

International surveillance network for the enteric infections -Salmonella and VTEC 0157

Funded by the European Commission under the BIOMED 2 programme

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# Enter-net Quarterly Salmonella Report - 98/4

October - December 1998

### Summary.

This report gives details of the number of isolates identified by the national reference laboratories in the final quarter of 1998 and incorporated in the Enternet salmonella database. Sixteen countries have supplied data for this database for this period in 1998 and 1997. One other country has provided the data as a paper copy. The cumulative total of serotypes isolated by country and population data are detailed in table one, serotypes with unusual increases over the same period in 1997 are shown in the figure on page two. Table two gives details of the top ten serotypes isolated in each country for which comparable data are available for the same period in 1997. The total number of human salmonella isolates reported this quarter are 20,303 with 16,464 (81.1%) being *S.enteritidis*, *S.typhimurium*, *S.hadar* or *S.virchow*.

### Quarterly data - major trends.

The total number of reports in the database show a decrease over the same period in 1997 (-16.3%). All the top serotypes have decreased *S.enteritidis* (11,852 isolates in the third quarter of 1998, 58.4% of the total) by 17.6%, *S.typhimurium* (3,596, 17.7%) by 22.5%, *S.hadar* (635, 3.1%) by 24.9% and *S.virchow* (381, 1.9%) by 12.4%. Nine other serotypes were identified more than 100 times during the quarter, *S.infantis* (215, 1.1%), *S.brandenburg* (175, 0.9%), *S.agona* (147, 0.7%), *S.newport* (134, 0.7%), *S.bovismorbificans* (128, 0.6%), *S.heidelberg* (124, 0.6%), *S.derby* (118, 0.6%) *S.braenderup* (117, 0.6%), and *S.blockley* (102, 0.5%).

Thirteen serotypes were isolated between 50 and 99 times; *S.stanley*, *S.livingstone*, *S.panama*, *S.typhi*, *S.montevideo*, *S.mbandaka*, *S.saintpaul*, *S.anatum*, *S.goldcoast*, *S.ohio*, *S.paratyphi* B, *S.bredeney* and *S.senftenberg*. These were a total of 929 isolates, 4.6% of the total. Thirty-seven serotypes were isolated between 10 and 49 times, 876, 4.3% and 163 were reported less than 10 times, 368, 1.8%. Four hundred and six isolates, 1.9%, have not been fully speciated at time of report.

7 February 1999

All data are provisional.

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### Enter-net salmonella database isolates report in Q4 1998 (Q4 1997)

### Unusual event report December 1998

enteritidis         11,852         58.4           (14,380)         (59.3)           typhimurium         3,596         17.7           (4,638)         (19.1)           hadar         635         3.1           (845)         (3.5)           virchow         381         1.9           (435)         (1.8)           infantis         215         1.1           (254)         (1.0)           brandenburg         175         0.9           (201)         (0.8)           agona         147         0.7           (135)         (0.6)           newport         134         0.7           (135)         (0.6)           newport         134         0.7           (143)         (0.6)           newport         134         0.7           (143)         (0.6)         0.8           bovismorbificans         128         0.6           (143)         (0.5)         0.6           (143)         (0.5)         0.6           (116)         (0.5)         0.5           braenderup         117         0.6           (118)         (0.5	Serotype	Freq	%
enteritidis         11,852         58.4           (14,380)         (59.3)           typhimurium         3,596         17.7           (4,638)         (19.1)           hadar         635         3.1           (4,638)         (19.1)           hadar         635         3.1           (845)         (3.5)           virchow         381         1.9           (435)         (1.8)           infantis         215         1.1           (254)         (1.0)           brandenburg         175         0.9           agona         147         0.7           agona         147         0.7           lexport         134         0.7           metport         134         0.7           lexport         134         0.6           newport         134         0.6           heidelberg         124         0.6           lexport         118         0.6           lexport         118         0.6           lexport         117         0.6           lexport         117         0.6           lexport         117         0.5     <			
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typhimurium3,59617.7(4,638)(19.1)hadar6353.1(845)(3.5)virchow3811.9(435)(1.8)infantis2151.1(254)(1.0)brandenburg1750.9(201)(0.8)agona1470.7(135)(0.6)newport1340.7(135)(0.6)newport1340.7(143)(0.6)bovismorbificans1280.6(143)(0.6)heidelberg1240.6(143)(0.5)0.9derby1180.6bovismorbificans1280.6(116)(0.5)0.5braenderup1170.6(116)(0.5)0.5blockley1020.5istanley940.5(152)(0.6)0.6ivingstone920.5itingstone2.39311.6.(2,312)(9.5)Total20,303100		(14,380)	(59.3)
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hadar         635         3.1           (845)         (3.5)           virchow         381         1.9           (435)         (1.8)           infantis         215         1.1           (254)         (1.0)           brandenburg         175         0.9           (201)         (0.8)           agona         147         0.7           agona         147         0.7           newport         134         0.7           (135)         (0.6)         0.8)           bovismorbificans         128         0.6           newport         134         0.7           bovismorbificans         128         0.6           (143)         (0.6)         0.8)           bovismorbificans         128         0.6           (143)         (0.5)         0.6           heidelberg         124         0.6           (116)         (0.5)         0.5           braenderup         117         0.6           (118)         (0.5)         0.5           blockley         102         0.5           (48)         (0.2)         0.5           (152) <td></td> <td>(4,638)</td> <td>(19.1)</td>		(4,638)	(19.1)
(845)         (3.5)           virchow         381         1.9           (435)         (1.8)           infantis         215         1.1           (254)         (1.0)           brandenburg         175         0.9           (201)         (0.8)           agona         147         0.7           agona         147         0.7           newport         134         0.7           (135)         (0.6)         0.8)           bovismorbificans         128         0.6           147         0.7         0.9           bovismorbificans         128         0.6           (143)         (0.6)         0.8)           bovismorbificans         128         0.6           (143)         (0.6)         0.9           derby         118         0.6           blockley         117         0.6           (118)         (0.5)         0.5           blockley         102         0.5           blockley         102         0.5           (143)         (0.2)         0.5           blockley         0.5         0.5           (152)	hadar	635	3.1
virchow         381         1.9           infantis         (435)         (1.8)           infantis         215         1.1           (254)         (1.0)           brandenburg         175         0.9           (201)         (0.8)           agona         147         0.7           agona         147         0.7           newport         134         0.7           newport         134         0.7           bovismorbificans         128         0.6           newport         134         0.7           bovismorbificans         128         0.6           newport         134         0.6           ledelberg         124         0.6           derby         118         0.6           ledelberg         117         0.6           braenderup         117         0.6           lockley         102         0.5           blockley         102         0.5           livingstone         92         0.5           other         2,393         11.6           (2,312)         (9.5)         1.6           0ther         2,393         1.6 </td <td></td> <td>(845)</td> <td>(3.5)</td>		(845)	(3.5)
(435)         (1.8)           infantis         215         1.1           (254)         (1.0)           brandenburg         175         0.9           agona         147         0.7           agona         147         0.7           agona         147         0.7           newport         134         0.7           bovismorbificans         128         0.6           heidelberg         124         0.6           heidelberg         124         0.6           derby         118         0.6           bovismorbificans         128         0.6           heidelberg         124         0.6           derby         118         0.6           braenderup         117         0.6           blockley         117         0.6           blockley         102         0.5           blockley         0.0         0.5           blockley         0.2         0.5           itvingstone         92         0.5           other         2,393         11.6           (2,312)         (9.5)         1.6           0.0         0.33         100	virchow	381	1.9
infantis         215         1.1           (254)         (1.0)           brandenburg         175         0.9           agona         147         0.7           agona         147         0.7           agona         147         0.7           newport         134         0.7           newport         134         0.7           bovismorbificans         128         0.6           heidelberg         124         0.6           heidelberg         124         0.6           heidelberg         124         0.6           derby         118         0.6           bovismorbificans         1171         0.6           derby         118         0.6           braenderup         117         0.6           blockley         102         0.5           blockley         102         0.5           blockley         102         0.5           itingstone         92         0.5           other         2,393         11.6           (2,312)         (9.5)         1.6           fther         2,393         10           (24,267)         (100) </td <td></td> <td>(435)</td> <td>(1.8)</td>		(435)	(1.8)
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(196)         (0.8)           bovismorbificans         128         0.6           (143)         (0.6)           heidelberg         124         0.6           heidelberg         124         0.6           heidelberg         124         0.6           derby         118         0.6           derby         118         0.6           blackley         117         0.6           blockley         117         0.6           blockley         102         0.5           blockley         102         0.5           blockley         102         0.5           blockley         0.6         0.5           blockley         0.2         0.5           blockley         0.2         0.5           blockley         0.2         0.5           blockley         0.48         (0.2)           blockley         94         0.5           blockley         0.5         0.5	newport	134	0.7
bovismorbificans         128         0.6           (143)         (0.6)           heidelberg         124         0.6           (220)         (0.9)           derby         118         0.6           (116)         (0.5)           derby         118         0.6           (116)         (0.5)           braenderup         117         0.6           (118)         (0.5)           blockley         102         0.5           blockley         102         0.5           stanley         94         0.5           livingstone         92         0.5           other         2,393         11.6.           (2,312)         (9.5)         10           Total         20,303         100		(196)	(0.8)
(143)         (0.6)           heidelberg         124         0.6           (220)         (0.9)           derby         118         0.6           (116)         (0.5)           braenderup         117         0.6           (118)         (0.5)           braenderup         117         0.6           (118)         (0.5)           blockley         102         0.5           blockley         102         0.5           stanley         94         0.5           livingstone         92         0.5           other         2,393         11.6.           (2,312)         (9.5)         10           Total         20,303         100	bovismorbificans	128	0.6
heidelberg         124         0.6           (220)         (0.9)           derby         118         0.6           (116)         (0.5)           braenderup         117         0.6           (118)         (0.5)           braenderup         117         0.6           (118)         (0.5)           blockley         102         0.5           blockley         102         0.5           stanley         94         0.5           livingstone         92         0.5           other         2,393         11.6.           (23,12)         (9.5)         100           Total         20,303         100		(143)	(0.6)
(220)         (0.9)           derby         118         0.6           (116)         (0.5)           braenderup         117         0.6           (118)         (0.5)           braenderup         117         0.6           (118)         (0.5)           blockley         102         0.5           blockley         102         0.5           stanley         94         0.5           ivingstone         92         0.5           other         2,393         11.6.           (2,312)         (9.5)         100           Total         20,303         100	heidelberg	124	0.6
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(118)         (0.5)           blockley         102         0.5           (74)         (0.3)           stanley         94         0.5           (48)         (0.2)           livingstone         92         0.5           (152)         (0.6)           other         2,393         11.6.           (2,312)         (9.5)           Total         20,303         100	braenderup	117	0.6
blockley         102         0.5           (74)         (0.3)           stanley         94         0.5           (48)         (0.2)           livingstone         92         0.5           (152)         (0.6)           other         2,393         11.6.           (2,312)         (9.5)           Total         20,303         100		(118)	(0.5)
(74)         (0.3)           stanley         94         0.5           (48)         (0.2)           livingstone         92         0.5           (152)         (0.6)           other         2,393         11.6.           (2,312)         (9.5)           Total         20,303         100	blockley	102	0.5
stanley         94         0.5           (48)         (0.2)           livingstone         92         0.5           (152)         (0.6)           other         2,393         11.6.           (2,312)         (9.5)           Total         20,303         100           (24,267)         (100)		(74)	(0.3)
(48)         (0.2)           livingstone         92         0.5           (152)         (0.6)           other         2,393         11.6.           (2,312)         (9.5)           Total         20,303         100           (24,267)         (100)	stanley	94	0.5
livingstone         92         0.5           (152)         (0.6)           other         2,393         11.6.           (2,312)         (9.5)           Total         20,303         100           (24,267)         (100)		(48)	(0.2)
(152)         (0.6)           other         2,393         11.6.           (2,312)         (9.5)           Total         20,303         100           (24,267)         (100)	livingstone	92	0.5
other         2,393         11.6.           (2,312)         (9.5)           Total         20,303         100           (24,267)         (100)		(152)	(0.6)
(2,312)         (9.5)           Total         20,303         100           (24,267)         (100)	other	2,393	11.6.
Total         20,303         100           (24,267)         (100)		(2,312)	(9.5)
(24,267) (100)	Total	20,303	100
		(24,267)	(100)

In December 1998 two salmonella serotypes were identified by the algorithm routinely applied to the international database as having unusually high numbers of isolates in more than one country compared to historical levels - *S.stanley* and *S.saintpaul*.

Of the 46 isolates of *S.stanley* in the database, eleven are reported as being travel associated (8 Thailand, 2 India and 1 Iraq), there were 20 (43.5%) males and 22 (47.8%) females with four not stated. The predominant ageband (figure 1) was 15-64y (76.1%).

Figure 1



Twenty-seven isolates of *S.saintpaul* were reported, four were associated with travel (Korea, Philippines,

Thailand, Zimbabwe, one each). There were 11 males, four females and 10 not stated. Twenty eight percent were aged between 1 and 5 years and 52% between 15 and 64 years (figure 2).

Figure 2





## Serotypes with unusual increases this Quarter

### 1998 provisional summary.

The Enter-net salmonella database for 1998 shows a substantial reduction over 1997. The total number of human isolates have declined by 11,970 from 97,275 to 85,305. This reduction is predominantly in the most frequently identified serotypes. As has been previously reported by Enter-net *S.enteritidis* unexpectedly rose in 1997 by 20.15% (for comparable country data), this trend has reversed in 1998 with the provisional annual totals of this serotype having decreased by 7,343 (12.9%) from 56,859 to 49,516. There have also been significant reductions in *S.typhimurium* (down 3,344, 17.4% to 15,917), *S.hadar* (down 848, 23.9% to 2,706) and *S.virchow* (down 358, 17.0% to 1,742).

This report has been prepared by Ian Fisher, Enter-net Scientific Co-ordinator on behalf of, and in collaboration with the participants in the Enter-net network.