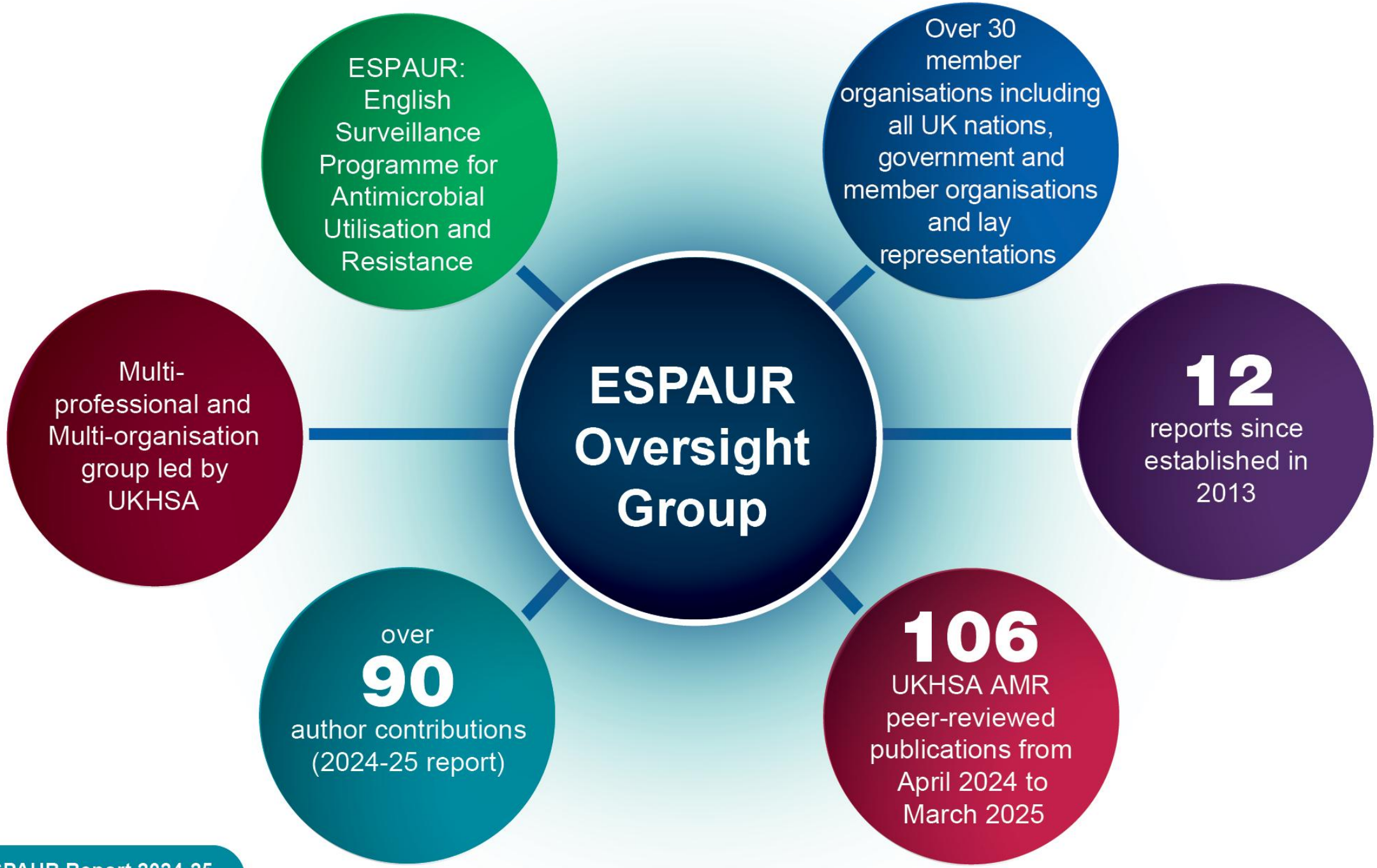
UK Health Security Agency

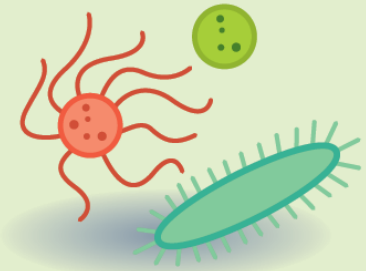
ESPAUR report infographics 2024 to 2025

English Surveillance Programme for Antimicrobial Utilisation and Resistance (ESPAUR 2024)


ESPAUR: English Surveillance Programme for Antimicrobial Utilisation and Resistance
Over 30 member organisations including all UK nations, government and member organisations and lay representations
Multi-professional and Multi-organisation group led by UKHSA
ESPAUR Oversight Group
12
reports since established in 2013
over
90
author contributions (2024-25 report)
106
UKHSA AMR peer-reviewed publications from April 2024 to March 2025

ESPAUR Report 2024-25

ESPAUR foreword, executive summary, lay summary



Antimicrobial resistance

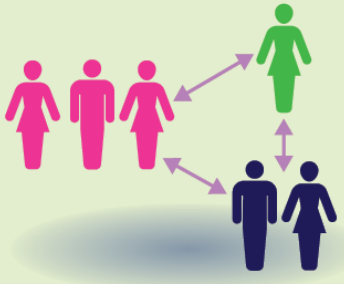
Antimicrobial consumption

Antimicrobial stewardship

NHS England improvement and assurance schemes

Professional and public education, engagement, and training

Research insights and knowledge mobilisation



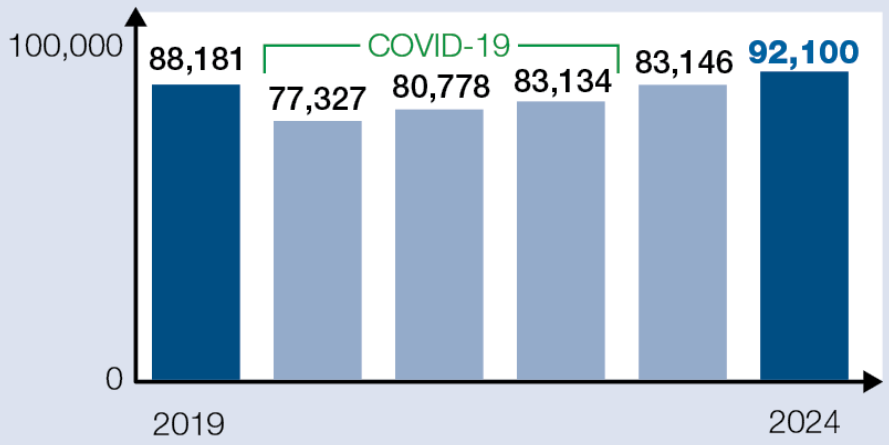
ESPAUR oversight group members' activities and actions to tackle AMR – mapping to the National Action Plan

Knowledge mobilisation of ESPAUR report: evaluation of feedback from report users

UK Health Security Agency

Chapter 2: Antimicrobial resistance (AMR)

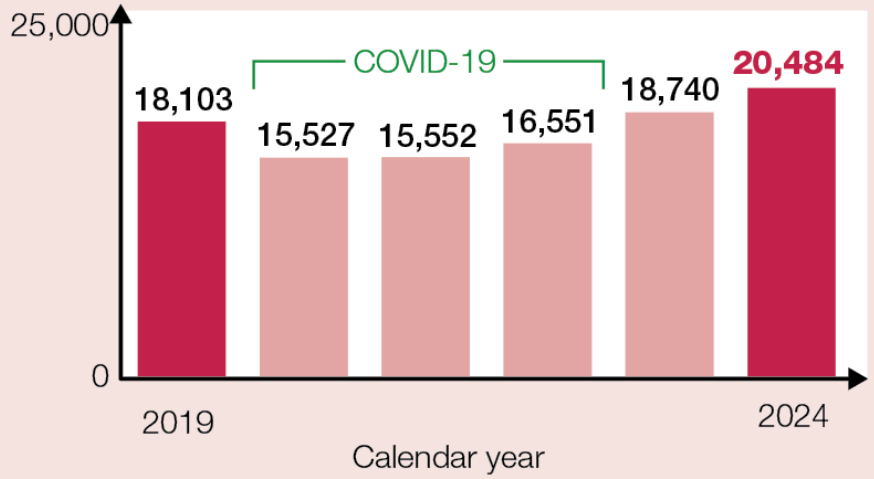
The burden of bacteraemia and resistant bacteraemia



an INCREASE of

4.4%

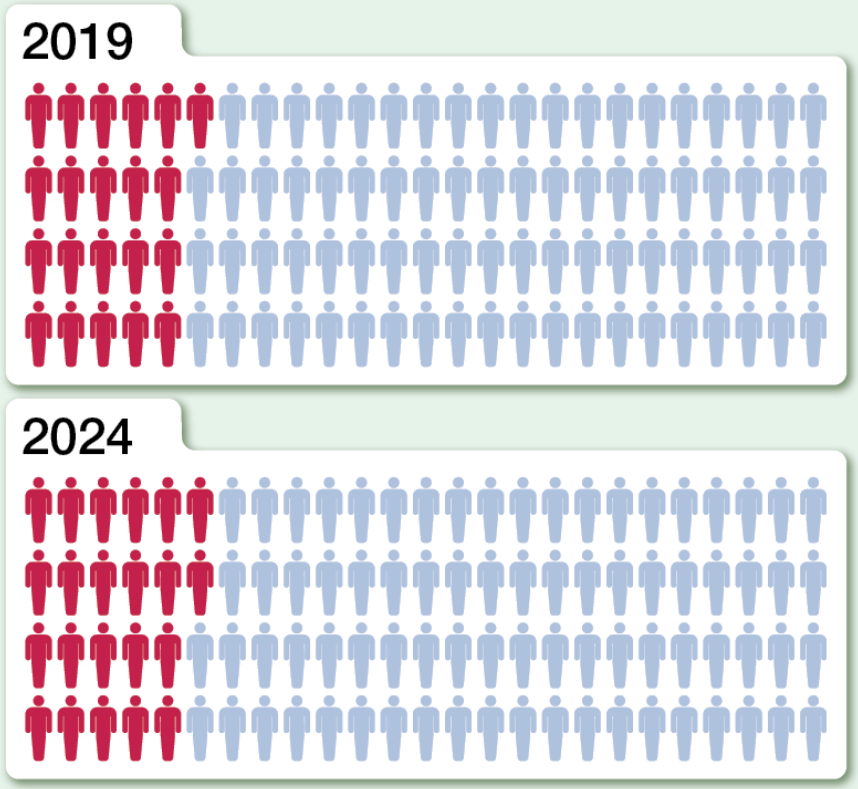
in numbers of bacteraemia* since 2019



an INCREASE of

13.1%

in **resistant**† bacteraemia since 2019



This means that

22 out of **100**

people with a bacteraemia* had a **resistant** infection in 2024

* Pathogens include: *E. coli, K. pneumoniae, K. oxytoca, Acinetobacter* spp. *Pseudomonas* spp., *Enterococcus* spp., *S. aureus and S. pneumoniae*.

† *E. coli, K pneumoniae* and *K. oxytoca*: resistant to any of: carbapenems, third-generation cephalosporin, aminoglycosides or fluoroquinolones; *Acinetobacter* spp: resistant to aminoglycosides and fluoroquinolones, or carbapenems; *Pseudomonas* spp. resistant to three or more antimicrobial groups, or carbapenems; *Enterococcus* spp. resistant to glycopeptides; *S. aureus* resistant to meticillin; *S. pneumoniae* resistant to penicillin and macrolides, or penicillin.

The burden of resistant† bacteraemia per week in England in 2024

In 2024, every week there were approximately:

1,775 new susceptible cases

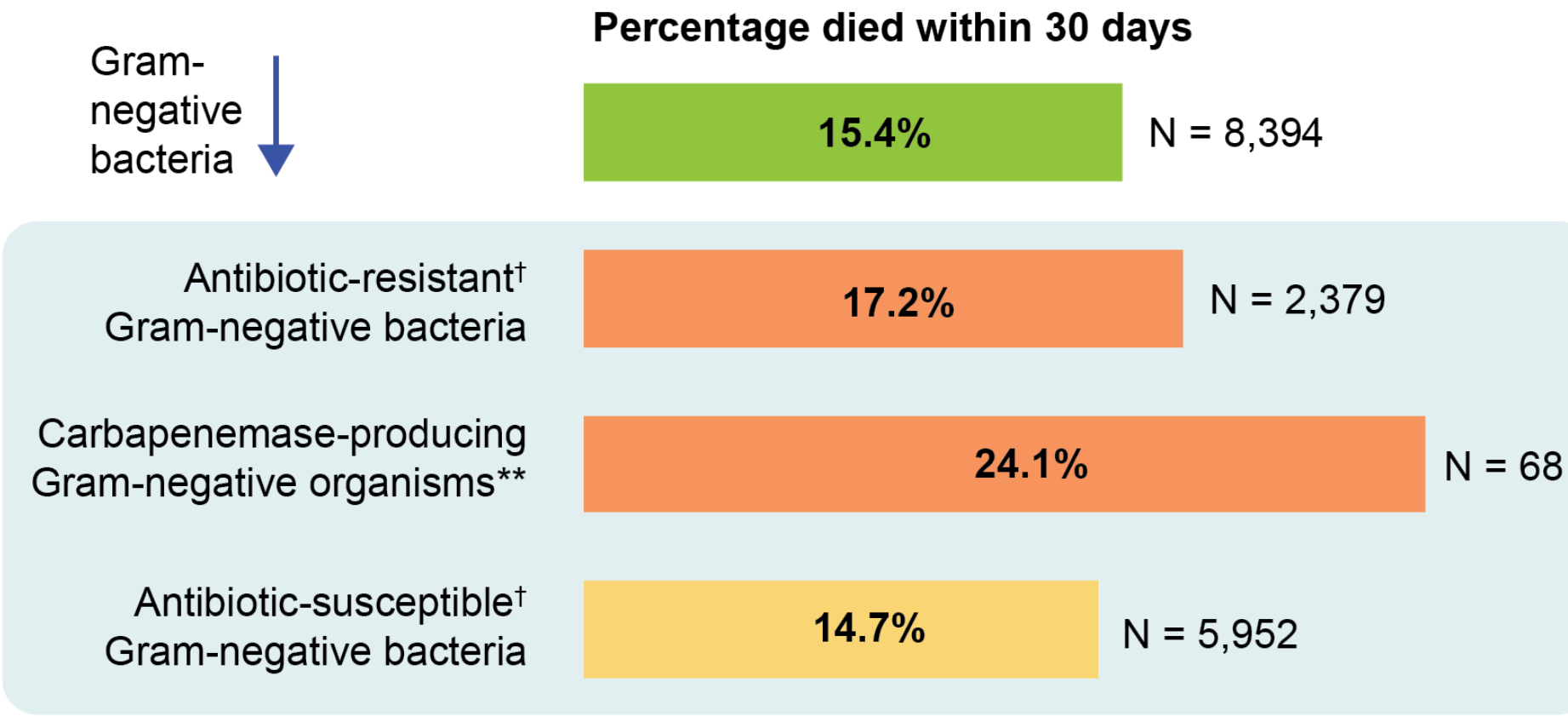
400 new resistant cases

A full double-decker bus represents around 87 people per bus

* Pathogens include: *E. coli, K. pneumoniae, K. oxytoca, Acinetobacter* spp. *Pseudomonas* spp., *Enterococcus* spp., *S. aureus and S. pneumoniae*.

† *E. coli, K pneumoniae* and *K. oxytoca*: resistant to any of: carbapenems, third-generation cephalosporin, aminoglycosides or fluoroquinolones; *Acinetobacter* spp: resistant to aminoglycosides and fluoroquinolones, or carbapenems; *Pseudomonas* spp. resistant to three or more antimicrobial groups, or carbapenems; *Enterococcus* spp. resistant to glycopeptides; *S. aureus* resistant to meticillin; *S. pneumoniae* resistant to penicillin and macrolides, or penicillin.

30-day all-cause mortality of patients with Gram-negative bacteraemia* in 2024

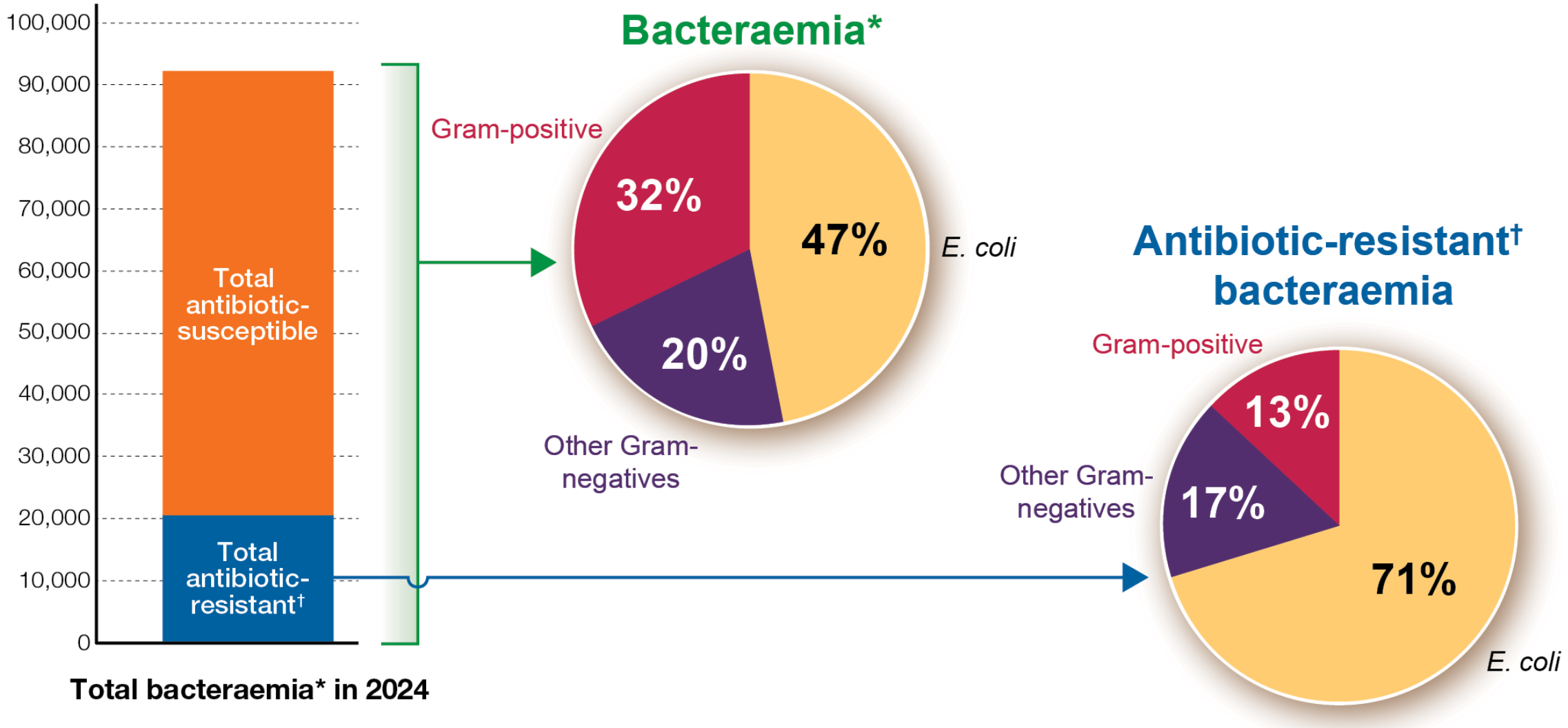


*Pathogens include: *E. coli, K. pneumoniae, K. oxytoca, Acinetobacter* spp., and *Pseudomonas* spp.

† The resistance combinations included are: *E. coli, K pneumoniae* and *K. oxytoca*, resistant to any of: carbapenems, third-generation cephalosporins, aminoglycosides, or fluoroquinolones; *Acinetobacter* spp., resistant to aminoglycosides and fluoroquinolones, or carbapenems; *Pseudomonas* spp., resistant to 3 or more antimicrobial groups, or carbapenems

** Sterile site infections

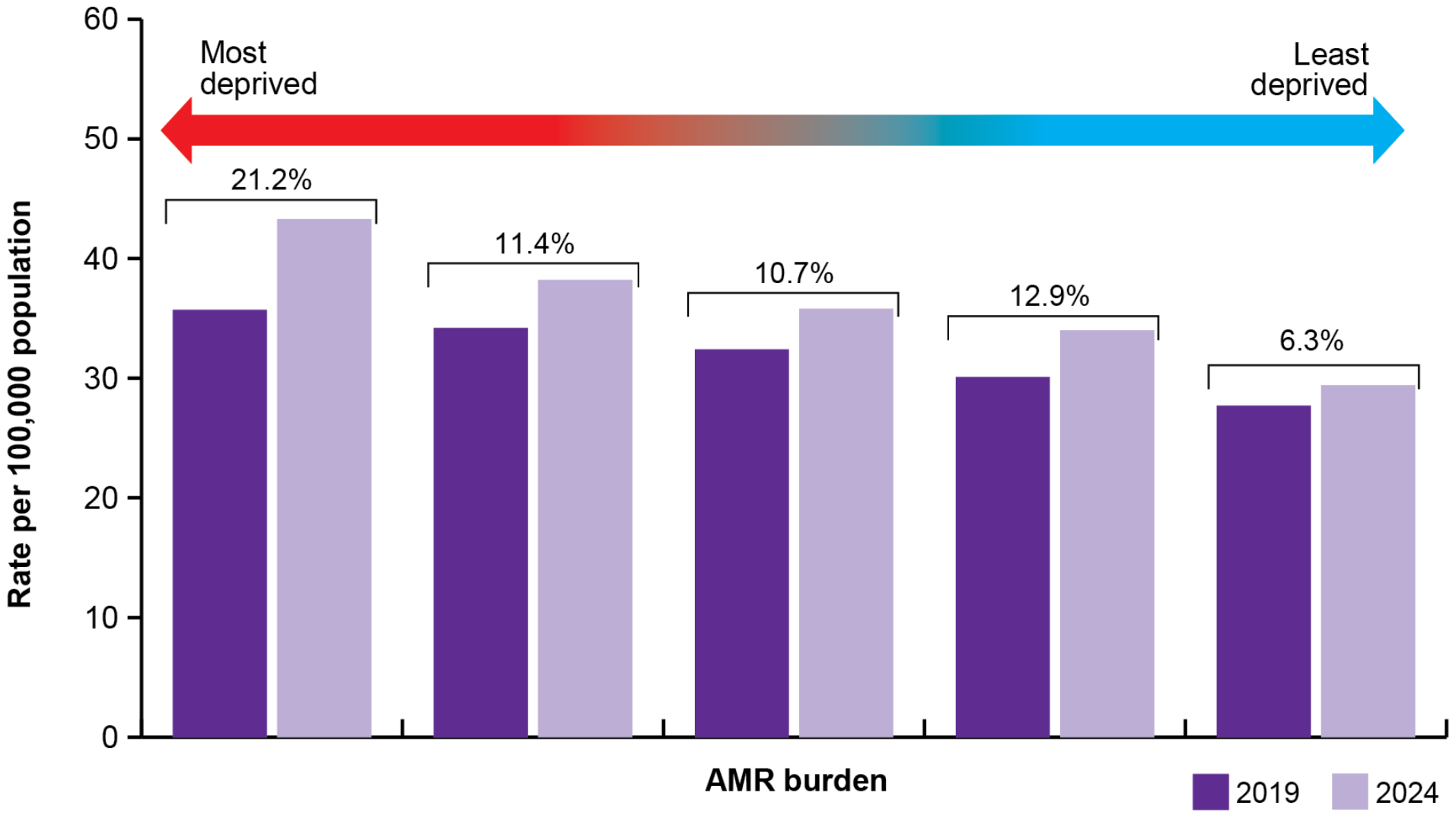
The burden of bacteraemia* resistant to critically important antibiotics



* Pathogens include: *E. coli, K. pneumoniae, K. oxytoca, Acinetobacter* spp. *Pseudomonas* spp., *Enterococcus* spp., *S. aureus and S. pneumoniae*.

† *E. coli, K pneumoniae* and *K. oxytoca*: resistant to any of: carbapenems, third-generation cephalosporin, aminoglycosides or fluoroquinolones; *Acinetobacter* spp: resistant to aminoglycosides and fluoroquinolones, or carbapenems; *Pseudomonas* spp. resistant to three or more antimicrobial groups, or carbapenems; *Enterococcus* spp. resistant to glycopeptides; *S. aureus* resistant to meticillin; *S. pneumoniae* resistant to penicillin and macrolides, or penicillin.

Rate of resistant bacteraemia† per 100,000 population by Index of Multiple Deprivation in 2019 and 2024



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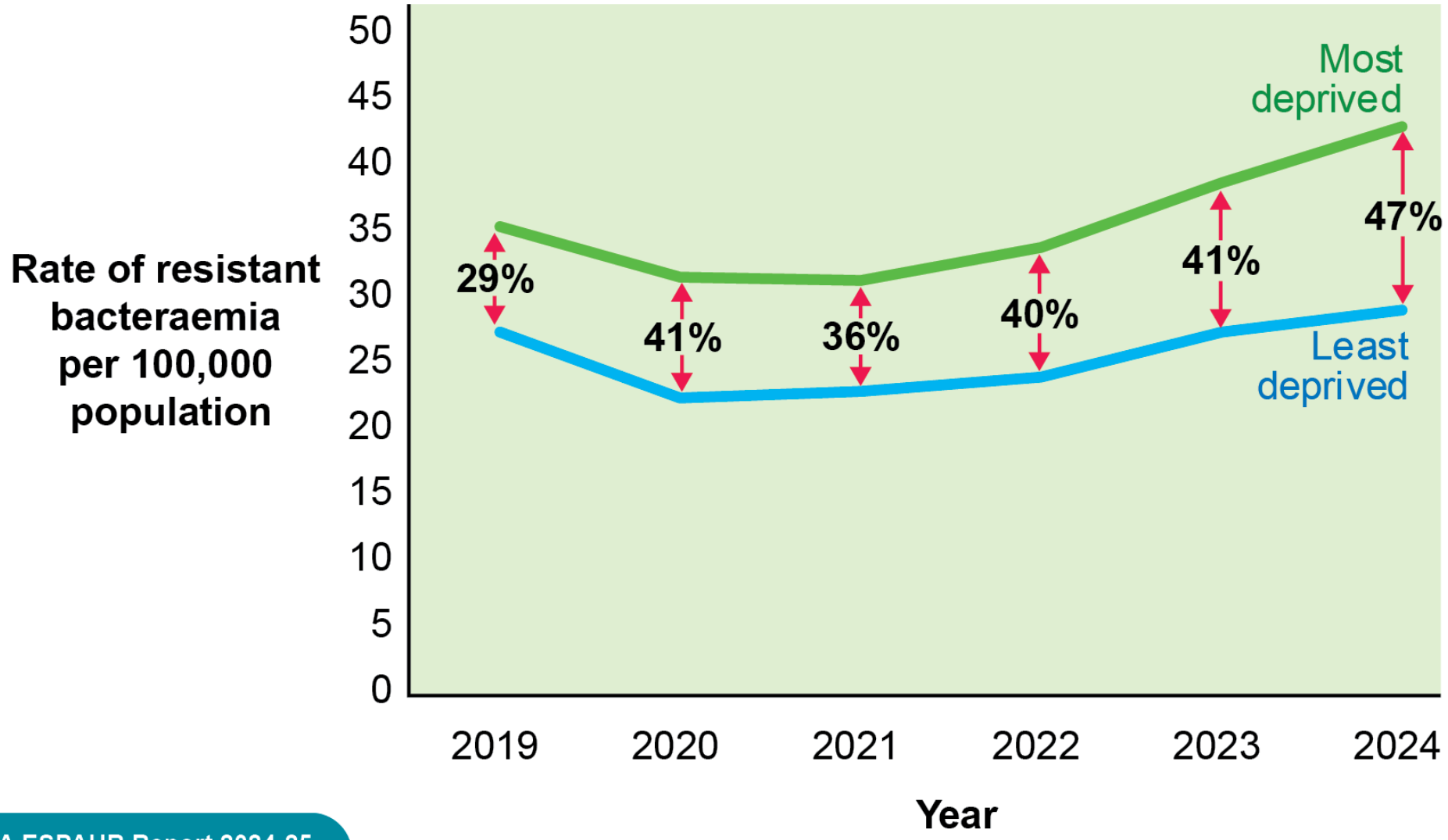
- *Pseudomonas* spp., resistant to 3 or more antimicrobial groups, or carbapenems;
- *Enterococcus* spp., resistant to glycopeptides;
- *S. aureus*, resistant to meticillin;
- *S. pneumoniae*, resistant to penicillin and macrolides, or penicillin.

Rate of resistant bacteraemia† by Index of Multiple Deprivation from 2019 - 2024



† The resistance combinations included are:

- *E. coli, K pneumoniae* and *K. oxytoca*, resistant to any of: carbapenems, third-generation cephalosporins, aminoglycosides, or fluoroquinolones;
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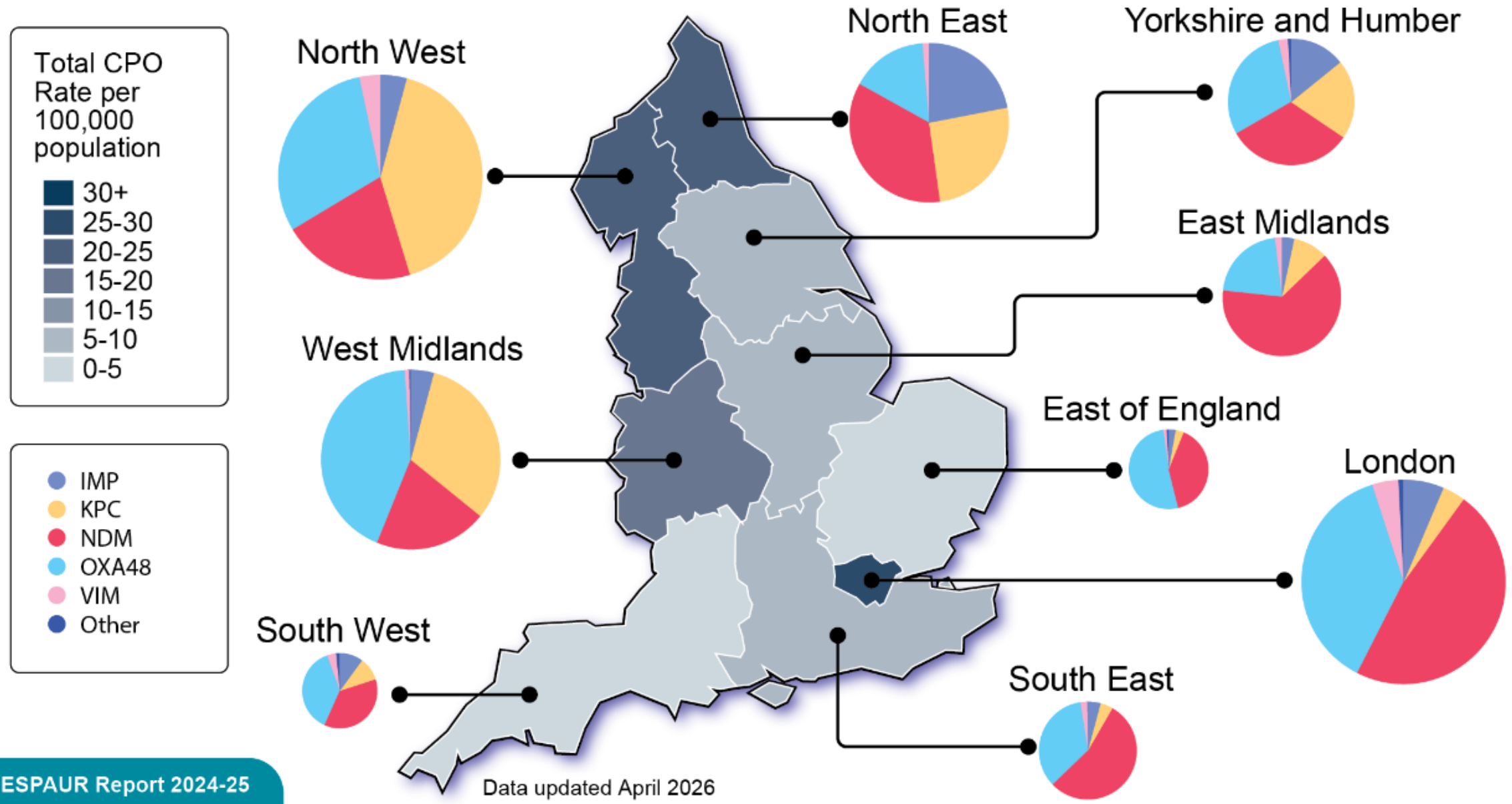
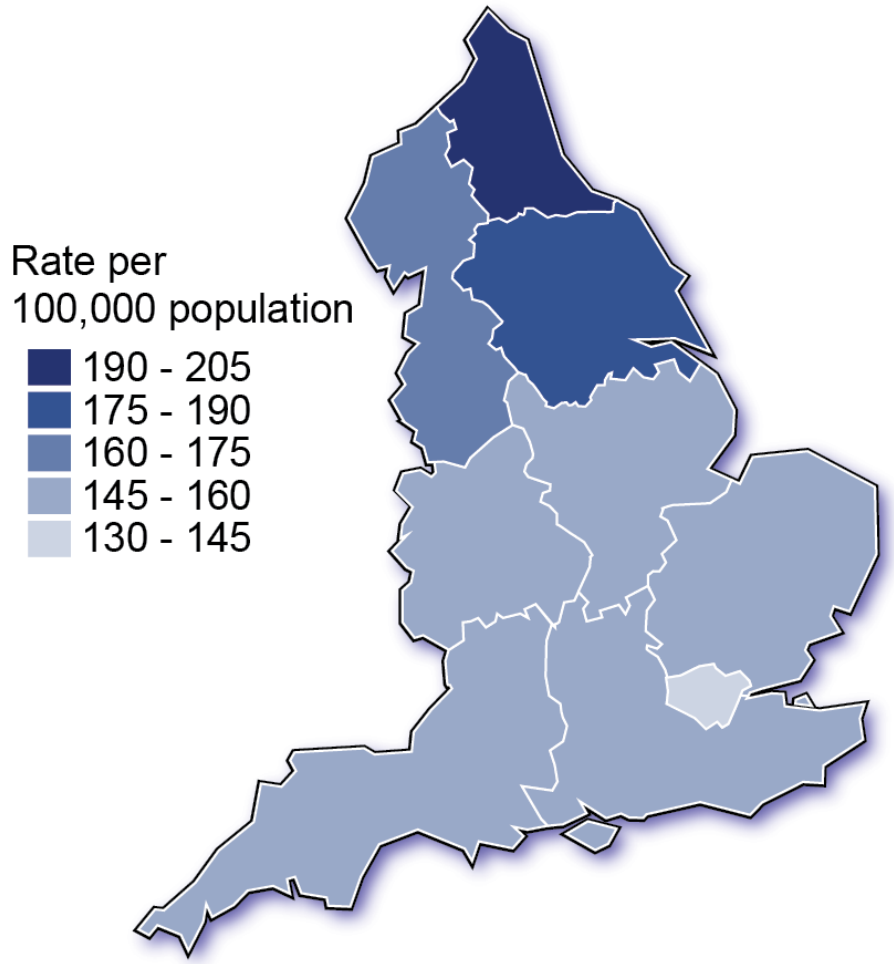
- *Enterococcus* spp., resistant to glycopeptides;
- *S. aureus*, resistant to meticillin;
- *S. pneumoniae*, resistant to penicillin and macrolides, or penicillin.

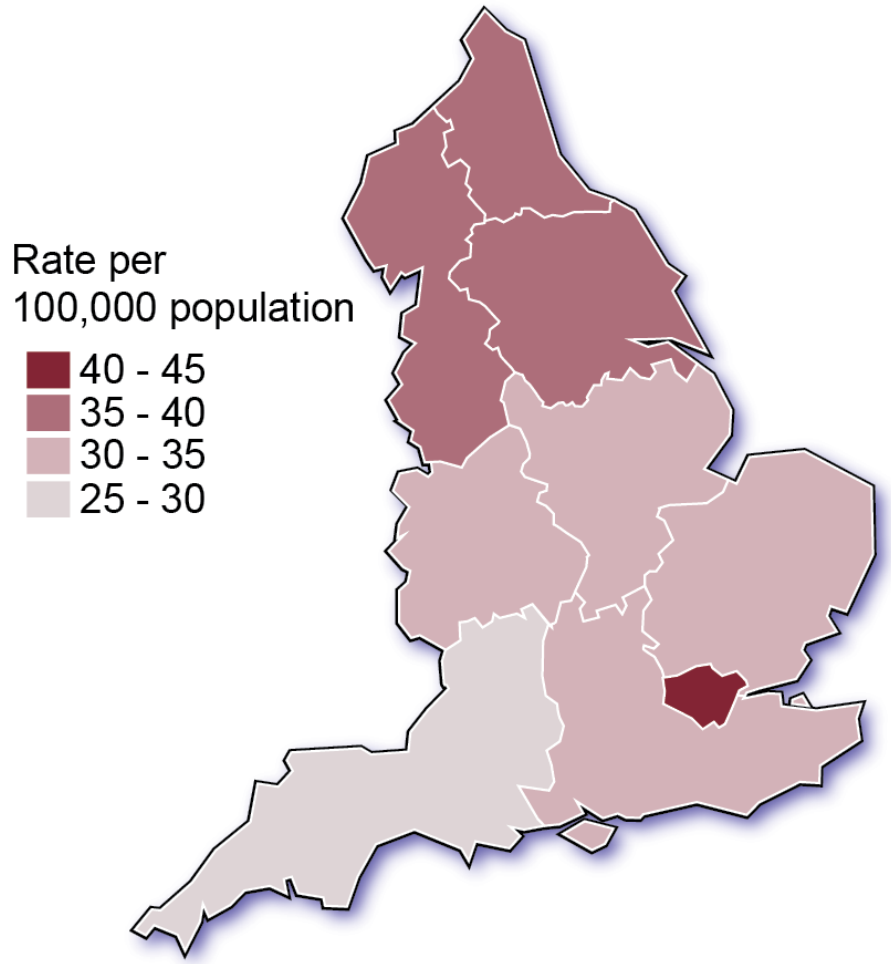
Regional notifications per 100,000 population of acquired carbapenemase-producing organisms and proportion of carbapenemase mechanism in England, 2024



Estimated regional rate of bacteraemia* per 100,000 population in England, 2024



Estimated regional rate of resistant bacteraemia† per 100,000 population in England, 2024



* Pathogens include: *E. coli, K. pneumoniae, K. oxytoca, Acinetobacter* spp. *Pseudomonas* spp., *Enterococcus* spp., *S. aureus and S. pneumoniae*.

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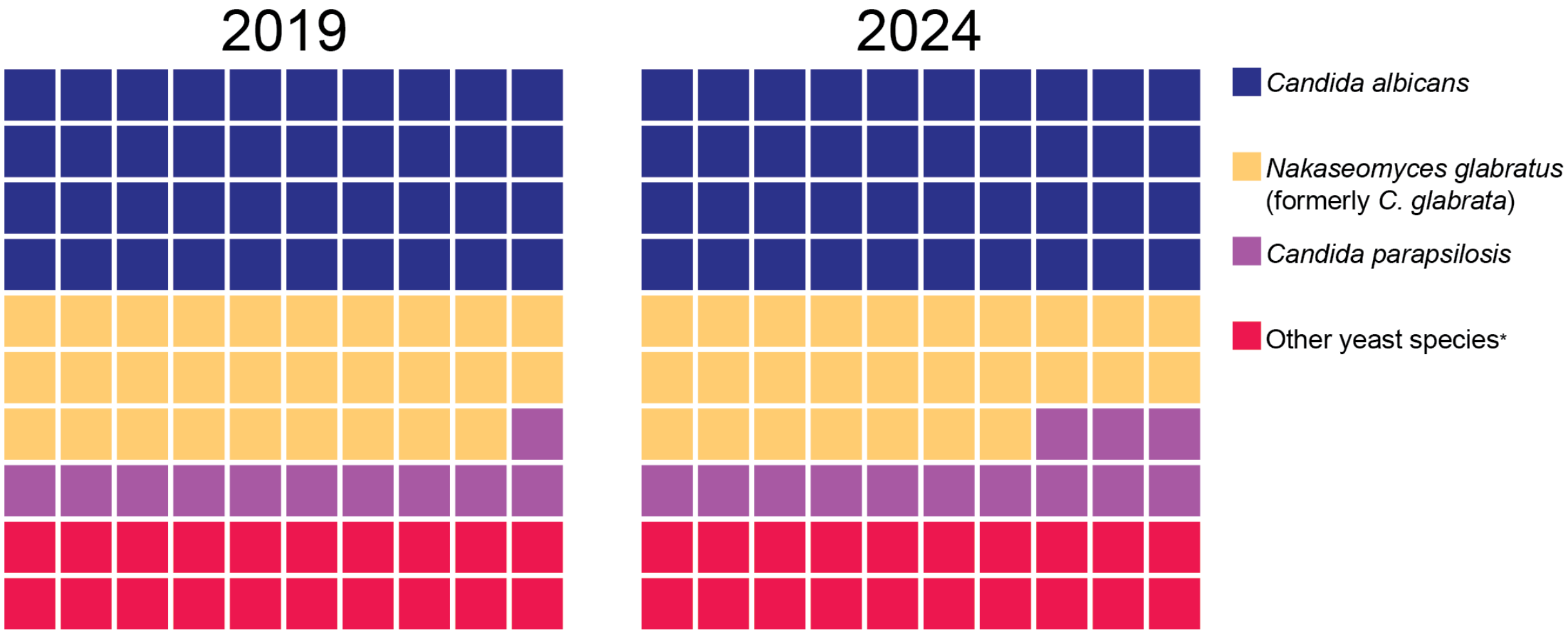
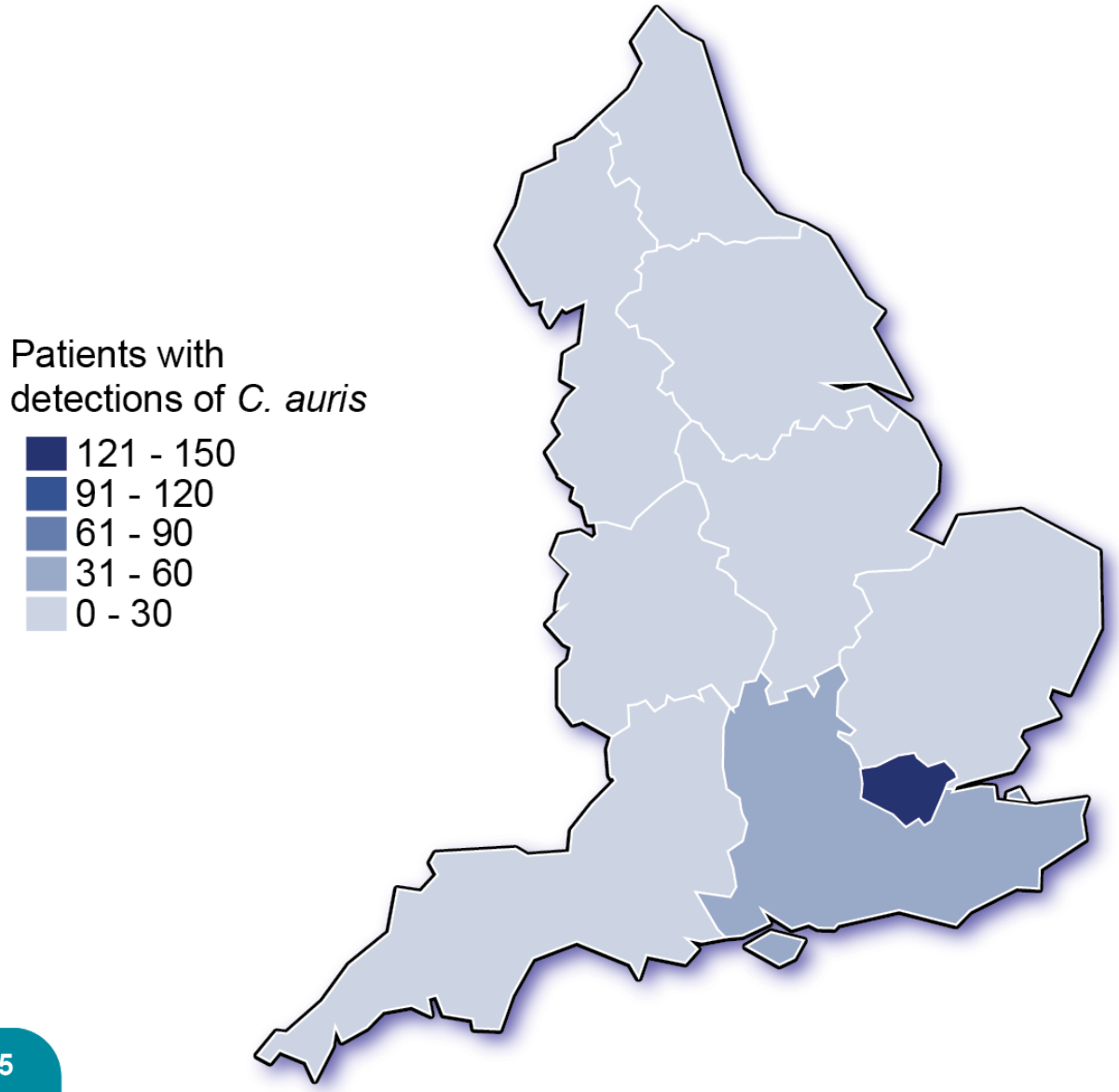
Fungaemia due to yeast species - 2019 and 2024



All other yeast species included in these analyses may be found in the ESPAUR 2024 Chapter 2 data tables

Detections of *C. auris* in patients in England by UKHSA region; 2024



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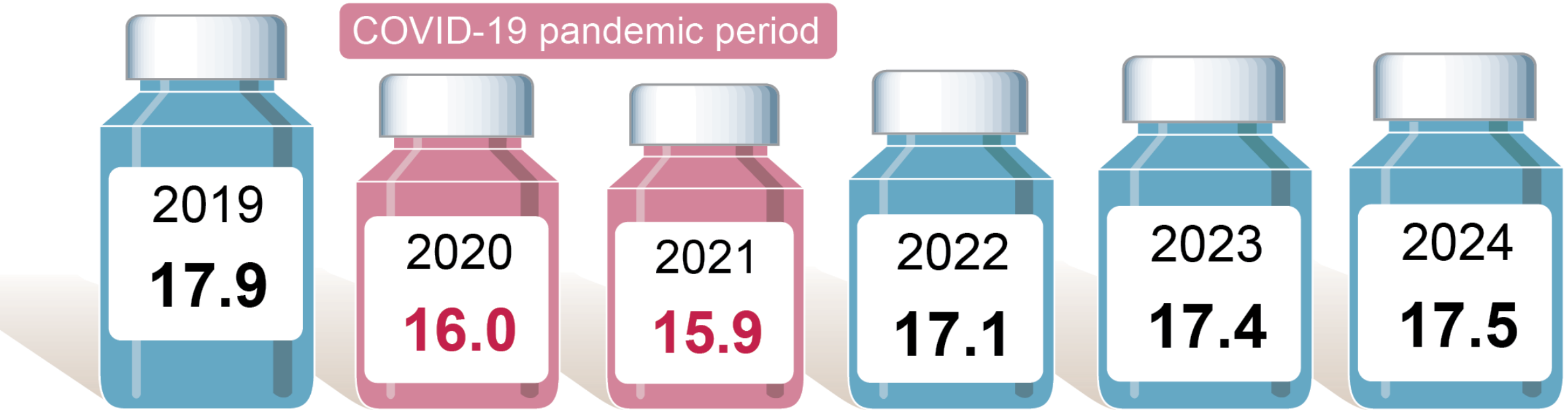
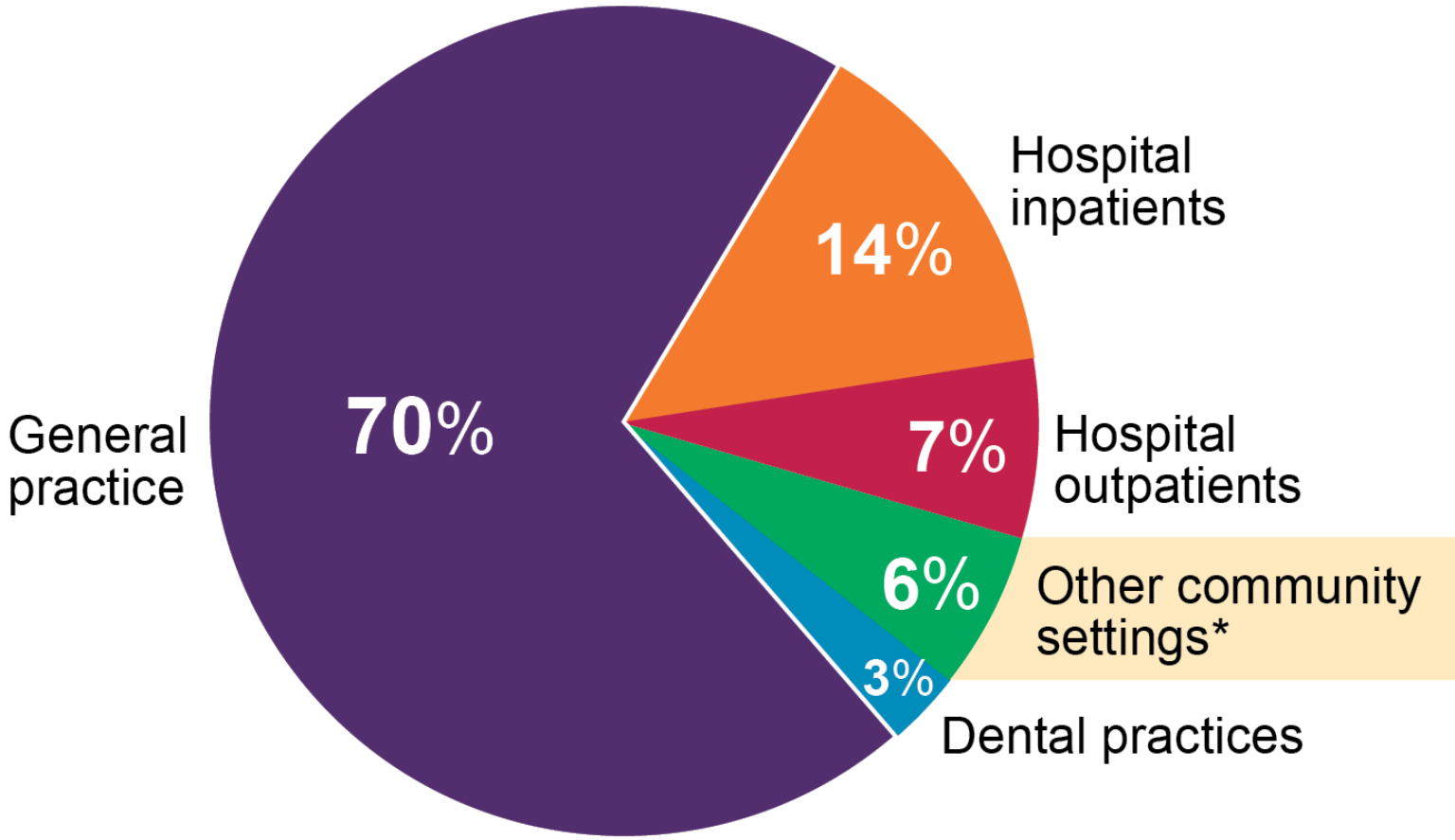
Chapter 2: Antimicrobial consumption

Total consumption of antibiotics increasing towards pre-pandemic levels



(DDDs per 1,000 inhabitants per day)

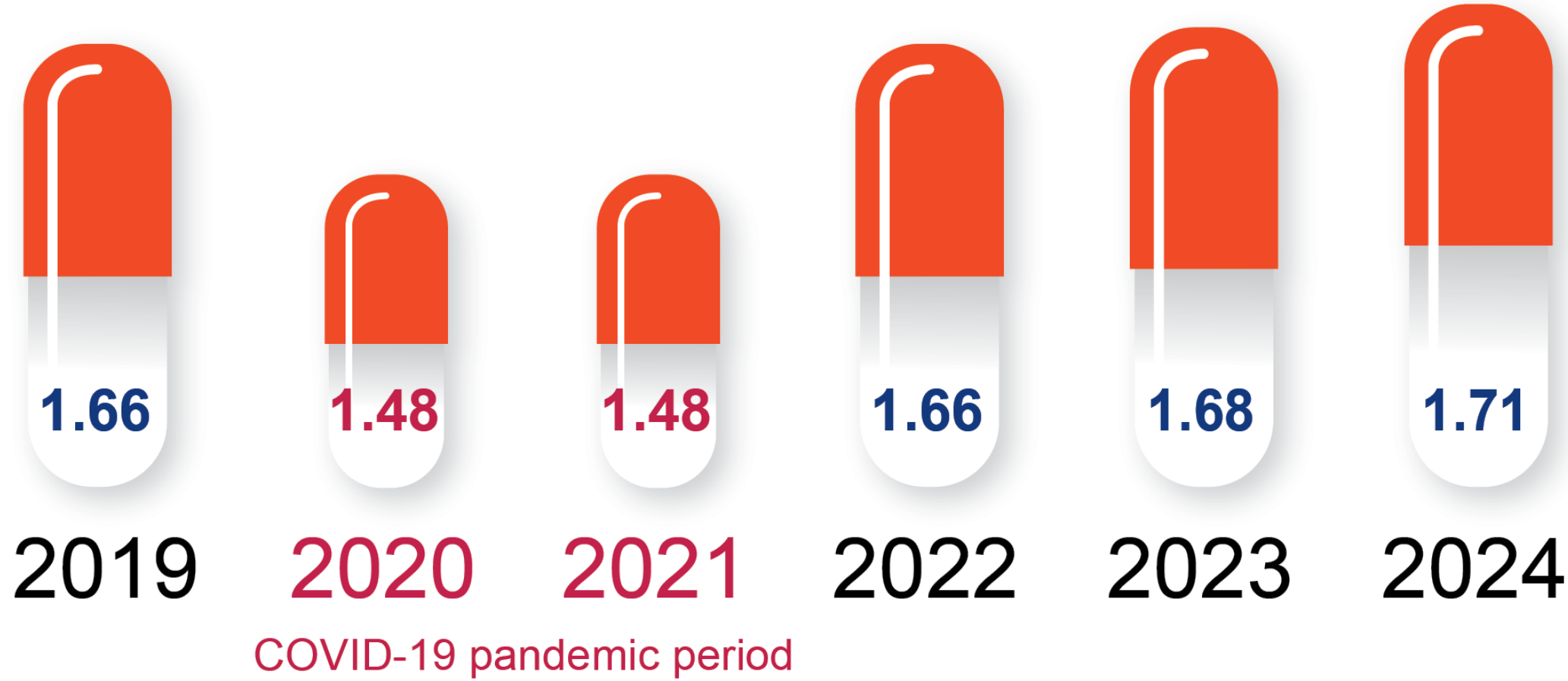
Total antibiotic use in the NHS, by prescriber setting as a proportion of overall prescribing, England 2024



Percentage of Other community prescribing	
Pharmacy First Service:	34.5%
Out-of-hours:	31.4%
Urgent Care:	7.3%
Walk-in Centre:	6.0%
Community Service:	4.9%
Hospital:	1.3%
Other:	14.7%

*Other community settings now includes the Pharmacy First service

Antibiotic consumption in primary care from 2019 to 2024



(Items per 1,000 inhabitants per day)

Antibiotic consumption through private (non-NHS) routes has continued to increase

Antibiotic consumption in the independent sector (DDDs per 1,000 inhabitants per day)

2019	2020	2021	2022	2023	2024
0.49	0.39	0.48	0.62	0.75	0.80

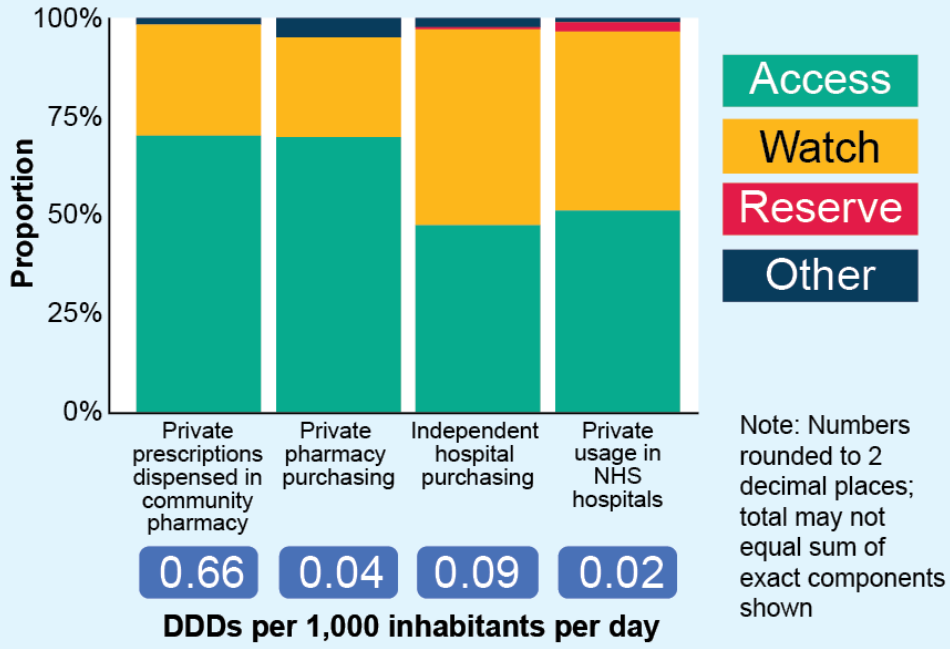
Usage across the independent sector i.e via private (non-NHS) routes includes data on sales to private hospitals and private pharmacies, private prescriptions dispensed in community pharmacies, and private prescription in NHS hospitals

2024: 0.80 DDDs per 1,000 inhabitants per day (DID)

4.5% **NHS Primary care**

In 2024, 4.5% of primary care prescribing was from private prescriptions dispensed in community pharmacies

% AWaRe use in 2024

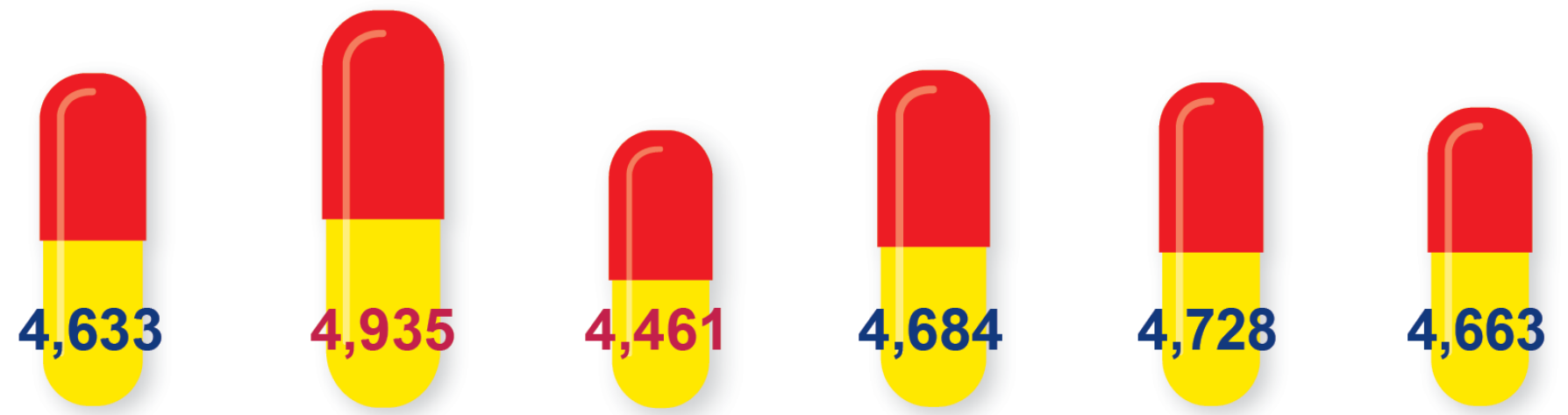


Note: Numbers rounded to 2 decimal places; total may not equal sum of exact components shown

Data updated March 2026

Antibiotic prescribing in secondary care from 2019 to 2024

DDDs per 1,000 admissions



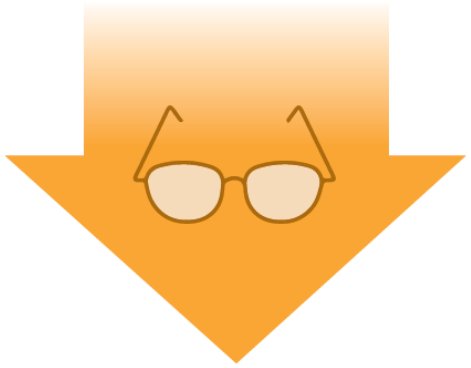
Being AWaRe

Access

First and second choice antibiotics for treating the most common infections.

Includes: amoxicillin for pneumonia and penicillin for Streptococcal sore throat

Watch



Antibiotics with increased toxicity concerns and higher resistance potential, that should only be prescribed for specific indications to minimise unnecessary harm to patients and costs to health care systems

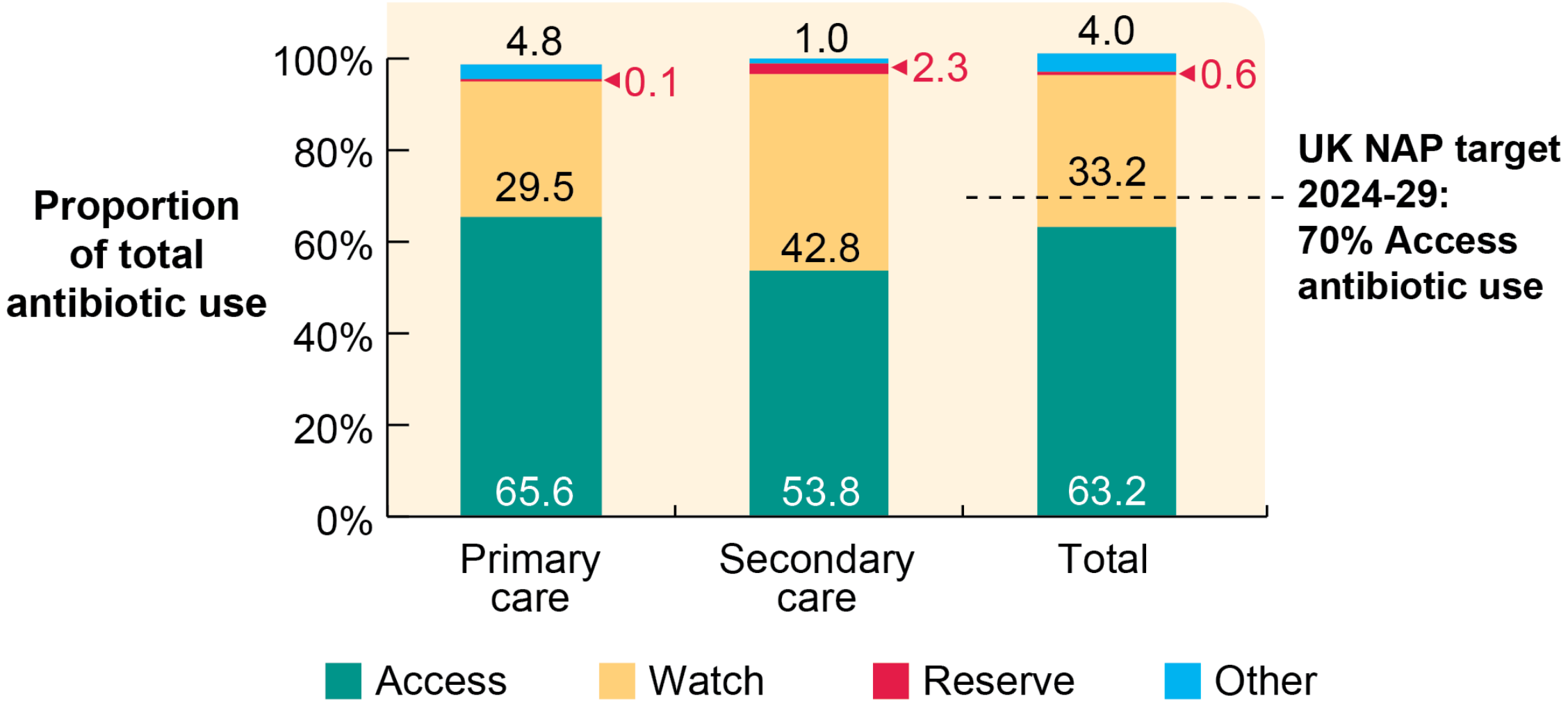
Includes: ciprofloxacin in the treatment of complicated UTI

Reserve

Antibiotics that are last-resort options that should only be used in severe circumstances, when other options have failed.

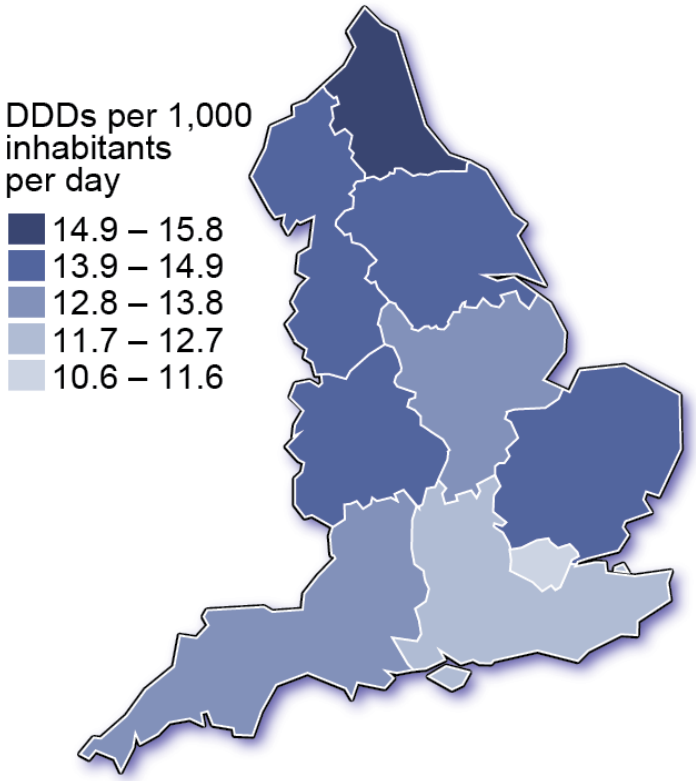
Includes: colistin and IV parenteral fosfomycin

Proportion of AWaRe antibiotic use across the NHS (primary and secondary care), in 2024 (using the 2024 UK AWaRe classification)

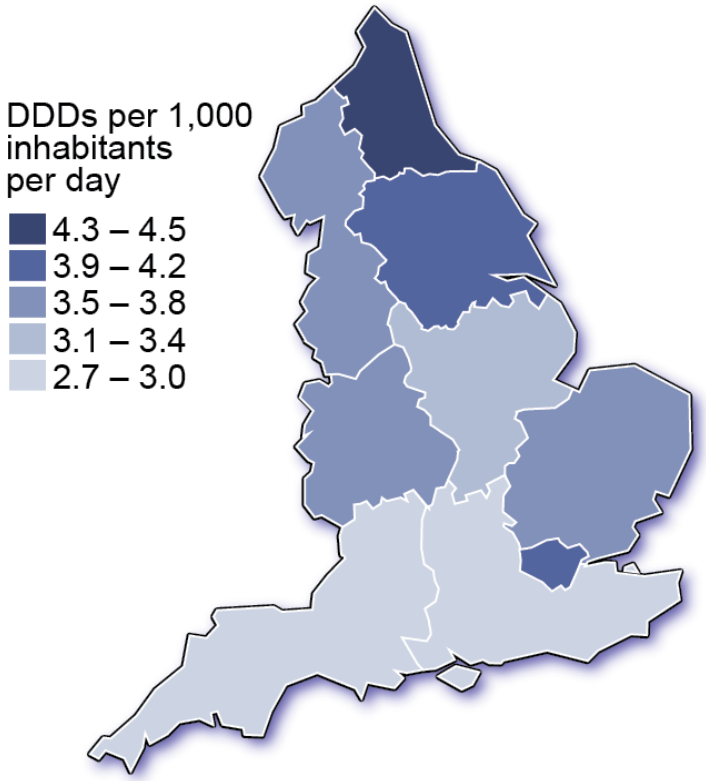


England regional variation in antibiotic consumption, across the NHS

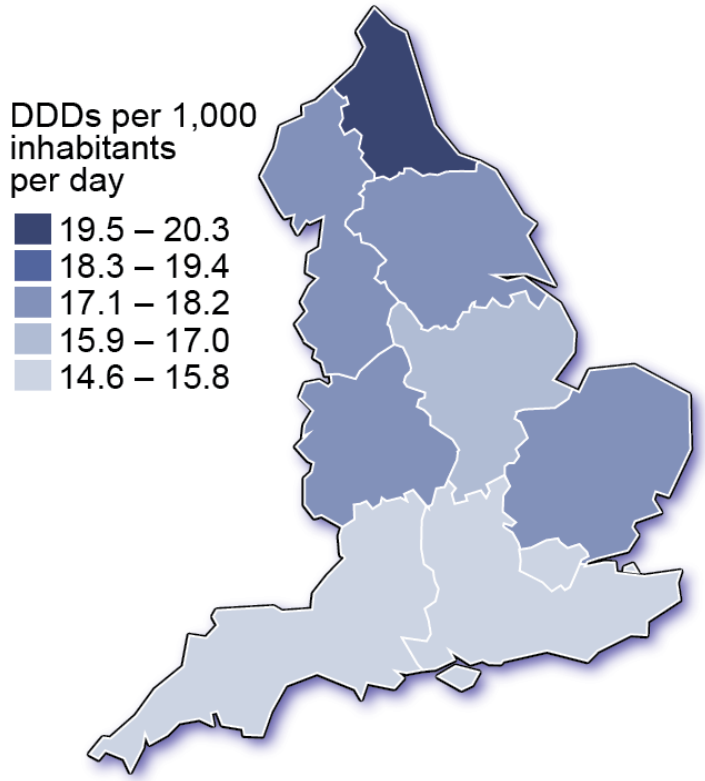
Primary care antibiotic use in UKHSA centres across England in 2024



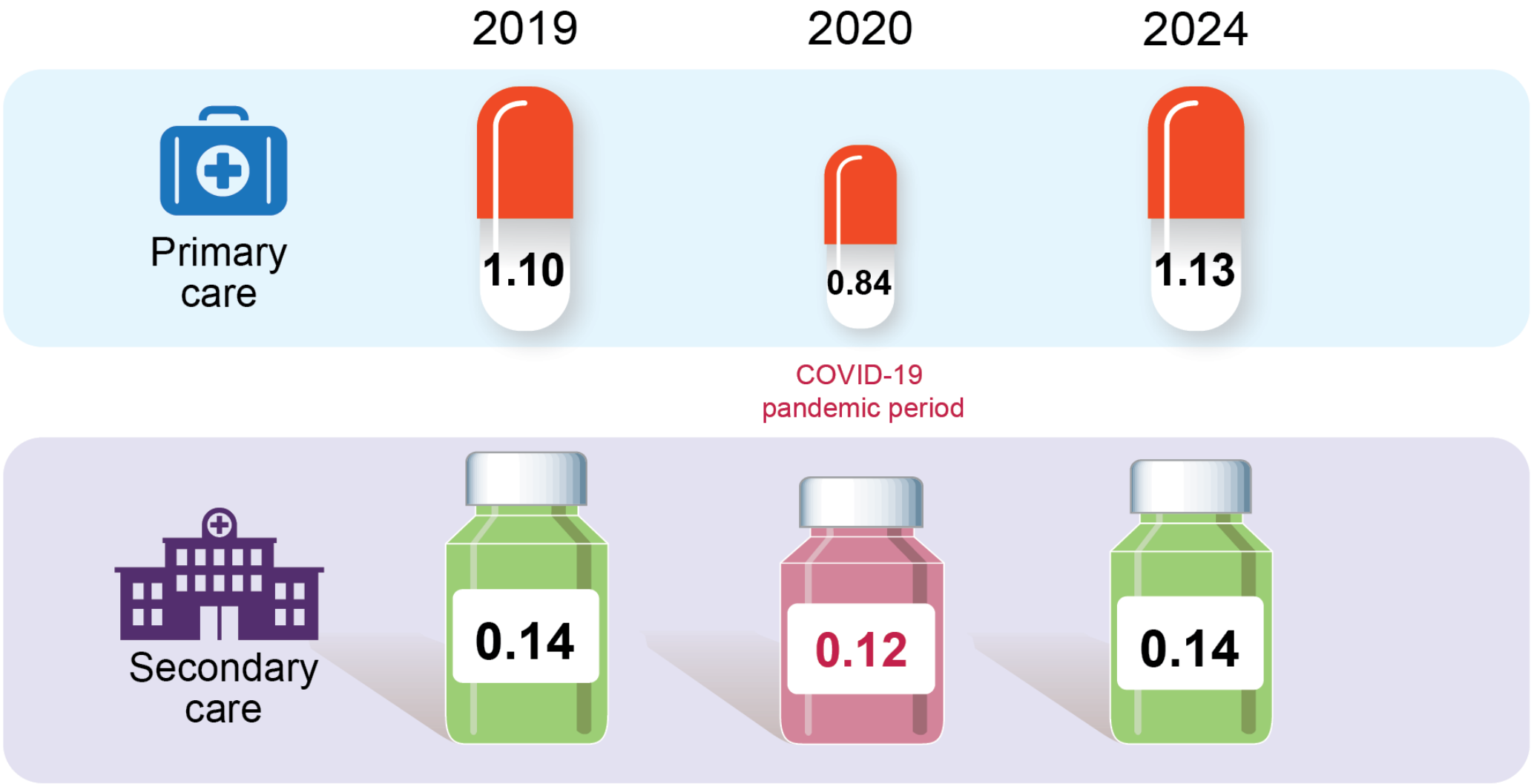
Secondary care antibiotic use in UKHSA centres across England in 2024



Total antibiotic use in UKHSA centres across England in 2024



Consumption of antifungals in primary and secondary care



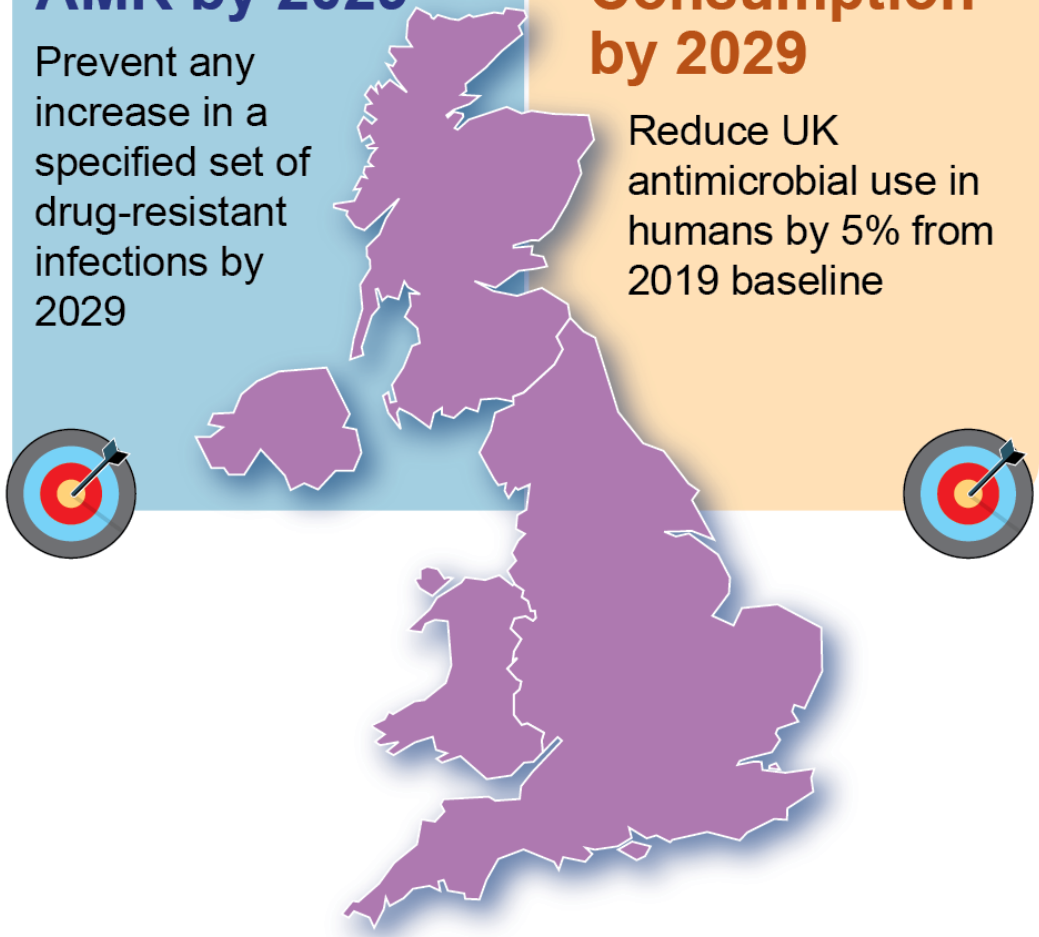
UK National Action Plan ambitions and England progress

AMR by 2029

Prevent any increase in a specified set of drug-resistant infections by 2029

Consumption by 2029

Reduce UK antimicrobial use in humans by 5% from 2019 baseline

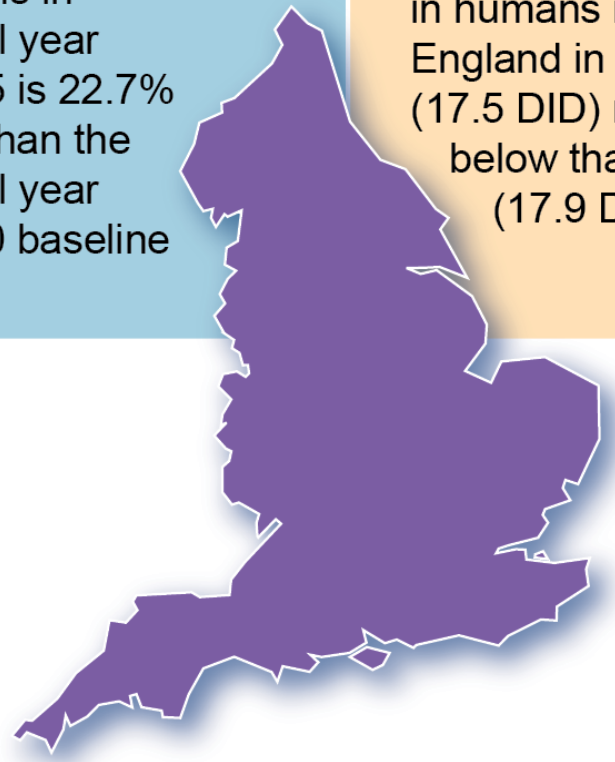


AMR in 2024

The estimated number of drug-resistant infections in financial year 2024/25 is 22.7% higher than the financial year 2019/20 baseline

Consumption in 2024

Total antibiotic use in humans in England in 2024 (17.5 DID) remains below that of 2019 (17.9 DID)



UK Health Security Agency

Chapter 4: Antimicrobial stewardship

Using TARGET tools throughout the stewardship process

1 Identify

Regularly measure antimicrobial prescribing and actions plans

Use the TARGET action plan template to set practice goals and regularly monitor antimicrobial prescribing with audit toolkits

2 Learn

Stay informed on the latest evidence, refresh knowledge on area identified for improvement

Stay up to date with the latest evidence using NICE summary guidance in the TARGET toolkit. Refresh knowledge through training tools, webinars, eLearning courses and podcasts, focusing on areas identified for improvement

3 Act

Take proactive steps to enhance stewardship

Support consultations and promote good stewardship by using TARGET posters and patient information leaflets. A whole-practice approach is encouraged

4 Review

Assess the impact on antimicrobial prescribing

Evaluate the impact of your actions using TARGET self-assessment checklists and audit templates to guide the review process

TARGET

Keep Antibiotics Working

Abbreviations: **TARGET** - Treat Antibiotics Responsibly, Guidance, Education and Tools
NICE - National Institute for Health and Care Excellence

TARGET activities 2024 to 2025

Published updated **patient information leaflets** following an evidence review and redesign

TARGET

Keep Antibiotics Working

WAAW campaign reached over **45,000** RCGP members and viewed over **1.2 million** times on Google and social media

Published new resources for managing patients on long-term antibiotics for **recurrent UTI**

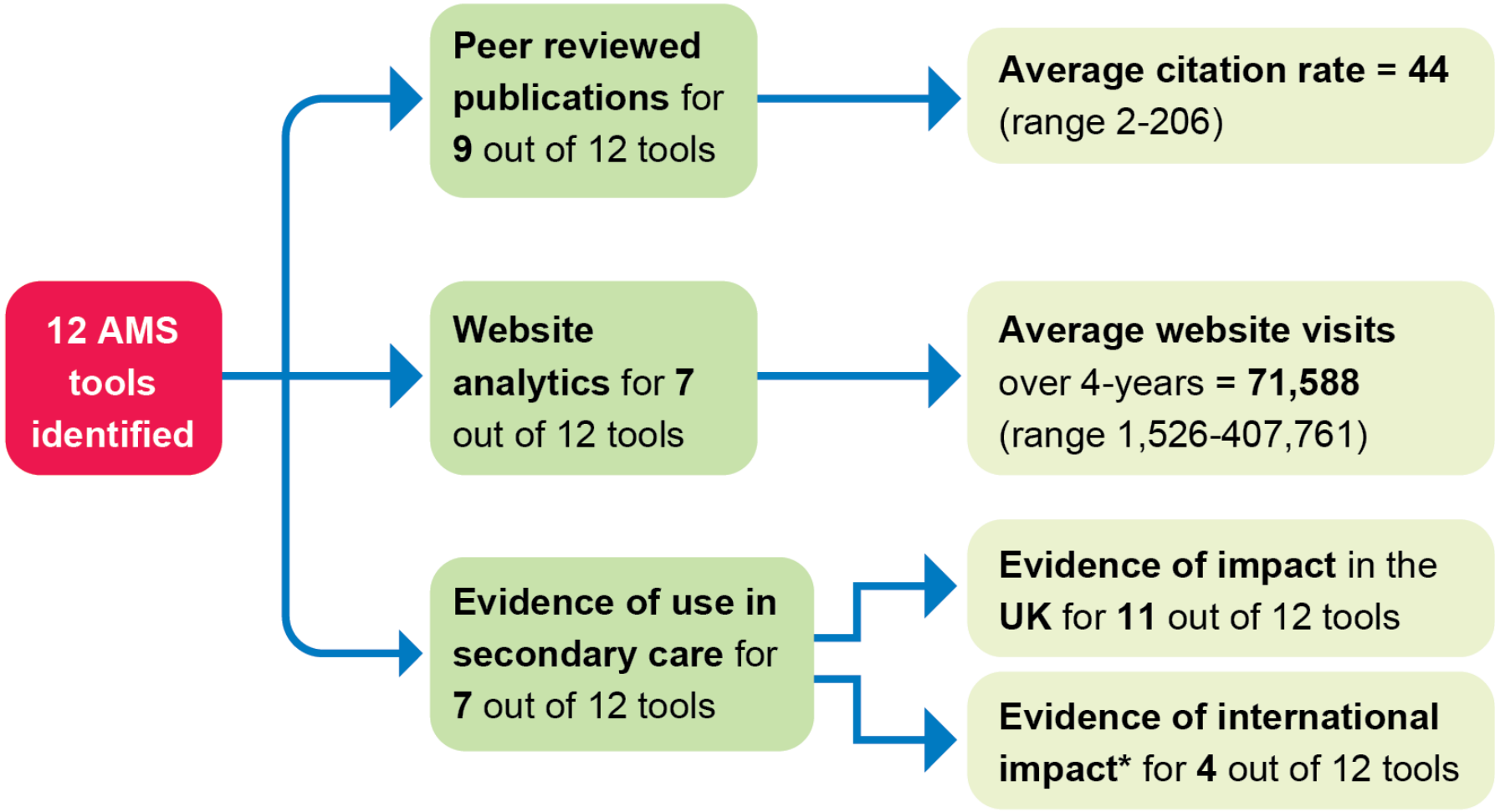
UTI pre-consultation survey accessed by over **191,000** people

Ran three webinars with a combined total of **577** live attendees and **374** online views

Abbreviations: **TARGET**, Treat Antibiotics Responsibly, Guidance, Education and Tools; **UTI**, urinary tract infection; **WAAW**, World Antimicrobial Resistance Awareness Week; **RCGP**, Royal College of General Practitioners

Summary of findings from an evaluation of UKHSA AMS tools to support secondary care in England

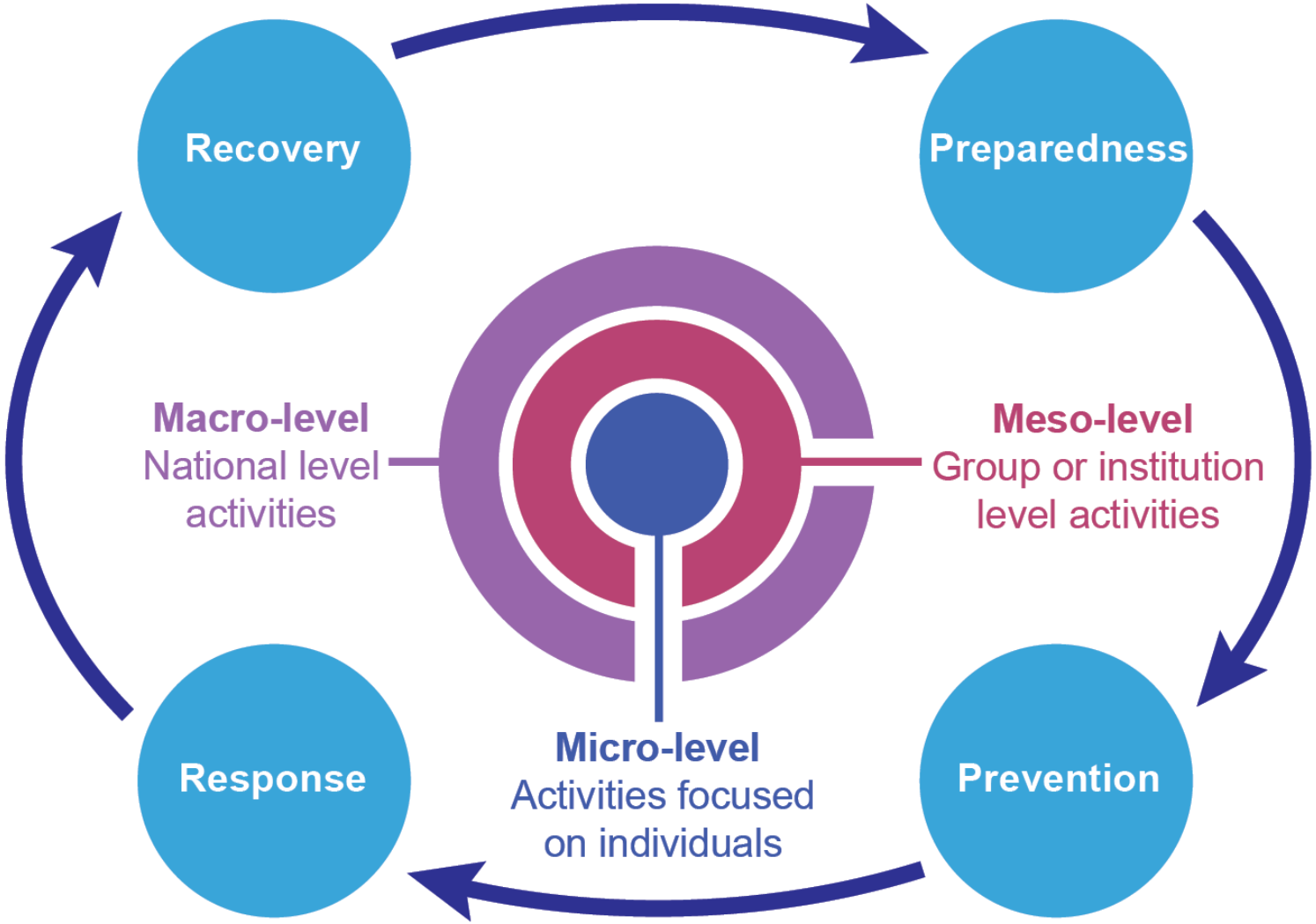
1. Antibiotic Guardian
2. IV to Oral Switch (adult)
3. IV to Oral Switch (paediatrics)
4. Fingertips AMS portal
5. Prescribing competencies
6. ESPAUR report
7. WAAW toolkit
8. National audit tool
9. National AMS surveillance system
10. Peer to peer review tool
11. Start Smart then Focus toolkit
12. England AWaRE categories



* Impact was defined as: Evidence of the tool influencing national or international AMS policy/guidelines or other tools

Berry R and Ashiru-Oredope D. Evidence of impact of national stewardship tools for secondary care in England. 2025

Summary of the WHO emergency cycle and levels of public health activities undertaken by pharmacy professionals



Infectious disease outbreaks and subsequent high use of antimicrobial treatment can be a driver for AMR. Pharmacy professionals are well placed to undertake pharmaceutical public health roles in the management of outbreaks as part of the WHO emergency cycle, including AMS activities. These activities can be at micro- meso- or macro- levels.

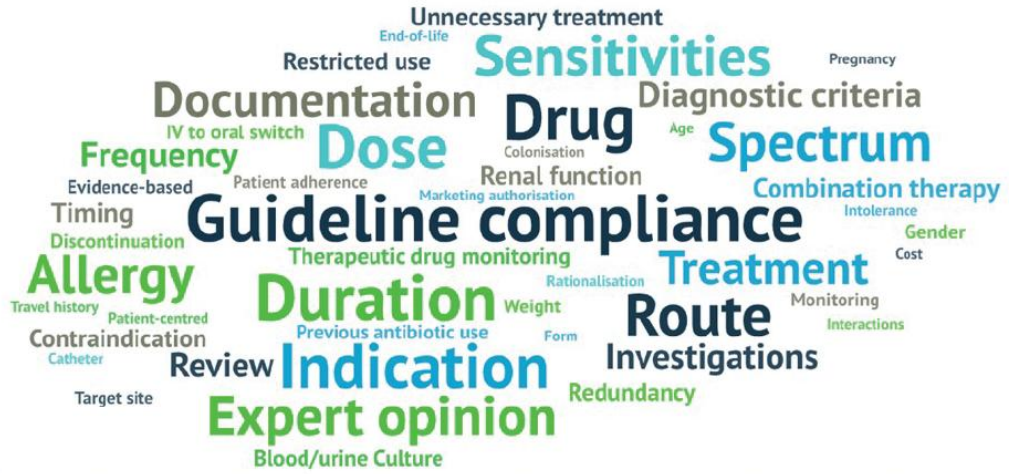
Berry R, Wilkinson A, Turk A, Ng B.Y, Pinkney S, Halai B, Emoche A, Thornley T and Ashiru-Oredope D. Pharmacy professionals' contribution to the prevention, preparedness, response, and recovery of non-COVID outbreaks: a rapid systematic review. 2025

What indicators are used to estimate or measure appropriateness of antibiotic prescribing in high-income countries: a rapid systematic review

154 studies identified in initial results:

- 119 discussed general indicators
- 35 discussed proxy indicators
- results highlight complexity of defining appropriateness of prescribing
- guideline compliance, drug choice for indication, correct dose and appropriate duration are common indicators used
- these recurring themes reflect core principles of antimicrobial stewardship

GENERAL



EXAMPLES

PROXY

Antibiotic consumption data	Prescription information	Prescription information linked to diagnostic coding	Patient level data required
• defined daily doses (DDDs) per patient • % of AWaRe categories • antibiotic diversity	• duration or days of therapy • seasonal variation	• proportion of 1st line antibiotic prescribed for a diagnosis • appropriate duration of treatment for a diagnosis	• prescribing vs no prescription • diagnostic test was carried out • appropriate for age, diagnosis, gender, pregnancy status

* Berry R, Magrini E, Medioli F, Caris MG, Kherabi Y, Ng BY, Catteau L, Peiffer-Smadja N, Murri R, De Boer M, Ashiru-Oredope D and ESGAP. Measuring appropriateness of antibiotic prescribing in high income countries: a rapid systematic review of indicators. 2025.

Measuring appropriateness of antibiotic prescribing in high income countries: a rapid systematic review of indicators

Antimicrobial stewardship aims to ensure that antibiotics are prescribed appropriately. Defining and measuring "appropriate" use is therefore essential to evaluate prescribing quality and optimise antibiotic use.

This rapid review identified **165** articles and **103** indicators used to determine appropriateness of antibiotic prescribing in high-income countries

GENERAL (n=58)

EXAMPLES

PROXY (n+45)

Antibiotic consumption data	Prescription information	Prescription information linked to diagnostic coding	Patient level data required
• fluroquinolones • broad vs narrow ratio • seasonal variation	• duration or days of therapy • seasonal variation	• rate of patients prescribed an antibiotic based on the specified indication • patients prescribed the first line choice for the specified indication	• prescribing vs no prescription • diagnostic test or criteria met • appropriate for age, diagnosis, gender, allergy status

The breadth of indicators used highlights the complexity of defining appropriateness of antibiotic prescribing.

Recurring themes reflect shared stewardship principles, but developing a core set of standardised indicators will improve antibiotic use

Rapid systematic reviews of inclusion health groups and adult social care

Submitted for publication

- Individuals in contact with the justice system

In progress

- Individuals living in adult social care
- Sex workers
- Victims of modern slavery

Not started

- People experiencing homelessness
- Gypsy, Roma and traveller communities

Antimicrobial use, antimicrobial resistance and relevant antimicrobial stewardship interventions in people who use drugs

Assessing antimicrobial use, antimicrobial resistance and relevant antimicrobial stewardship interventions in people who use drugs

1765 abstracts identified

Screened in duplicate

103 articles identified for full text review

47 papers ultimately eligible for final inclusion

Screening of meta-analyses and systematic reviews to identify relevant additional papers

Synthesis of findings ongoing

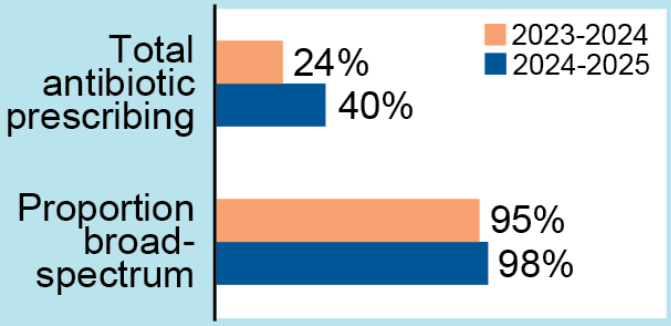
UK Health Security Agency

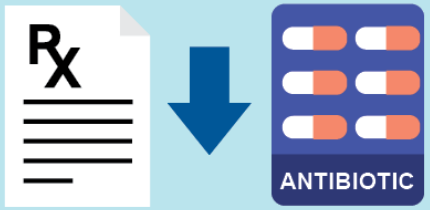
Chapter 5: NHS England – improvement and assurance schemes

NHS England Improvement and Assurance Schemes 2024 to 2025 – Antimicrobial Stewardship

NHS Oversight Framework

Percentage of ICBs meeting NHS Oversight Framework Targets for Primary Care



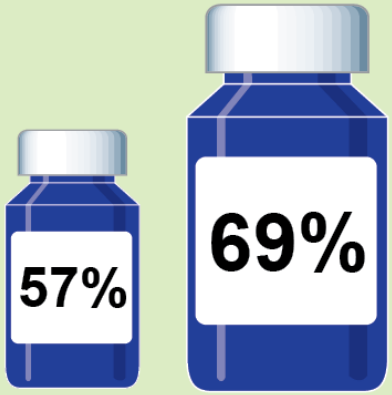


1,221,553

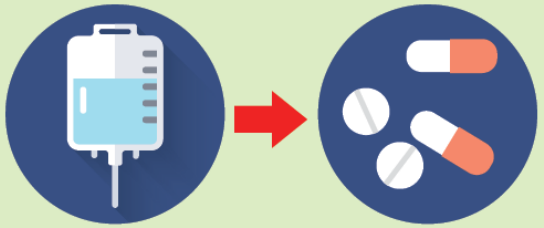
fewer general practice antibiotic prescription items compared to the previous 12 months to 31 March 2024.

National Medicines Optimisation Opportunities

Optimising antibiotic duration: proportion of amoxicillin 500mg capsules 5-day courses in Primary Care continues to improve



Prompt switching of intravenous to oral antibiotics (non-mandatory CQUIN)

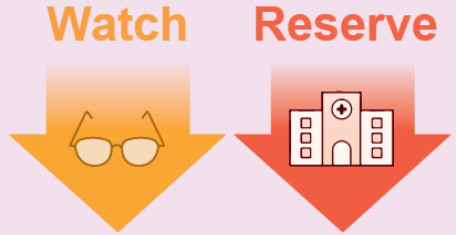


First year of expansion to include paediatrics **in 24/25**

24% of hospital trusts participated

50% of trusts met the threshold of having 15% or fewer patients receiving IV antibiotics past the point at which they meet switch criteria

NHS Standard Contract



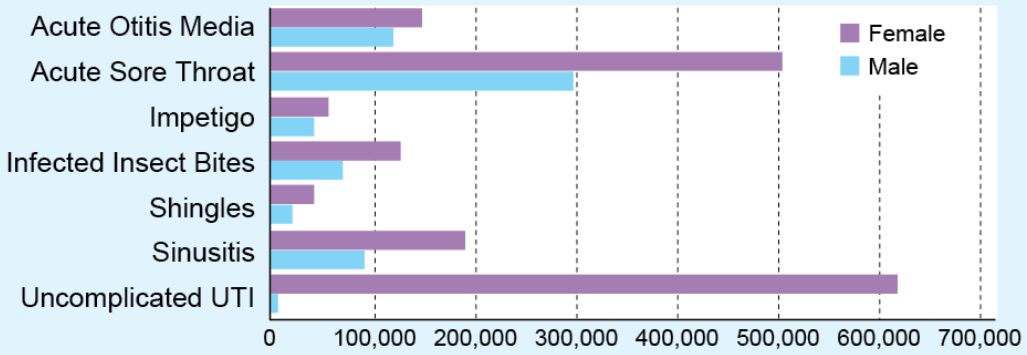
50% of trusts reduced their Watch / Reserve antibiotic consumption

36% of trusts achieved 10% or more reduction compared to 2017 baseline – an improvement from 23% in 2023 to 2024

Pharmacy First – 12 months April 2024 to March 2025

7 Common Infection Clinical Pathways

Number of Pharmacy First consultations in 12 months

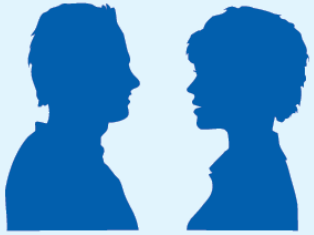


Over 2.3million consultations delivered to over 2.2million patients

Pharmacy

45% to 85% of consultations had an antimicrobial supplied

97% of all consultations were face to face



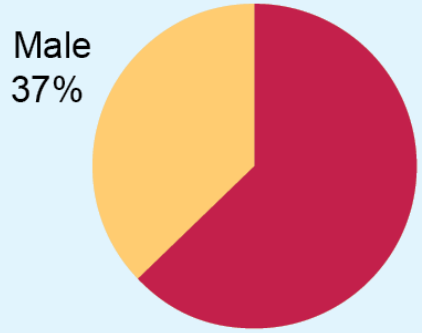
Children aged 0-14 years accounted for **21%** of all Pharmacy First consultations

Effective analgesia

Acute Otitis Media accounted for half of the consultations for children aged 0-14 years. 30% of consultations were supplied antibiotic-sparing analgesic anaesthetic ear drops.

Shining a light on gender differences

The largest number of consultations was for **Acute Sore Throat** (n=806,491)



63% of these consultations were for females

Improving timely access to appropriate treatment

About 600,000 women aged 16 to 64 years consult the Uncomplicated Urinary Tract Infection pathway each month with 4 in 5 women supplied an immediate antibiotic

All data are available on the ePACT2 Antimicrobial Stewardship – Pharmacy First Dashboard Link

Capability Framework for Antimicrobial Stewardship (AMS) Specialists

Domain 1: Professional practice
Provides specialist AMS knowledge, skills and practices to shape and deliver AMS in their organisation and healthcare system, for the benefit of individual patients and services; collaborating with other patients, and the public

Domain 2: Leadership and management
Provides leadership across organisations and systems to optimise the management of infections and use of antimicrobials; leading on complex issues relating to AMR and behaviours driving antimicrobial use

Domain 3: Education
Develops and improves the knowledge, attitudes, and practices of others regarding the optimal use of antimicrobials; and uses their own professional development to improve AMS programmes and patient care.

Domain 4: Research and Quality Improvement
Co-ordinates and surveillance and monitoring of antimicrobial use across services, organisations, and systems; and develops and applies evidence to improve AMS programmes and interventions and optimise the use of antimicrobials.

Capability statements and descriptors of practice for core, advanced and expert to guide users through benchmarking and professional development

Applicable to healthcare professionals specialising in AMS from all professional backgrounds working in all sectors of the NHS

BRITISH SOCIETY FOR ANTIMICROBIAL CHEMOTHERAPY

NHS England

Associated resources:
- Job descriptions
- Person specifications
- Job plans

Signposting to educational resources for AMS knowledge and skills to support practitioners to move from core to advances and expert advice

UK Health Security Agency

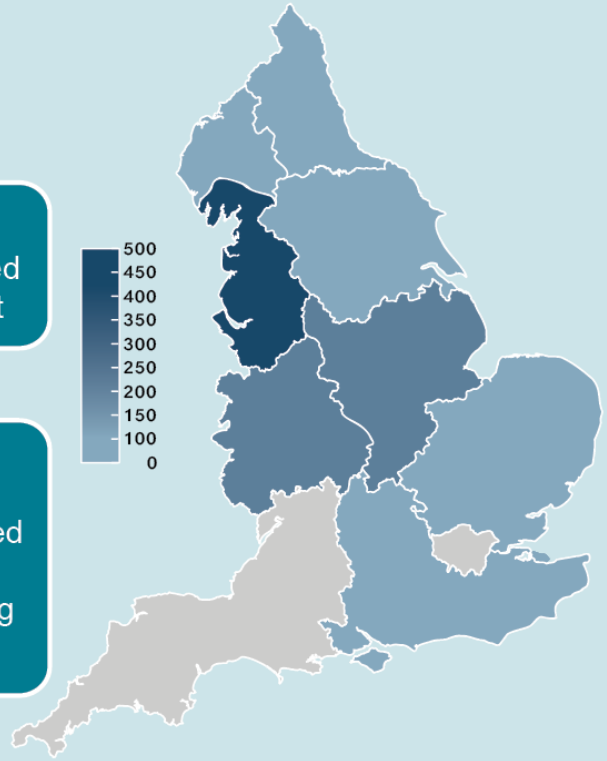
Chapter 6: Professional and public education and training

TARGET Training Roll Out: Reach and Evaluation

TARGET Training Reach 24/25*

126
trainers trained on the toolkit

862
people reached through the NHSE training cascade

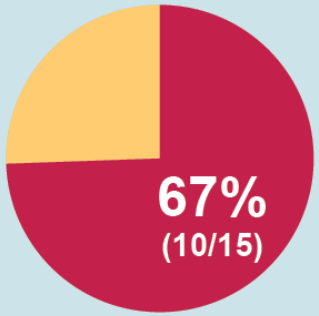


2024/25 Total training reach = **1,035**
(unspecified training = 47)
Overall training reach = **2,539**
(October 2022 to March 2025)

*Figures obtained through completed evaluation surveys, actual training reach will be higher

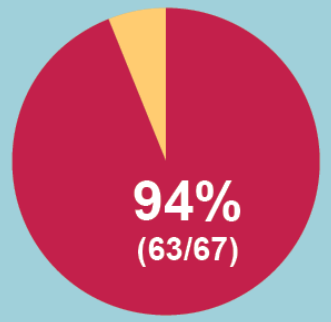
Local implementation

Evaluation of local trainers

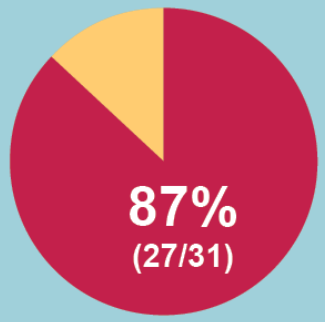


67% reported that stakeholder engagement and prioritising AMS helped roll out the training

Evaluation of prescribers



94% were able to implement the strategies planned



87% reported that discussions with patients affected the outcome of the consultation in relation to antibiotic prescribing

Impact on prescribing at ICB level:

per 1,000 patients

1.2% decrease in prescribing rate following training per ICB

Estimated monthly savings across England = **£317,375**

Abbreviations: **TARGET**, Treat Antibiotics Responsibly, Guidance, Education and Tools; **AMS**, Antimicrobial Stewardship; **NHSE**, National Health Service England

TARGET and RCGP AMS Webinars

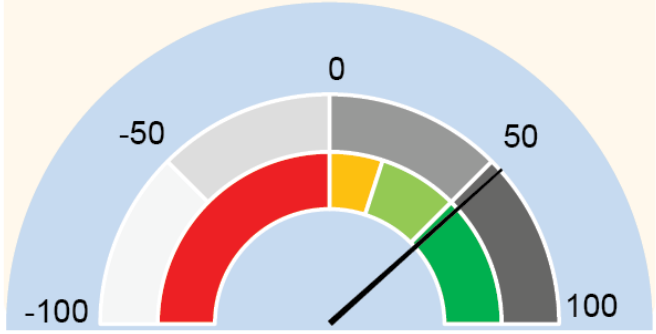
NPS is a metric used to measure customer satisfaction.

Attendees rated each webinar on a scale from 0-10: 0-6 = detractors (-1);
7-8 = passives (0); 9-10 = promoters (+1). NPS is the total sum of all responses.

- -100-0 = Needs improvement
- 0-20 = Good
- 20-50 = Great
- 50-100 = Excellent

Patient perceptions of infections & antibiotics: insights from national surveys

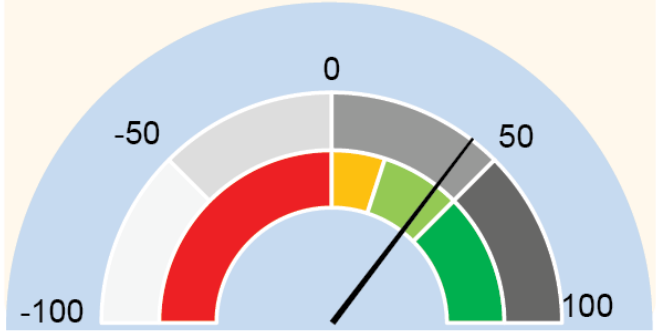
(89 attendees)



53
NPS

Navigating antimicrobial stewardship for new and **early career** prescribers

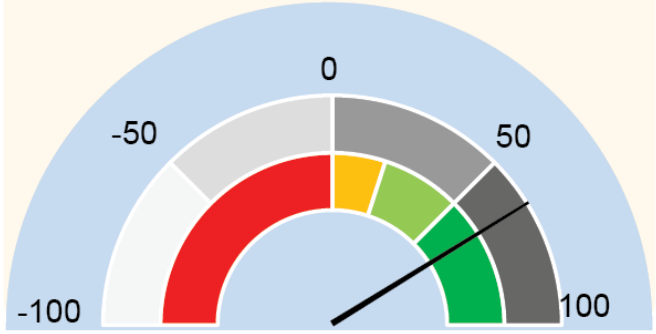
(133 attendees)



41
NPS

Managing **recurrent UTI** and reviewing long-term and repeat antibiotic therapy

(355 attendees)



64
NPS

Abbreviations: **TARGET**, Treat Antibiotics Responsibly, Guidance, Education and Tools; **RCGP**, Royal College of General Practitioners; **AMS**, Antimicrobial Stewardship; **NPS**, Net Promoter Score

e-Bug topics across key stages

EYFS 3-5yrs KS1 5-7yrs

KS2 7-11yrs

KS3 11-14yrs

KS4 14-16yrs

	EYFS	KS1	KS2	KS3	KS4
Introduction to Microbes					
Useful Microbes					
Harmful Microbes					
Hand Hygiene					
Respiratory Hygiene					
Oral Hygiene					
Food Hygiene					
Animal and Farm Hygiene					
Sexually Transmitted Infections					
Vaccinations					
Antibiotics					
Antimicrobial resistance					

Abbreviations: **EYFS**, Early Years Foundation Stage; **KS1**, Key Stage 1; **KS2**, Key Stage 2; **KS3**, Key Stage 3; **KS4**, Key Stage 4

e-Bug engagement 2024 to 2025

Access
Over 128,000 views on the e-Bug website

Social Media
Reached over 3,000 followers on X and over 288,000 views on YouTube

Global Reach
Partnered with seven countries

Training
Two e-learning courses hosted on FutureLearn

Newsletter
Quarterly newsletter distributed to 10,000 subscribers

Antibiotic Guardian pledges

190,648*

Antibiotic Guardian pledges on main pledge page from inception (2014) to end of 2024

104

Organisations registering AMS activity through Antibiotic Guardian in 2024

75

Entries to the Antibiotic Guardian Shared Learning Awards in 2024

2024 **12,967**

2023 **19,321**

2020 **36,733** 2021 **32,423** 2022 **13,951**

17,053

International pledges on main pledge page, African subpages and translated subpages

194

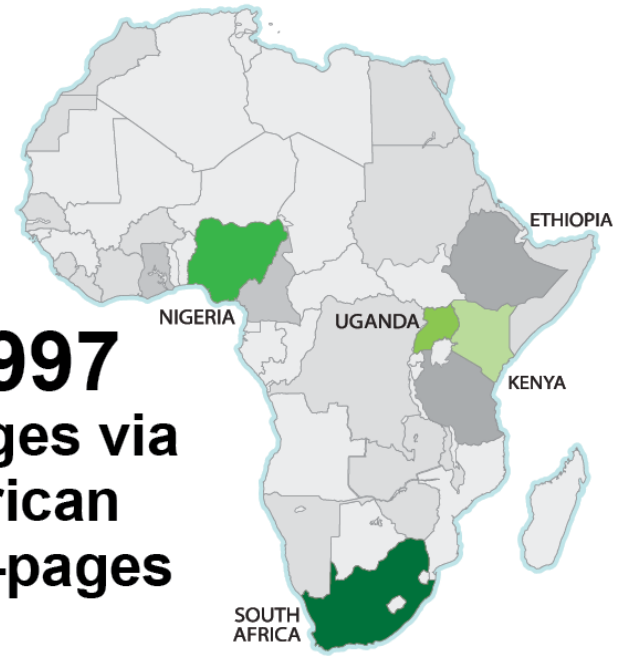
Countries represented in international pledges

*There are over 200,000 pledges including pledges made on the main and on international pages

International Antibiotic Guardian pledges

TOTAL PLEDGES (29/08/25) 212,741

International Pledges (31/12/2024) 17,053



3,997 pledges via African sub-pages

African AGs registered on the Africa Subpages (n=3,882)

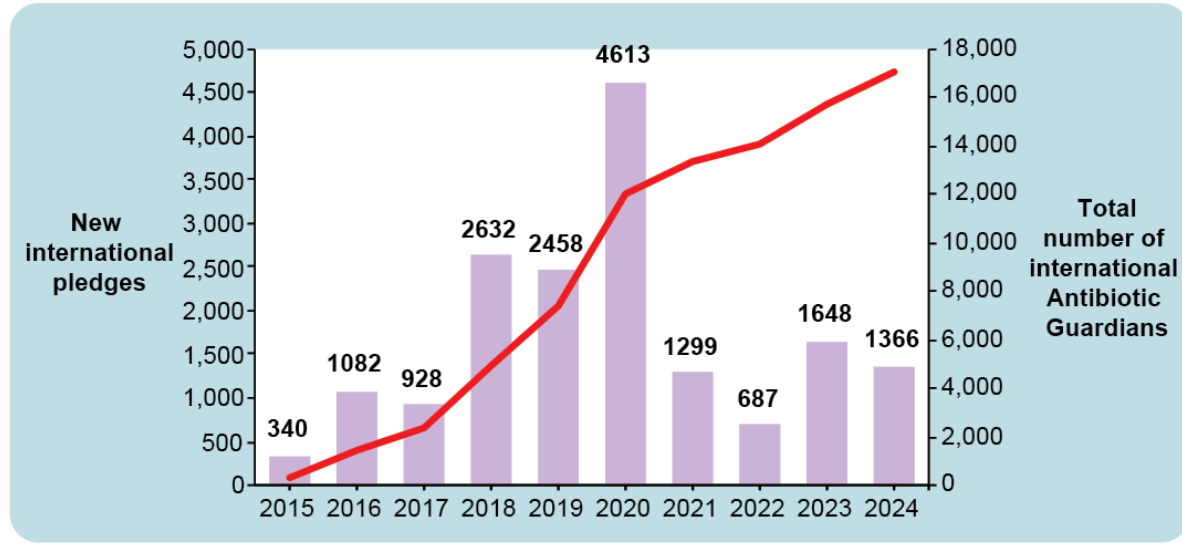
67.7% were healthcare professionals

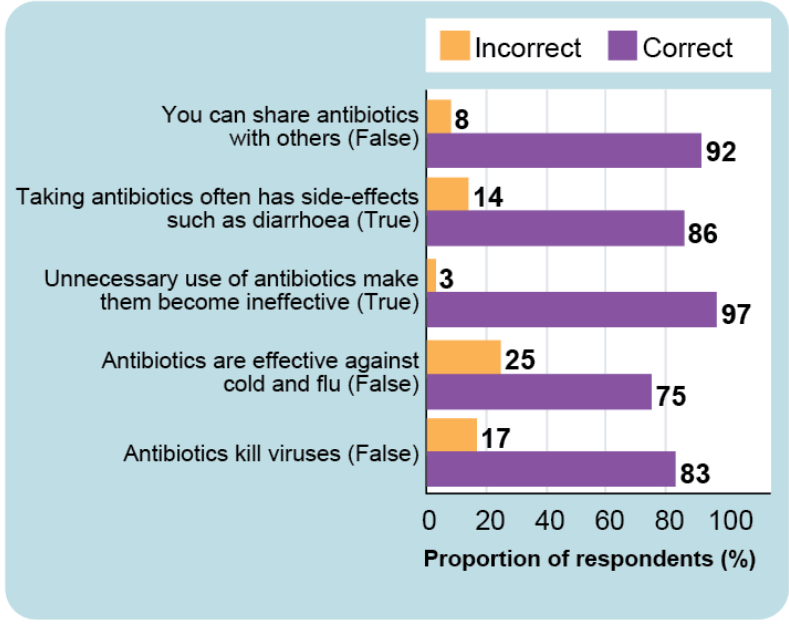
Other categories include:

Students 21.1%

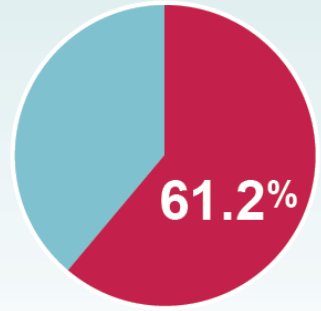
Farmers 10.8%

Citizens 0.4%





Answered all five AMR knowledge questions correctly



National World AMR Awareness Week (WAAW) Toolkit Evaluation

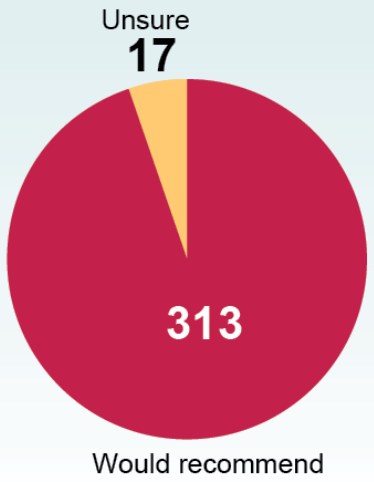
World AMR Awareness Week (WAAW)

Toolkit views
2024 **4,061**
2023 **963**

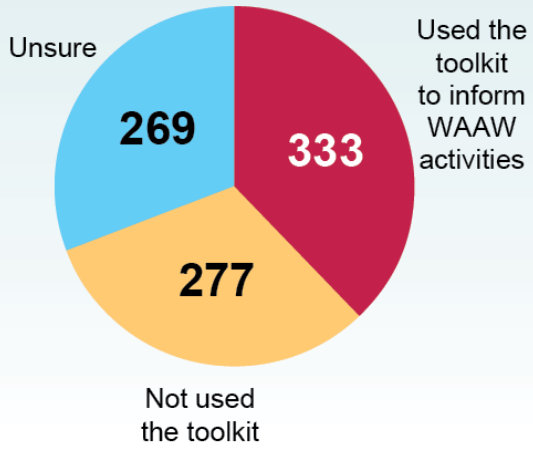
Social media posts
#WAAW = **1,513**
#KeepAntibioticsWorking = **962**
#AntibioticGuardian = **340**

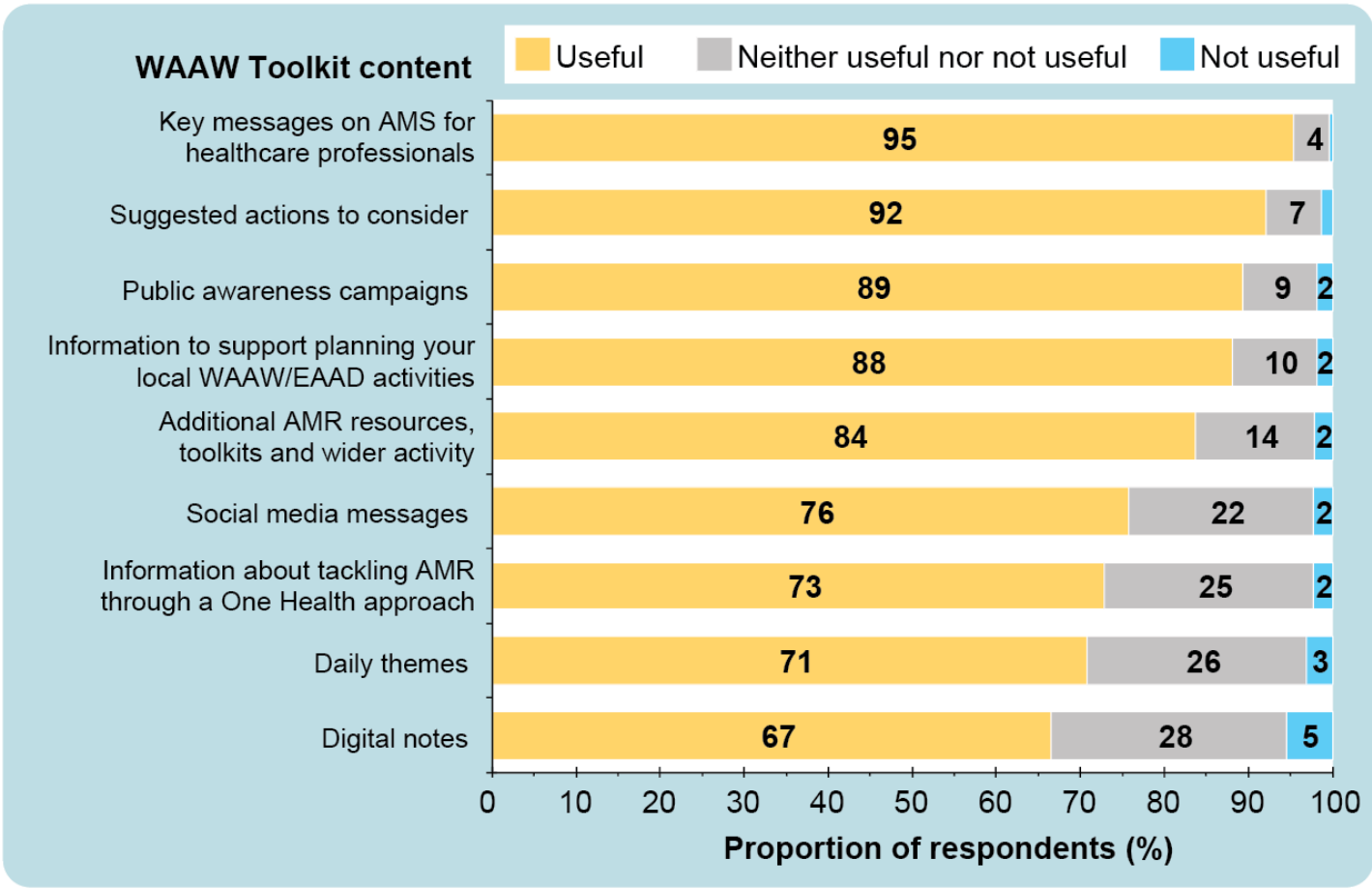
WAAW webinar
906 registrants

Number of webinar registrants who would recommend the toolkit to others



Number of webinar registrants who reported using the toolkit for their WAAW activities

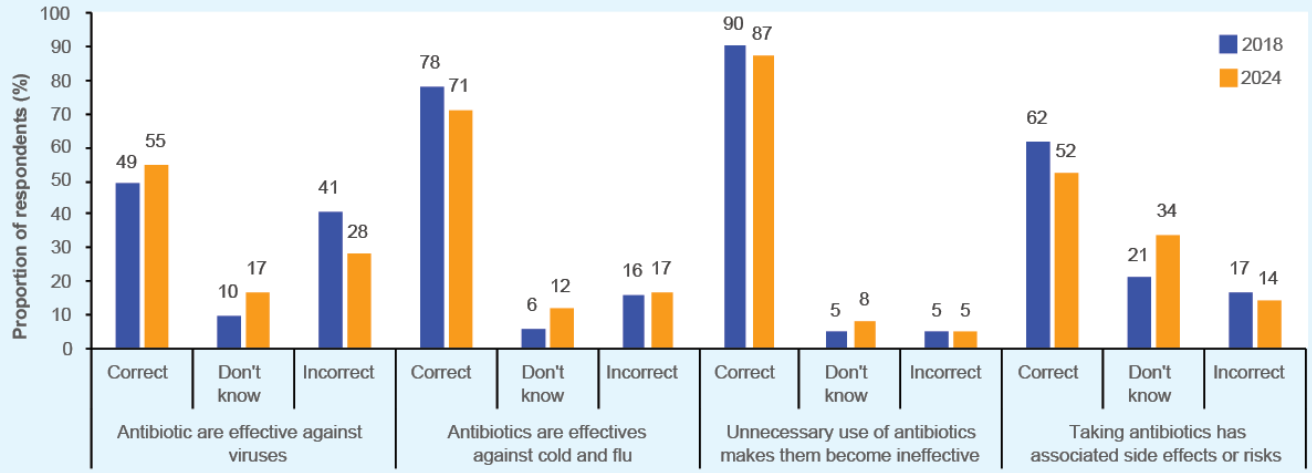




By 2029, we aim to increase UK public and healthcare professionals' knowledge on AMR by 10%, using 2018 and 2019 baselines, respectively

Public Survey Methods

Ipsos conducted an online questionnaire as part of a routine survey across the UK. Representativeness of the sample was ensured in 2024 by using quotas set on age, gender, region and working status and weighting. Results were compared to findings from the 2018 Eurobarometer questionnaire.



% of people answering all four questions correctly

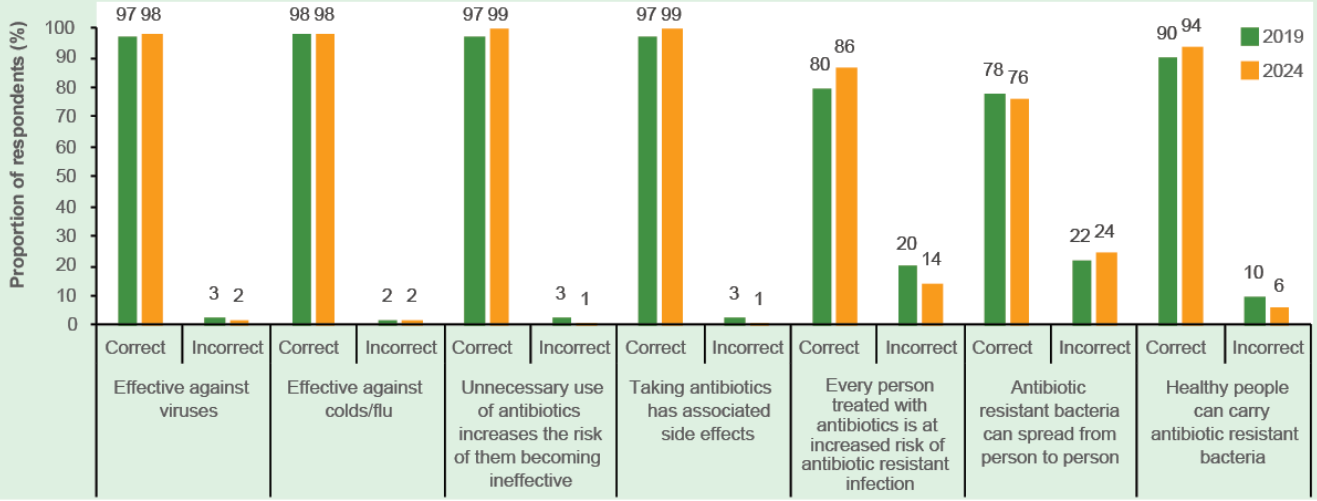
2018 – 29%

2024 – 28%

HCP Survey Methods

A previously EU-wide validated online survey tool was used to survey HCPs across 30 EU/EEA countries, including the UK, between 28 January and 4 March 2019, and repeated in the UK between 1st and 18th March 2024. Patient-facing HCPs from the four UK nations participated.

Tang *et al*. JAC-AMR, Under review. 2025



% of people answering all seven questions correctly

2019 – 59%

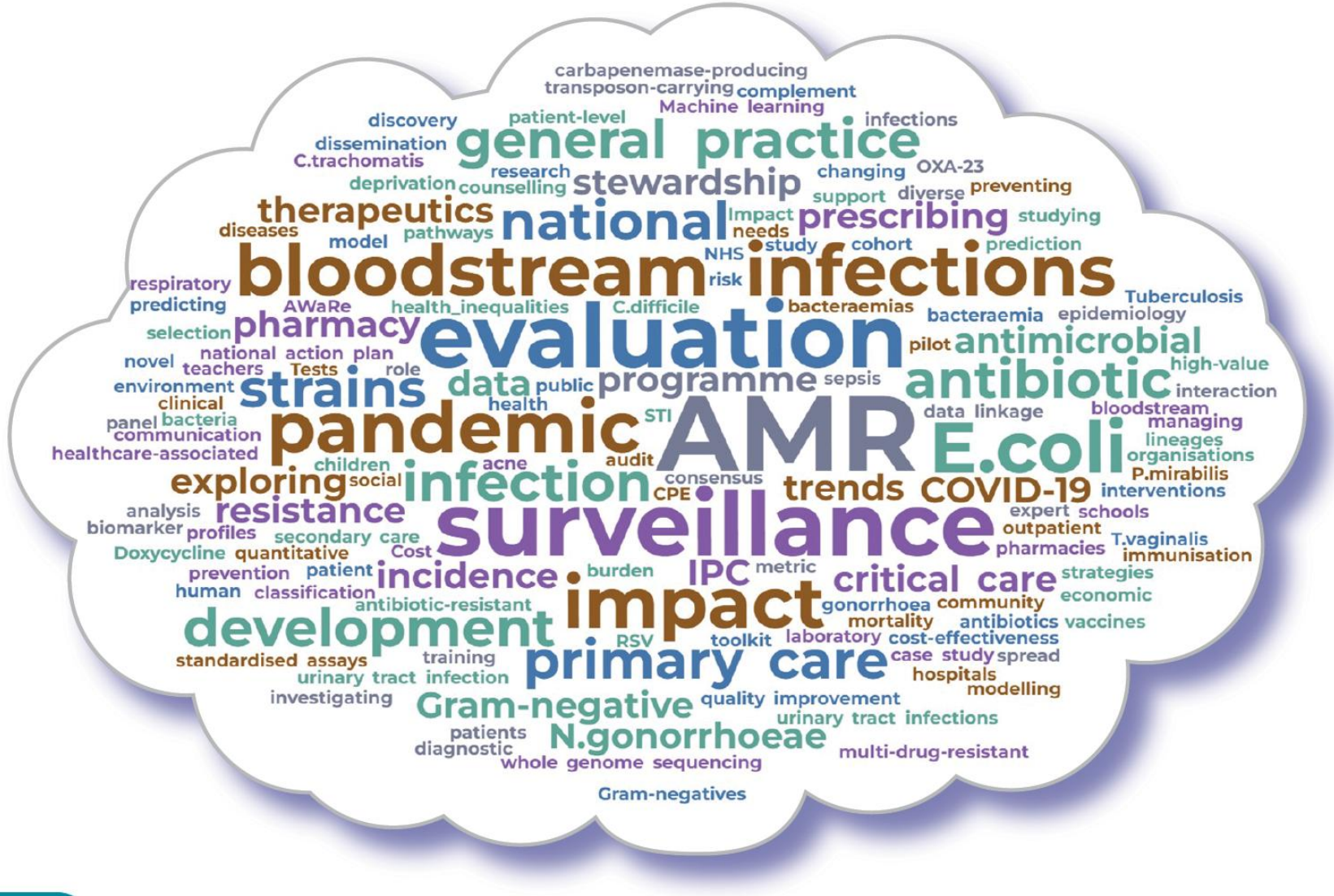
2024 – 63%

*different methodologies and sample compositions were used between the baseline and 2024 surveys. Therefore, differences should be interpreted with caution

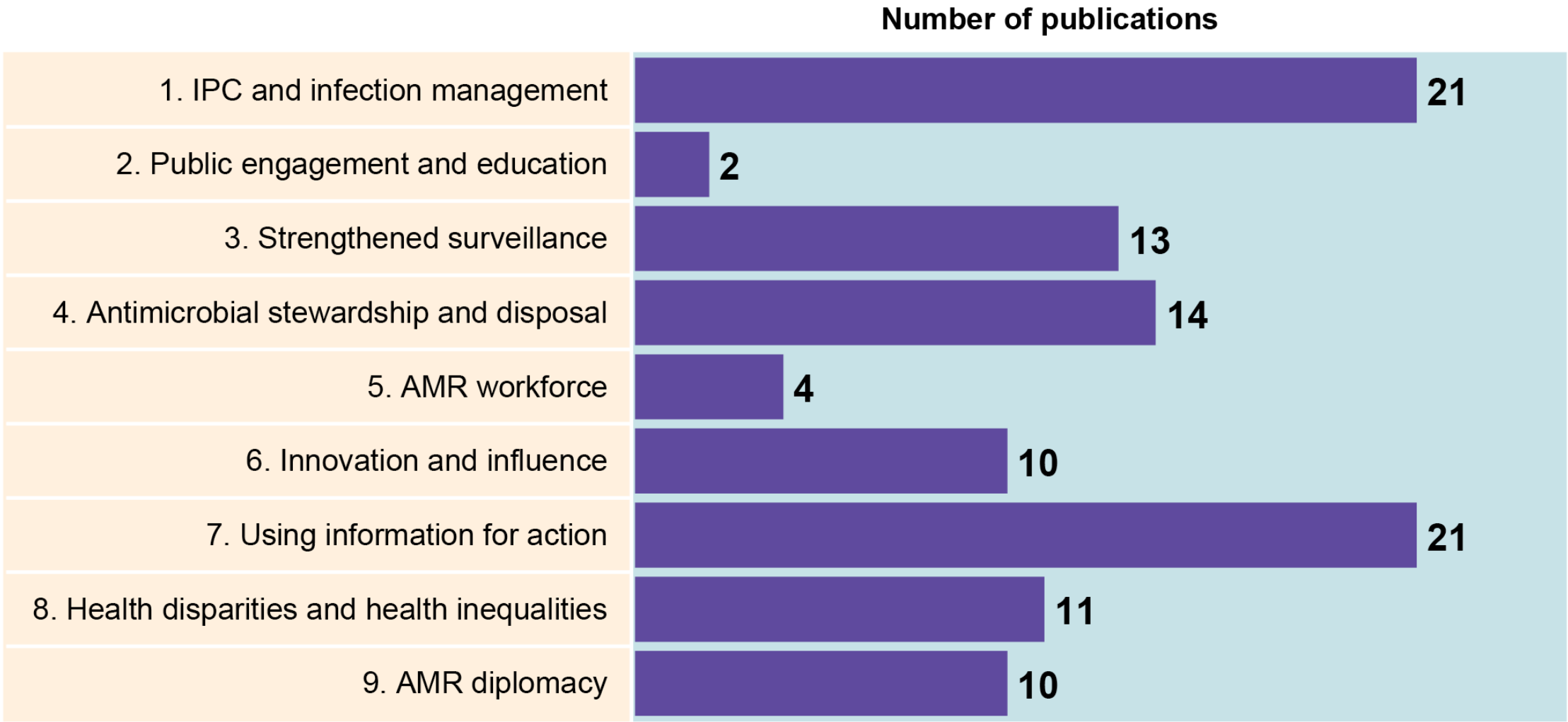
UK Health Security Agency

Chapter 7: Research insights and knowledge mobilisation

Word cloud representation of keywords for the research projects showcased in 2024-2025 Research insights and knowledge mobilisation chapter



AMR peer-reviewed publications from April 2024 to March 2025 by UK National Action Plan for AMR 2024-29 outcome



Examples of current research projects for the UK National Action Plan for AMR 2024-29 top 10 research priorities

What is the cost of AMR?

Cost and clinical impact of IPC measures for CPE in hospitals: a cost-effectiveness model

What is the relationship between AMR and health disparities?

Health inequalities in incidence of bacteraemias: a national surveillance and data linkage study, England, 2018 to 2022

How to influence public awareness and behaviour on AMR?

Exploring community pharmacy professionals and general practitioners' views on primary care communication and pathways to access antibiotics in England

How to address AMR in international settings?

Novel vaccines and therapeutics for Tuberculosis and other respiratory diseases

What are the basic drivers and effects of AMR, and how does it spread?

Dissemination of OXA-23 carbapenemase-producing *Proteus mirabilis* and *Escherichia coli* is driven by transposon-carrying lineages in the UK

Research to better understand how the built environment contributes to the spread of infection

How can we prevent AMR from spreading?

Preventing and managing urinary tract infections: Exploring interventions and strategies implemented by NHS commissioning organisations in English primary care, 2017–2022

How can we optimise the use of antimicrobials?

Adaptation of the WHO AWaRe (Access, Watch, Reserve) antibiotic classification to support national antimicrobial stewardship priorities in the UK

What methods can be used to prevent, treat and manage infections without antimicrobial medicines?

Predicting the impact of RSV immunisation on antibiotic use and resistance: a modelling and economic analysis for England

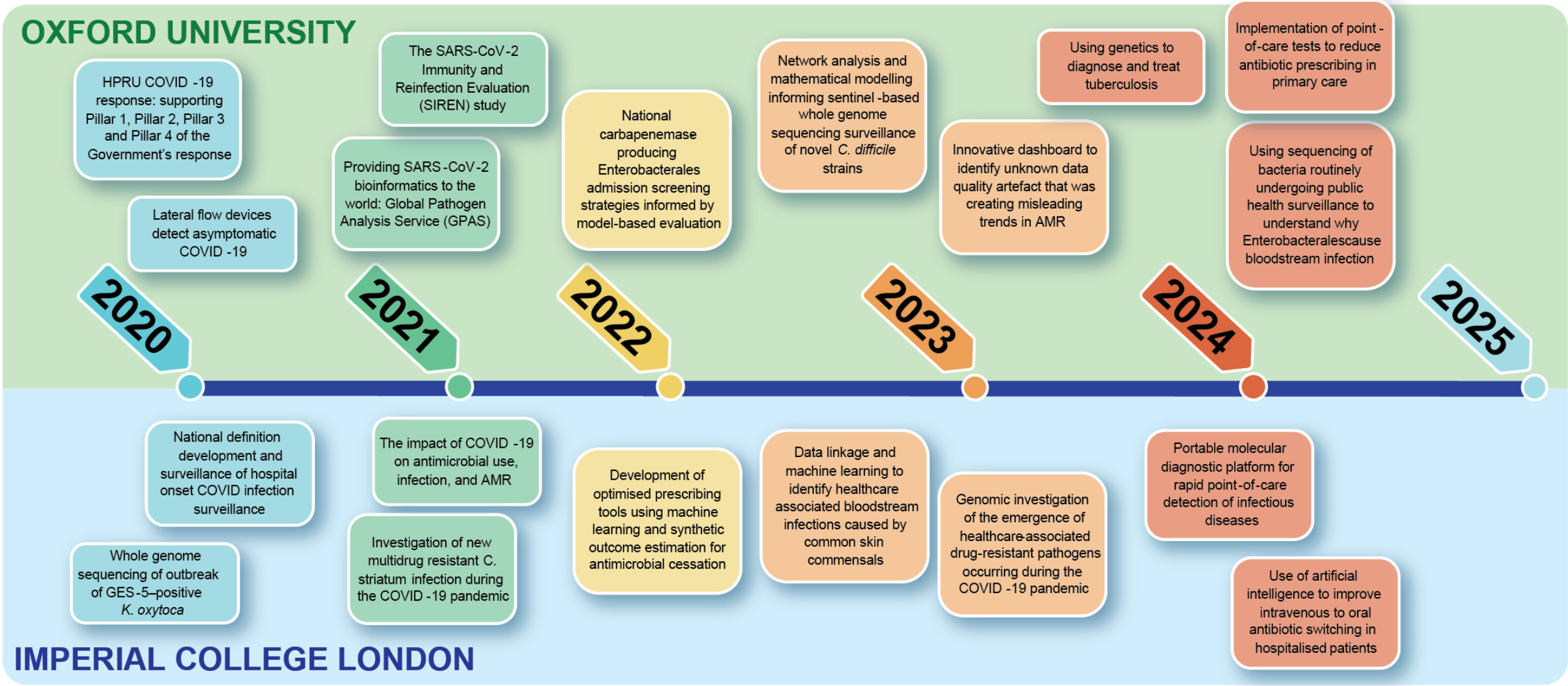
How can we drive innovation of new products for tackling AMR?

Development of High-Value Biomarker Diagnostic Tests for Hard-to-Diagnose Infections

How can we ensure what is known to work is implemented?

Mixed-method impact and implementation evaluation of the 'Pharmacy First' services for management of common conditions

Examples of Health Protection Research Unit (2020-2025) projects generating public health and patient impact



UKHSA-Oxford Health Protection Research Unit (2025-2030) in AMR and HCAI

Needs


Better Surveillance


Effective, value for money, interventions


New tools for infection prevention & control


Optimise stewardship


Better routes to diagnostic adoption


Ways to reduce Gram-negative infections

Research Themes

1. Optimising surveillance
- transformative automated surveillance
- advanced analytics using large-scale patient-level national data

2. Establishing population impact
- cost-effectiveness of interventions

(e.g. stewardship, diagnostics, IPC, vaccination, surveillance)

3. Advancing stewardship approaches
- optimise stewardship amongst underserved groups
- tailor methods for different primary care contexts and HCPs

4. Mitigating Gram-negative infections
- innovate surveillance to identify drivers and reservoirs for enterobacterales/AMR in healthcare
- define robust intervention strategies

Translational Impacts

Equality, Diversity & Inclusion

Patient & public involvement, engagement and participation

Knowledge mobilisation

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Chapter 8: ESPAUR oversight group members' AMR activities – mapping/mapped to the National Action Plan outcomes and actions to tackle AMR

Examples of activities undertaken by ESPAUR Oversight Group members to support the UK National Action Plan for AMR 2024-29

Theme: Global partner
Outcome: AMR diplomacy
Commitment: 9.2, Access and stewardship

Undertaking Global Antimicrobial Stewardship Accreditation Scheme to support hospitals globally with quality improvement to develop and potentially become a Centre of Excellence for AMS.

Theme: Optimising the use of antimicrobials
Outcome: AMR workforce
Commitment: 5.1, Health and Social Care training

Delivering professional educational programmes on the prevention of infection, aligned to AMS.

Theme: Optimising the use of antimicrobials
Outcome: Antimicrobial Stewardship and disposal
Commitment: 4.1, Clinical decision support

Collaborating with UKHSA to implement the TARGET antibiotics toolkit to support primary care providers to effectively utilise AMS interventions.

Theme: Global partner
Outcome: AMR diplomacy
Commitment: 9.2, Access and stewardship, 9.5, Advocacy and engagement

Collaborating with international governments and with World Health Organisation SEARO to present the activities and future direction for dental activities to tackle AMR, and support stewardship.

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Chapter 9: Knowledge mobilisation of ESPAUR report – feedback from report users

ESPAUR report knowledge mobilisation and feedback from report users

Report user feedback from webinars

Most used ESPAUR Chapters:

2022/23 webinar survey (*n*=404):		2023/24 webinar survey (*n*=389):
201	Antimicrobial resistance	165
150	Antimicrobial consumption	110
154	Antimicrobial stewardship	131
44	NHS England: improvement and assurance schemes	36
56	Professional and public education, engagement, and training	53
41	Research	31
29	Stakeholder engagement/ESPAUR members' actions to tackle AMR	24
	Multiple chapters (3 or more chapters)	97

Most common reasons for accessing report

179	Reading for information	58
	Personal learning	31
69	To share with others i.e. presentation	30
67	Inform policy	27
	Systems working	23
32	Use for local indicators	22
	Research	10
	All of the above	102

How the ESPAUR report has been used and knowledge mobilised

An AMS scoping review found that the ESPAUR report received **14,499 visits** from September 2020 to October 2024

Key messages from the ESPAUR report have been knowledge mobilised by Oversight Group members to their organisations and wider audiences

The ESPAUR report was referenced in **63 articles** when PubMed literature database and Policy Commons grey literature database searches were conducted