,020 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 3.

<sup>1</sup> E John Threlfall, Ian ST Fisher, Linda R Ward, Helmut Tschäpe and Peter Gerner-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.