



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

Funded by the European Commission – DG SANCO

Project Leaders Dr Noël Gill Prof Bill Reilly Dr Henry Smith

Enter-net Quarterly Salmonella Report - 03/1 January – March 2003

Summary

This report gives details of the number of isolates identified by the national reference laboratories in the first quarter of 2003 and incorporated in the Enter-net salmonella database. Twelve countries have supplied data electronically. Table one illustrates Salmonella drug resistance data received for the quarter. Table two gives further details on multi-resistant isolates and the antimicrobials to which they are resistant. Figure one and associated text gives details of serotypes with unusual increase over the same period and gives comparable data for the same period in 2002 where available. Table three details the top fifteen serotypes isolated during the quarter this year in comparison to the same quarter of the previous year. The total number of human salmonella isolates reported this quarter are 8,706 with 5,872 (67.4%) being *S. Enteritidis*, *S. Typhimurium*, *S. Virchow* or *S. Hadar*.

Quarterly data - major trends.

Details below refer to the twelve 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 10,691 to 8,706 down 18.6%. All the main serotypes have decreased in comparison to isolates in the 1st quarter of 2002, *S. Enteritidis* (3,187 isolates in the 1st quarter of 2003, 36.6% of the total) decreased by 22.7%, *S. Typhimurium* (2,317, 26.6%) decreased by 13.6%, *S. Virchow* (257, 3.0%) by 28.4% and *S. Hadar* (111, 1.3%) by 20.7%. Six other serotypes were identified more than 100 times during the quarter. *S. Saintpaul* (145, 1.7%), *S. Infantis* (137, 1.6%), *S. Newport* (111, 1.3%), *S. Braenderup* (106, 1.2%), *S. Agona* (102, 1.2%) and *S. Stanley* (102, 1.2%). *S. Saintpaul* and *S. Infantis* were the 3rd and 4th most common serotypes this quarter with *S. Hadar* in 5th position. Ten other serotypes were isolated between 50 and 99 times, *S. Muenchen*, *S. Chester*, *S. Typhi*, *S. Java*, *S. Birkenhead*, *S. Muenchen*, *S. Montevideo*, *S. Anatum*, *S. Paratyphi A*, *S. Bovismorbificans* and *S. Panama* – 639 of the total, 7.3%. Forty-six serotypes were reported between 10 and 49 times totaling 1,094, 12.5% and 300, 3.4% serotypes were reported less than 10 times, 98, 1.1% isolates have not been serotyped at the time of report.

July, 2003

All data are provisional

Scientific Co-ordinator: **Ian Fisher**
Administrator: **Francine Stalham**

HPA- Communicable Disease Surveillance Centre
61 Colindale Ave, London NW9 5EQ, UK
Ph: +44-20-8200-6868 Fax: +44-20-8200-7868
Email: enter-net@hpa.org.uk
Dr Yvonne Andersson
Dr Sven Löfdahl
Dr Ralf Wollin
Dr Herbert Hächler
Dr Hans Schmid

Participants

Austria

Dr Franz Allerberger
Dr Christian Berghold
Dr Reinhold Strauss

Belgium

Dr Denis Pierard
Dr Jean-Marc Collard
Dr Ginette Marchant

Canada

Dr Lai King Ng
Dr Paul Sockett

Denmark

Dr Peter Gerner-Smidt
Dr Kare Mølbak
Dr Flemming Scheutz

England & Wales

Dr Sarah O'Brien
Dr John Threlfall
Mrs Linda Ward

Finland

Dr Markku Kuusi
Dr Anja Siitonen

France

Dr Henriette de Valk
Prof Patrick Grimont

Germany

Dr Andrea Ammon
Prof Helge Karch
Prof Helmut Tschäpe

Greece

Prof Nicholas Legakis
Dr Kassiani Mellou

Ireland

Dr Martin Cormican
Dr Paul McKeown

Italy

Dr Alfredo Caprioli
Dr Ida Luzzi
Dr Alberto Tozzi

Japan

Dr Nobuhiko Okabe
Dr Haruo Watanabe

Luxembourg

Dr Pierrette Huberty-Krau
Dr François Schneider

Netherlands

Dr Wilfred van Pelt
Dr Wim Wannet

New Zealand

Dr Fiona Thompson-Carter
Dr David Phillips

Norway

Dr Line Vold
Dr Jørgen Lassen

Portugal

Dr Jorge Machado

Scotland

Dr Mary Hansen
Dr John Cowden
Dr John Coia

Spain

Dr Gloria Hernández Pezzi
Dr Miquel Usera

South Africa

Dr Karen Keddy

Sweden

Dr Yvonne Andersson
Dr Sven Löfdahl
Dr Ralf Wollin

Antimicrobial susceptibility testing results¹

Antimicrobial susceptibility test results were available for 1,141 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.

Antimicrobial agent	Resistant Freq (%)	Intermed Freq (%)	Sensitive Freq (%)
Streptomycin	322 (28.2)	99 (8.7)	720 (63.1)
Gentamicin	26 (2.3)	94 (8.2)	1,021 (89.5)
Kanamycin	30 (2.6)	150 (13.1)	958 (84.0)
Ampicillin	318 (27.9)	51 (4.5)	772 (67.7)
Cefotaxime	1 (0.1)	2 (0.2)	1,138 (99.7)
Sulphonamides	587 (51.4)	8 (0.7)	546 (47.9)
Trimethoprim	90 (7.9)	20 (1.8)	1,031 (90.4)
Chloramphenicol	157 (13.8)	4 (0.4)	980 (85.9)
Tetracyclines	327 (28.7)	250 (21.9)	564 (49.4)
Nalidixic Acid	221 (19.4)	1 (0.1)	919 (80.5)
Ciprofloxacin	10 (0.9)	2 (0.2)	1,129 (98.9)

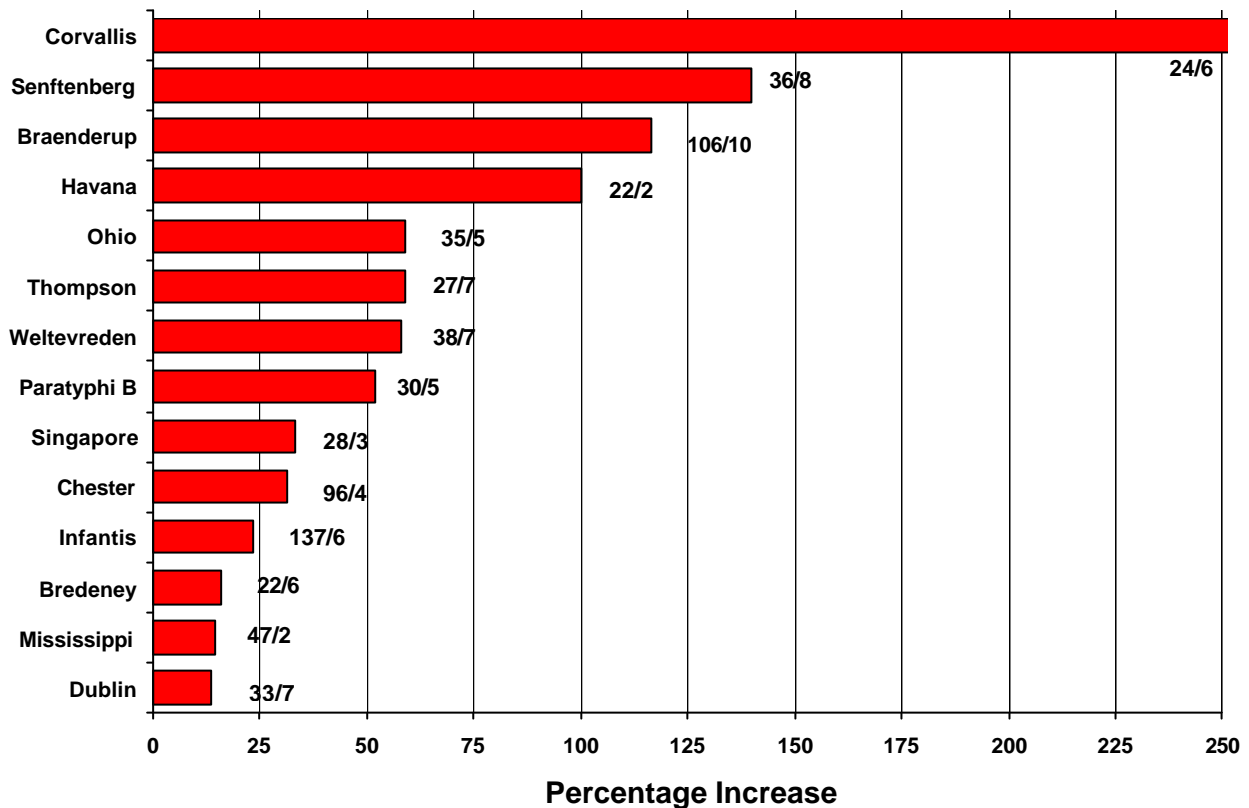
Table 1

Serotype	N° MR	Total	%	Serotype	N° MR	Total	%
Agona	1	102	1.0	London	1	21	4.8
Albany	2	9	22.2	Panama	1	50	2.0
Blockley	5	23	21.7	Paratyphi A	2	54	3.7
Brandenburg	2	22	9.1	Paratyphi B	3	38	7.9
Corvallis	1	24	4.2	Saintpaul	3	145	2.1
Enteritidis	11	3,187	0.3	Typhimurium	219	2,317	9.5
Hadar	9	111	8.1	Uganda	1	1	100
Heidelberg	1	42	2.4	Virchow	1	257	0.4
Infantis	1	137	0.7				

Table 2

Multi-drug resistance; Table three 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 Q1 2003 (Q1 2002)
(number of cases/number of countries reporting)**



Serotypes with unusual increases this quarter;

S. Corvallis – This serotype increased by 2,300% with only one isolate being reported in the same quarter of last year, 24 cases were reported this quarter. One female aged 0-11m, one female aged 1-5y, one female aged 6-14y, eight males and 12 females aged 15-64y, one female unspecified. Thirteen cases were related to travel. Three traveled to Thailand, 2 Malaysia, one to Indonesia, one to Gambia and there were six unstated.

S. Senftenberg – Of the cases thirty-six cases reported there were three males and one female aged 0-11m, five males and five females aged 0-5y, one male aged 6-14y, seven males and four females aged 15-64y and one male and six females aged 65y+. Two were unspecified. Three cases were travel related one each to Egypt, Indonesia and Thailand.

S. Braenderup – 106 cases reported this quarter. Three males aged 0-11m, three males and two females aged 0-5y, one male and four females aged 6-14y, 22 males and 51 females aged 15-64y and six males and seven females aged 65y+. Of the total cases reported, twenty-two were related to travel. Ten traveled to Thailand, two to Kenya, one each traveled to Pakistan, Zambia, Spain, Cuba, Maldives, Tanzania, four were unspecified.

S. Havana – Of the twenty-two cases reported there were three males and four females aged 0-11m, four males and one female aged 1-5y, one male aged 6-14y, four males and three females aged 15-64y and two males aged 65y+. No cases were related to travel.

S. Ohio – Thirty-five cases reported in total, two males and two females aged 0-11m, two males and five females aged 1-5y, two males and three females aged 6-14y, one male and

eight females aged 15-64y and four females aged 65y+. Three cases related to travel, one to India, one to Spain, one unspecified.

**Table 3 – Enter-net Salmonella database
Top 15 serotypes reported in Q1 2003
(Q1 2002).**

Serotype	Freq	%
Enteritidis	3,187 (4,121)	36.6 (38.5)
Typhimurium	2,317 (2,681)	26.6 (25.1)
Virchow	257 (359)	3.0 (3.4)
Saintpaul	145 (253)	1.7 (2.4)
Infantis	137 (111)	1.6 (1.0)
Hadar	111 (140)	1.3 (1.3)
Newport	111 (117)	1.3 (1.1)
Braenderup	106 (49)	1.2 (0.5)
Agona	102 (95)	1.2 (0.9)
Stanley	102 (119)	1.2 (1.1)
Chester	96 (73)	1.1 (0.7)
Typhi	79 (93)	0.9 (0.9)
Java	72 (65)	0.8 (0.6)
Birkenhead	64 (111)	0.7 (0.8)
Muenchen	61 (68)	0.7 (0.6)
Others	1,759 (2,285)	20.2 (21.3)
Total	8,706 (10,691)	100 (100)

S. Thompson – Of the twenty-seven cases reported there were four males and two females aged 0-11m, three males aged 1-5y, six males, nine females 15-64y and two females aged 65y+. One case was travel related.

S. Weltevreden – Thirty cases reported this quarter. Three males and two females aged 0-11m, four males aged 1-5y, 12 males and seven females aged 15-64y, one male aged 65y+. Eight cases related to travel, four to Thailand, two to India and two were unspecified.

S. Paratyphi B – Thirty-eight cases reported in total three females aged 0-11m, seven males and one female aged 1-5y, two males aged 6-14y, five males and four females aged 15-64y and two males and five females aged 65y+. There were eight cases unspecified. Two cases were related to travel.

S. Singapore – Of the twenty-eight cases reported there was one male aged 0-11m, three males and one female aged 1-5y, two males aged 6-14y, nine males and eight females aged 15-64y, one male and three males aged 65y+. Two cases were related to travel to Thailand.

S. Chester – This quarter there were ninety-six cases reported. Eight males and five females aged 0-11m, seven males and 13 females aged 1-5y, nine males and three females aged 6-14y, 20 males and 21 females aged 15-64y, five males and five females aged 65y+. Six cases traveled to Thailand, two to Pakistan.

S. Infantis – One hundred and thirty-seven cases reported this quarter. Eleven males and six females aged 0-11m, six males and nine females aged 1-5y, three males and seven females aged 6-14y, 21 males and 35 females aged 15-64y and six males and 17 females, 11 were unspecified. Six cases were related to travel two to Mexico, one to Pakistan and one to Nigeria, the other cases were unspecified.

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

S. Mississippi – Forty-seven cases reported in total. Two males and one female aged 0-11m, five males and seven females aged 1-5y, 2 males and two females aged 6-14y, 12 males and nine females aged 15-64y and one male and six females aged 65y+. Two cases were travel related.

S. Dublin – Thirty-three cases reported. Three males aged 0-11m, two males aged 6-14y, eight males and seven females aged 15-64y, 10 males and two females aged 65y+. One case was unspecified and one case was travel related.

1

