



UK Health  
Security  
Agency

# Non-typhoidal *Salmonella* data 2010 to 2019

## August 2021

National laboratory and outbreak data for residents of England

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## Main points for 2019

The main points of the 2019 report are:

- the number of reported *Salmonella* cases in England decreased from 8,838 cases in 2018 to 8,398 cases in 2019, an decrease of 440 cases
- from 2018 to 2019 there was an decrease in reports of *Salmonella* Enteritidis from 2,589 to 2,514 and a decrease in reports of *Salmonella* Typhimurium from 1,913 to 1,568 reported cases
- the region that reported the highest number of *Salmonella* laboratory reports was London with 1,667 reports
- the age group with the largest number of laboratory reports was children below the age of 10
- October was the peak month for *Salmonella* reporting in 2019

# Salmonella laboratory data 2010 to 2019

All data presented in this report is correct as of 15 July 2021. This report covers all non-typhoidal *Salmonella* serovars in England; typhoidal *Salmonellae* (*S. Typhoid* and *S. Paratyphoid*) are available in the [Enteric fever annual reports](#).

## 1. Annual data 2010 to 2019

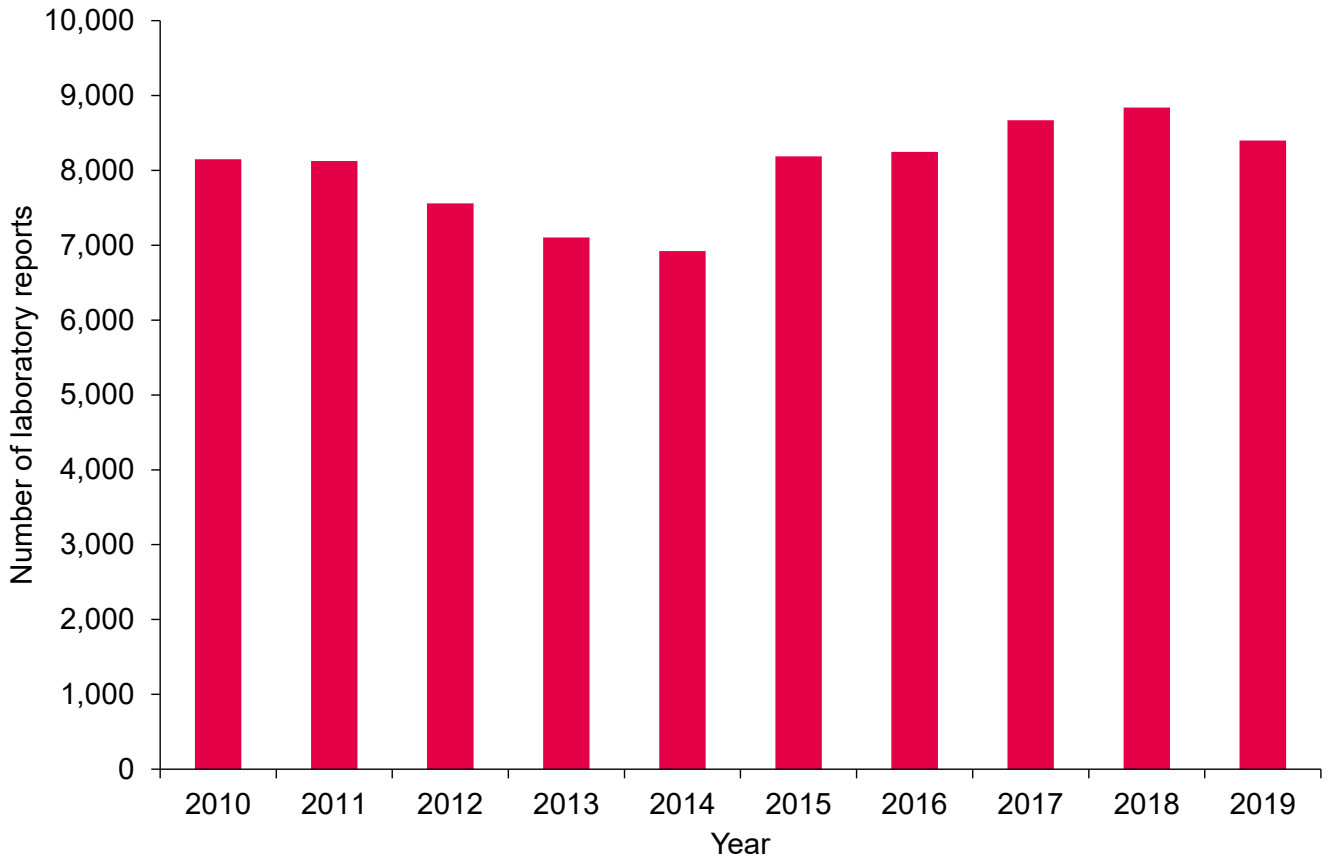
### a. All non-typhoidal *Salmonella*

**Table 1. Annual laboratory reports of non-typhoidal *Salmonella* in England from 2010 to 2019**

Year	Number of laboratory reports	Laboratory reports per 100,000 population
2010	8,149	15.48
2011	8,124	15.30
2012	7,558	14.13
2013	7,104	13.19
2014	6,922	12.74
2015	8,188	14.95
2016	8,248	15.06
2017	8,670	15.59
2018	8,838	15.79
2019	8,398	14.92

Figure 1 shows the trend of non-typhoidal *Salmonella* laboratory reports in England from 2010 to 2019.

**Figure 1. Annual laboratory reports of non-typhoidal *Salmonella* in England from 2010 to 2019**



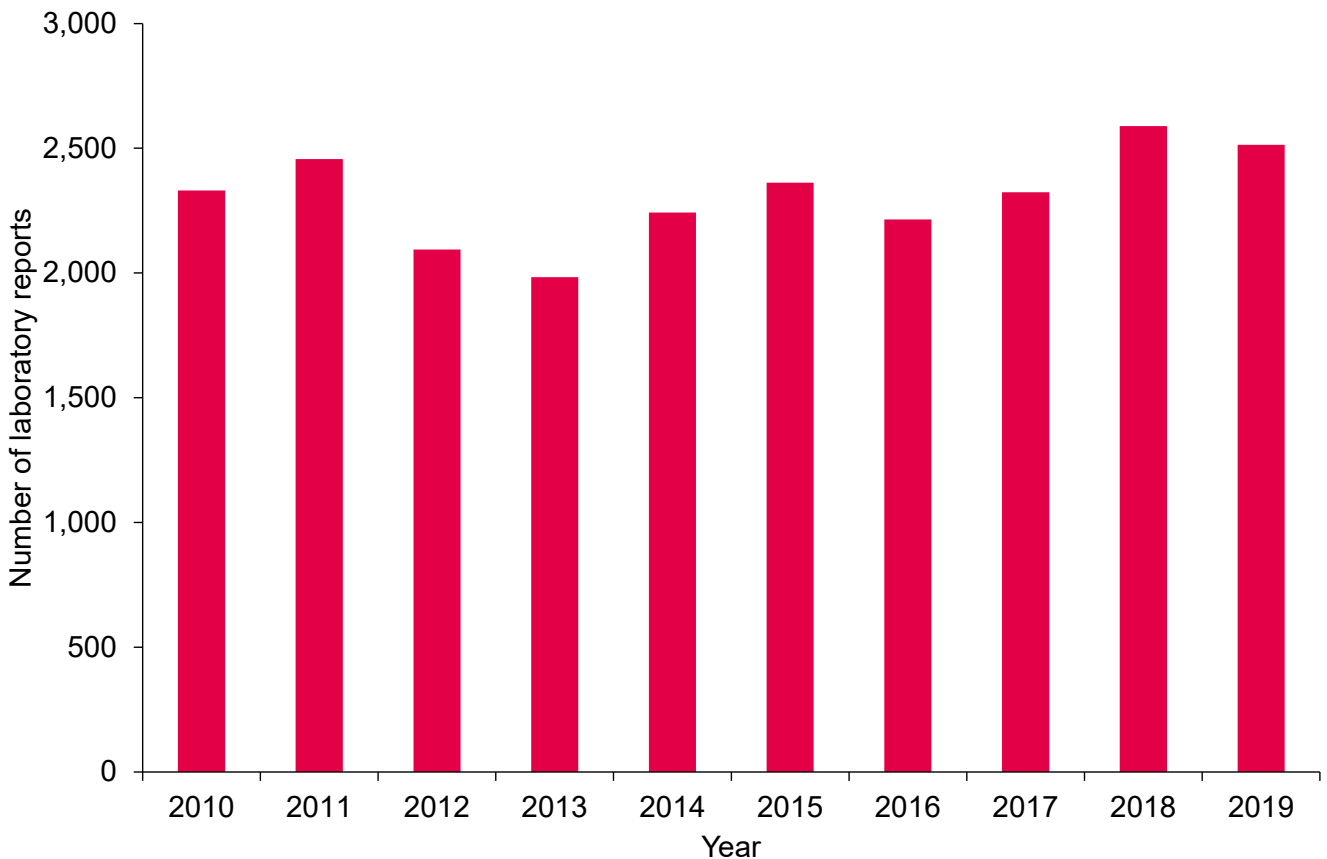
**b. Salmonella Enteritidis**

**Table 2. Annual laboratory reports of Salmonella Enteritidis in England from 2010 to 2019**

Year	Number of laboratory reports	Laboratory reports per 100,000 population
2010	2,331	4.43
2011	2,457	4.63
2012	2,094	3.91
2013	1,983	3.68
2014	2,242	4.13
2015	2,362	4.31
2016	2,215	4.04
2017	2,324	4.18
2018	2,589	4.63
2019	2,514	4.47

Figure 2 shows the trend of *Salmonella* Enteritidis laboratory reports in England from 2010 to 2019.

**Figure 2. Annual laboratory reports of Salmonella Enteritidis in England from 2010 to 2019**



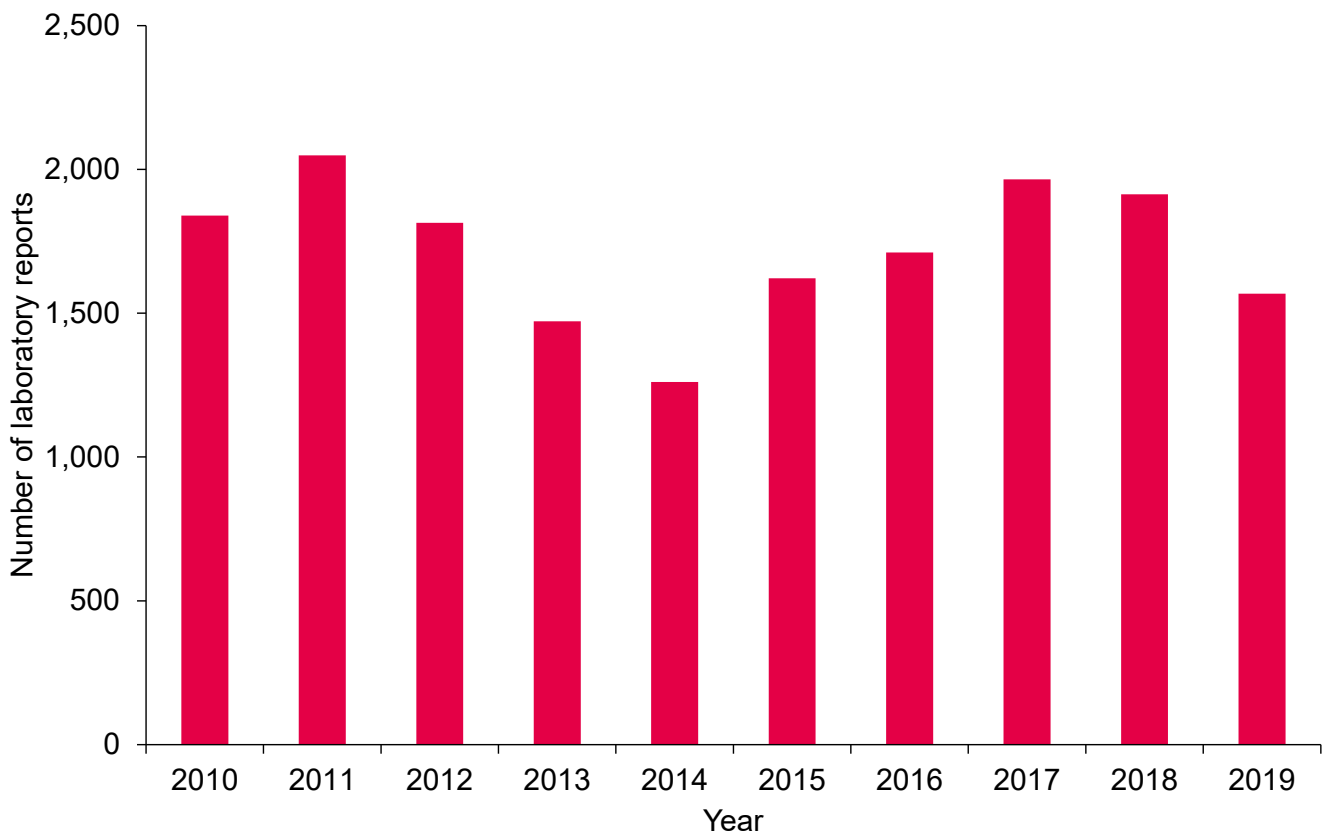
### c. *Salmonella* Typhimurium

**Table 3. Annual laboratory reports of *Salmonella* Typhimurium in England from 2010 to 2019**

Year	Number of laboratory reports	Laboratory reports per 100,000 population
2010	1,839	3.49
2011	2,049	3.86
2012	1,814	3.39
2013	1,472	2.73
2014	1,261	2.32
2015	1,621	2.96
2016	1,711	3.12
2017	1,965	3.53
2018	1,913	3.43
2019	1,568	2.79

Figure 3 shows the trend of *Salmonella* Typhimurium laboratory reports in England from 2010 to 2019.

**Figure 3. Annual laboratory reports of *Salmonella* Typhimurium in England 2010 to 2019**



## 2.Regional data

Table 4 displays the number of laboratory results per region in 2019. Regional classification is based on place of residence of reported cases and classified using NUTS1 codes.

**Table 4. Regional distribution of laboratory reports of non-typhoidal *Salmonella* in England 2019**

Region	Laboratory reports
East Midlands	655
East of England	924
London	1,667
North East	369
North West	1,009
South East	1,358
South West	818
Yorkshire and the Humber	850
West Midlands	748

## 3.Top 10 *Salmonella* serovars in 2019

Table 5 displays the number of laboratory reports for the top ten most commonly reported *Salmonella* serovars in 2019.

**Table 5. List of top 10 non-typhoidal *Salmonella* serovars reported in England 2019**

Serovar	Laboratory reports
Enteritidis	2,514
Typhimurium	1,568
Newport	254
Agona	194
Infantis	180
Mikawasima	155
Java	130
Stanley	129
Kentucky	121
Virchow	121

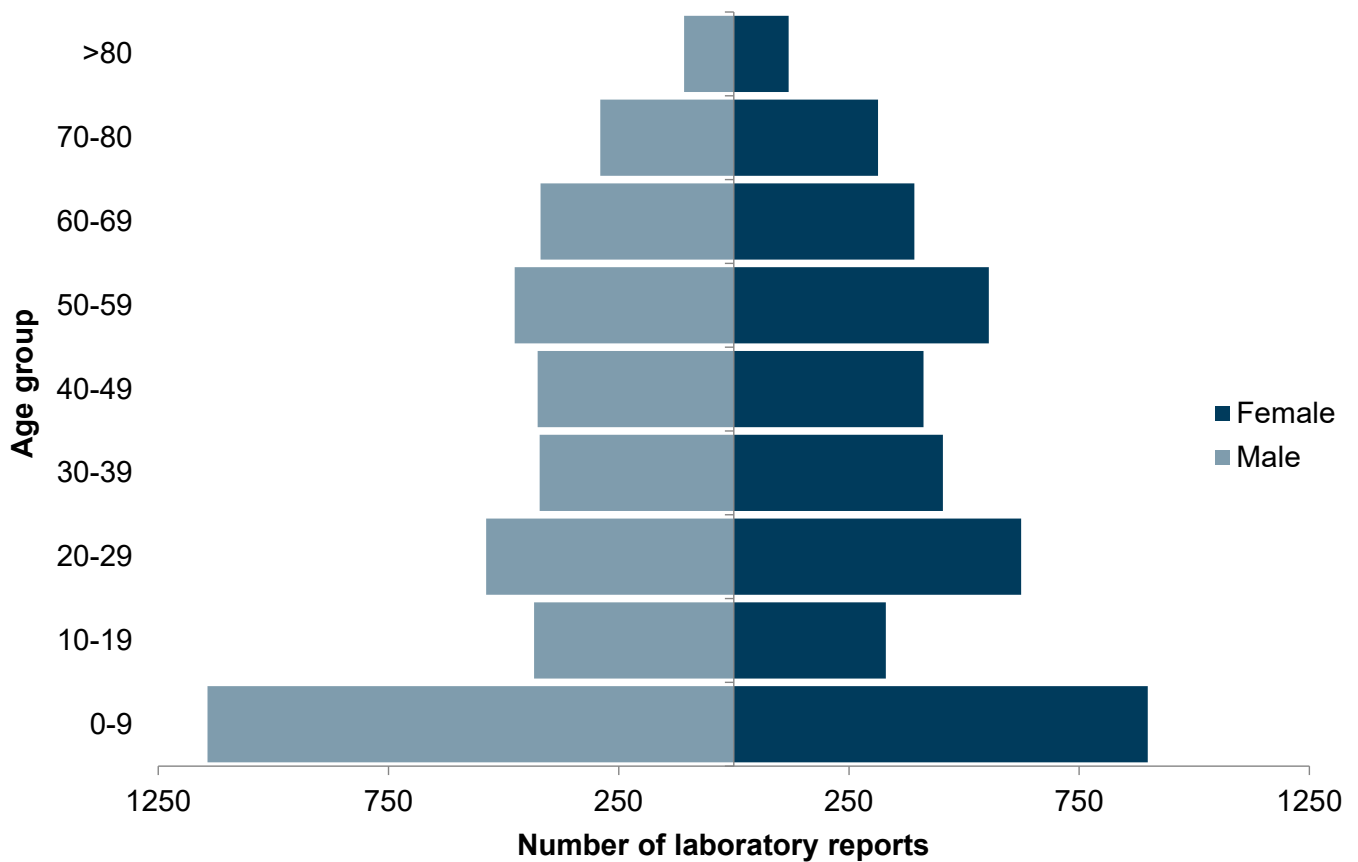


## 4. Age and sex distribution in 2019

### a. All non-typhoidal *Salmonella*

Figure 4 shows the age and sex distribution of non-typhoidal *Salmonella* laboratory reports in England during 2019. In this graph 44 laboratory reports were excluded where case age or sex was unknown.

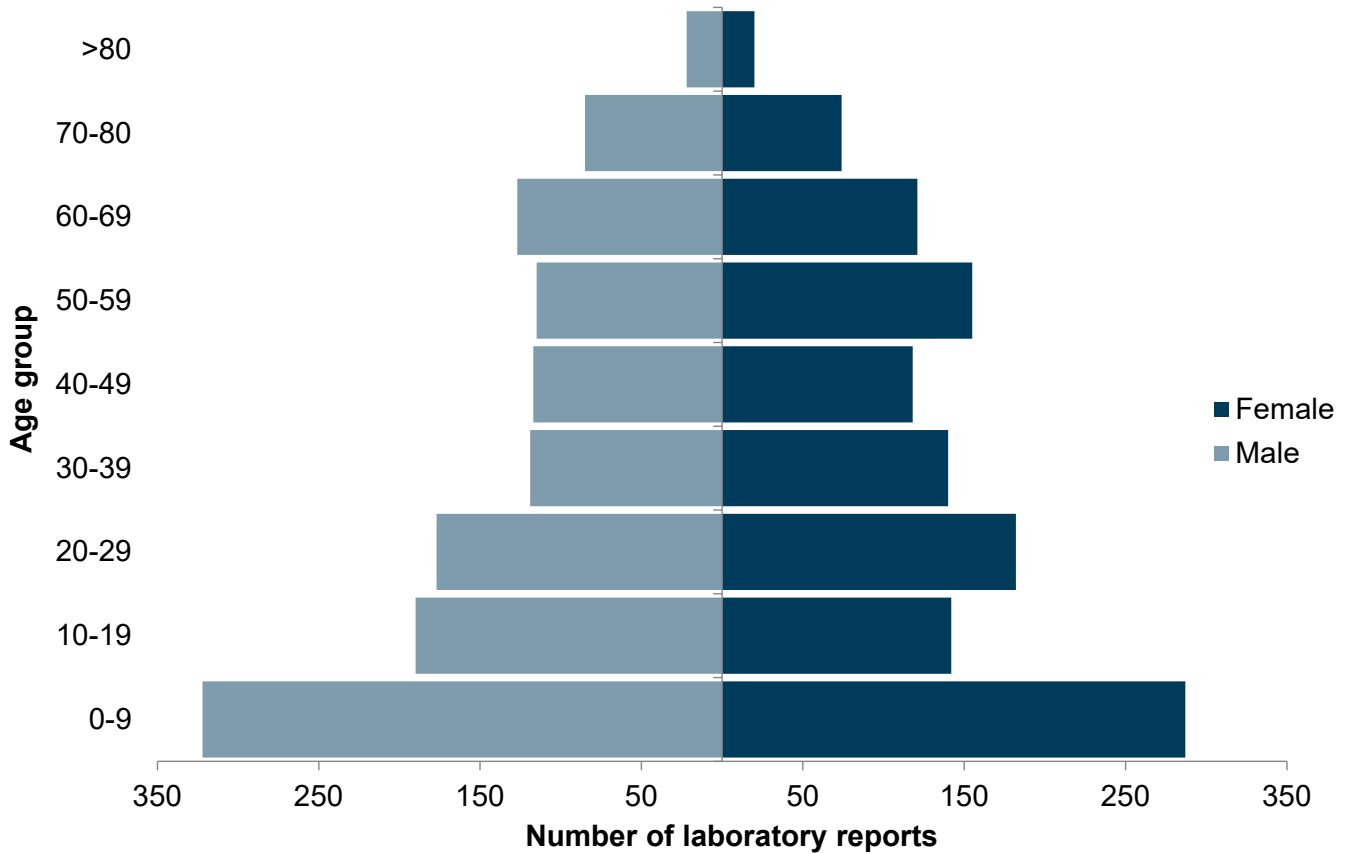
**Figure 4. Age and sex distribution of laboratory reports of non-typhoidal *Salmonella* in England in 2019**



### b. Salmonella Enteritidis

Figure 5 shows the age and sex distribution of *Salmonella* Enteritidis laboratory reports in England during 2019. In this graph one laboratory report was excluded where case age or sex was unknown.

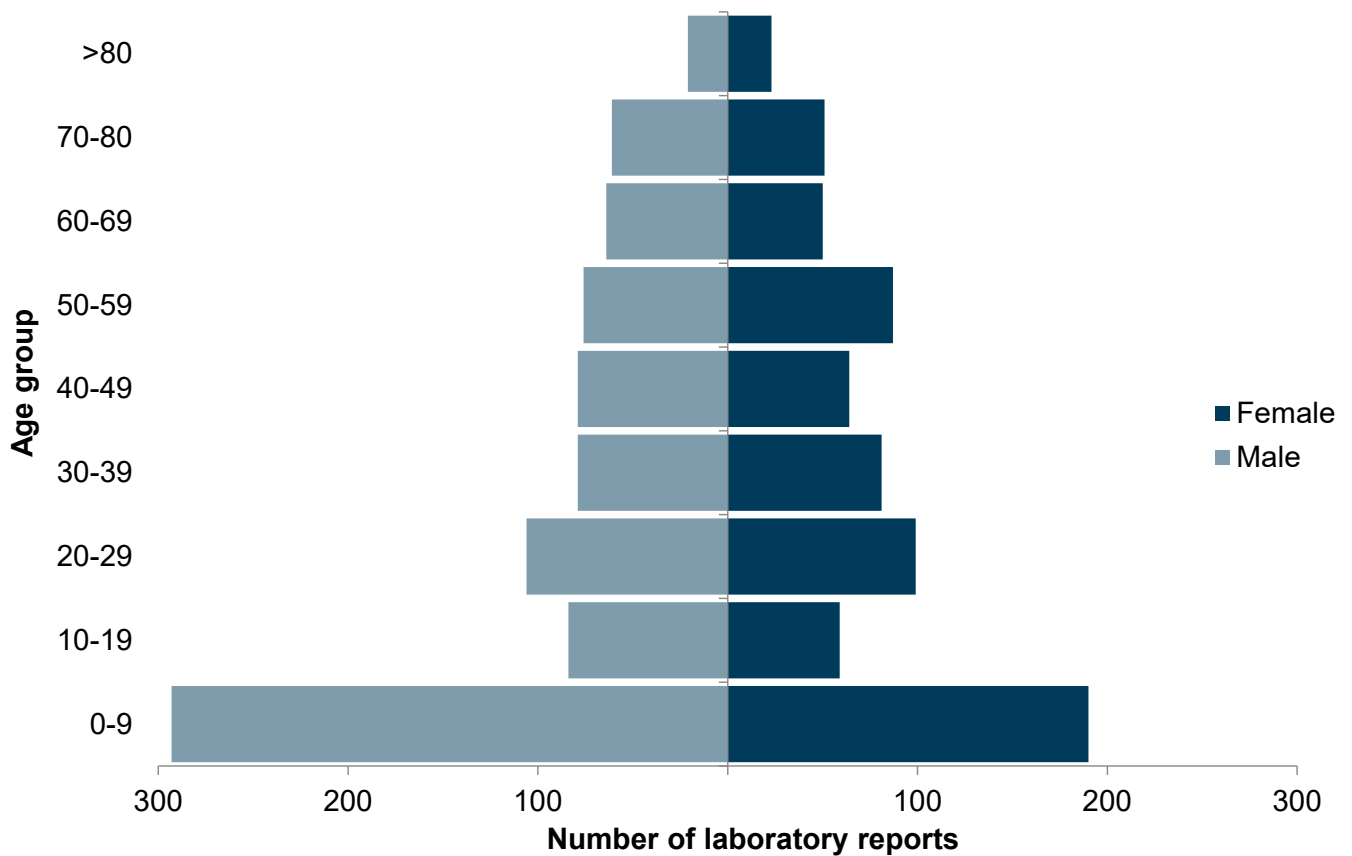
**Figure 5. Age and sex distribution of laboratory reports of *Salmonella* Enteritidis in England in 2019**



### c. *Salmonella* Typhimurium

Figure 6 shows the age and sex distribution of *Salmonella* Typhimurium laboratory reports in England during 2019. In this graph one laboratory report was excluded where case age or sex was unknown.

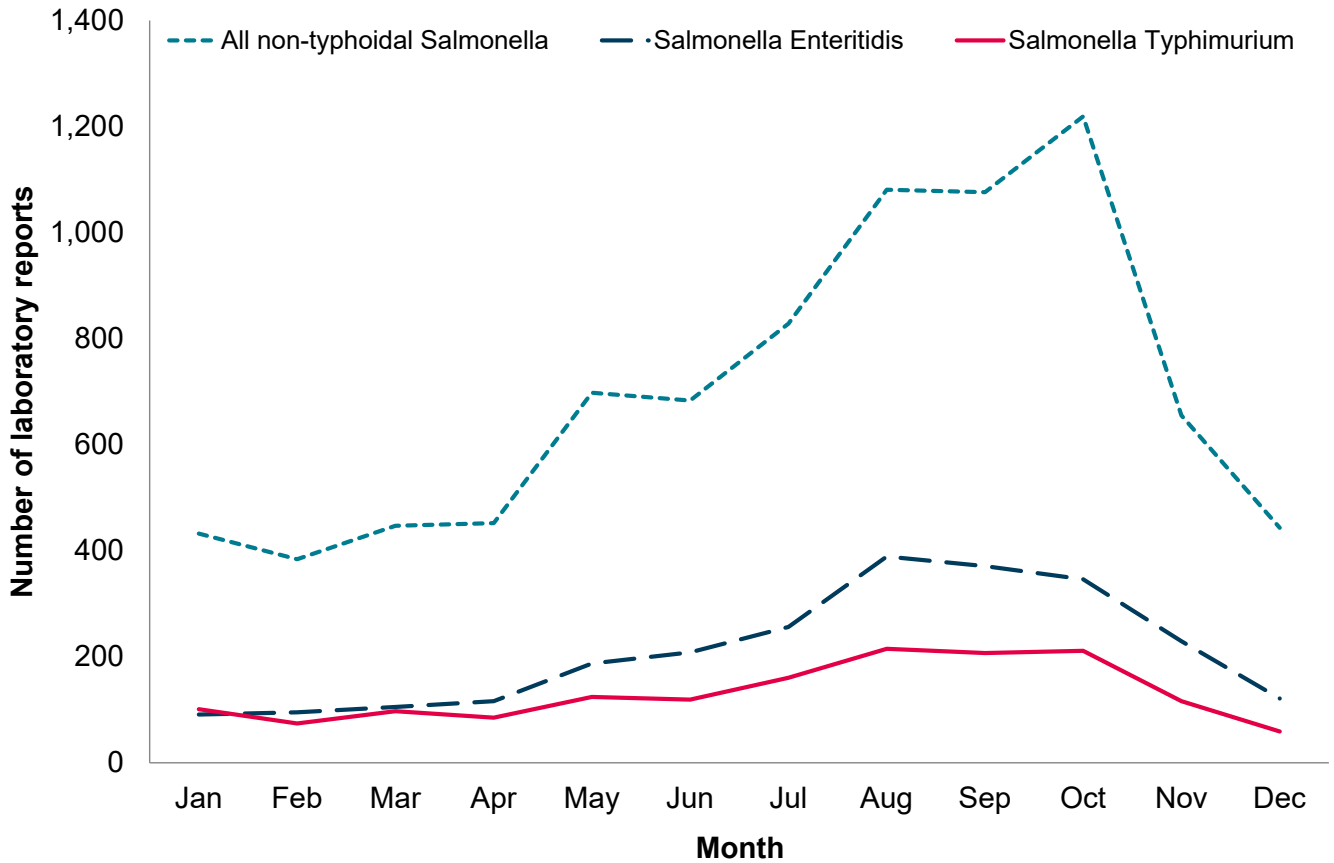
**Figure 6. Age and sex distribution of laboratory reports of *Salmonella* Typhimurium in England in 2019**



## 5. Seasonal variation in 2019

Figure 7 shows the seasonal trend of laboratory reporting for all non-typhoidal *Salmonella*, *Salmonella* Enteritidis and *Salmonella* Typhimurium in England during 2019 by month.

**Figure 7. Seasonality of laboratory reports of all non-typhoidal *Salmonella*, *Salmonella* Enteritidis and *Salmonella* Typhimurium in England in 2019**



## Foodborne outbreak data in 2019

Table 6. Foodborne outbreaks of non-typhoidal *Salmonella* reported in England\* in 2019

Agent	Total affected	Laboratory confirmed	Hospitalised**	Deaths **	Setting	Food description
<i>Salmonella</i> Typhimurium	13	1	0	0	Restaurant, café, pub, hotel or catering service	Rice
<i>Salmonella</i> Enteritidis	44	44	11	0	Multiple places of exposure	Eggs
<i>Salmonella</i> Mikawasima	138	138	11	0	Multiple places of exposure	Unknown
<i>Salmonella</i> Enteritidis	5	5	2	0	Restaurant, café, pub, hotel or catering service	Mixed food
<i>Salmonella</i> Enterica I4, 5, 12:b:-	69	69	8	1	Restaurant, café, pub, hotel or catering service	Unknown
<i>Salmonella</i> Bredeney	9	9	0	0	Multiple places of exposure	Pork meat
<i>Salmonella</i> Agona	16	16	3	0	Multiple places of exposure	Unknown
<i>Salmonella</i> Enteritidis	2	2	1	1	Multiple places of exposure	Eggs
<i>Salmonella</i> Enteritidis	35	35	0	0	Catering on transport	Unknown
<i>Salmonella</i> Indiana	28	28	0	0	Multiple places of exposure	Chicken
<i>Salmonella</i> Enteritidis	22	22	0	0	Multiple places of exposure	Eggs
<i>Salmonella</i> Agona	7	7	0	0	Restaurant, café, pub, hotel or catering service	Unknown
<i>Salmonella</i> Typhimurium	62	62	0	0	Multiple places of exposure	Lamb
<i>Salmonella</i> Enteritidis	22	22	0	0	Multiple places of exposure	Eggs
<i>Salmonella</i> Enteritidis	3	3	1	0	Multiple places of exposure	Eggs

\* Number of cases is for cases resident in England and Wales as eFOSS covers outbreak surveillance for both countries.

\*\*Clinical outcome not known for all cases; this only represents cases who have hospitalisations or deaths reported to national surveillance.

## Data sources

This report was produced using data derived from the following data sources:

1. Public Health England's (now UK Health Security Agency) Second Generation Surveillance System (SGSS). This is a live laboratory reporting system therefore numbers are subject to change. In 2014, PHE upgraded the laboratory reporting system so direct comparisons between data reported from the previous system (LabBase2) and the new system (SGSS) may require cautious interpretation.
2. Electronic Foodborne and Non-Foodborne Gastrointestinal Outbreak Surveillance System (eFOSS).

## Acknowledgements

We are grateful to:

- the microbiologists and local authorities, health protection and environmental health specialists who have contributed data and reports to national surveillance systems.
- the epidemiologists and information officers who have worked on the national surveillance of intestinal infectious diseases
- colleagues in the Gastrointestinal Bacterial Reference Unit (GBRU) for providing the Reference Laboratory Services and laboratory surveillance functions and expertise
- PHE (now UKHSA) Information Management Department for maintenance and quality assurance of PHE national surveillance databases used for Gastrointestinal Infections (GI) pathogen surveillance at the national level
- PHE (now UKHSA) Local Public Health Laboratories and Food Water and Environmental Microbiology Services for providing a surveillance function for GI pathogens and testing of food and environmental samples routinely and during outbreak investigations
- all colleagues who have investigated and reported outbreaks to the Electronic Foodborne and Non-Foodborne Gastrointestinal Outbreak Surveillance System (eFOSS)

# About the UK Health Security Agency

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