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### Summary

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- Salmonella bacteria cause food poisoning, typhoid fever and paratyphoid fever. More than 2500 different strains of salmonella have been identified. Transmission occurs by eating contaminated food, mainly of animal origin, or by faecal contamination from an infected person or animal.
- Since the late 1990's there has been a significant decline in the incidence of reported salmonellosis, primarily resulting from improved controls on poultry and egg production in the UK.
- This data includes all human isolates reported to Public Health England, Centre for Infectious Disease Surveillance and Control, England and Wales 2004 – 2013.
- Data excludes Typhoidal *Salmonella* isolates (*S.Typhi*, *S. Paratyphi A*, *S. Paratyphi B* and *S. Paratyphi C*), which are reported elsewhere.



# PHE Gastrointestinal Infections Data

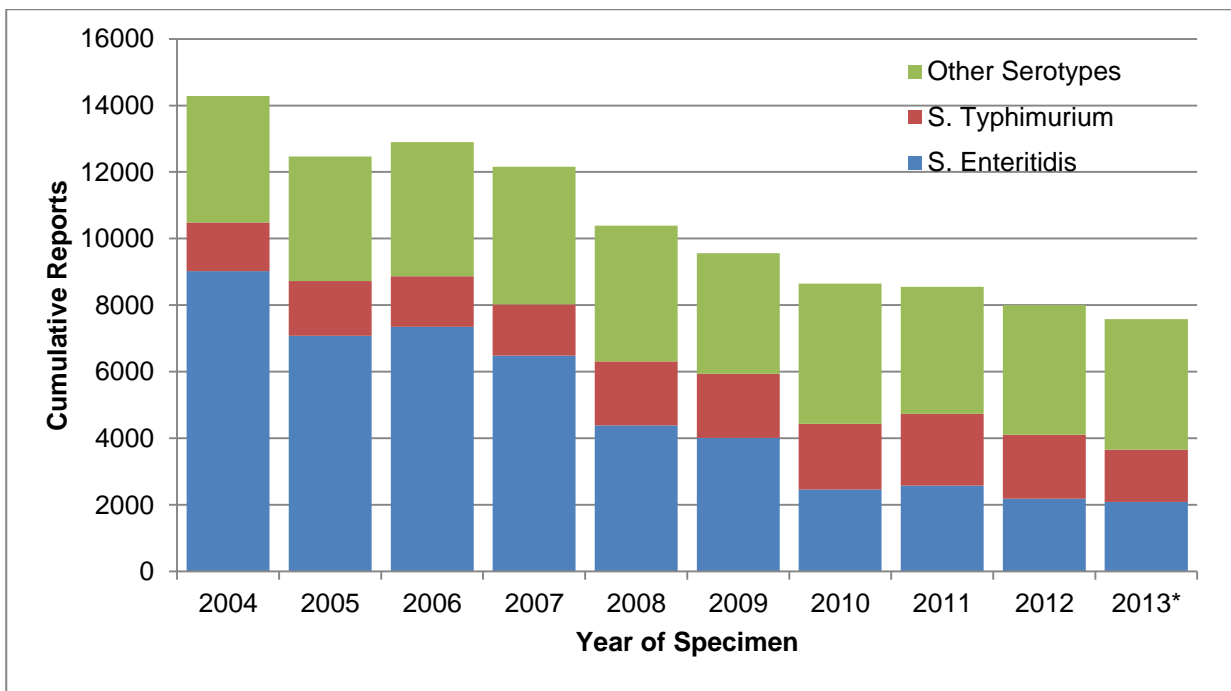
## Summary of *Salmonella* Surveillance, 2013

### Salmonella Infections by Serotype

[\[Top\]](#)

Year	S. Enteritidis	S. Typhimurium	Other Serotypes	Total
2004	9028	1455	3800	14283
2005	7078	1651	3740	12469
2006	7346	1519	4036	12901
2007	6489	1537	4136	12162
2008	4387	1929	4069	10385
2009	4010	1927	3621	9558
2010	2462	1971	4214	8647
2011	2582	2150	3824	8556
2012	2186	1919	3898	8003
2013*	2090	1572	3923	7585

\*2013 data remain provisional



Full annual data 1981 – 2013 available in [Appendices](#)

Source: PHE *Salmonella* Dataset (Labbase2). Please note, numbers may be higher than previously reported due to the inclusion of all isolates of *Salmonella*, rather than only faecal, and lower gastrointestinal tract isolates



# PHE Gastrointestinal Infections Data

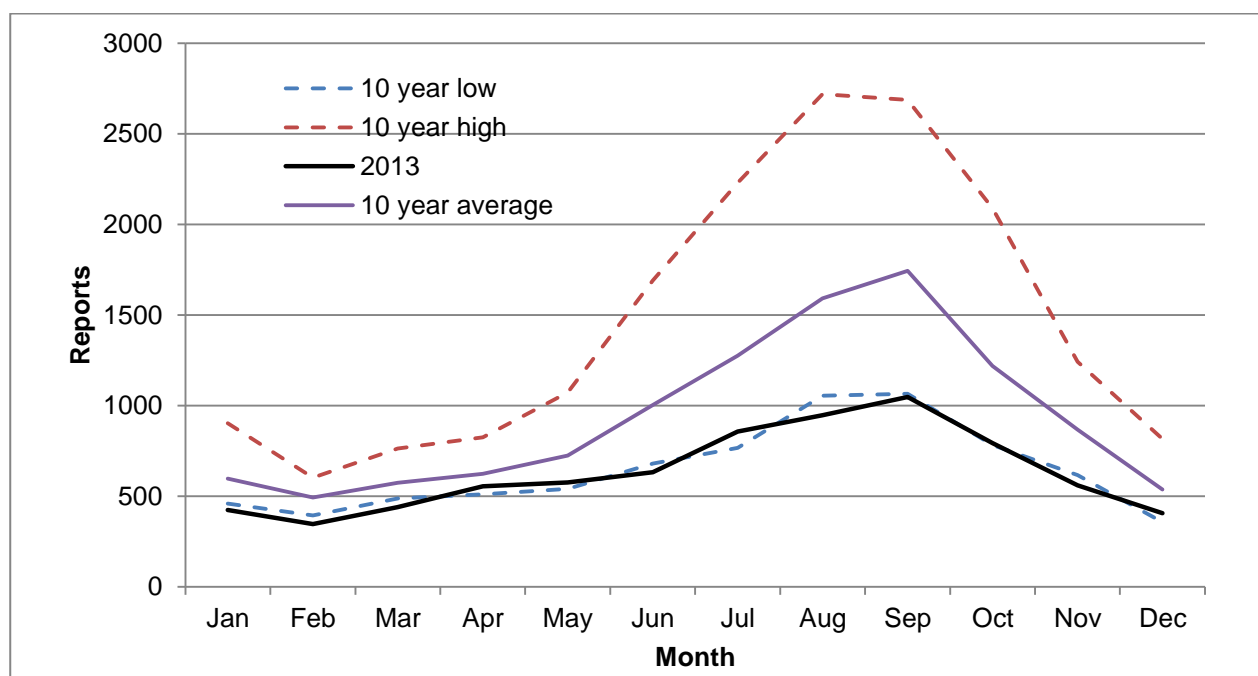
## Summary of *Salmonella* Surveillance, 2013

### Salmonella Infections by Month of report (Seasonality of Infection)

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Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>2013*</b>	424	346	440	555	576	632	857	947	1047	794	560	407
<b>10 yr high</b>	903	603	764	826	1072	1690	2230	2718	2687	2089	1242	817
<b>10 yr low</b>	459	395	488	511	541	680	767	1055	1065	783	616	358
<b>10 yr Avg</b>	597	492	574	624	724	1004	1275	1592	1744	1219	867	538

\*2013 data remain provisional



Full monthly data 2000 – 2013 available in [Appendices](#)

Source: PHE *Salmonella* Dataset (Labbase2). Please note, numbers may be higher than previously reported due to the inclusion of all isolates of *Salmonella*, rather than only faecal, and lower gastrointestinal tract isolates.



# PHE Gastrointestinal Infections Data

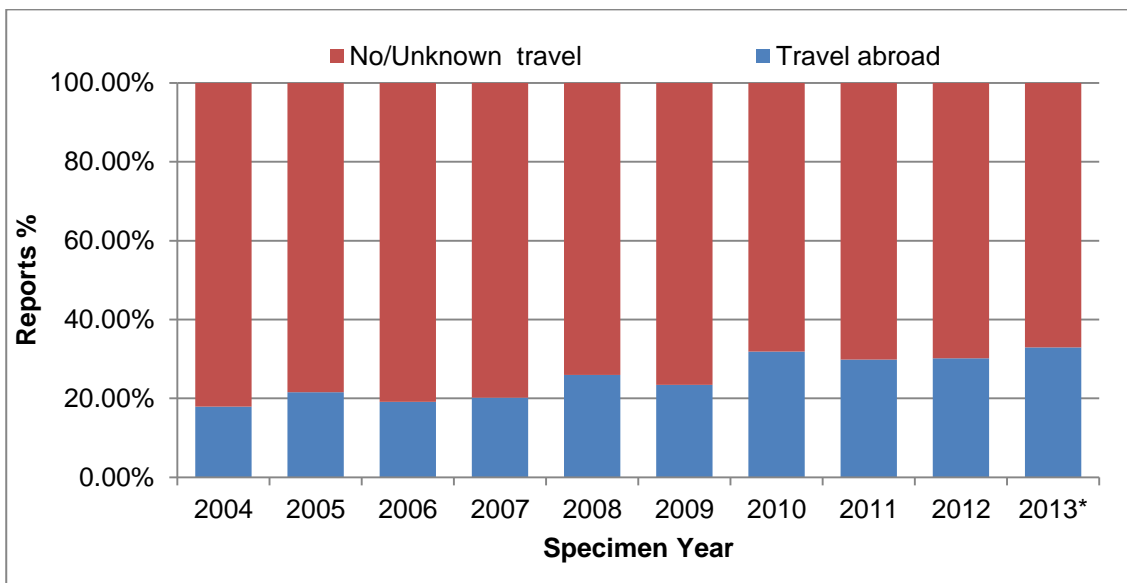
## Summary of *Salmonella* Surveillance, 2013

### Salmonella Infections and travel reporting 2004 - 2013

[\[Top\]](#)

Year	Travel abroad	No or unknown travel status
2004	2558 (17.91%)	11725 (82.09%)
2005	2694 (21.61%)	9775 (78.39%)
2006	2468 (19.13%)	10433 (80.87%)
2007	2455 (20.19%)	9707 (79.81%)
2008	2696 (25.96%)	7689 (74.04%)
2009	2239 (23.43%)	7319 (76.57%)
2010	2754 (31.85%)	5893 (68.15%)
2011	2552 (29.83%)	6004 (70.17%)
2012	2418 (30.21%)	5585 (69.79%)
2013*	2497 (32.92%)	5088 (67.08%)

\*2013 data remain provisional



Source: PHE *Salmonella* Dataset (Labbase2). Please note, numbers may be higher than previously reported due to the inclusion of all isolates of *Salmonella*, rather than only faecal, and lower gastrointestinal tract isolates.



# PHE Gastrointestinal Infections Data

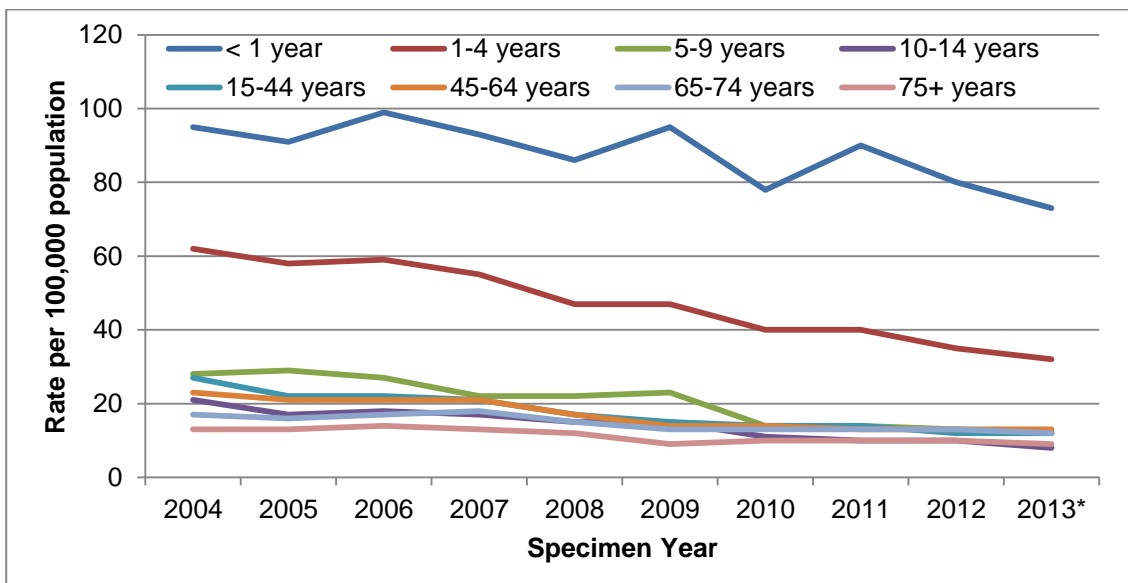
## Summary of *Salmonella* Surveillance, 2013

### Salmonella Infection rates (per 100,000 population) by age group

[\[Top\]](#)

Year	< 1 year	1-4 years	5-9 years	10-14 years	15-44 years	45-64 years	65-74 years	75+ years
2004	95	62	28	21	27	23	17	13
2005	91	58	29	17	22	21	16	13
2006	99	59	27	18	22	21	17	14
2007	93	55	22	17	21	21	18	13
2008	86	47	22	15	17	17	15	12
2009	95	47	23	15	15	14	13	9
2010	78	40	14	11	14	14	13	10
2011	90	40	14	10	14	13	13	10
2012	80	35	13	10	12	13	13	10
2013*	73	32	12	8	12	13	12	9

\*2013 data remain provisional



Source: PHE *Salmonella* Dataset (Labbase2). Please note, numbers may be higher than previously reported due to the inclusion of all isolates of *Salmonella*, rather than only faecal, and lower gastrointestinal tract isolates.

# PHE Gastrointestinal Infections Data

## Summary of *Salmonella* Surveillance, 2013



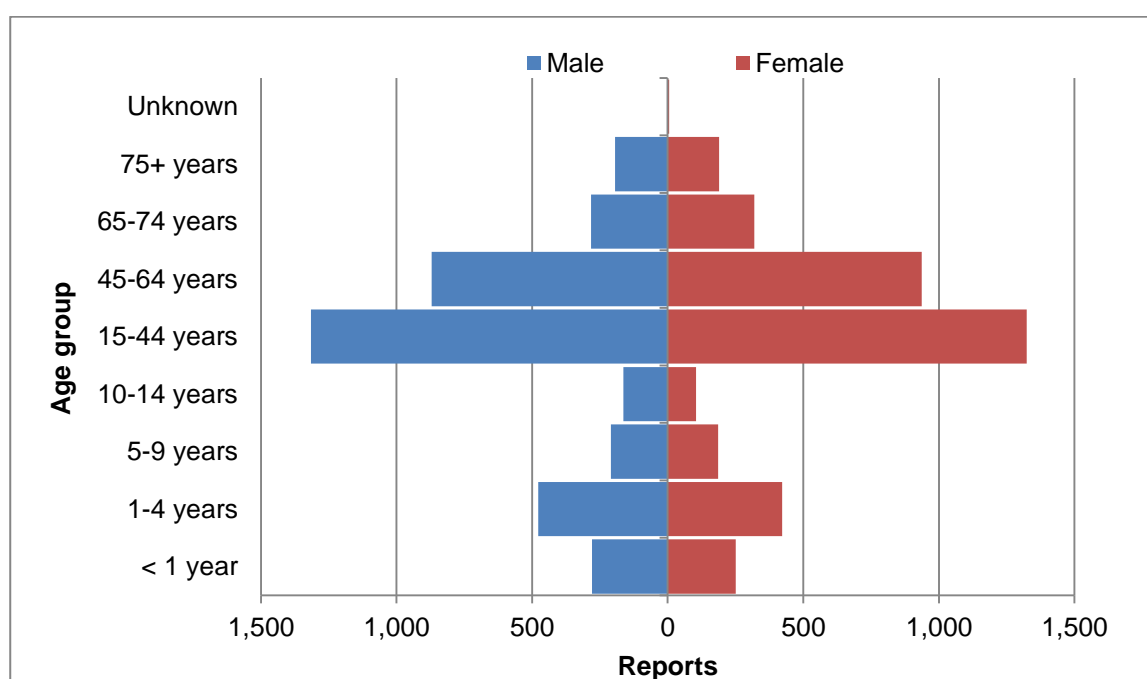
Public Health  
England

### *Salmonella* Infections by age group and gender, 2013

[\[Top\]](#)

Gender	< 1 year	1-4 years	5-9 years	10-14 years	15-44 years	45-64 years	65-74 years	75+ years	Age Unknown
Male	279	477	209	164	1316	870	283	194	3
Female	251	422	186	104	1324	937	319	190	5
Unknown	7	10	5	1	13	9	1	0	6
<b>Total</b>	<b>537</b>	<b>909</b>	<b>400</b>	<b>269</b>	<b>2653</b>	<b>1816</b>	<b>603</b>	<b>384</b>	<b>14</b>

\*2013 data remain provisional



Source: PHE *Salmonella* Dataset (Labbase2). Please note, numbers may be higher than previously reported due to the inclusion of all isolates of *Salmonella*, rather than only faecal, and lower gastrointestinal tract isolates.



# PHE Gastrointestinal Infections Data

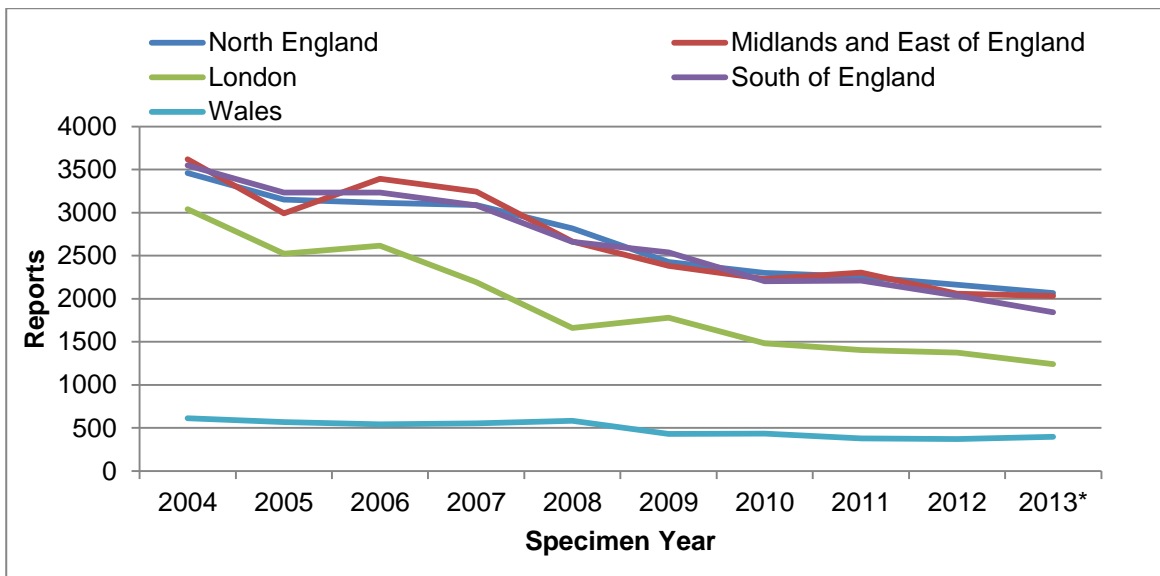
## Summary of *Salmonella* Surveillance, 2013

### Salmonella Infections by Geographical region 2004 - 2013

[\[Top\]](#)

Year	North England	Midlands and East of England	London	South of England	Wales
2004	3460	3620	3041	3549	612
2005	3150	2993	2524	3233	569
2006	3115	3395	2617	3232	541
2007	3089	3244	2192	3084	552
2008	2817	2663	1661	2661	583
2009	2426	2381	1781	2540	430
2010	2299	2228	1482	2204	433
2011	2257	2305	1405	2210	378
2012	2162	2057	1375	2035	373
2013*	2068	2031	1241	1844	399

\*2013 data remain provisional



Source: PHE *Salmonella* Dataset (Labbase2). Please note, numbers may be higher than previously reported due to the inclusion of all isolates of *Salmonella*, rather than only faecal, and lower gastrointestinal tract isolates.



# PHE Gastrointestinal Infections Data

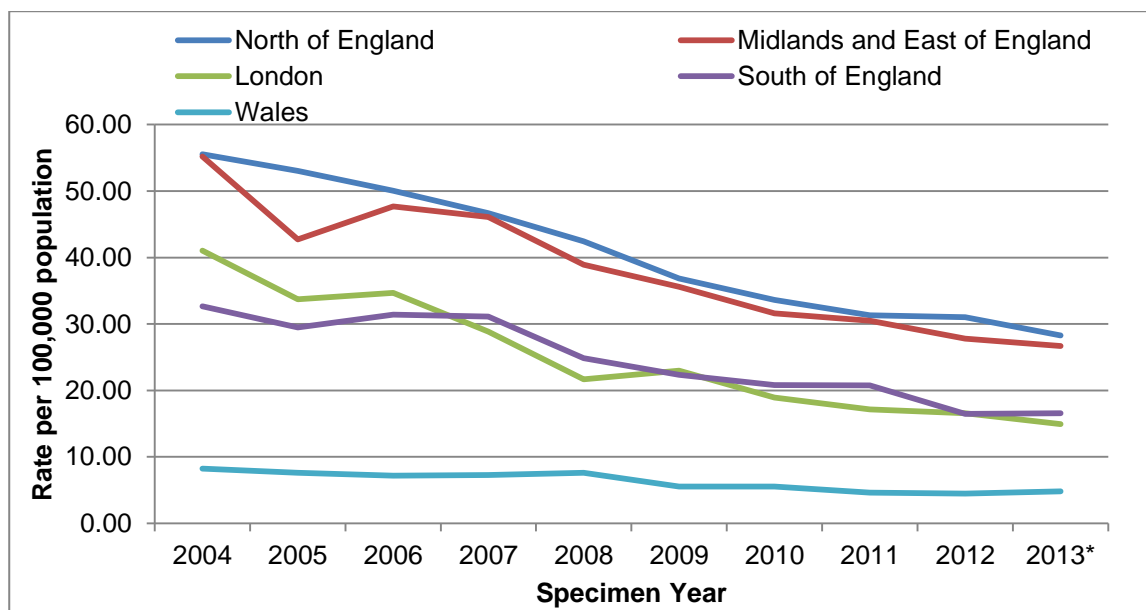
## Summary of *Salmonella* Surveillance, 2013

### Salmonella rates by Geographical region (rate per 100,000 population)

[\[Top\]](#)

Year	North England	Midlands and East of England	London	South of England	Wales
2004	55.55	55.19	41.02	32.64	8.26
2005	53.05	42.71	33.72	29.50	7.60
2006	50.02	47.66	34.68	31.41	7.17
2007	46.67	46.10	28.83	31.10	7.26
2008	42.42	38.90	21.66	24.84	7.60
2009	36.85	35.57	22.97	22.34	5.55
2010	33.64	31.58	18.94	20.80	5.53
2011	31.32	30.48	17.12	20.73	4.61
2012	31.00	27.79	16.55	16.48	4.49
2013*	28.27	26.67	14.94	16.59	4.80

\*2013 data remain provisional, rates based on 2012 denominators



Source: PHE *Salmonella* Dataset (Labbase2). Please note, numbers may be higher than previously reported due to the inclusion of all isolates of *Salmonella*, rather than only faecal, and lower gastrointestinal tract isolates.





# PHE Gastrointestinal Infections Data

## Summary of *Salmonella* Surveillance, 2013

### *Salmonella* Infection reports by Public Health England Centre, 10 year window

[\[Top\]](#)

Public Health England Centre	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
<b>Cheshire and Merseyside</b>	712	432	461	594	435	402	308	337	288	284
<b>Cumbria and Lancashire</b>	327	341	417	348	338	296	296	275	253	258
<b>Greater Manchester</b>	503	371	470	496	420	433	424	396	366	322
<b>North East</b>	663	934	653	554	490	402	379	363	436	418
<b>Yorkshire and Humber</b>	1255	1072	1114	1097	1134	893	892	886	819	786
<b>Bedfordshire, Hertfordshire and Northamptonshire</b>	664	623	682	558	478	423	370	410	344	362
<b>East Midlands</b>	744	599	729	829	535	458	489	537	402	421
<b>Anglia and Essex</b>	992	893	1048	909	843	797	682	623	639	558
<b>West Midlands</b>	1220	878	936	948	807	703	687	735	672	690
<b>London</b>	3041	2524	2617	2192	1661	1781	1482	1405	1375	1241
<b>Avon, Gloucestershire and Wiltshire</b>	498	519	560	483	466	422	381	350	341	337
<b>Devon, Cornwall and Somerset</b>	615	524	468	436	376	367	320	336	337	283
<b>Wessex</b>	598	522	517	525	497	508	432	496	372	358
<b>Sussex, Surrey and Kent</b>	1258	1100	1123	1113	915	899	745	710	731	604
<b>Thames Valley</b>	580	568	564	527	407	344	326	318	254	262
<b>Wales</b>	612	569	541	552	583	430	433	378	373	399

Source: PHE *Salmonella* Dataset (Labbase2). Please note, numbers may be higher than previously reported due to the inclusion of all isolates of *Salmonella*, rather than only faecal, and lower gastrointestinal tract isolates.



# PHE Gastrointestinal Infections Data

## Summary of *Salmonella* Surveillance, 2013

### *Salmonella* Infection rates by Public Health England Centre (rate per 100,000 population)

[\[Top\]](#)

Public Health England Centre	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Cheshire and Merseyside	27.0	16.4	17.5	22.5	16.5	15.2	11.6	14.0	11.9	11.7
Cumbria and Lancashire	16.9	17.6	21.5	17.9	17.4	15.3	15.2	14.0	12.9	13.1
Greater Manchester	22.3	16.4	20.7	21.7	18.3	18.7	18.1	14.7	13.5	11.9
North East	26.1	36.7	25.6	21.6	19.1	15.6	14.5	14.0	16.8	16.1
Yorkshire and Humber	26.4	22.4	23.1	22.5	23.1	18.1	17.9	16.8	15.4	14.8
Bedfordshire, Hertfordshire and Northamptonshire	26.7	24.8	26.9	21.8	18.4	16.1	14.0	15.3	12.7	13.4
East Midlands	18.8	15.0	18.2	20.5	13.2	11.2	11.9	14.0	10.4	10.9
Anglia and Essex	25.6	22.8	26.5	22.8	20.9	19.6	16.6	15.1	15.4	13.4
West Midlands	22.9	16.4	17.5	17.6	14.9	12.9	12.6	13.1	11.9	12.2
London	41.0	33.7	34.7	28.8	21.7	23.0	18.9	17.1	16.5	14.9
Avon, Gloucestershire and Wiltshire	22.5	23.2	24.8	21.1	20.2	18.1	16.2	14.9	14.4	14.2
Devon, Cornwall and Somerset	28.9	24.4	21.6	20.0	17.2	16.7	14.5	15.3	15.2	12.8
Wessex	24.8	21.5	21.2	21.3	20.1	20.4	17.2	18.7	14.0	13.4
Sussex, Surrey and Kent	29.4	25.6	25.9	25.5	20.8	20.3	16.6	15.9	16.2	13.4
Thames Valley	30.5	29.6	29.2	27.0	20.7	17.3	16.2	15.7	12.4	12.8
Wales	20.7	19.2	18.3	18.5	19.5	14.3	14.4	12.3	12.1	13.0

Source: PHE *Salmonella* Dataset (Labbase2). Please note, numbers may be higher than previously reported due to the inclusion of all isolates of *Salmonella*, rather than only faecal, and lower gastrointestinal tract isolates.



# PHE Gastrointestinal Infections Data

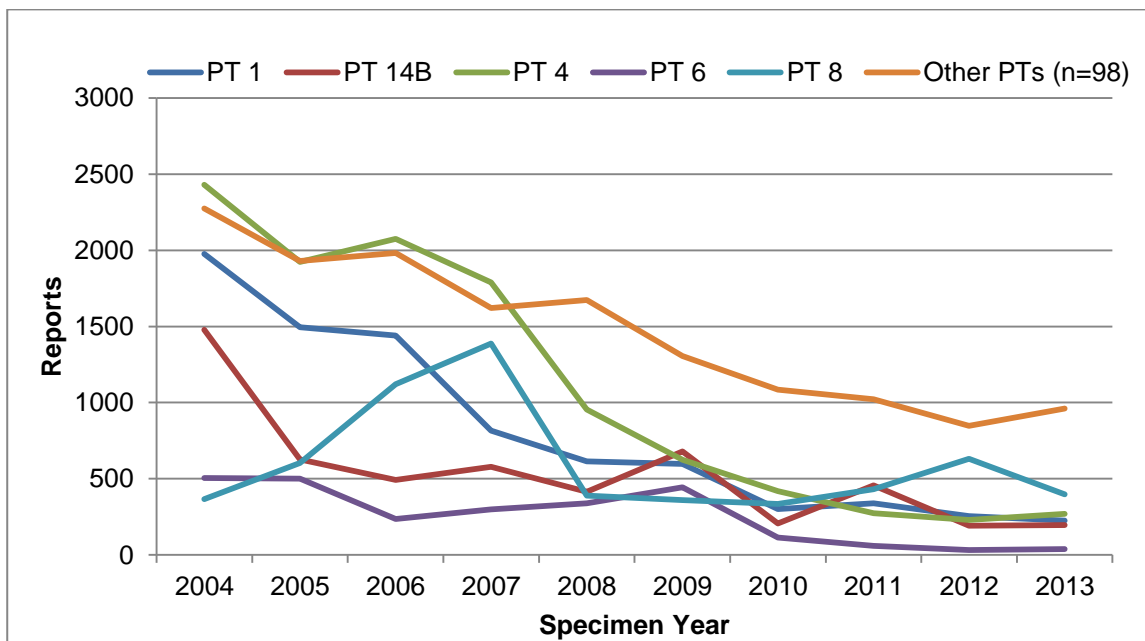
## Summary of *Salmonella* Surveillance, 2013

### *Salmonella* Enteritidis – most frequent phage types reported

[\[Top\]](#)

Year	PT 1	PT 14B	PT 4	PT 6	PT 8	Other PTs	Total
2004	1976	1478	2430	504	366	2274	9028
2005	1494	626	1923	501	604	1930	7078
2006	1440	492	2074	237	1121	1982	7346
2007	815	579	1790	298	1387	1620	6489
2008	615	415	955	339	389	1674	4387
2009	597	679	624	445	360	1305	4010
2010	302	207	418	114	335	1086	2462
2011	340	457	274	59	431	1021	2582
2012	255	191	229	33	631	847	2186
2013*	226	196	270	38	398	962	2090

\*2013 data remain provisional



Source: PHE *Salmonella* Dataset (Labbase2). Please note, numbers may be higher than previously reported due to the inclusion of all isolates of *Salmonella*, rather than only faecal, and lower gastrointestinal tract isolates.



# PHE Gastrointestinal Infections Data

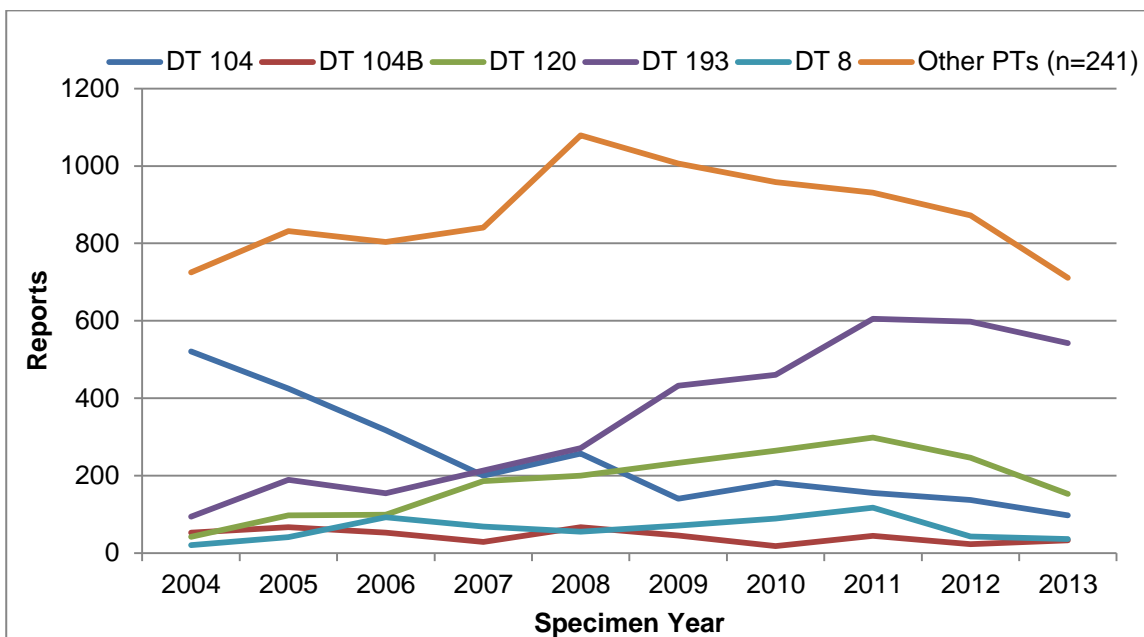
## Summary of *Salmonella* Surveillance, 2013

### *Salmonella* Typhimurium – most frequent phage types reported

[\[Top\]](#)

Year	DT 104	DT 104B	DT 120	DT 193	DT 8	Other PTs	Total
2004	521	53	42	94	20	725	1455
2005	425	67	97	189	41	832	1651
2006	317	53	99	154	92	804	1519
2007	200	29	186	213	68	841	1537
2008	257	67	200	271	55	1079	1929
2009	140	45	233	432	71	1006	1927
2010	182	18	264	460	89	958	1971
2011	155	44	298	605	117	931	2150
2012	137	23	246	598	43	872	1919
2013*	97	33	153	542	36	711	1572

\*2013 data remain provisional



Source: PHE *Salmonella* Dataset (Labbase2). Please note, numbers may be higher than previously reported due to the inclusion of all isolates of *Salmonella*, rather than only faecal, and lower gastrointestinal tract isolates.



# PHE Gastrointestinal Infections Data

## Summary of *Salmonella* Surveillance, 2013

### *Salmonella* Serovars – Twenty five most frequently reported serovars in 2013

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Organism name	Rank 2013	Rank 2000 - 2012
<i>Salmonella</i> Enteritidis	1	1
<i>Salmonella</i> Typhimurium	2#	2
<i>Salmonella</i> Unnamed*	3	4
<i>Salmonella</i> Infantis	4	6
<i>Salmonella</i> Newport	5	5
<i>Salmonella</i> Virchow	6	3
<i>Salmonella</i> Stanley	7	9
<i>Salmonella</i> Kentucky	8	12
<i>Salmonella</i> Agona	9	10
<i>Salmonella</i> Java	10	8
<i>Salmonella</i> Arizonae*	11	18
<i>Salmonella</i> Montevideo	12	13
<i>Salmonella</i> Oranienburg	13	16
<i>Salmonella</i> Saint-Paul	14	15
<i>Salmonella</i> Hadar	15	7
<i>Salmonella</i> Mikawasima	16#	39
<i>Salmonella</i> Braenderup	17	11
<i>Salmonella</i> Corvallis	18	22
<i>Salmonella</i> Weltevreden	19	30
<i>Salmonella</i> Mbandaka	20	17
<i>Salmonella</i> Gold-Coast	21#	38
<i>Salmonella</i> Muenchen	22	31
<i>Salmonella</i> Bareilly	23	14
<i>Salmonella</i> Schwarzengrund	24	24
<i>Salmonella</i> Heidelberg	25	19

\* represent serotypes with more than one sub-type defined by antigenic structure

#represent serotypes for which significant outbreaks were investigated in 2013

Source: PHE *Salmonella* Dataset (Labbase2). Please note, numbers may be higher than previously reported due to the inclusion of all isolates of *Salmonella*, rather than only faecal, and lower gastrointestinal tract isolates.



# PHE Gastrointestinal Infections Data

Summary of *Salmonella* Surveillance, 2013

## APPENDICES

Annual reports of *Salmonella* serotypes 1981- 2013

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Year	S. Enteritidis	S. Typhimurium	Other Serotypes	Total
1981	1087	3946	4622	9655
1982	1099	6051	4647	11797
1983	1770	7702	4994	14466
1984	2037	7205	4887	14129
1985	3070	5421	4180	12671
1986	4695	6908	4574	16177
1987	6746	7544	5535	19825
1988	15426	6328	4984	26738
1989	15527	7347	6375	29249
1990	18469	5172	5116	28757
1991	17295	5268	4361	26924
1992	20360	5459	5408	31227
1993	20472	4853	4815	30140
1994	17614	5592	7316	30522
1995	16461	6885	6454	29800
1996	18678	5597	5140	29415
1997	23231	4819	4936	32986
1998	16512	3057	4335	23904
1999	10827	2449	4378	17654
2000	8644	2695	3812	15151
2001	10944	2137	3701	16782
2002	9999	1952	3292	15243
2003	10138	2093	3293	15524
2004	9028	1455	3800	14283
2005	7078	1651	3740	12469
2006	7346	1519	4036	12901
2007	6489	1537	4136	12162
2008	4387	1929	4069	10385
2009	4010	1927	3621	9558
2010	2462	1971	4214	8647
2011	2582	2150	3824	8556
2012	2186	1919	3898	8003
2013*	2090	1572	3923	7585

\*2013 data remain provisional

Source: PHE *Salmonella* Dataset (Labbase2). Please note, numbers may be higher than previously reported due to the inclusion of all isolates of *Salmonella*, rather than only faecal, and lower gastrointestinal tract isolates.



# PHE Gastrointestinal Infections Data

## Summary of *Salmonella* Surveillance, 2013

Monthly reports of *Salmonella* 2000 – 2013

[\[Top\]](#)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004	616	575	668	788	817	1294	1597	2348	2687	1358	921	614
2005	647	573	525	667	654	1041	1457	1649	2141	1511	1057	547
2006	594	480	532	608	879	1127	1362	1754	1916	1708	1124	817
2007	903	603	764	625	816	999	1335	1569	1540	1390	1003	615
2008	611	555	599	760	740	882	1301	1364	1374	1011	740	448
2009	459	395	497	559	588	764	1102	1142	1714	1101	742	495
2010	471	442	524	524	541	736	870	1254	1270	894	704	417
2011	504	423	557	511	754	905	969	1064	1065	783	616	405
2012	497	398	488	513	587	680	767	1055	1163	847	650	358
2013*	424	346	440	555	576	632	857	947	1047	794	560	407

Source: PHE *Salmonella* Dataset (Labbase2). Please note, numbers may be higher than previously reported due to the inclusion of all isolates of *Salmonella*, rather than only faecal, and lower gastrointestinal tract isolates.