Impact of NHS England Quality Indicators on Antimicrobial Resistance

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National Infection Service
Public Health England
A Risk Assessment of Antibiotic Pan-Drug Resistance in the UK: Bayesian Analysis of an Expert Elicitation Study
Carter D. et al. Antibiotics 2017; 6, 9; doi:10.3390/antibiotics6010009

- There is a 20% probability that healthcare delivery in the UK could be severely compromised by the emergence and spread of pan-drug-resistant Gram-negative bacteria within 5 years.
UK Five Year Antimicrobial Resistance Strategy
2013 to 2018

1. Improving infection prevention and control practices
2. Optimising prescribing practices (stewardship)
3. Improving professional education, training and public engagement
4. Developing new drugs, treatments and diagnostics
5. Better access to and use of surveillance data
6. Better identification of research needs
7. Strengthened international collaboration
With widespread antibiotic use, resistant bacteria have a strong selective advantage

I have called this principle, by which each slight variation, if useful, is preserved, “Natural Selection”
Trends in Resistance of *E. coli* to Ciprofloxacin and Third-generation Cephalosporins

![Graph showing trends in resistance of E. coli to Ciprofloxacin and Third-generation Cephalosporins from 2001 to 2016.](image)
Number of *E. coli* from Blood Resistant to Indicated Antibiotics, 2012-2016

Third-generation cephalosporins

- 2012
- 2016

Ciprofloxacin

- 2012
- 2016
Government response to the Review on Antimicrobial Resistance

September 2016
Government Response to Review of AMR

• The Review has given renewed impetus to the Government’s commitment to tackle AMR in the UK
• We will reduce inappropriate antibiotic prescribing by 50%, with the aim of being a world leader in reducing prescribing by 2020
• We will reduce healthcare-associated Gram-negative bloodstream infections in England by 50% by 2020.
NEWS
NHS England launches national programme to combat antibiotic over usage

- **Quality Premiums**: reward CCGs for improvements in quality of services they commission and health outcomes
- **CQUINs**: Commissioning for Quality and Innovation payments for improvements in specified areas of patient care
Improved antibiotic prescribing
Composite QP comprising 3 parts:

(a) Reduction in number of antibiotics prescribed in primary care
(b) Reduction in proportion of broad-spectrum antibiotics prescribed in primary care
(c) Secondary care to validate their antibiotic prescribing data
Antibiotic Prescribing

![Graph showing antibiotic prescribing trends from 2012 to 2016 for different settings: General Practice, Hospital Inpatient, Hospital Outpatient, Dentist, and Other Community. The graph indicates a slight decrease in prescribing over the years.]
Quality Premium 2015/16

• Almost 2.7 million fewer antibiotics prescribed in 2015/16 compared to 2014/15 following AMR QP

• Median proportion of broad-spectrum antibiotics (co-amoxiclav, cephalosporins, quinolones) fell from 10.8% to 9.6%
QP and CQUIN 2016/17

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| Quality Premium | Improve antibiotic prescribing | • Reduced number of antibiotics prescribed in primary care  
|              |                            | • Reduced proportion of broad-spectrum antibiotics in primary care          |
| CQUIN       | Improve detection and treatment of sepsis | • Screening for sepsis and timely and appropriate treatment and review |
|             | Improve antibiotic prescribing | • Reduction in antibiotic consumption  
|             |                            | • Antibiotic review within 72 hours                                         |
England met the targets to reduce antibacterial prescribing in 2016/17 - and kept going.
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<td>Improve detection and treatment of sepsis</td>
<td>• Timely identification of sepsis in EDs and acute inpatient settings</td>
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<td>• Timely treatment (% of patients with sepsis who received IV antibiotics within 1 hour)</td>
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<td>• Antibiotic review within 24-72 hours</td>
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<td>Improve antibiotic prescribing</td>
<td>• Reduction in antibiotic consumption per 1,000 admissions</td>
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<td>• Total antibiotic usage</td>
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<td>• Carbapenem usage</td>
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<td>• Pip/tazobactam usage</td>
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## Quality Premium 2017/19

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| Improve antibiotic prescribing           | • Sustained reduction of inappropriate antibiotic prescribing in primary care  
• Items/STAR-PU equal to or below England 2013/14 mean value  
• Reduction of inappropriate antibiotic prescribing in UTI in primary care  
• 10% reduction in Trimethoprim/Nitrofurantoin prescribing ratio  
• 10% reduction in trimethoprim items for patients aged 70 years or more |
| Reduce Gram-ve BSIs across whole health economy | • Reduction of 10% in all *E. coli* BSI reported at CCG level independent of time of onset  
• Collect and report a core primary care data set for all *E. coli* BSI in Q2-4 2017/18 |
What does current primary care prescribing look like?
Preventing healthcare associated Gram-negative bacterial bloodstream infections

An improvement resource to help health and social care economies reduce the number of Gram-negative bloodstream infections (BSIs) with an initial focus on Escherichia coli (E.coli).

Contents

- Essential standards
- Antimicrobial stewardship
- Focus of infection
- Patient Information
- Education and training
- Local examples
- Incentives
- Surveillance
- Prevention of sepsis
- Monitoring E.coli

https://improvement.nhs.uk/resources/preventing-gram-negative-bloodstream-infections/
Preventing healthcare associated Gram-negative bloodstream infections: an improvement resource

May 2017

support collaborate challenge improve inspire
ANTIMICROBIAL STEWARDSHIP

Welcome to the Antimicrobial Stewardship (AMS) Hub, hosted as part of a PrescQIPP collaboration with NHS Improvement to support CCG Antimicrobial Stewardship activity in particular delivery of the Quality Premium. This work has been led by Elizabeth Beech, Healthcare Acquired Infection and Antimicrobial Resistance Project Lead, Patient Safety Domain, NHS Improvement, who is responsible for the range of content available on this AMS Hub.

In the sliders below you will find a selection of resources and links to help you better understand and navigate this key area of work for commissioners and providers alike.

- The Role of NHS England in Antimicrobial Resistance Prevention
- Infection Prevention and Control and Antimicrobial Stewardship
- What’s New?
- AMS Data and Reports
- Useful AMS Data Sources
- AMS Visualisations by PrescQIPP to Support the AMS Quality Premium Activities
- An Introduction to the Quality Premium
- The Commissioning for Quality and Innovation (CQUINs)
- Infographics

Antimicrobial Resistance presentation - Elizabeth Beech

You can now download Elizabeth Beech's presentation on Antimicrobial Resistance – an update on national priorities and resources to support local implementation from the PrescQIPP 2017 Annual Event.

Elizabeth Beech - Antimicrobial Resistance

NICE have published NEW guidance Sinusitis (acute): antimicrobial prescribing NG79

NICE have published NEW guidance Sinusitis (acute): antimicrobial prescribing NG79

This guideline sets out an antimicrobial prescribing strategy for acute sinusitis. It aims to limit antibiotic use and reduce antimicrobial resistance. Acute sinusitis is usually caused by a virus, lasts for about 2 to 3 weeks, and most people get better without antibiotics. Withholding antibiotics rarely leads to complications.

See a 2-page visual summary of the recommendations, including tables to support prescribing decisions.

PHE ESPAUR report 2017
Public Health Profiles

Highlighted Profiles
- Child and Maternal Health
- Health Profiles
- Longer Lives
- Mental Health Dementia and Neurology
- National General Practice Profiles
- Public Health Outcomes Framework

National Public Health Profiles
- Adult Social Care
- AMR local indicators
- Atlas of Variation
- Cancer Services
- Cardiovascular Disease
- Child and Maternal Health
- Diabetes
- Disease and risk factor prevalence
- End of Life Care Profiles
- Health assets profile
- Health Profiles
- Health Protection
- Inhale - Interactive Health Atlas of Lung conditions in England
- Learning Disability Profiles
- Liver Disease Profiles
- Local Alcohol Profiles for England
- Local Tobacco Control Profiles

User Guide

Latest News
July 2017:
New Health Profiles released

http://fingertips.phe.org.uk
AMR local indicators

About the AMR local indicators

Data have been uploaded across six domains:

- Supporting NHS England initiatives
- Antimicrobial Resistance (AMR)
- Antibiotic Prescribing
- Healthcare-Associated Infections (HCAI)
- Infection Prevention and Control (IPC)
- Antimicrobial stewardship (AMS)

Antibiotic prescribing and antibiotic resistance are inextricably linked, as overuse and incorrect use of antibiotics are major drivers of resistance. AMR local indicators are publically available data intended to raise awareness of antibiotic prescribing, AMR, HCAI, IPC and AMS; and to facilitate the development of local action plans. The data published in this tool may be used by healthcare staff, commissioners, directors of public health, academics and the public to compare the situation in their local area to the national picture.

For further information about this profile, please click here to download the user guide.

New indicators

November 2017 - The following indicators have been added to the Healthcare Associated Infection domain:

- Counts and 12-month rolling rates of Klebsiella spp. bacteraemia cases, by CCG and reporting acute trust
- Counts and 12-month rolling rates of Klebsiella spp. hospital-onset cases by CCG and reporting acute trust
- Counts and 12-month rolling rates of community-onset Klebsiella spp. bacteraemia cases, by CCG and reporting acute trust
- Counts and 12-month rolling rates of P. aeruginosa bacteraemia cases, by CCG and reporting acute trust

October 2017

PHE has launched the national "Keep Antibiotics Working" campaign.

PHE’s English Surveillance Programme for Antimicrobial Utilisation and Resistance (ESPAUR) has published its 2017 report.

July 2017

MRSA, MSSA and E. coli bacteraemia and C. difficile infection: annual epidemiological commentary published by PHE.

March 2017

NHS England, NHS Improvement and Public Health England have published resources to support the delivery of the...