



# London Antimicrobial Data Pack

London Antimicrobial Resistance and  
Stewardship Subgroup

London Medicines Information Service, July 2020

Data from Q1 2020

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## Introduction

This data pack has been compiled by the London Medicines Information Service to inform the RMO (London) Antimicrobial Resistance and Stewardship Subgroup on the current status of antimicrobial usage. The data pack has been developed around three key targets identified in HM Government's document [Tackling antimicrobial resistance 2019-2024: The UK's five-year national action plan](#):

- Reduce healthcare associated Gram-negative blood stream infections by 50% by 2024
- Reduce the number of specific drug-resistant infections by 10% by 2025
- Reduce antimicrobial use in humans by 15% by 2024

This document is intended to be used by STP antimicrobial stewardship leads to review 14 indicators that were considered by the RMO (London) Antimicrobial Resistance and Stewardship Subgroup as important to focus attention on. It can be used to identify outlying prescribing that can be accounted for or that is worthwhile addressing.

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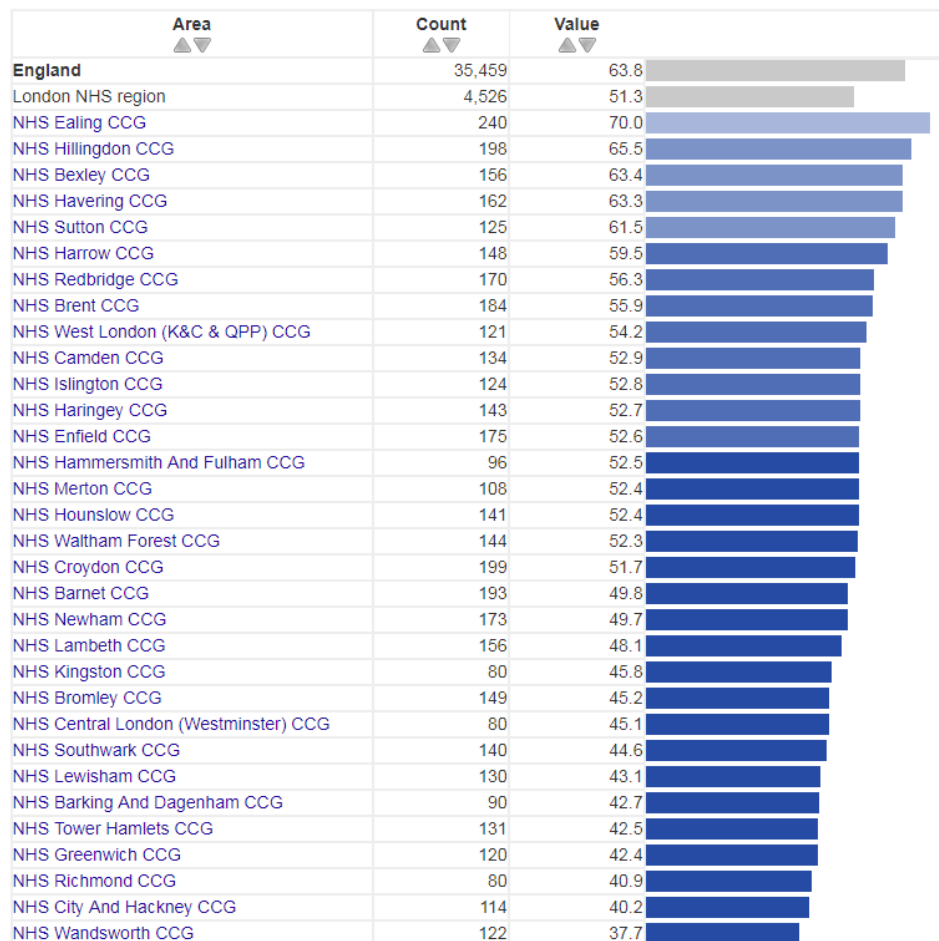
Data in this pack have been obtained from [Public Health England's Fingertips dashboard](#) and from [Openprescribing.net](#). Trusts and CCGs are encouraged to look more closely at their own data by visiting the PHE Fingertips AMR or Openprescribing.net websites.

## Glossary

ADQ	An <b>Average Daily Quantity</b> is a UK determined value that reflects the average daily dose typically given to a patient.
DDD	A <b>Defined Daily Dose</b> is the assumed average daily maintenance dose for a drug used in its main indication in adults. This is determined internationally.
STAR-PU	Weighted "prescribing unit" used as a denominator when comparing volumes of antibiotic prescribing in primary care. This prescribing unit is weighted to acknowledge that patients with different characteristics have different antibiotic requirements, and thus allows comparisons of antibiotic prescribing volumes that take account many differences between populations.

## Healthcare Associated Gram-negative blood stream infections

Figure 1 *E. coli* bacteraemia counts and 12-month rolling rates of community-onset, by CCG; March 2020



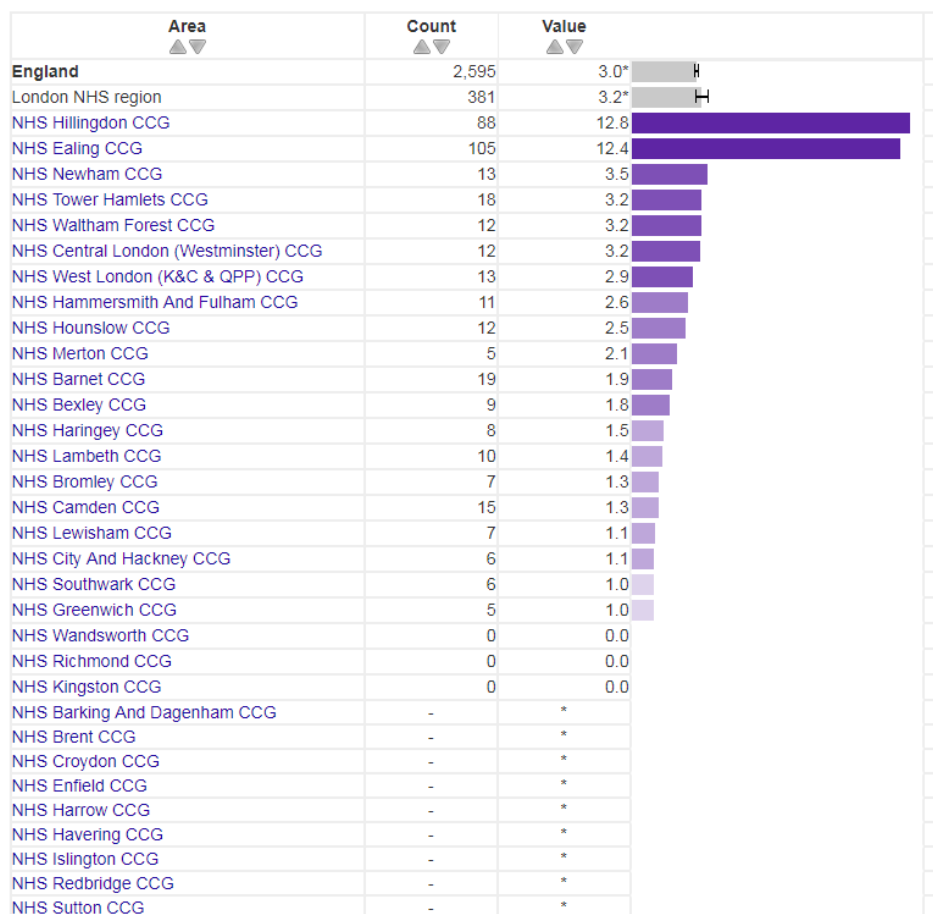
Source: HCAI Mandatory Surveillance

### [Link to Fingertips.](#)

This is a count of all laboratory confirmed cases of *E. coli* bacteraemia that occurred during the current month and the previous eleven months. The rate is calculated by dividing the number of cases by the ONS mid-year population estimates for the CCG, and multiplying by 100,000.

This relates to community onset bacteraemia. For hospital onset bacteraemia, see **Figure 5**.

**Figure 2 Percentage of community *E. coli* (or coliform) positive urine specimens non-susceptible to nitrofurantoin; 2020 Q1**



[Link to Fingertips.](#)

This indicator shows the proportion of *E. coli* or coliform (if no further species information) urine specimens taken in a community setting that have been tested for susceptibility to nitrofurantoin and found to be resistant (or intermediate). This is based on routine voluntary laboratory surveillance reports.

**Figure 3 Percentage of community *E. coli* (or coliform) urine specimens non-susceptible to trimethoprim; 2020 Q1**

Area ▲▼	Count ▲▼	Value ▲▼
<b>England</b>	25,322	24.7*
London NHS region	4,172	28.7*
NHS Greenwich CCG	164	33.1
NHS Wandsworth CCG	25	32.1
NHS Islington CCG	110	31.6
NHS Bexley CCG	160	31.6
NHS Tower Hamlets CCG	172	31.1
NHS Haringey CCG	162	30.8
NHS Barnet CCG	309	30.7
NHS Lewisham CCG	196	30.2
NHS Camden CCG	349	30.1
NHS Bromley CCG	162	29.9
NHS Redbridge CCG	99	29.6
NHS City And Hackney CCG	165	29.6
NHS Southwark CCG	172	29.3
NHS Sutton CCG	98	29.2
NHS Enfield CCG	226	29.1
NHS Hounslow CCG	138	28.9
NHS Hammersmith And Fulham CCG	115	28.0
NHS Harrow CCG	42	27.8
NHS Newham CCG	102	27.6
NHS Lambeth CCG	192	27.4
NHS Waltham Forest CCG	103	27.1
NHS West London (K&C & QPP) CCG	117	27.0
NHS Merton CCG	62	26.5
NHS Brent CCG	44	26.0
NHS Hillingdon CCG	177	26.0
NHS Barking And Dagenham CCG	49	25.7
NHS Central London (Westminster) CCG	92	25.1
NHS Havering CCG	112	25.1
NHS Croydon CCG	23	25.0
NHS Richmond CCG	30	24.6
NHS Ealing CCG	205	24.3
NHS Kingston CCG	-	*

[Link to Fingertips.](#)

This indicator shows the proportion of *E. coli* or coliform (if no further species information) urine specimens taken in the community setting that have been tested for susceptibility to trimethoprim and found to be resistant. This is based on routine voluntary laboratory surveillance reports.

**Figure 4 Twelve-month rolling proportion of trimethoprim class prescribed antibiotic items as a ratio of trimethoprim to nitrofurantoin; March 2020**

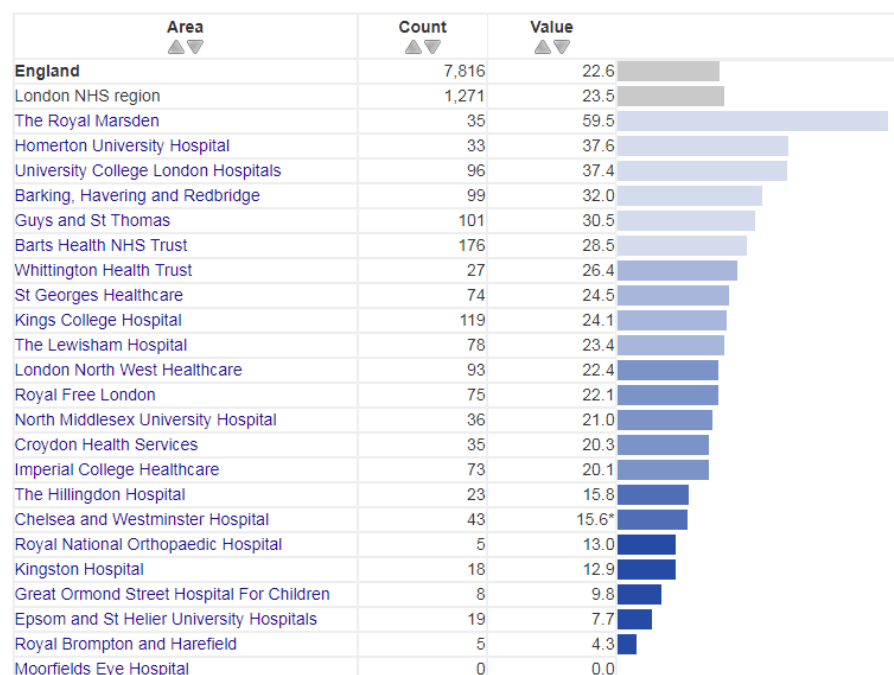
Area ▲▼	Count ▲▼	Value ▲▼
<b>England</b>	1,606,081	27.6
London NHS region	158,494	23.3
NHS Bexley CCG	7,094	27.8
NHS Barnet CCG	8,748	27.6
NHS Bromley CCG	7,240	27.4
NHS Barking And Dagenham CCG	3,580	27.0
NHS Merton CCG	4,183	26.8
NHS Greenwich CCG	4,824	26.8
NHS Redbridge CCG	6,278	26.4
NHS Richmond CCG	4,758	25.8
NHS Sutton CCG	5,388	25.6
NHS Lewisham CCG	5,086	25.2
NHS Havering CCG	6,499	24.9
NHS West London (K&C & QPP) CCG	4,070	24.9
NHS Hounslow CCG	4,993	24.8
NHS Ealing CCG	6,426	24.6
NHS Kingston CCG	4,087	24.1
NHS Enfield CCG	5,916	23.8
NHS Newham CCG	5,386	23.7
NHS Harrow CCG	4,712	23.5
NHS Tower Hamlets CCG	5,188	22.6
NHS Haringey CCG	4,352	22.6
NHS Central London (Westminster) CCG	3,167	21.9
NHS Hammersmith And Fulham CCG	3,983	21.5
NHS Camden CCG	3,870	21.1
NHS Croydon CCG	6,725	20.9
NHS Islington CCG	3,525	20.5
NHS Waltham Forest CCG	4,067	20.4
NHS Wandsworth CCG	5,799	20.3
NHS City And Hackney CCG	3,460	19.9
NHS Brent CCG	3,599	18.6
NHS Lambeth CCG	4,466	18.6
NHS Hillingdon CCG	3,832	17.6
NHS Southwark CCG	3,193	17.4

Source: [NHS Digital](#) publish monthly prescribing data under the OGL

[Link to Fingertips.](#)

The number of items of trimethoprim prescribed in general practice during the current month and the preceding eleven months are the numerator. The sum of items of trimethoprim and nitrofurantoin prescribed in the current month and during the preceding eleven months is the denominator. A lower number indicates a lower proportion of trimethoprim prescriptions.

Figure 5 *E. coli* bacteraemia hospital-onset cases counts and 12-month rolling rates, by reporting acute trust and month; March 2020

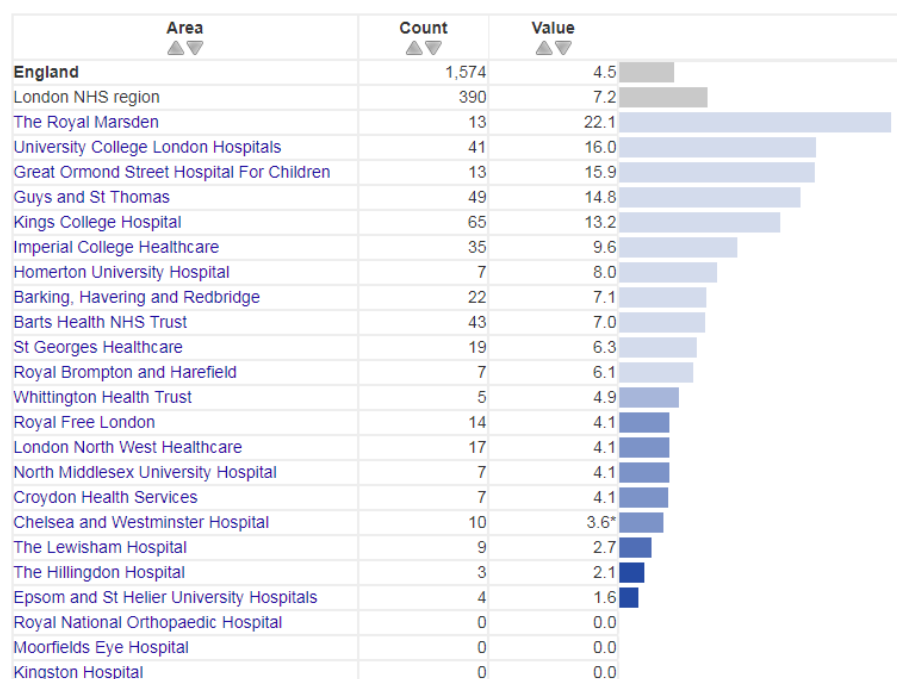


Source: HCAI Mandatory Surveillance Data

[Link to Fingertips.](#)

This is based on a count of laboratory confirmed cases of *E. coli* bacteraemia that occurred during the current month and the previous eleven months. The denominator is the sum of bed days for the current month and the previous eleven months. The Value is calculated by multiplying this ratio by 100,000. This relates to hospital onset bacteraemia. For community onset bacteraemia, see **Figure 1**.

**Figure 6 P. aeruginosa bacteraemia hospital-onset 12-month rolling rates; March 2020**



Source: HCAI Mandatory Surveillance Data

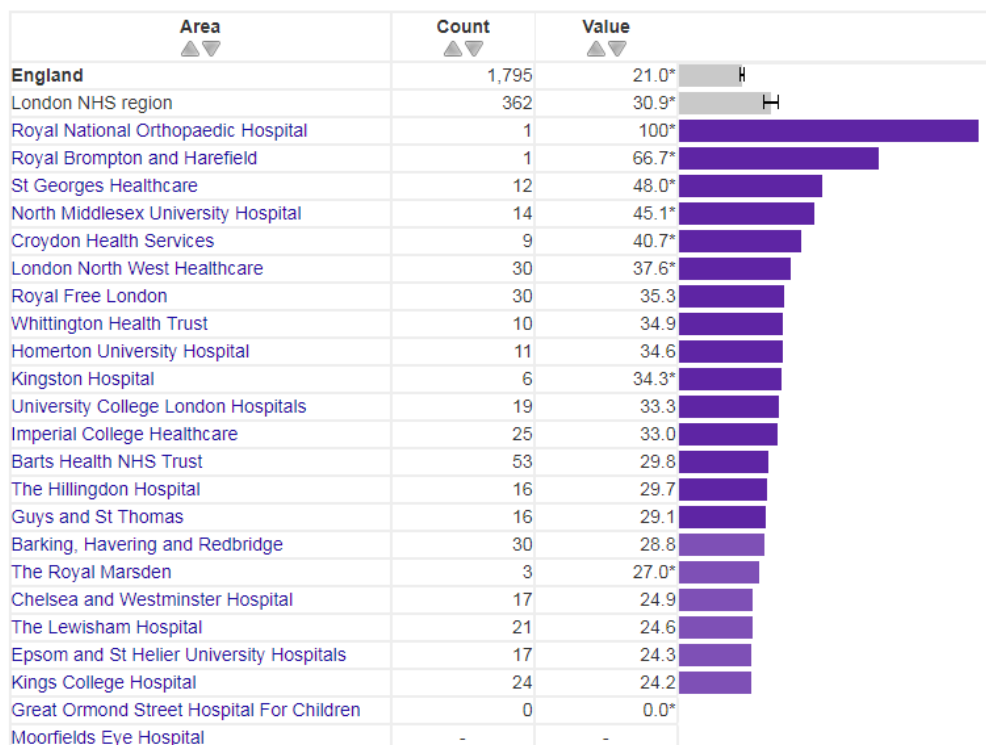
[Link to Fingertips.](#)

All laboratory confirmed cases of *P. aeruginosa* bacteraemia for the current month and preceding eleven months are the numerator. The denominator is calculated from a sum of bed-days over the same period. The Value is calculated by multiplying this ratio by 100,000.



## Specific drug-resistant infections

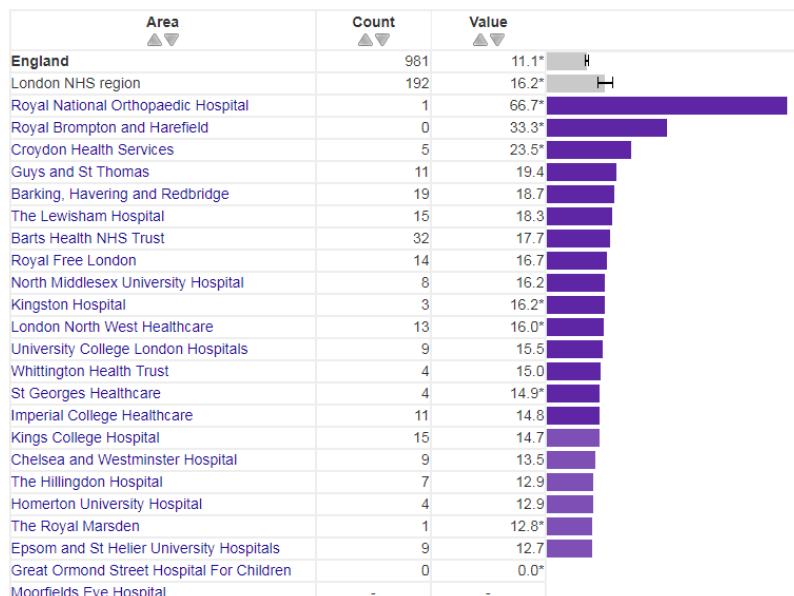
Figure 7 Rolling quarterly average proportion of ciprofloxacin resistant *E. coli* blood specimens; 2020 Q1



[Link to Fingertips.](#)

This measure reports the proportion of *E. coli* blood specimens tested for susceptibility to ciprofloxacin and found to be non-susceptible. The numerator is calculated from the quarterly average number (across the last four quarters) of laboratory reports of *E. coli* linked to blood samples, which have been tested for and are non-susceptible to ciprofloxacin. The denominator is calculated from the rolling four quarter number of *E. coli* blood sample laboratory reports.

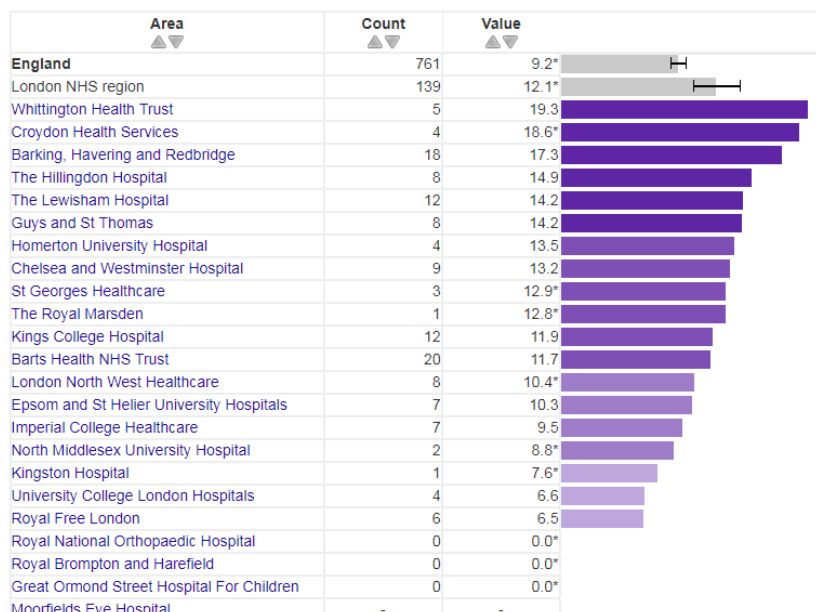
**Figure 8 Rolling quarterly average proportion of gentamicin resistant *E. coli* blood specimens; 2020 Q1**



[Link to Fingertips.](#)

This measure reports the proportion of *E. coli* blood specimens tested for susceptibility to gentamicin and found to be non-susceptible. The numerator is calculated from the quarterly average number (across the last four quarters) of laboratory reports of *E. coli*, which have been tested for and are non-susceptible to gentamicin. The denominator is calculated from the rolling four quarter number of *E. coli* blood sample laboratory reports.

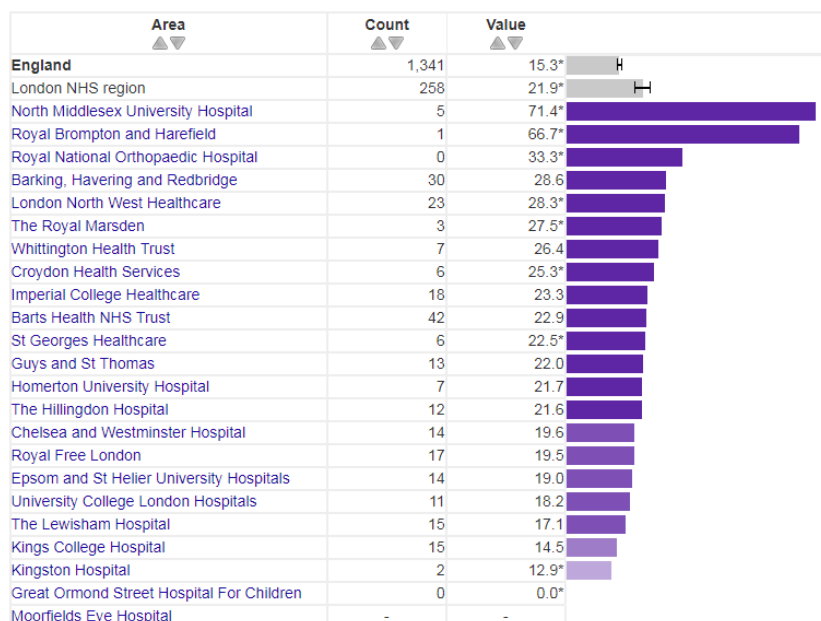
**Figure 9 Rolling quarterly average proportion of piperacillin/tazobactam resistant *E. coli* blood specimens; 2020 Q1**



[Link to Fingertips.](#)

This measure reports the proportion of *E. coli* blood samples tested for susceptibility to piperacillin/tazobactam and found to be non-susceptible. The numerator is calculated from the quarterly average number (across the last four quarters) of laboratory reports of *E. coli*, which have been tested for and are non-susceptible to piperacillin/tazobactam. The denominator is calculated from the rolling four quarter number of *E. coli* blood sample laboratory reports.

**Figure 10 Rolling quarterly average proportion of 3rd gen cephalosporin resistant *E. coli* blood specimens; 2020 Q1**

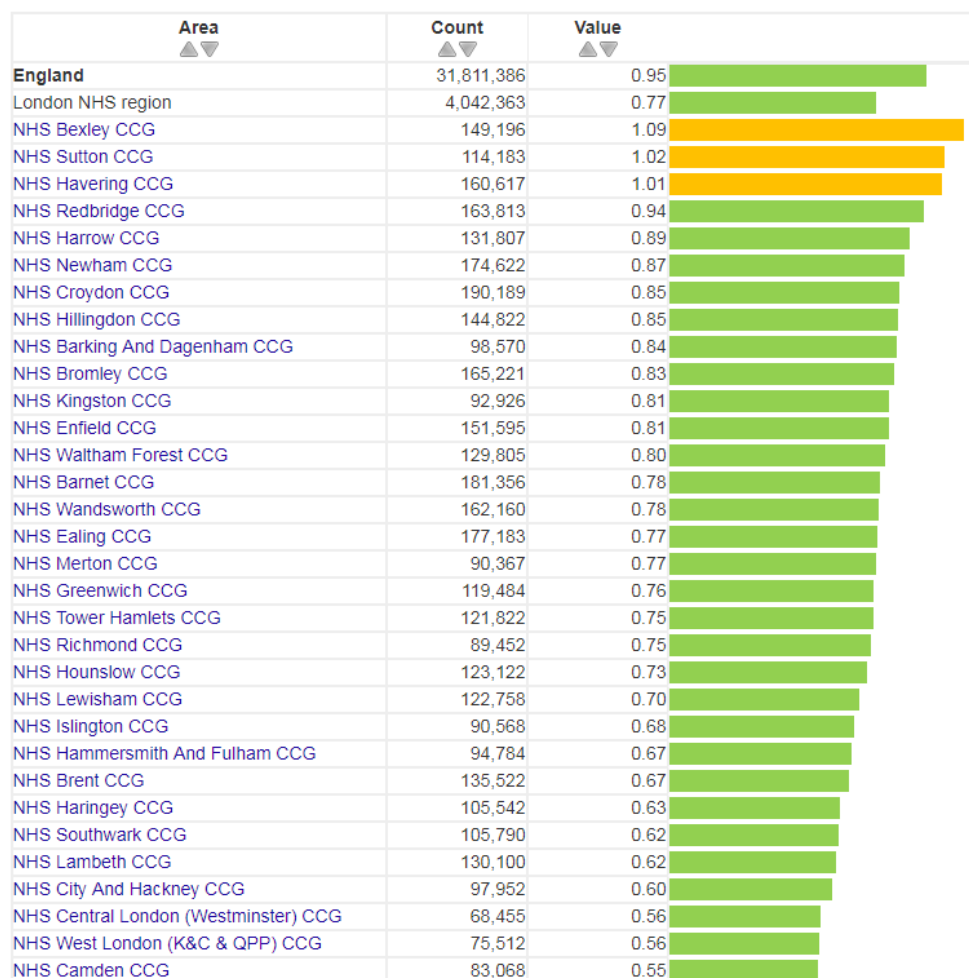


[Link to Fingertips.](#)

This measure reports the proportion of *E. coli* blood samples tested for susceptibility to 3<sup>rd</sup> generation cephalosporins and found to be non-susceptible. The numerator is calculated from the quarterly average number (across the last four quarters) of laboratory reports of *E. coli*, which have been tested for and are non-susceptible to cephalosporins. The denominator is calculated from the rolling four quarter number of *E. coli* blood sample laboratory reports.

## Overall Antimicrobial Use

Figure 11 Twelve month rolling total number of prescribed antibiotic items per STAR-PU March 2020



Source: Data is sourced from ePACT2 from NHSBSA

[Link to Fingertips.](#)

The total number of antibiotic items prescribed in general practice is aggregated at CCG level during the current month and for the preceding eleven months is divided by a weighted patient figure (STAR-PU) that takes into account demographic differences in need for antibiotic consumption. Each 12 month rolling period is made up of quarters based on four 3-month rolling figures, so new data are not available every month.

Figure 12 Total antibiotic prescribing for quarter, DDDs per 1000 admissions, 2019/20 Q4

Area	Count	Value
▲▼	▲▼	▲▼
England	18,865,857	4,629.6
London NHS region	3,712,515	6,088.5*
The Royal Marsden	63,607	10,850.7
Royal Brompton and Harefield	99,830	9,355.3
Croydon Health Services	127,416	8,492.7
Chelsea and Westminster Hospital	285,579	8,007.5
Whittington Health Trust	88,348	7,411.1
Barts Health NHS Trust	441,964	6,814.4
The Lewisham Hospital	229,952	6,572.3
North Middlesex University Hospital	129,999	6,252.7
Epsom and St Helier University Hospitals	163,581	6,182.2
Homerton University Hospital	109,048	6,113.6
Guys and St Thomas	278,242	6,081.1
Moorfields Eye Hospital	57,346	5,855.2
Kingston Hospital	120,482	5,803.0
Kings College Hospital	311,854	5,794.6
Barking, Havering and Redbridge	186,607	5,659.7
Imperial College Healthcare	295,651	5,308.1
Royal Free London	234,742	5,214.6
The Hillingdon Hospital	84,626	5,195.3
London North West Healthcare	239,858	5,123.0
St Georges Healthcare	151,933	4,420.8
Royal National Orthopaedic Hospital	11,848	2,687.2
Great Ormond Street Hospital For Children	-	*
University College London Hospitals	-	*

[Link to Fingertips.](#)

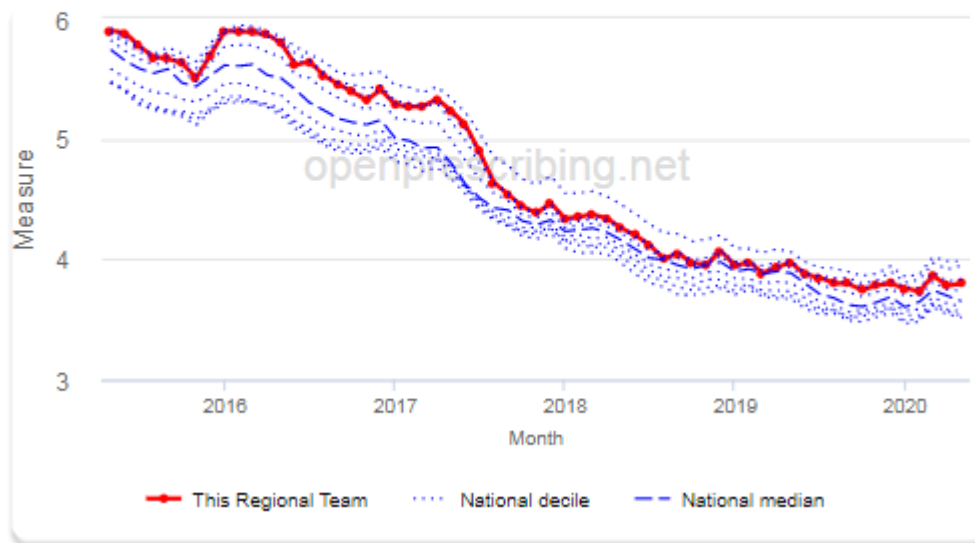
This shows the number of defined daily doses (DDDs) of antibiotic that have been prescribed in an acute Trust divided by 1000 admissions. DDDs are calculated based on antibiotic prescribing volumes provided to PHE by acute Trusts. HES admissions data are used to calculate the number of admissions.

## Primary Care UTI-specific indicators

Figure 13 Duration of UTI antibiotics courses

Antibiotic stewardship: three-day courses for uncomplicated UTIs

Number of average daily quantities (ADQs) per item for trimethoprim 200mg tablets, nitrofurantoin 50mg tablets and capsules, nitrofurantoin 100mg m/r capsules and pivmecillinam 200mg tablets.



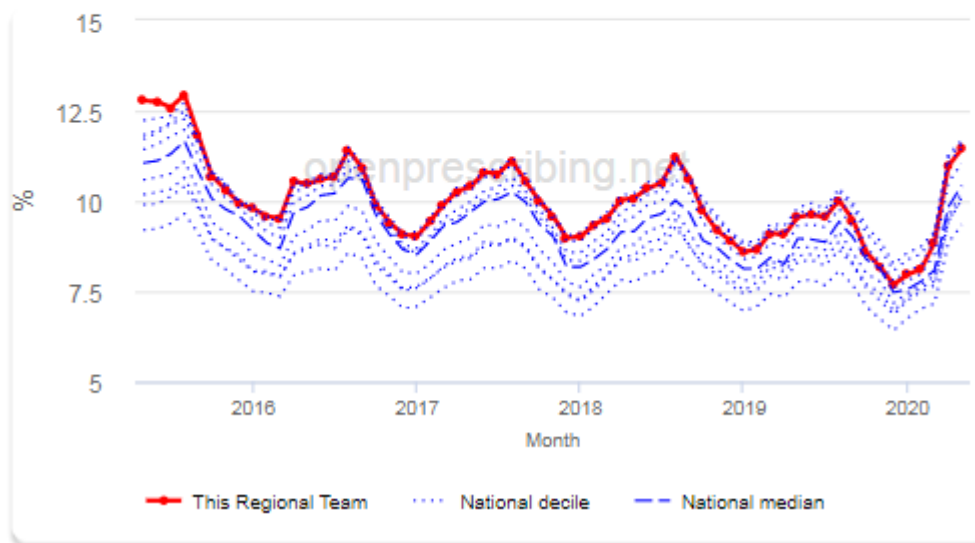
[https://openprescribing.net/measure/ktt9\\_uti\\_antibiotics/regional-team/Y56/](https://openprescribing.net/measure/ktt9_uti_antibiotics/regional-team/Y56/)

This chart shows the mean number of average daily quantities per primary care prescription item of trimethoprim 200 mg tablets, nitrofurantoin 50 mg tablets/capsules, nitrofurantoin m/r capsules and pivmecillinam 200 mg tablets. This provides an indication of the mean duration of these antibiotics prescribed in primary care. This chart shows longitudinal data for London (red line). The national decile lines (blue dots) present regions ranked largest ADQ per prescription (top) to lowest ADQ per prescription (bottom)

**Figure 14 Proportion of antibiotic prescriptions that are selected broad spectrums**

Antibiotic stewardship: co-amoxiclav, cephalosporins & quinolones (KTT9)

*Number of prescription items for co-amoxiclav, cephalosporins and quinolones as a percentage of total prescription items for cephalosporins, macrolides, metronidazole tinidazole & ornidazole, penicillins, quinolones, sulphonamides & trimethoprim, tetracyclines and drugs for urinary-tract infections.*



[https://openprescribing.net/measure/ktt9\\_cephalosporins/regional-team/Y56/](https://openprescribing.net/measure/ktt9_cephalosporins/regional-team/Y56/)

This chart shows the number of primary care prescription items for selected broad spectrum antibiotics (co-amoxiclav, cephalosporins and quinolones) as a proportion of the number of items for selected antibiotics (listed in chart). This chart shows longitudinal data for London (red line). The national decile lines (blue dots) present regions ranked highest volume of prescribing (top) to lowest volume of prescribing (bottom).