



***Escherichia coli* bacteraemia in England, Wales and Northern Ireland, 2008-2012**

This report covers voluntary reports of bacteraemia due to *Escherichia coli*, made to Public Health England between 2008 and 2012 from participating laboratories in England, Wales and Northern Ireland. Only *E. coli* bacteraemia isolates identified by culture were included in the analysis. Data were extracted on 15th April 2013 and are provisional as the number of reports for 2012 may increase due to late reporting.

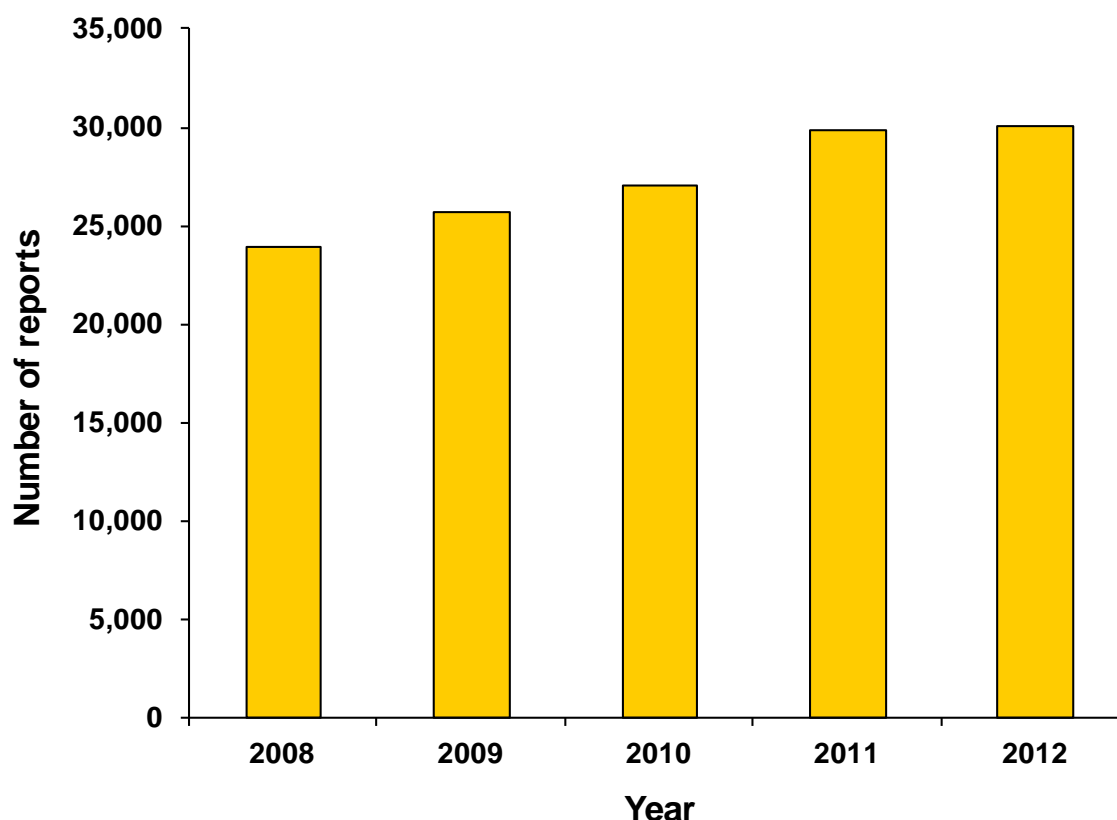
Key Points

- There has been a year-on-year increase in the number of *E. coli* bacteraemia reports.
- In 2012 there were 30,099 reports for *E. coli*, which was a slight increase (0.8%) compared to 2011 (29,851) (figure 1). In the same period, the total number of bacteraemia reported via LabBase2 only increased marginally from 92,537 in 2011 to 94,048 in 2012 (1.6% increase).
- By 2012 *E. coli* accounted for almost one third (32.0%) of all bacteraemia reports, compared with 25.3% in 2008. However, the proportion of all bacteraemia due to *E. coli* seems to be stabilising being little changed from 2011 (32.5%).
- Between 2008 and 2012 there was a 26% increase in *E. coli* bacteraemia reports compared with 0.5% decrease for all bacteraemia.
- The rates per 100,000 population of *E. coli* bacteraemia were highest in patients aged 65 years and over and in those under 1 year of age (figure 2). In both these groups the rates were generally highest for males. Among those aged 1-14 and 15-44 years, the rates were highest among females.
- The overall population rate of infection of *E. coli* bacteraemia in 2012 was 51.9 per 100,000 population (figure 3).
- There was very little change in the rates of non-susceptibility to 3rd generation cephalosporins and gentamicin from 2008-2012 (table 2).
- The percentages of isolates testing non-susceptible to ciprofloxacin in 2012 remain very similar to 2011, at 19% and 10%, respectively. Non-susceptibility to ciprofloxacin decreased early in the 2008-12 period, but the decline has since levelled off.
- The percentage of isolates testing non-susceptible to the 3rd generation cephalosporins ceftazidime and cefotaxime remains stable at 10-11% for both ceftazidime and cefotaxime in 2011 and 2012.
- Most isolates reported to have been tested with either imipenem or meropenem were found to be susceptible. A small but growing number of *E. coli* resistant to these agents are referred to the Antimicrobial Resistance and Healthcare Associated Infections Reference Unit, but are largely from samples other than blood.



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Figure 1. *E. coli* bacteraemia reports, England, Wales and Northern Ireland: 2008 to 2012*



* Data extracted 15th April 2013

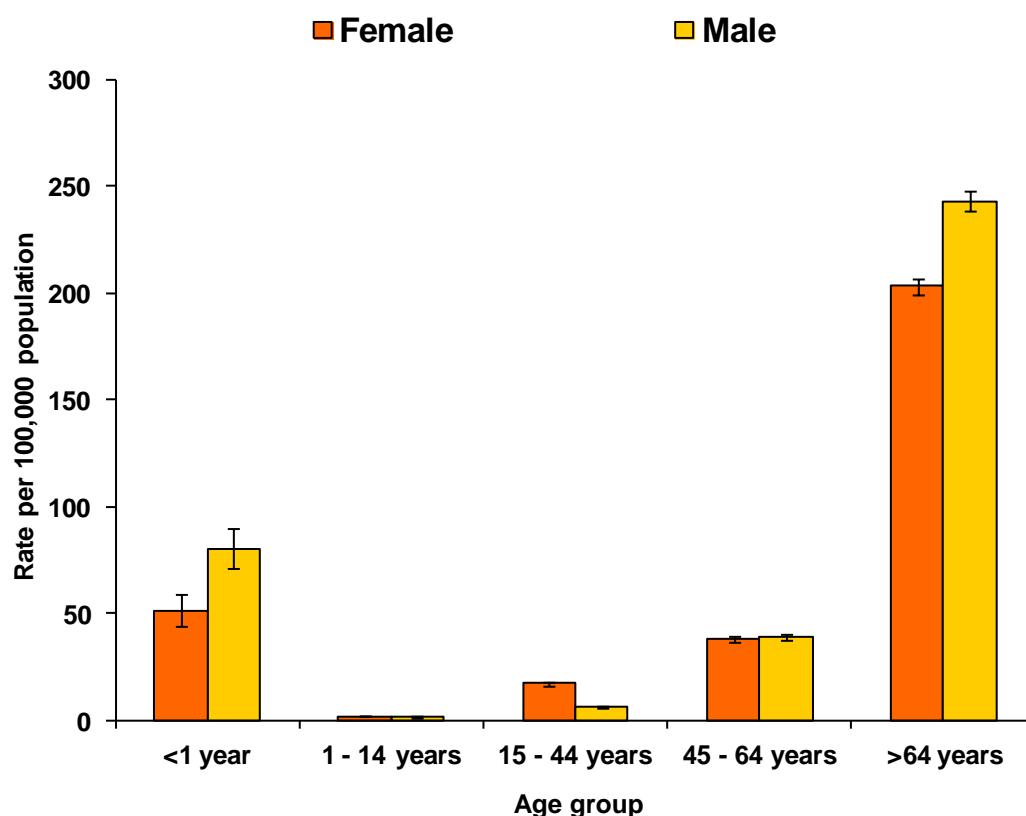
Age and sex distribution

Figure 2 shows the age and sex distribution for the *E. coli* bacteraemia reported in 2012 as rates per 100,000 population. The distribution between the sexes differs by age group; reports are more frequent for males than females in those aged under one year or aged 64 years and over; while the infection is more frequent among females in the 1-14 and 15-44 years age groups. The rates of bacteraemia for females and males were the same for those aged 45-64 years.



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Figure 2. *E. coli* bacteraemia reports in 2012, England, Wales and Northern Ireland by age and sex*



Data extracted 15th April 2013

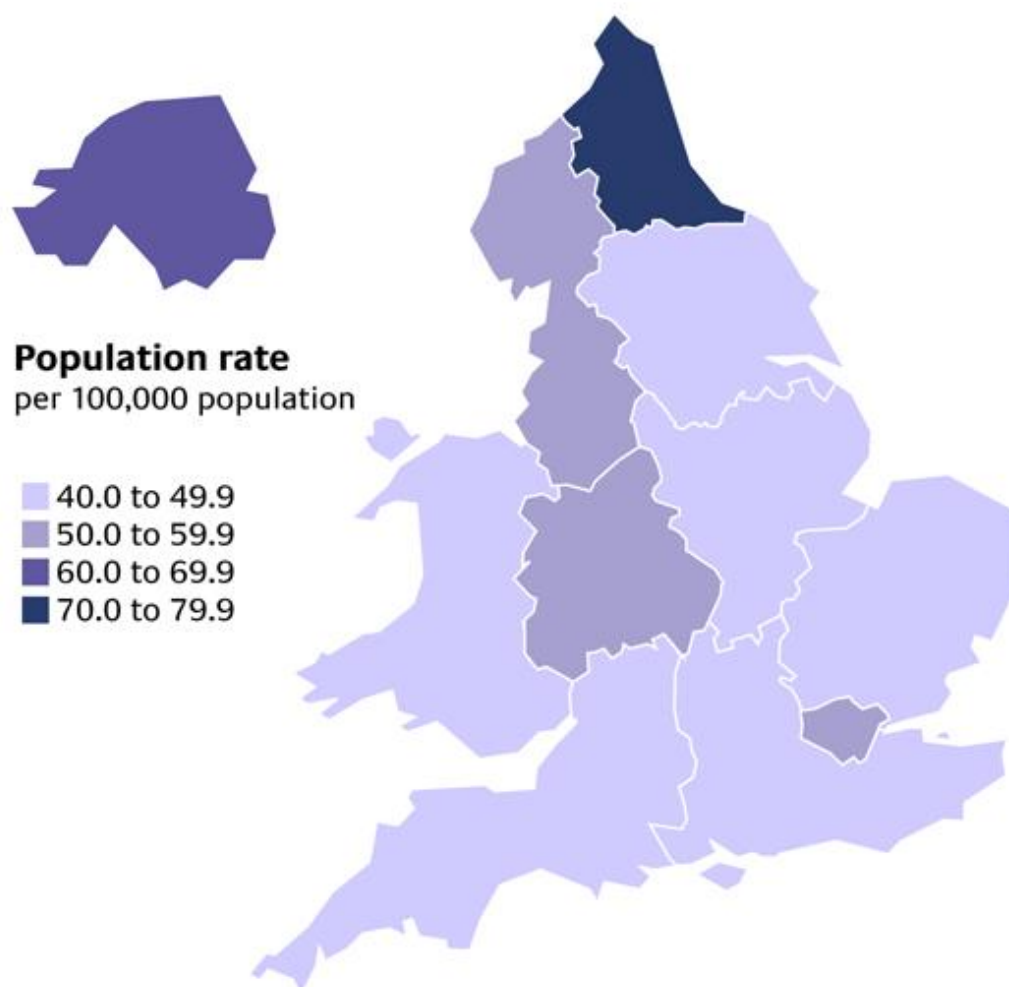
Distribution by region

The overall rate of *E. coli* bacteraemia in England, Wales and Northern Ireland was 51.9 per 100,000 population. The rates of *E. coli* bacteraemia were 51.6/100,000, 49.5/100,000 and 65.4/100,000 for England, Wales and Northern Ireland, respectively. Regions with high rates of infection include the North East (71.5/100,000) and the North West (59.7/100,000). The country with the highest rate of infection was Northern Ireland (65.4 per 100,000). The region with the lowest incidence was South East (43.5/100,000) (figure 3).



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Figure 3: Region-specific rates of *E. coli* bacteraemia: England, Wales and Northern Ireland, 2012*



* Data extracted 18th April 2012

Acknowledgements

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