UK Health Security Agency

# Non-typhoidal *Salmonella* data 2008 to 2017

## August 2021

National laboratory and outbreak data for residents of England

# Contents

# Main points for 2017

The main points of the 2017 report are:

- the number of reported *Salmonella* cases in England increased from 8,248 in 2016 to 8,670 cases in 2017, an increase of 422 cases
- from 2016 to 2017 there was an increase in reports of *Salmonella* Enteritidis from 2,215 to 2,324 and an increase in reports of *Salmonella* Typhimurium from 1,711 to 1,965 reported cases
- the region that reported the highest number of *Salmonella* laboratory reports was London with 1,728 reports
- the age group with the largest number of laboratory reports was children below the age of 10
- September was the peak month for *Salmonella* reporting in 2017

# *Salmonella* laboratory data 2008 to 2017

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 reported in the Enteric fever annual report 2017.

## 1.Annual data 2008 to 2017

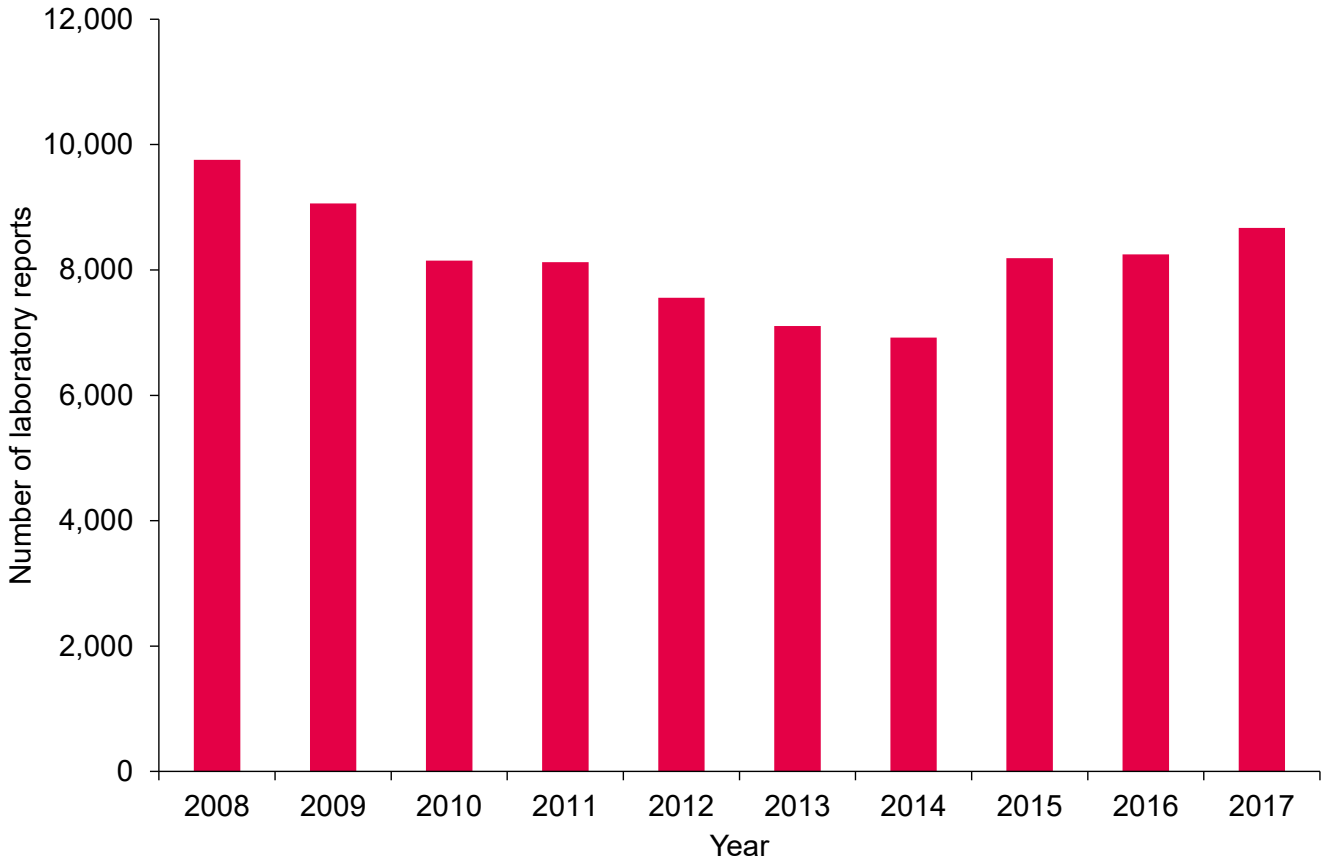
### a. All non-typhoidal *Salmonella*

**Table 1. Annual laboratory reports of non-typhoidal *Salmonella* in England from 2008 to 2017**

| Year | Number of laboratory reports | Laboratory reports per 100,000 population |
|---|---|---|
| 2008 | 9,757 | 18.83 |
| 2009 | 9,060 | 17.36 |
| 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 |

Figure 1 shows the trend of non-typhoidal *Salmonella* laboratory reports in England from 2008 to 2017.

**Figure 1. Annual laboratory reports of non-typhoidal *Salmonella* in England 2008 to 2017**



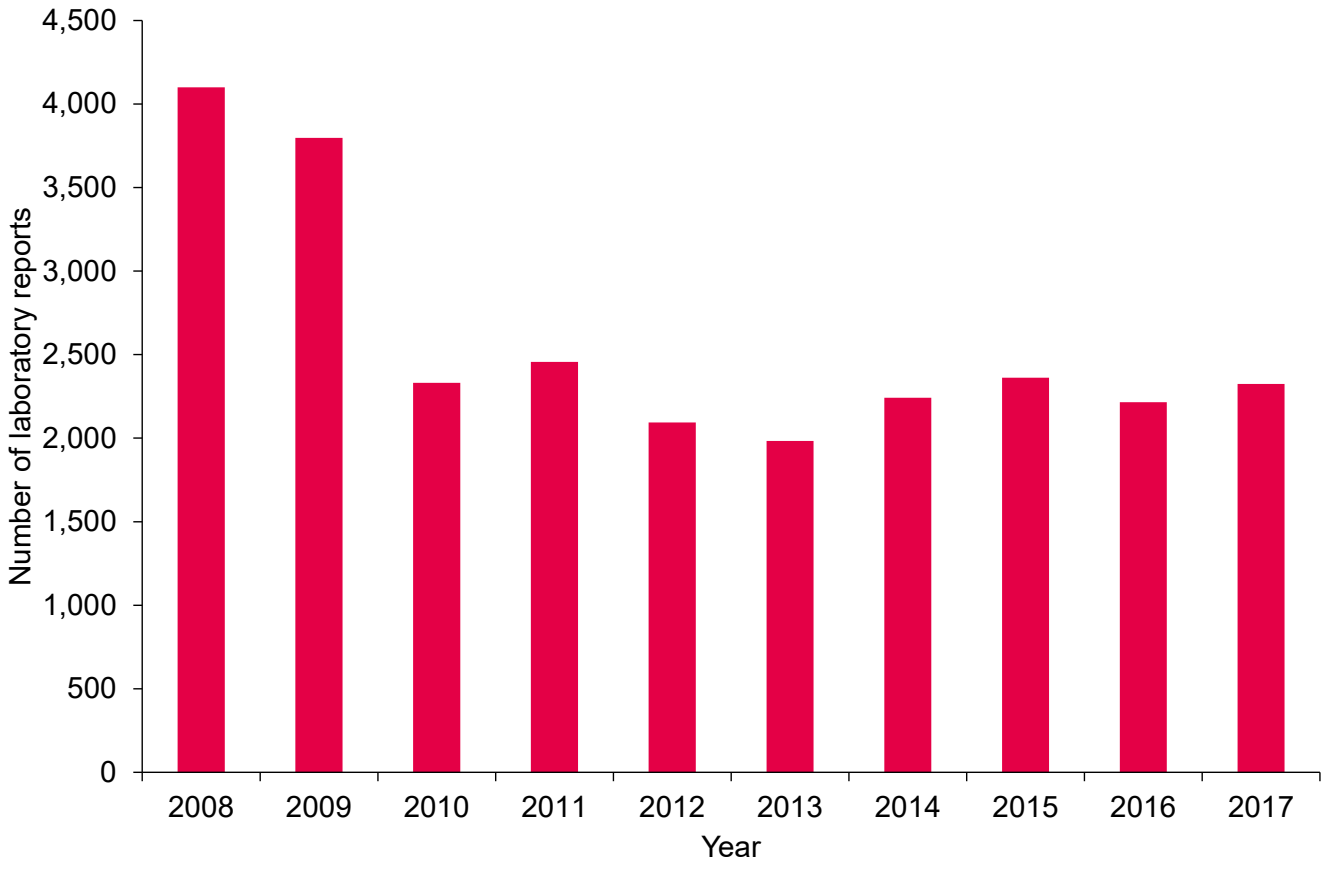
## b. *Salmonella* Enteritidis

**Table 2. Annual laboratory reports of *Salmonella* Enteritidis in England from 2008 to 2017**

| Year | Number of laboratory reports | Laboratory reports per 100,000 population |
|---|---|---|
| 2008 | 4,100 | 7.91 |
| 2009 | 3,797 | 7.27 |
| 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 |

Figure 2 shows the trend of *Salmonella* Enteritidis laboratory reports in England 2008 to 2017.

**Figure 2. Annual laboratory reports of *Salmonella* Enteritidis in England 2008 to 2017**



## c. *Salmonella* Typhimurium

**Table 3. Annual laboratory reports of *Salmonella* Typhimurium in England from 2008 to 2017**

| Year | Number of laboratory reports | Laboratory reports per 100,000 population |
|---|---|---|
| 2008 | 1,842 | 3.55 |
| 2009 | 1,845 | 3.53 |
| 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 |

Figure 3 shows the trend of *Salmonella* Typhimurium laboratory reports in England from 2008 to 2017.

**Figure 3. Annual laboratory reports of *Salmonella* Typhimurium in England 2008 to 2017**

# 2.Regional data

Table 4 displays the number of laboratory reports per region in 2017. 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 in 2017**

| Region | Laboratory reports |
|---|---|
| East Midlands | 587 |
| East of England | 914 |
| London | 1,728 |
| North East | 437 |
| North West | 1,055 |
| South East | 1,367 |
| South West | 835 |
| Yorkshire and the Humber | 883 |
| West Midlands | 864 |

# 3.Top 10 *Salmonella* serovars in 2017

Table 5 displays the number of laboratory reports for the top ten most commonly reported *Salmonella* serovars in 2017.

**Table 5. List of top 10 non-typhoidal *Salmonella* serovars reported in England 2017**

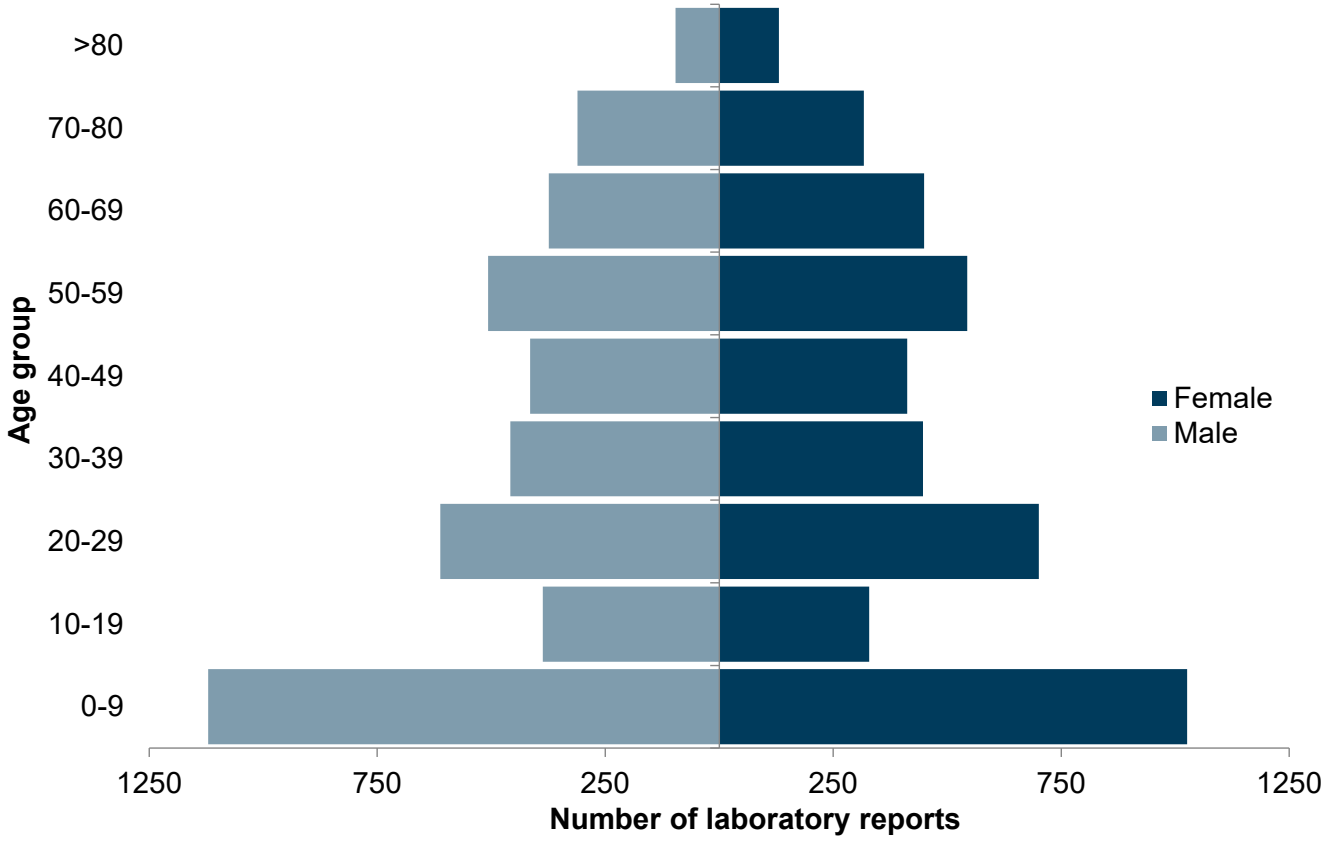
| Serovar | Laboratory reports |
|---|---|
| Enteritidis | 2,324 |
| Typhimurium | 1,965 |
| Newport | 346 |
| Infantis | 241 |
| Agona | 210 |
| Stanley | 165 |
| Kentucky | 147 |
| Virchow | 132 |
| Java | 121 |
| Bareilly | 94 |

# 4.Age and sex distribution in 2017

## a. All non-typhoidal *Salmonella*

Figure 4 shows the age and sex distribution of non-typhoidal *Salmonella* laboratory reports in England in 2017. In this graph 33 laboratory reports were excluded where case age or sex was unknown.

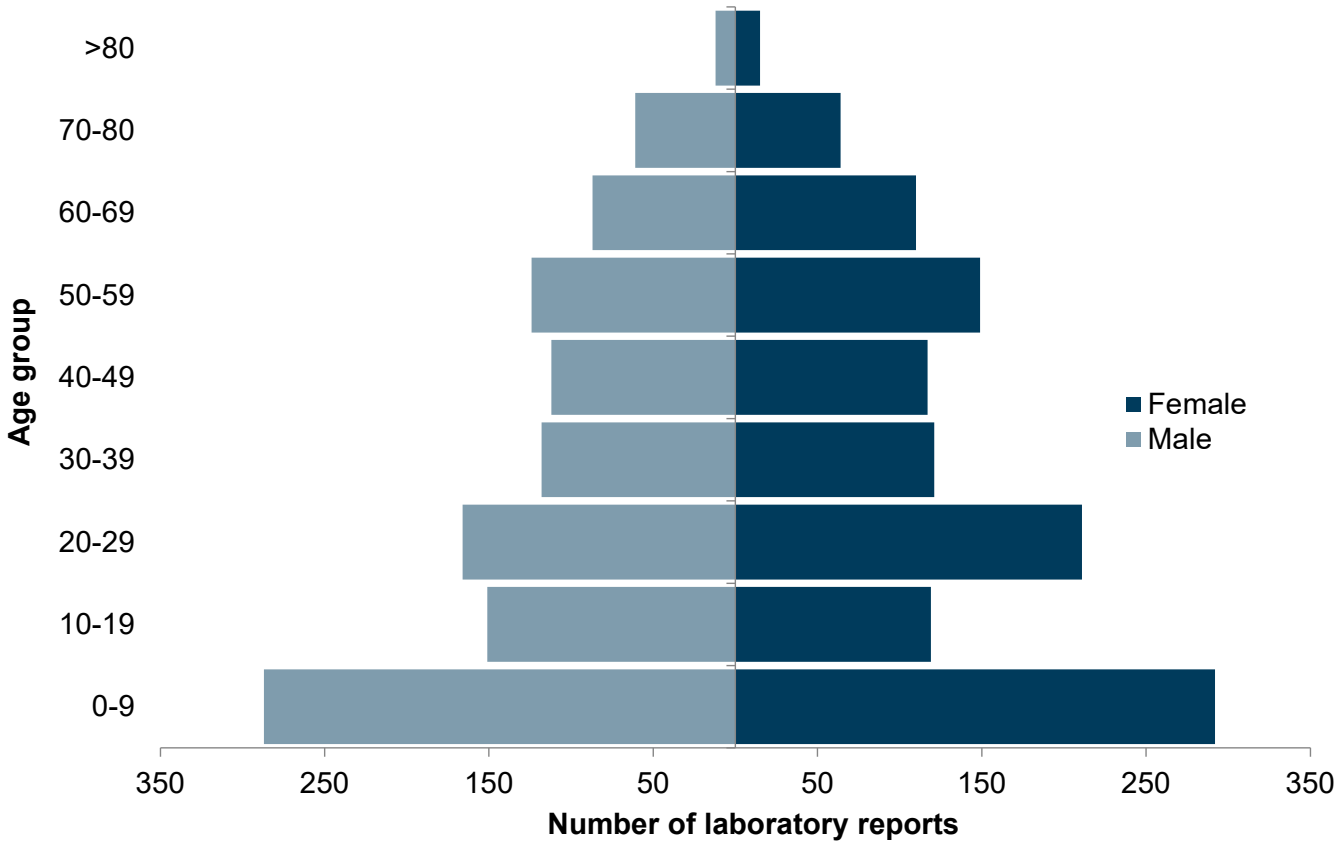
**Figure 4. Age and sex distribution of laboratory reports of non-typhoidal *Salmonella* in England in 2017**



## b. *Salmonella* Enteritidis

Figure 5 shows the age and sex distribution of *Salmonella* Enteritidis laboratory reports in England in 2017. In this graph 8 laboratory reports were excluded where case age or sex was unknown.

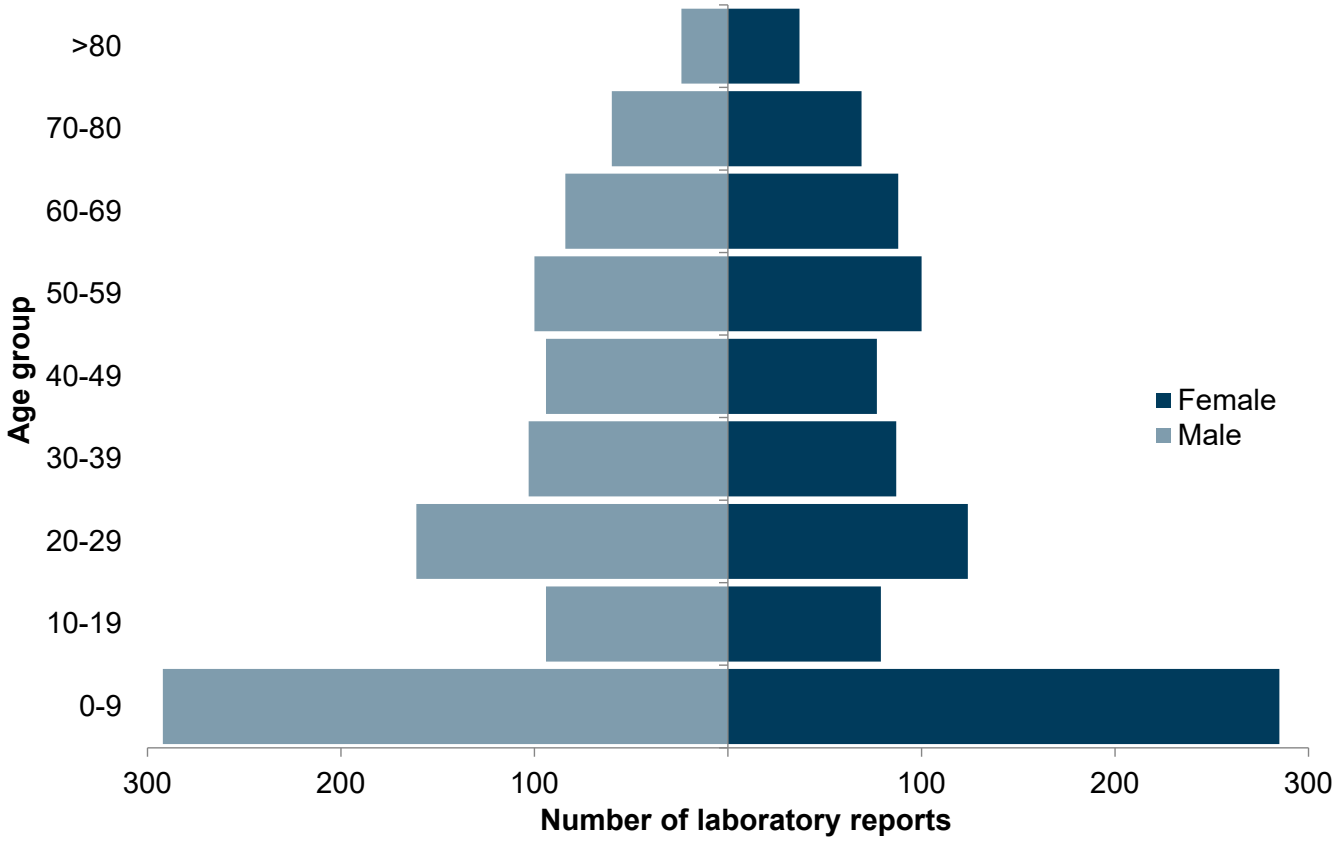
**Figure 5. Age and sex distribution of laboratory reports of *Salmonella* Enteritidis in England in 2017**



## c. *Salmonella* Typhimurium

Figure 6 shows the age and sex distribution of Salmonella Typhimurium laboratory reports in England in 2017.In this graph 7 laboratory reports were excluded where case age or sex was unknown.

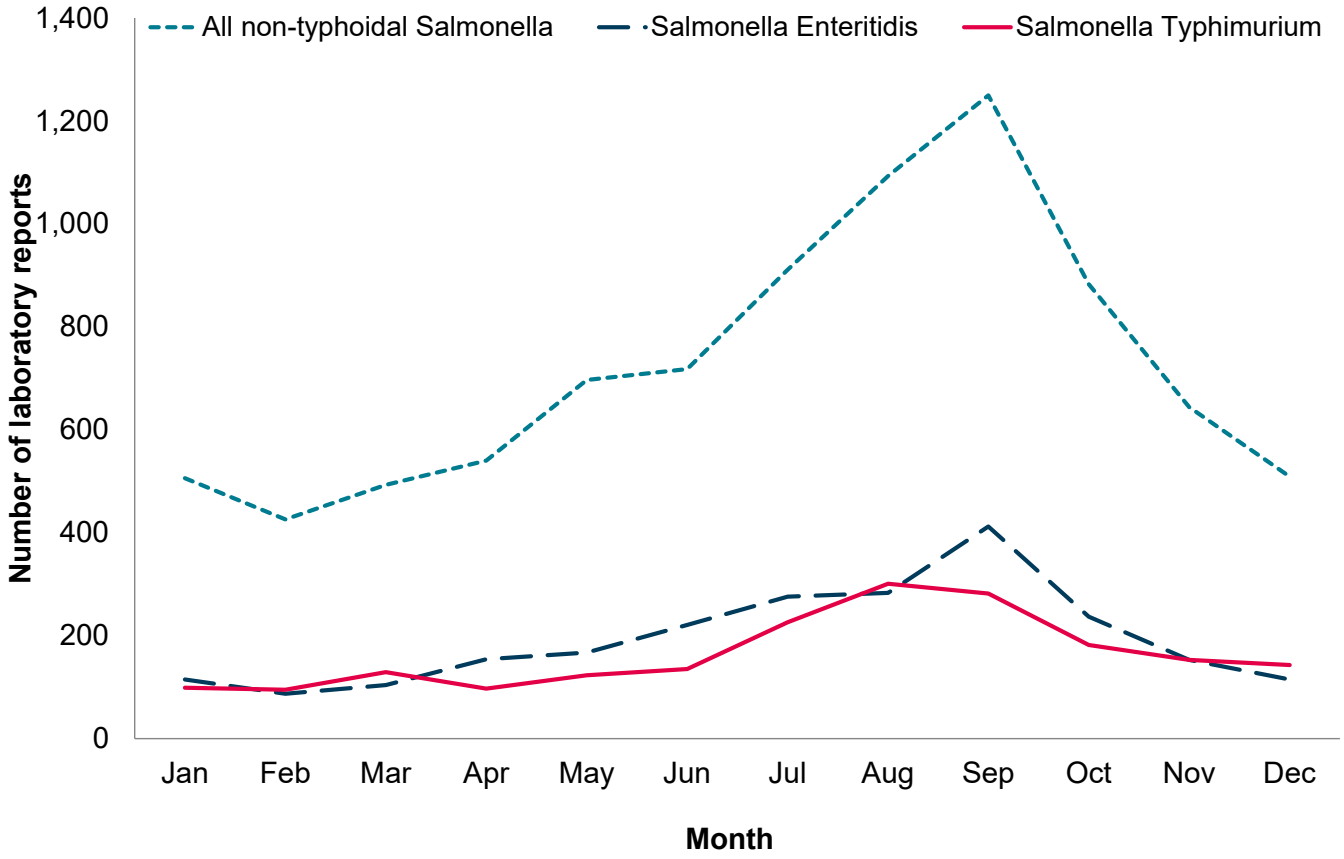
**Figure 6. Age and sex distribution of laboratory reports of *Salmonella* Typhimurium in England in 2017**



# 5.Seasonal variation in 2017

Figure 7 shows the seasonal trend of laboratory reporting for all non-typhoidal *Salmonella*, *Salmonella* Enteritidis and *Salmonella* Typhimurium in England during 2017 by month.

**Figure 7. Seasonality of laboratory reports of all non-typhoidal *Salmonella*, *Salmonella* Enteritidis and *Salmonella* Typhimurium in England in 2017**



# Foodborne outbreak data in 2017

**Table 6. Foodborne outbreaks of non-typhoidal *Salmonella* reported in England* in 2017**

| Agent | Total affected | Laboratory confirmed | Hospitalised ** | Deaths ** | Setting | Food description |
|---|---|---|---|---|---|---|
| *Salmonella* Stanley | 7 | 6 | 0 | 0 | School or kindergarten | Unknown |
| *Salmonella* Typhimurium monophasic | 58 | 20 | 2 | 0 | Restaurant, café, bar, catering service | Hog roast, ham |
| *Salmonella* Infantis | 50 | 50 | 6 | 0 | National: multiple exposure settings | Fruit |
| *Salmonella* Chester | 18 | 18 | 4 | 0 | National: multiple exposure settings | Vegetable |
| *Salmonella* Adjame | 14 | 14 | 4 | 0 | National: multiple exposure settings | Herbs and spices |
| *Salmonella* Typhimurium | 96 | 96 | 20 | 1 | National: multiple exposure settings | Lamb |
| *Salmonella* Typhimurium | 15 | 15 | 0 | 0 | Mobile retailer or market or street vendor | Composite foods |
| *Salmonella* Give | 18 | 18 | 7 | 2 | National: multiple exposure settings | Unknown |
| *Salmonella* Enteritidis | 162 | 162 | 0 | 0 | National: multiple exposure settings | Eggs |
| *Salmonella* Agona | 41 | 41 | 13 | 0 | Restaurant, café, bar or catering service | Unknown |
| *Salmonella* Typhimurium | 113 | 113 | 18 | 0 | National: multiple exposure settings | Mixed red meats |
| *Salmonella* Enteritidis | 27 | 27 | 1 | 0 | National: multiple exposure settings | 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

The UK Health Security Agency is an executive agency, sponsored by the Department of Health and Social Care.



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