London Antimicrobial Data Pack

London Antimicrobial Resistance and Stewardship Subgroup

London Medicines Information Service, May 2020

Data from Q3 2019 and February 2020

The first stop for professional medicines advice

Introduction

This data pack has been compiled by the London Medicines Information Service to inform the RMOC (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 RMOC (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.

Summary of Figures

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 **Average Daily Quantity** is a UK determined value that reflects the average daily dose typically given to a patient.
DDD	A **Defined Daily Dose** 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; February 2020

Area	Count	Value
England	35,967	64.7
London NHS region	4,601	52.1
NHS Ealing CCG	250	72.9
NHS Hillingdon CCG	197	65.2
NHS Bexley CCG	158	64.2
NHS Havering CCG	162	63.3
NHS Sutton CCG	125	61.5
NHS Harrow CCG	151	60.7
NHS Brent CCG	190	57.7
NHS Hounslow CCG	152	56.5
NHS Haringey CCG	152	56.0
NHS Redbridge CCG	169	56.0
NHS Islington CCG	128	54.5
NHS Waltham Forest CCG	147	53.4
NHS West London (K&C & QPP) CCG	119	53.3
NHS Croydon CCG	205	53.3
NHS Hammersmith And Fulham CCG	97	53.0
NHS Camden CCG	134	52.9
NHS Barnet CCG	204	52.6
NHS Merton CCG	107	51.9
NHS Enfield CCG	172	51.7
NHS Newham CCG	172	49.4
NHS Lambeth CCG	157	48.4
NHS Central London (Westminster) CCG	82	46.2
NHS Southwark CCG	145	46.1
NHS Lewisham CCG	136	45.1
NHS Kingston CCG	78	44.7
NHS Bromley CCG	146	44.3
NHS Barking And Dagenham CCG	93	44.1
NHS Tower Hamlets CCG	134	43.5
NHS Richmond CCG	84	42.9
NHS Greenwich CCG	120	42.4
NHS City And Hackney CCG	115	40.6
NHS Wandsworth CCG	120	37.1

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; 2019 Q3

Area	Count	Value
England	2,976	2.9*
London NHS region	506	3.4*
NHS Hillingdon CCG	112	15.4
NHS Ealing CCG	129	14.4
NHS Tower Hamlets CCG	37	5.9
NHS Harrow CCG	6	4.4
NHS Newham CCG	14	4.0
NHS Redbridge CCG	14	3.7
NHS Waltham Forest CCG	15	3.3
NHS Hammersmith And Fulham CCG	11	2.6
NHS Central London (Westminster) CCG	9	2.4
NHS Hounslow CCG	12	2.4
NHS Barnet CCG	24	2.0
NHS Enfield CCG	18	1.9
NHS Islington CCG	11	1.9
NHS West London (K&C & QPP) CCG	8	1.8
NHS Haringey CCG	12	1.7
NHS Croydon CCG	8	1.6
NHS Southwark CCG	10	1.6
NHS Havering CCG	6	1.5
NHS Lambeth CCG	12	1.5
NHS Sutton CCG	5	1.2
NHS Bromley CCG	8	1.2
NHS Lewisham CCG	7	1.1
NHS Bexley CCG	5	1.0
NHS Camden CCG	8	0.9
NHS City And Hackney CCG	5	0.8
NHS Barking And Dagenham CCG	-	*
NHS Brent CCG	-	*
NHS Greenwich CCG	-	*
NHS Kingston CCG	-	*
NHS Merton CCG	-	*
NHS Richmond CCG	-	*
NHS Wandsworth CCG	-	*

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; 2019 Q3

Area	Count	Value
England	27,449	23.2*
London NHS region	4,658	26.9*
NHS City And Hackney CCG	195	32.6
NHS Lambeth CCG	259	31.9
NHS Hounslow CCG	162	31.5
NHS Lewisham CCG	198	30.7
NHS Haringey CCG	224	30.6
NHS Barnet CCG	344	29.6
NHS Enfield CCG	271	29.4
NHS Harrow CCG	40	29.2
NHS Wandsworth CCG	132	28.1
NHS Redbridge CCG	126	28.1
NHS Southwark CCG	181	28.1
NHS Bexley CCG	143	27.9
NHS Islington CCG	159	27.7
NHS Newham CCG	96	27.0
NHS Croydon CCG	135	26.9
NHS Hammersmith And Fulham CCG	119	26.7
NHS Brent CCG	58	26.0
NHS Bromley CCG	179	26.0
NHS Greenwich CCG	124	25.8
NHS Central London (Westminster) CCG	101	25.7
NHS Tower Hamlets CCG	162	25.5
NHS Ealing CCG	219	24.3
NHS Sutton CCG	98	24.3
NHS Camden CCG	216	24.0
NHS Kingston CCG	51	23.2
NHS Waltham Forest CCG	107	23.2
NHS Havering CCG	111	23.1
NHS Barking And Dagenham CCG	51	23.0
NHS Merton CCG	82	22.3
NHS Hillingdon CCG	158	21.7
NHS Richmond CCG	55	21.6
NHS West London (K&C & QPP) CCG	102	21.6

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; September 2019

Area	Count	Value
England	1,584,069	29.2*
London NHS region	165,021	24.4*
NHS Bexley CCG	8,069	31.2
NHS Merton CCG	4,521	29.2
NHS Bromley CCG	7,492	28.2
NHS Barnet CCG	8,574	27.9
NHS Greenwich CCG	5,134	27.8
NHS Barking And Dagenham CCG	3,706	27.7
NHS Richmond CCG	5,102	27.1
NHS Redbridge CCG	6,340	26.9
NHS Lewisham CCG	5,463	26.8
NHS Sutton CCG	5,531	26.7
NHS Kingston CCG	4,430	26.4
NHS Havering CCG	6,795	26.1
NHS Ealing CCG	6,612	26.0
NHS Hounslow CCG	5,008	25.8
NHS Newham CCG	5,998	25.8
NHS West London (K&C & QPP) CCG	4,122	25.5
NHS Tower Hamlets CCG	5,653	24.5
NHS Harrow CCG	4,702	23.9
NHS Haringey CCG	4,456	23.8
NHS Enfield CCG	5,909	23.7
NHS Central London (Westminster) CCG	3,496	23.0
NHS Hammersmith And Fulham CCG	3,936	22.4
NHS Camden CCG	3,930	21.9
NHS Waltham Forest CCG	4,396	21.9
NHS Wandsworth CCG	6,062	21.4
NHS Croydon CCG	6,878	21.4
NHS City And Hackney CCG	3,710	20.9
NHS Islington CCG	3,407	20.2
NHS Lambeth CCG	4,660	19.9
NHS Southwark CCG	3,509	19.3
NHS Brent CCG	3,584	19.0
NHS Hillingdon CCG	3,836	17.8

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; February 2020

Area	Count	Value
England	7,881	22.8
London NHS region	1,300	24.1
The Royal Marsden	33	56.1
University College London Hospitals	102	39.8
Barking, Havering and Redbridge	107	34.6
Homerton University Hospital	30	34.2
Barts Health NHS Trust	178	28.8
Guys and St Thomas	92	27.7
Whittington Health Trust	27	26.4
The Lewisham Hospital	84	25.3
St Georges Healthcare	76	25.2
Kings College Hospital	119	24.1
Royal Free London	81	23.9
London North West Healthcare	93	22.4
North Middlesex University Hospital	35	20.4
Croydon Health Services	35	20.3
Imperial College Healthcare	73	20.1
The Hillingdon Hospital	26	17.9
Kingston Hospital	23	16.4
Chelsea and Westminster Hospital	43	15.6*
Royal National Orthopaedic Hospital	5	13.0
Great Ormond Street Hospital For Children	9	11.0
Epsom and St Helier University Hospitals	23	9.3
Royal Brompton and Harefield	6	5.2
Moorfields Eye Hospital	0	0.0

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; February 2020

Area	Count	Value
England	1,588	4.6
London NHS region	399	7.4
The Royal Marsden	12	20.4
University College London Hospitals	46	17.9
Great Ormond Street Hospital For Children	13	15.9
Guys and St Thomas	47	14.2
Kings College Hospital	69	14.0
Imperial College Healthcare	38	10.5
Royal Brompton and Harefield	8	6.9
Homerton University Hospital	6	6.8
Barts Health NHS Trust	42	6.8
Barking, Havering and Redbridge	19	6.1
St Georges Healthcare	18	6.0
Whittington Health Trust	5	4.9
Croydon Health Services	8	4.6
Chelsea and Westminster Hospital	12	4.4*
London North West Healthcare	18	4.3
Royal Free London	14	4.1
North Middlesex University Hospital	7	4.1
The Lewisham Hospital	10	3.0
The Hillingdon Hospital	3	2.1
Epsom and St Helier University Hospitals	4	1.6
Royal National Orthopaedic Hospital	0	0.0
Moorfields Eye Hospital	0	0.0
Kingston Hospital	0	0.0

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

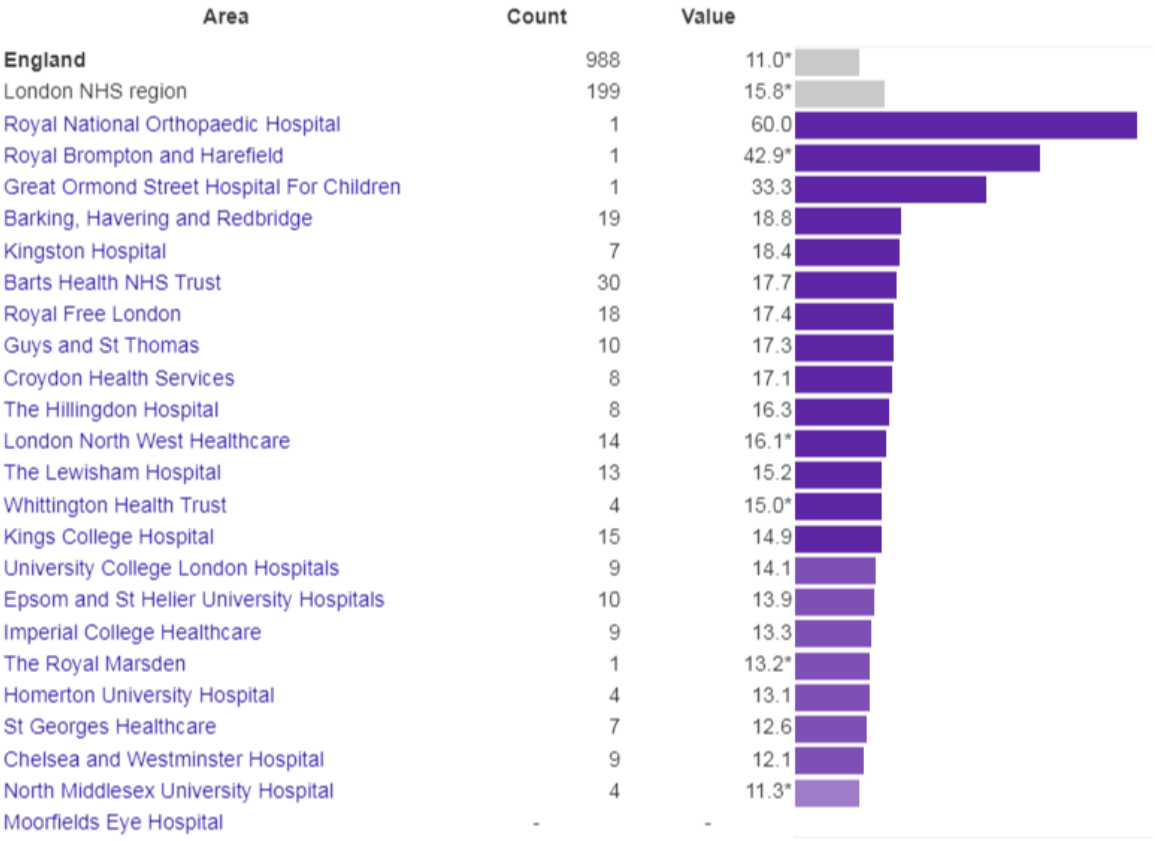
Figure 7 Rolling quarterly average proportion of ciprofloxacin non-susceptible E. coli blood specimens; 2019 Q3

Area	Count	Value
England	1,838	21.1*
London NHS region	383	30.8*
Royal National Orthopaedic Hospital	1	60.0
North Middlesex University Hospital	13	49.5*
London North West Healthcare	37	39.9*
St Georges Healthcare	19	37.2
Croydon Health Services	18	37.0
Imperial College Healthcare	24	36.6
Great Ormond Street Hospital For Children	1	36.4*
Royal Free London	35	35.7
Homerton University Hospital	11	35.2
University College London Hospitals	20	32.8
The Royal Marsden	3	32.4*
The Hillingdon Hospital	16	32.3
Barking, Havering and Redbridge	32	31.7
Barts Health NHS Trust	52	31.2
Whittington Health Trust	8	29.7
Royal Brompton and Harefield	1	28.6*
Kingston Hospital	10	28.6
Kings College Hospital	26	26.2
Guys and St Thomas	14	24.9
Epsom and St Helier University Hospitals	16	23.1
Chelsea and Westminster Hospital	15	20.8
The Lewisham Hospital	15	16.8
Moorfields Eye Hospital	-	-

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 non-susceptible E. coli blood specimens; 2019 Q3



Area	Count	Value
England	988	11.0*
London NHS region	199	15.8*
Royal National Orthopaedic Hospital	1	60.0
Royal Brompton and Harefield	1	42.9*
Great Ormond Street Hospital For Children	1	33.3
Barking, Havering and Redbridge	19	18.8
Kingston Hospital	7	18.4
Barts Health NHS Trust	30	17.7
Royal Free London	18	17.4
Guys and St Thomas	10	17.3
Croydon Health Services	8	17.1
The Hillingdon Hospital	8	16.3
London North West Healthcare	14	16.1*
The Lewisham Hospital	13	15.2
Whittington Health Trust	4	15.0*
Kings College Hospital	15	14.9
University College London Hospitals	9	14.1
Epsom and St Helier University Hospitals	10	13.9
Imperial College Healthcare	9	13.3
The Royal Marsden	1	13.2*
Homerton University Hospital	4	13.1
St Georges Healthcare	7	12.6
Chelsea and Westminster Hospital	9	12.1
North Middlesex University Hospital	4	11.3*
Moorfields Eye Hospital	-	-

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; 2019 Q3

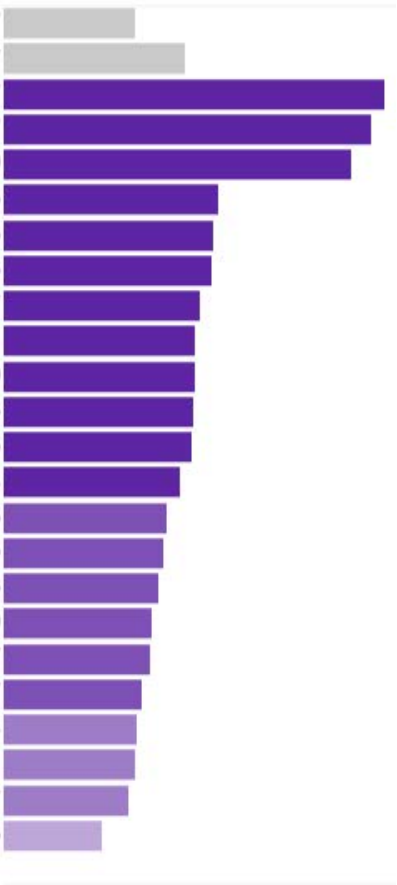
Area	Count	Value
England	752	8.8*
London NHS region	133	11.0*
Whittington Health Trust	5	20.6
Royal National Orthopaedic Hospital	0	20.0
London North West Healthcare	13	18.9*
The Hillingdon Hospital	8	16.3
The Royal Marsden	2	15.0*
Barking, Havering and Redbridge	15	14.5
Guys and St Thomas	7	12.9
Croydon Health Services	6	11.9
St Georges Healthcare	6	10.9
The Lewisham Hospital	10	10.9
Barts Health NHS Trust	18	10.7
Kings College Hospital	11	10.6
Chelsea and Westminster Hospital	7	10.0
Homerton University Hospital	3	9.8
Epsom and St Helier University Hospitals	6	9.2
North Middlesex University Hospital	1	8.3*
Great Ormond Street Hospital For Children	0	8.3
Imperial College Healthcare	5	7.8
University College London Hospitals	5	7.7
Kingston Hospital	2	5.8
Royal Free London	5	4.9
Royal Brompton and Harefield	0	0.0*
Moorfields Eye Hospital	-	-

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 non-susceptible E. coli blood specimens; 2019 Q3

Area	Count	Value
England	1,357	15.1*
London NHS region	256	20.8*
North Middlesex University Hospital	4	43.8*
London North West Healthcare	26	42.3*
Royal National Orthopaedic Hospital	1	40.0
Imperial College Healthcare	17	24.5
Barking, Havering and Redbridge	25	24.3
Whittington Health Trust	6	23.8
The Royal Marsden	2	22.5*
The Hillingdon Hospital	12	22.1
Barts Health NHS Trust	38	22.0
Croydon Health Services	11	21.8
Homerton University Hospital	7	21.6
Royal Free London	20	20.4
Guys and St Thomas	11	18.6
University College London Hospitals	12	18.5
Epsom and St Helier University Hospitals	13	17.8
Chelsea and Westminster Hospital	12	16.9
St Georges Healthcare	9	16.7
Kings College Hospital	16	15.7
Great Ormond Street Hospital For Children	1	15.4
Kingston Hospital	6	15.1
Royal Brompton and Harefield	0	14.3*
The Lewisham Hospital	10	11.3
Moorfields Eye Hospital	-	-



Link to Fingertips.

This measure reports the proportion of *E. coli* blood samples tested for susceptibility to 3rd 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 Sept 2019

Area	Count	Value
England	31,169,616	0.94
London NHS region	3,950,481	0.76
NHS Bexley CCG	144,661	1.06
NHS Sutton CCG	110,767	1.00
NHS Havering CCG	154,603	0.97
NHS Redbridge CCG	158,582	0.92
NHS Harrow CCG	130,322	0.89
NHS Newham CCG	170,376	0.86
NHS Barking And Dagenham CCG	96,075	0.83
NHS Croydon CCG	183,684	0.83
NHS Enfield CCG	153,250	0.83
NHS Hillingdon CCG	140,334	0.83
NHS Bromley CCG	162,191	0.82
NHS Kingston CCG	90,006	0.80
NHS Barnet CCG	177,930	0.77
NHS Waltham Forest CCG	124,212	0.77
NHS Wandsworth CCG	158,317	0.77
NHS Greenwich CCG	118,405	0.76
NHS Merton CCG	88,347	0.75
NHS Ealing CCG	170,717	0.75
NHS Tower Hamlets CCG	117,788	0.74
NHS Richmond CCG	87,717	0.74
NHS Hounslow CCG	121,168	0.73
NHS Lewisham CCG	122,565	0.71
NHS Hammersmith And Fulham CCG	90,529	0.69
NHS Islington CCG	88,921	0.68
NHS Brent CCG	132,403	0.66
NHS Haringey CCG	103,737	0.63
NHS City And Hackney CCG	99,387	0.62
NHS Southwark CCG	102,897	0.61
NHS Lambeth CCG	127,537	0.61
NHS Central London (Westminster) CCG	68,801	0.58
NHS West London (K&C & QPP) CCG	73,654	0.55
NHS Camden CCG	80,598	0.55

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 Q3

Total antibiotic prescribing DDDs per 1000 admissions; by quarter and trust 2019/20 Q3

Export table as image Export table as CSV file

Area	Recent Trend	Count	Value
England	→	19,666,225	4,797.7
London PHE centre	→	3,810,249	6,249.6*
Royal Brompton and Harefield	→	110,024	10,458.5
The Royal Marsden	→	60,573	10,382.8
Chelsea and Westminster Hospital	→	300,245	8,446.9
Croydon Health Services	→	138,336	8,401.3
Whittington Health Trust	→	85,463	7,014.9
Barts Health NHS Trust	→	448,632	6,918.3*
Moorfields Eye Hospital	→	61,931	6,623.7
Guys and St Thomas	→	293,243	6,530.7
The Lewisham Hospital	→	228,602	6,528.7
Homerton University Hospital	→	115,063	6,283.8
Epsom and St Helier University Hospitals	→	159,078	6,154.8*
North Middlesex University Hospital	→	127,857	6,078.3
Kingston Hospital	→	125,174	5,961.0
Barking, Havering and Redbridge	→	195,200	5,833.8
Kings College Hospital	→	313,536	5,786.6
Royal Free London	→	245,910	5,531.0*
Imperial College Healthcare	→	303,344	5,391.0
London North West Healthcare	→	243,585	5,364.4
The Hillingdon Hospital	→	86,681	5,172.2
St Georges Healthcare	→	154,554	4,540.9
Royal National Orthopaedic Hospital	→	13,217	3,111.4
Great Ormond Street Hospital For Children	–	-	*
University College London Hospitals	–	-	-
West Middlesex University Hospitals	–	-	-

Source: DDDs were provided by RxInfo © 2019 to support NHS England CQUINs. Prescribing rates were calculated using HES admissions data provided by NHS Digital.

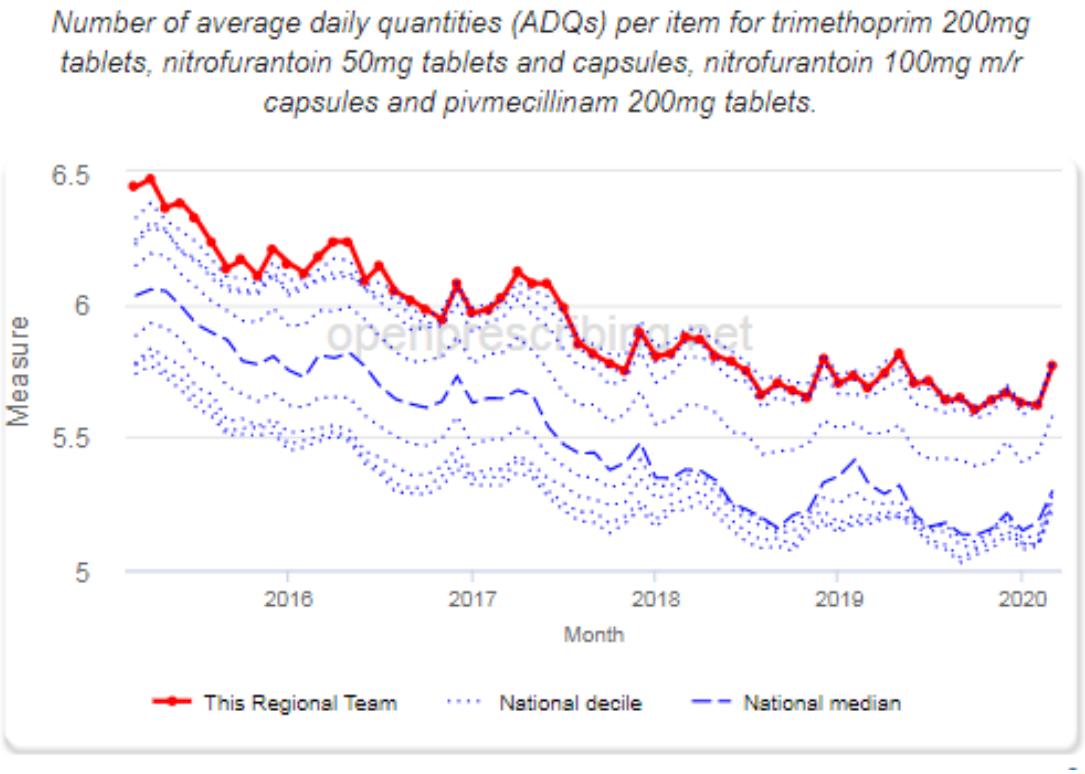
Link to Fingertips.

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

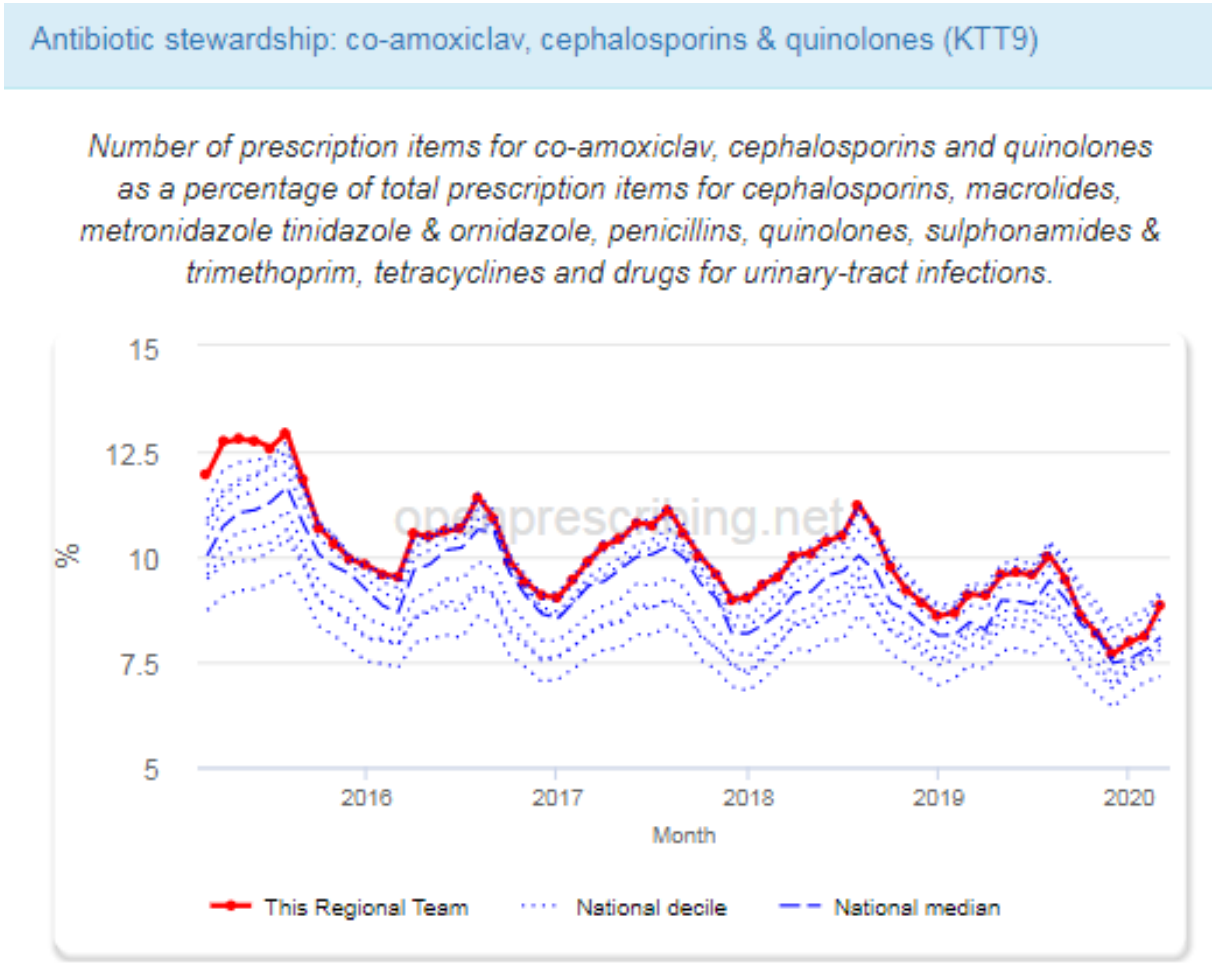
Antibiotic stewardship: three-day courses for uncomplicated UTIs



https://openprescribing.net/regional-team/Y56/ktt9_uti_antibiotics/

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



https://openprescribing.net/regional-team/Y56/ktt9_cephalosporins/

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).