



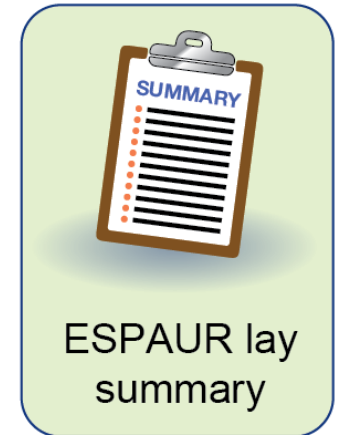
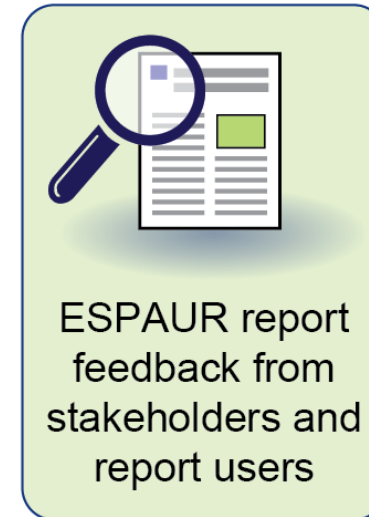
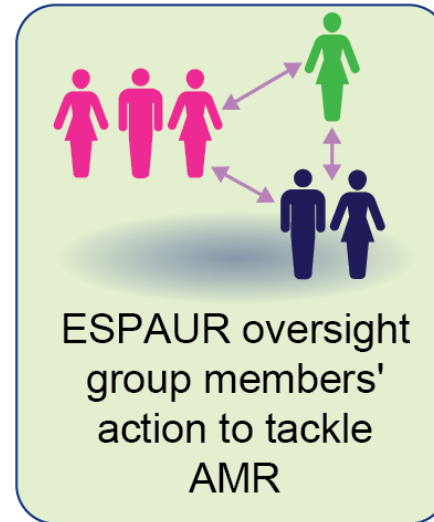
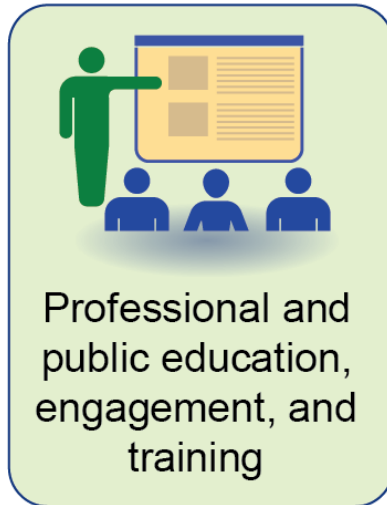
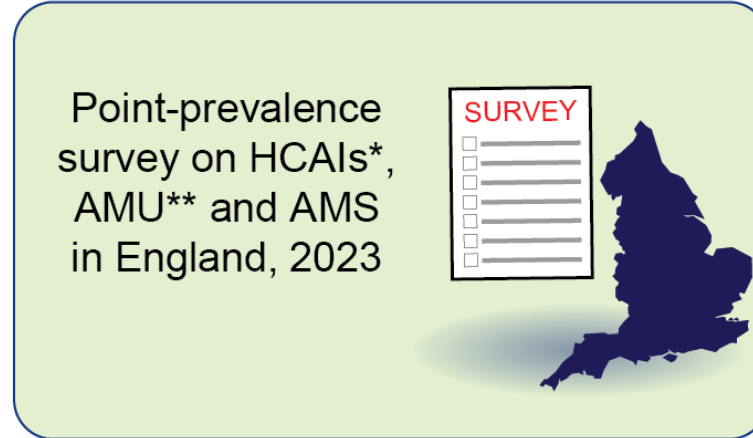
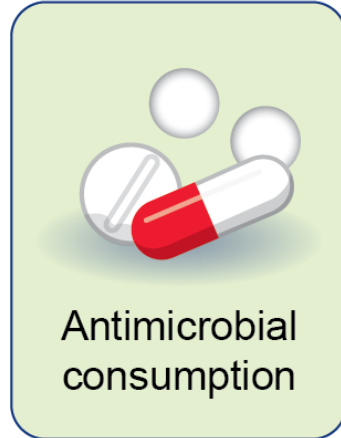
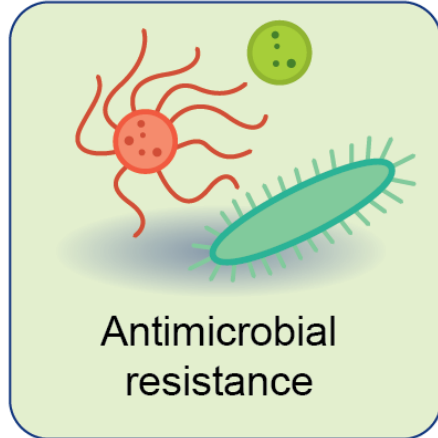
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ESPAUR report infographics 2023 to 2024

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



ESPAUR Report 2023-24



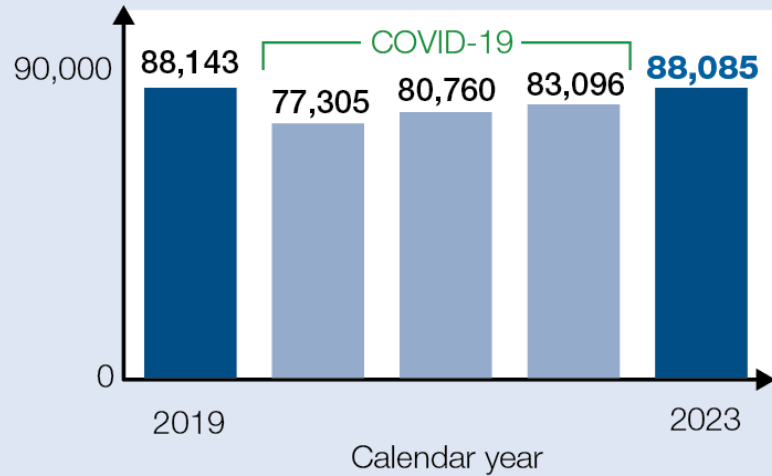
* Healthcare-associated infections
** Antimicrobial use



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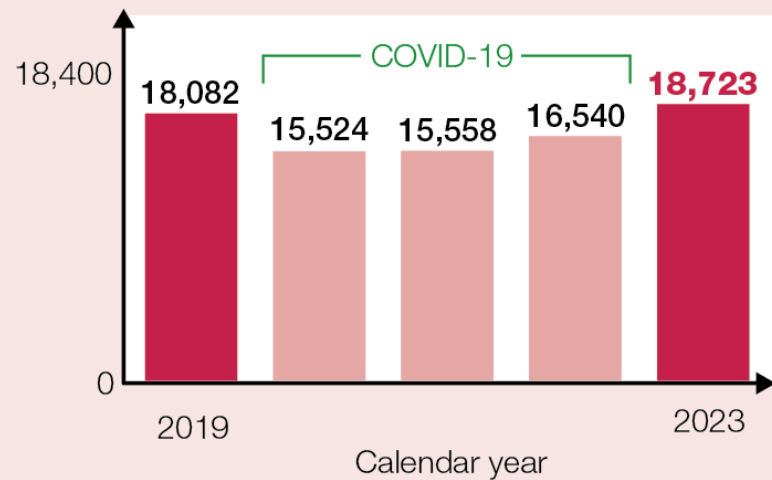
Chapter 2: Antimicrobial resistance (AMR)

The burden of bacteraemia and resistant bacteraemia



No net change

in numbers of bacteraemia* since 2019

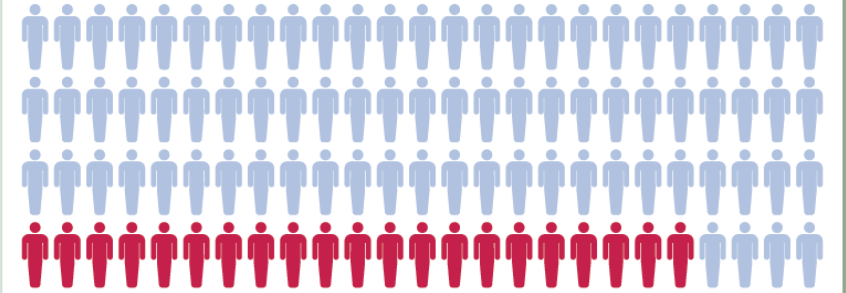


an INCREASE of

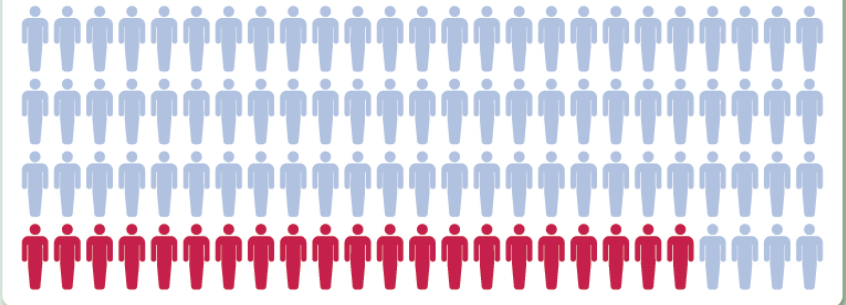
3.5%

in **resistant**[†] bacteraemia since 2019

2019




2023




This means that

21 out of **100**

people with a bacteraemia* had a **resistant** infection in 2023

 Resistant

 Susceptible

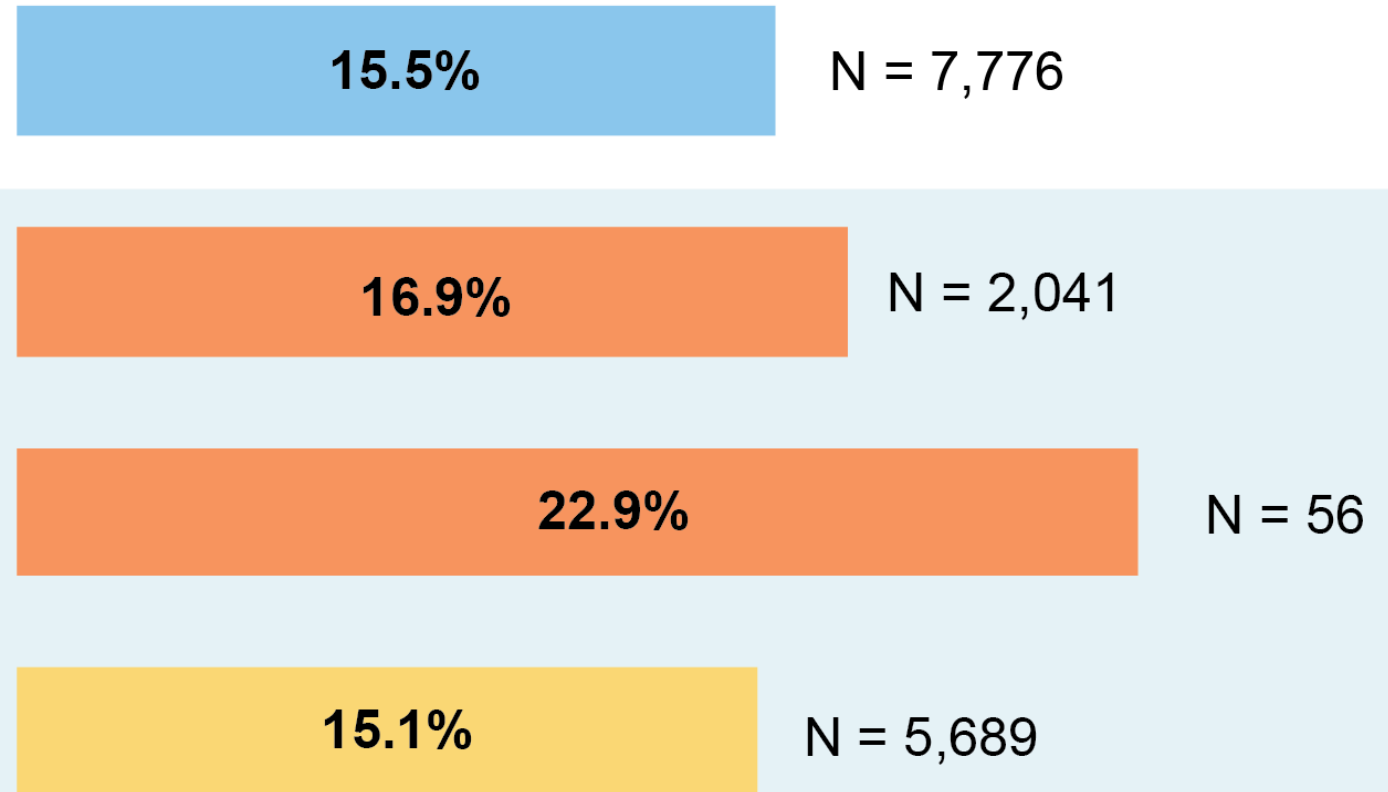
* Pathogens include: *E. coli*, *K. pneumoniae*, *K. oxytoca*, *Acinetobacter* spp., *Pseudomonas* spp., *Enterococcus* spp., *S. aureus* and *S. pneumoniae*.

† *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 2023

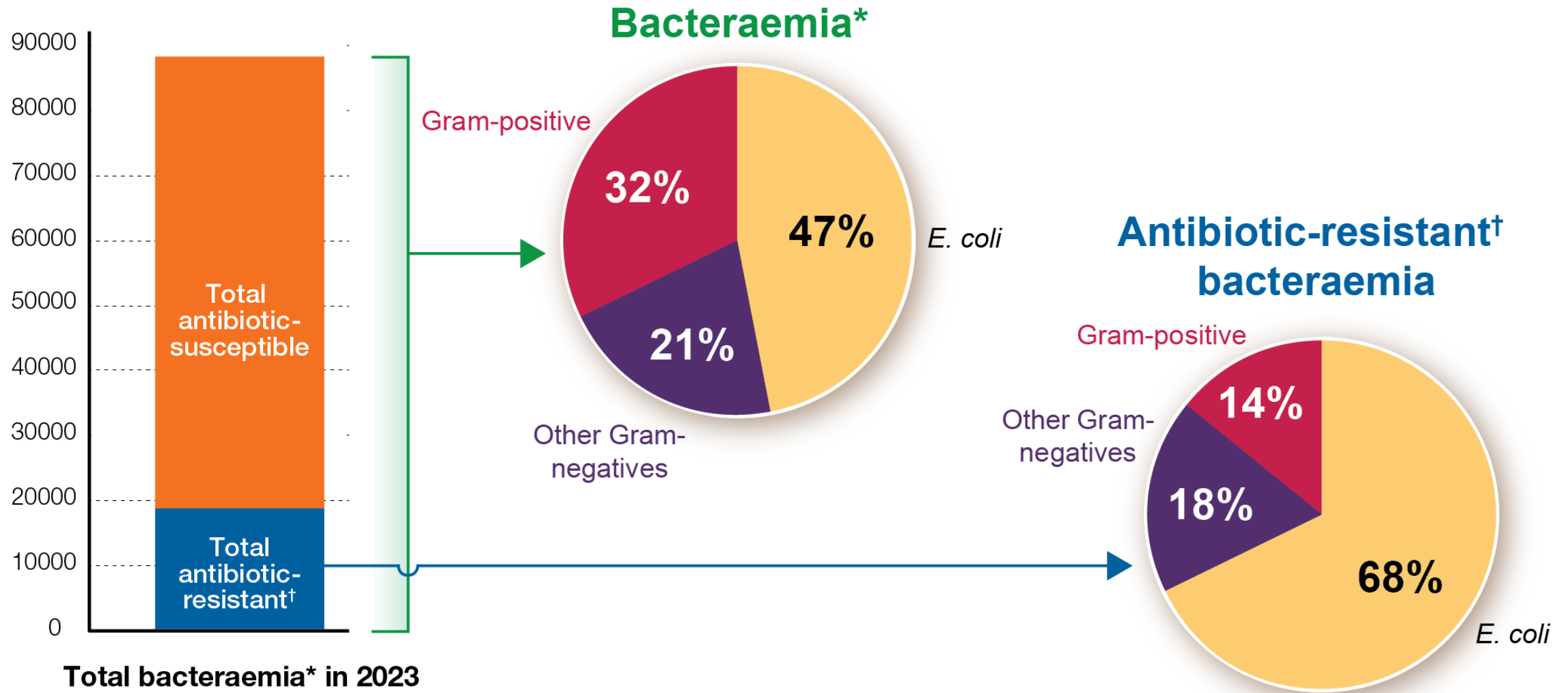
Gram-negative bacteria ↓

Percentage died within 30 days



*sterile site infections; [‡]AMR burden combinations

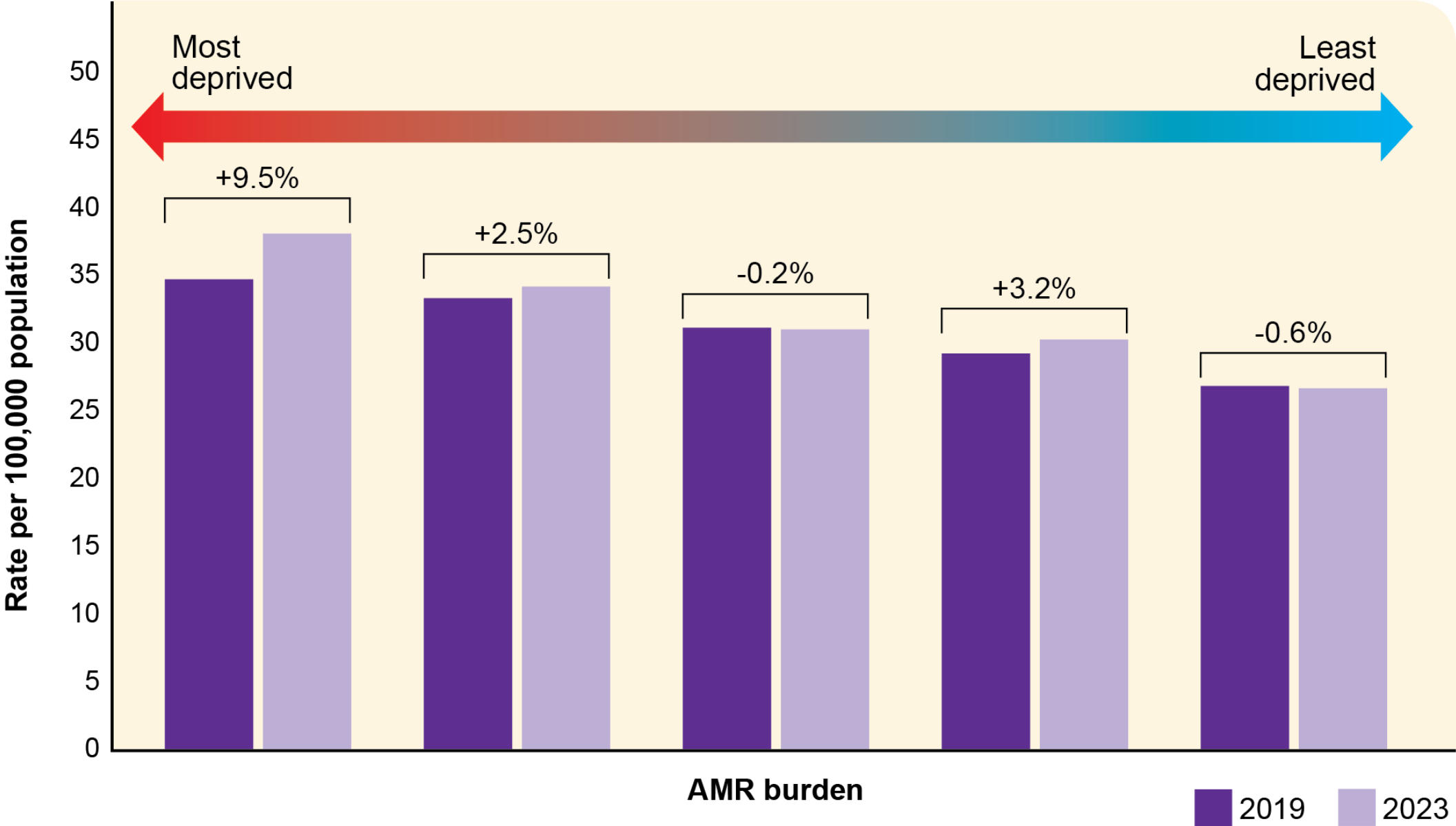
The burden of bacteraemia* resistant to critically important antibiotics



* 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.

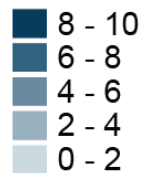
Rate of AMR burden per 100,000 population by Index of Multiple Deprivation in 2019 and 2023



Regional notifications per 100,000 population of acquired carbapenemase-producing organisms by carbapenemase family in England, 2023

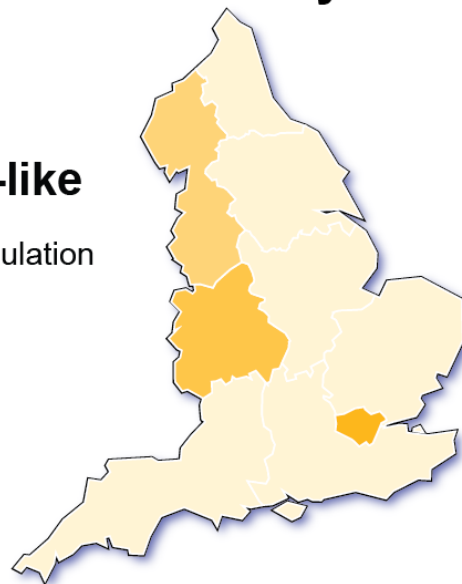
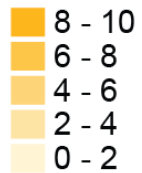
NDM

Rate per 100,000 population



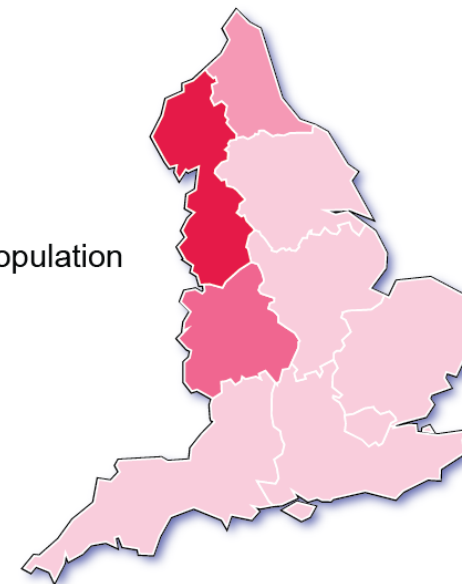
OXA-48-like

Rate per 100,000 population



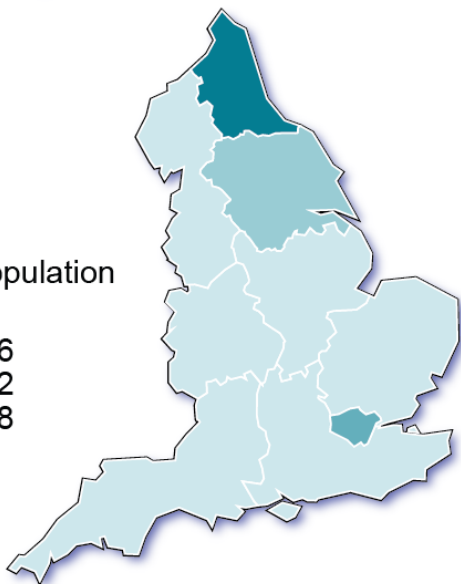
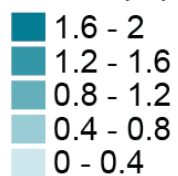
KPC

Rate per 100,000 population



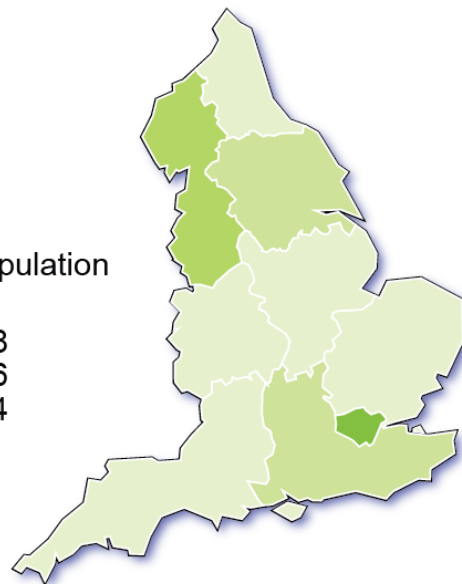
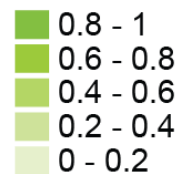
IMP

Rate per 100,000 population



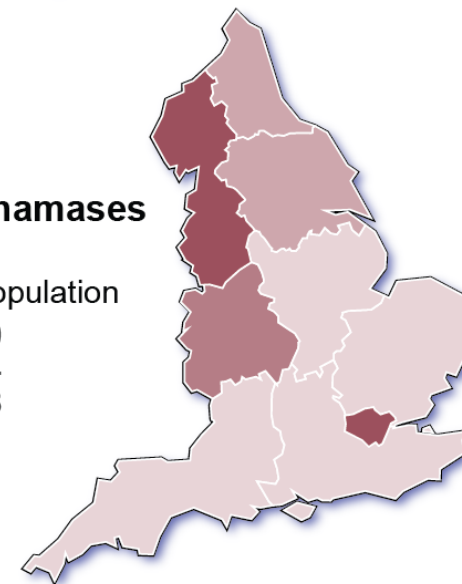
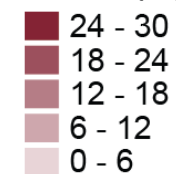
VIM

Rate per 100,000 population

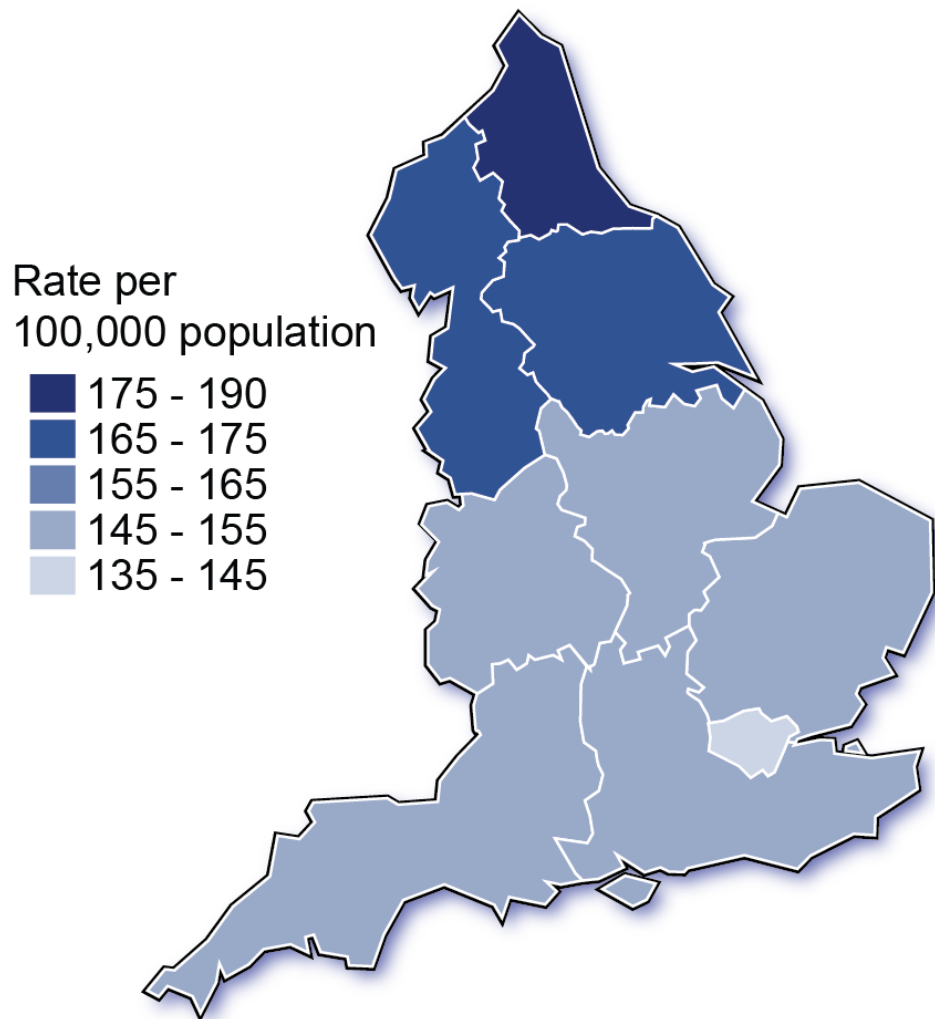


Total carbapenamases

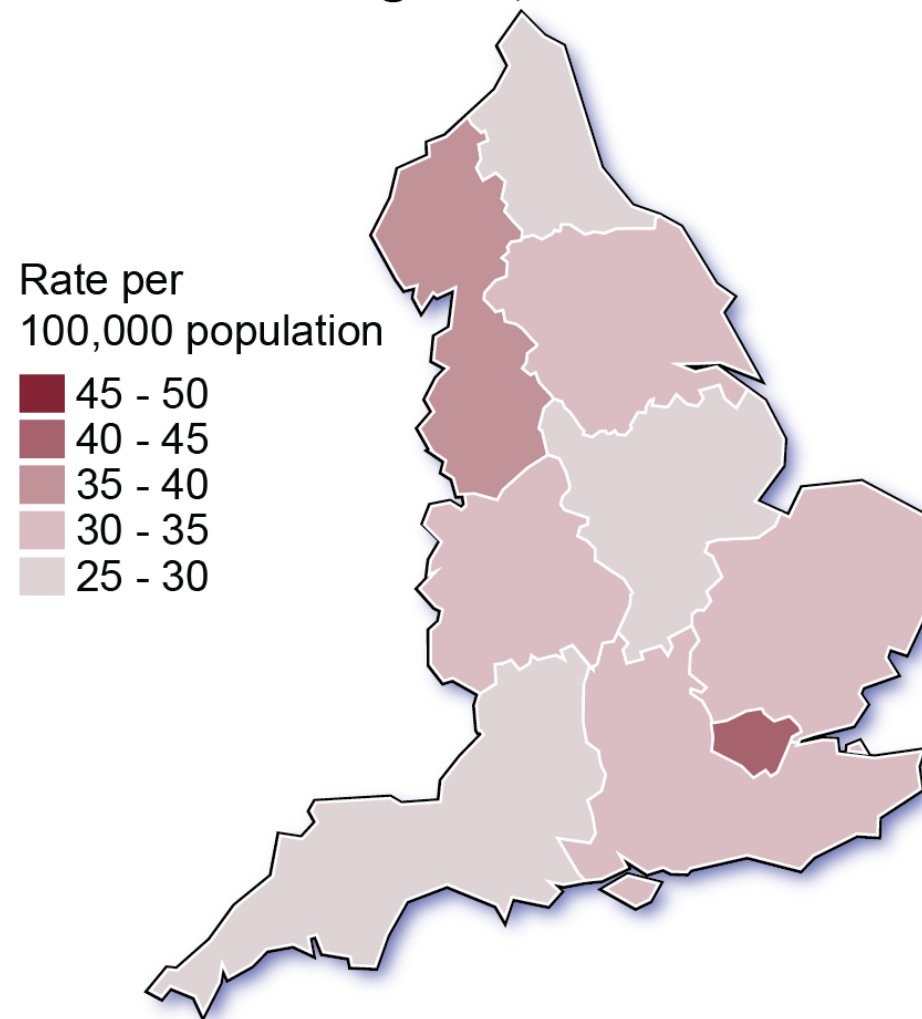
Rate per 100,000 population



Regional variation in rate per 100,000 population of the estimated rate of bacteraemia* in England, 2023



Regional variation in rate per 100,000 population of the estimated burden of antimicrobial resistance in bacteraemia* in England, 2023



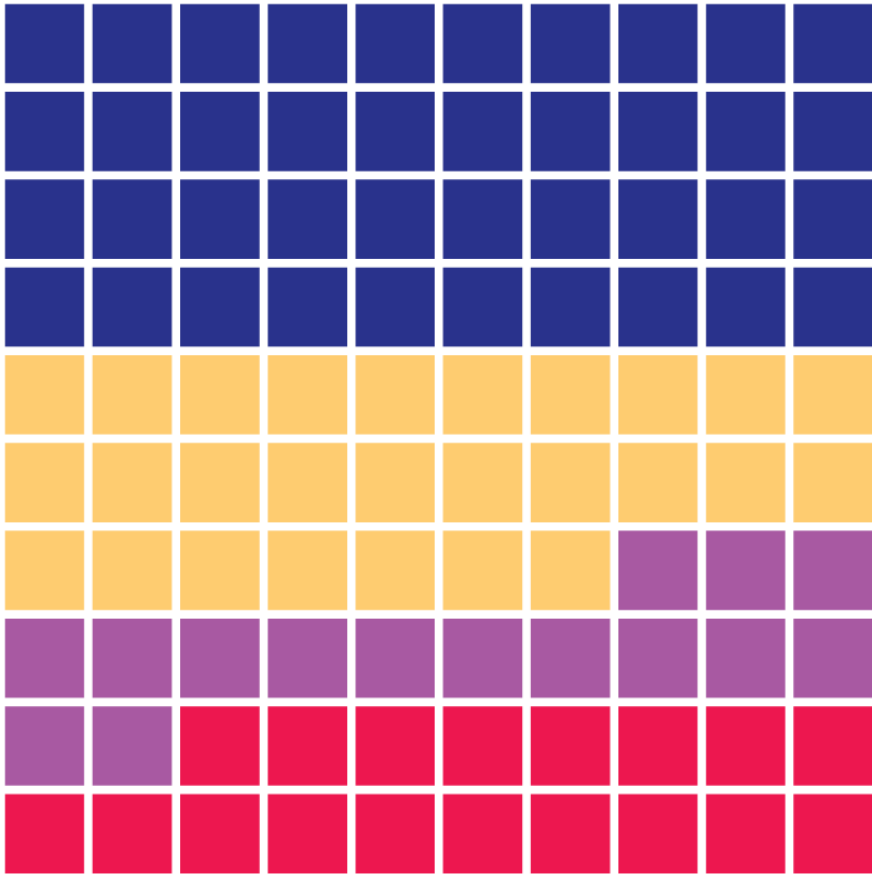
* Pathogens include: *E. coli*, *K. pneumoniae*, *K. oxytoca*, *Acinetobacter* spp., *Pseudomonas* spp., *Enterococcus* spp., *S. aureus*, and *S. pneumoniae*.

Yeast species bloodstream infections 2019 and 2023

2019



2023

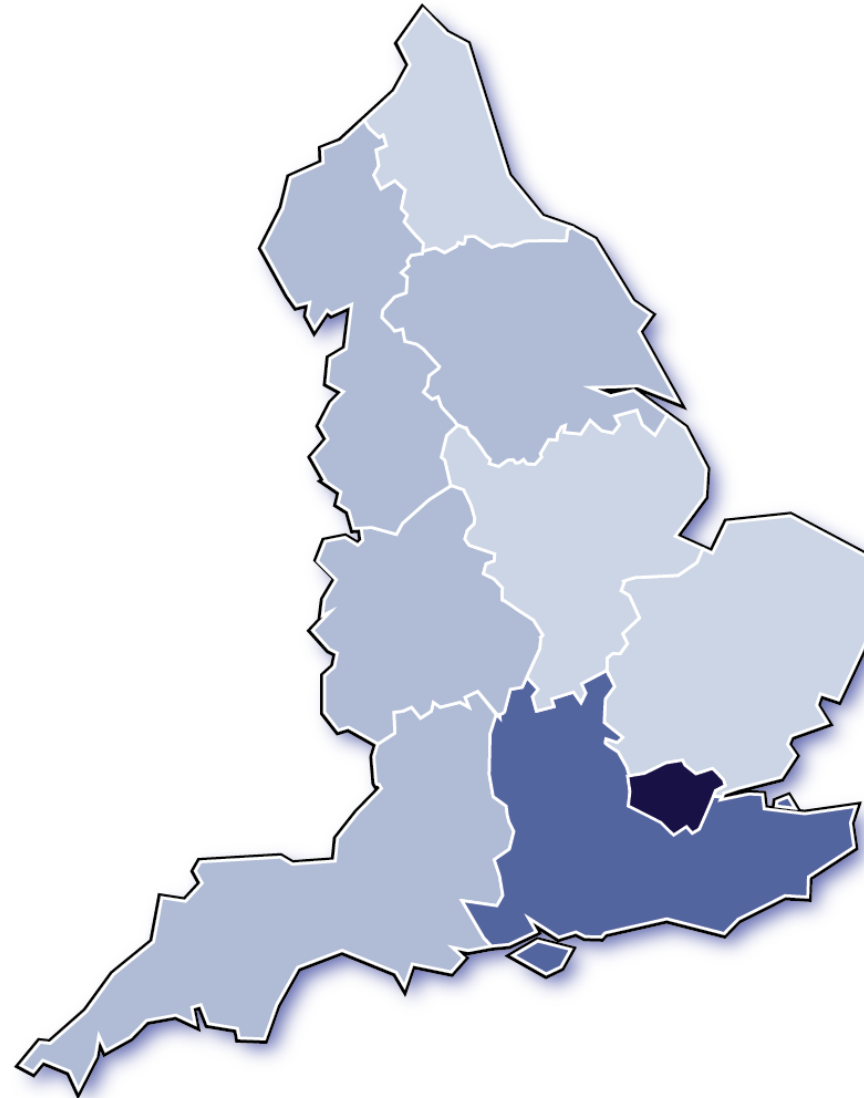
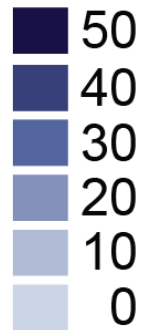


- *Candida albicans*
- *Nakaseomyces glabratus* (formerly *C. glabrata*)
- *Candida parapsilosis*
- Other yeast species*

*All other yeast species included in these analyses may be found in the ESPAUR 2024 report annexe.

Detections of *C. auris* in patients in England by UKHSA region; 2023

Patients with detections of *C. auris*



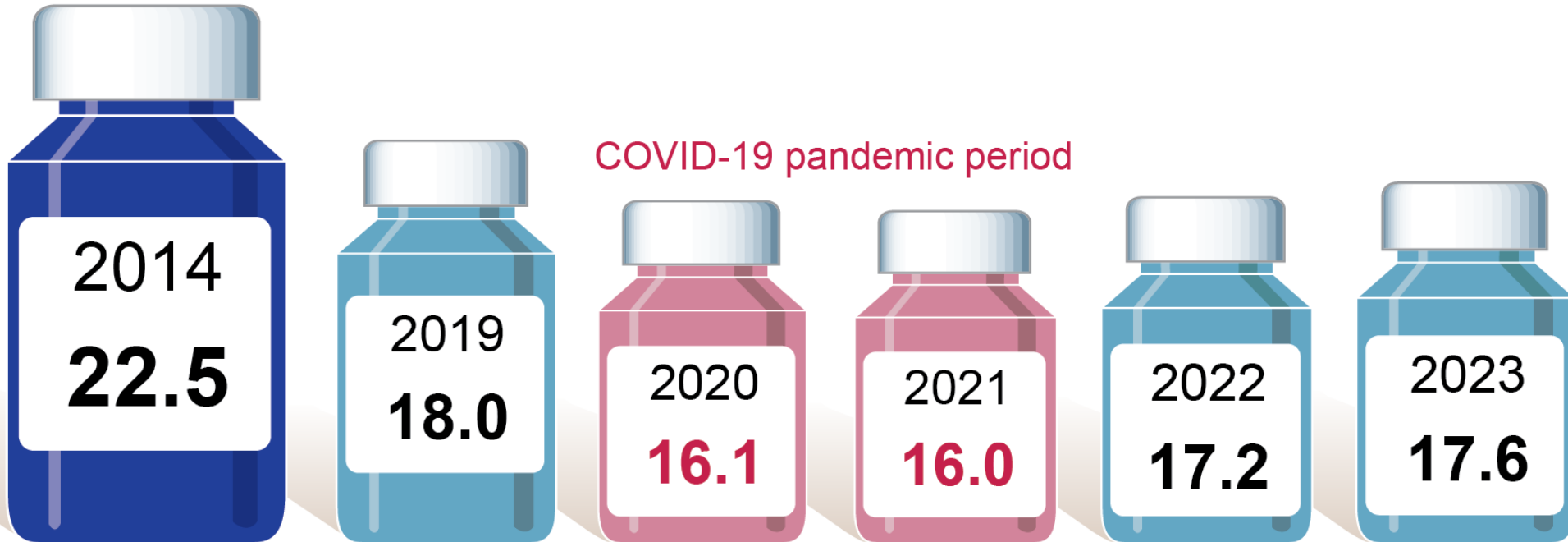


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Chapter 3: Antimicrobial consumption

Total consumption of antibiotics increasing towards pre-pandemic levels

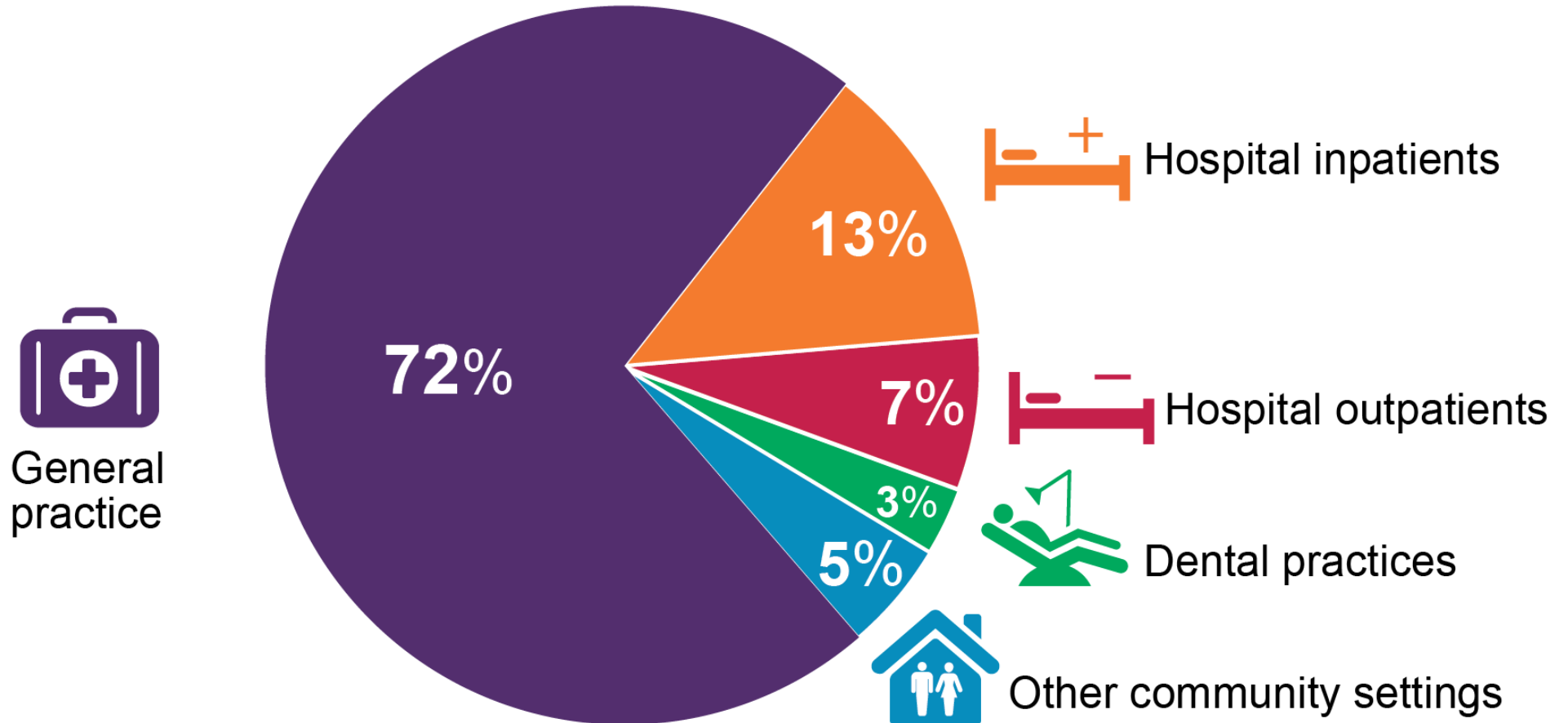
Peak in consumption



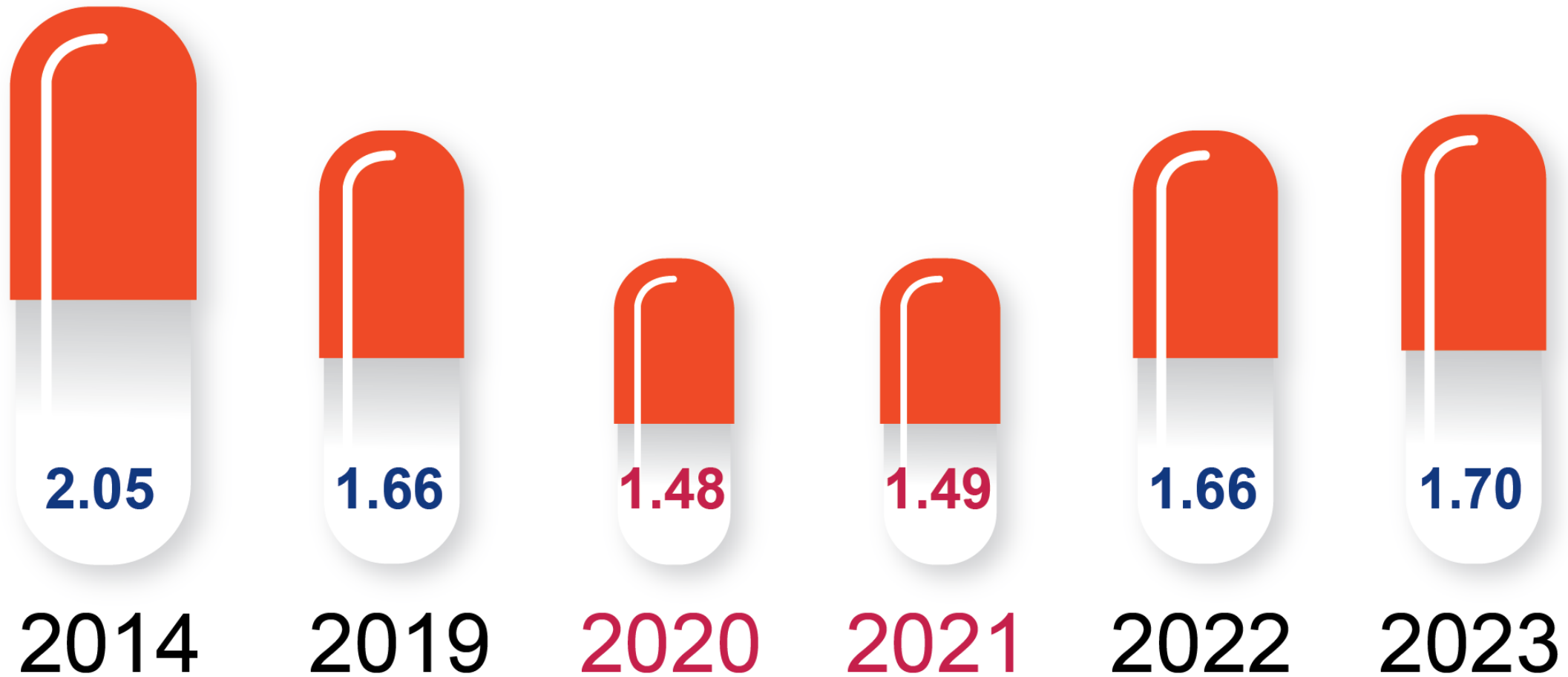
(DDDs per 1,000 inhabitants per day)

Total antibiotic consumption by prescriber setting as proportion of overall prescribing, England 2023

Who is prescribing?



Antibiotic consumption in primary care increased in 2023



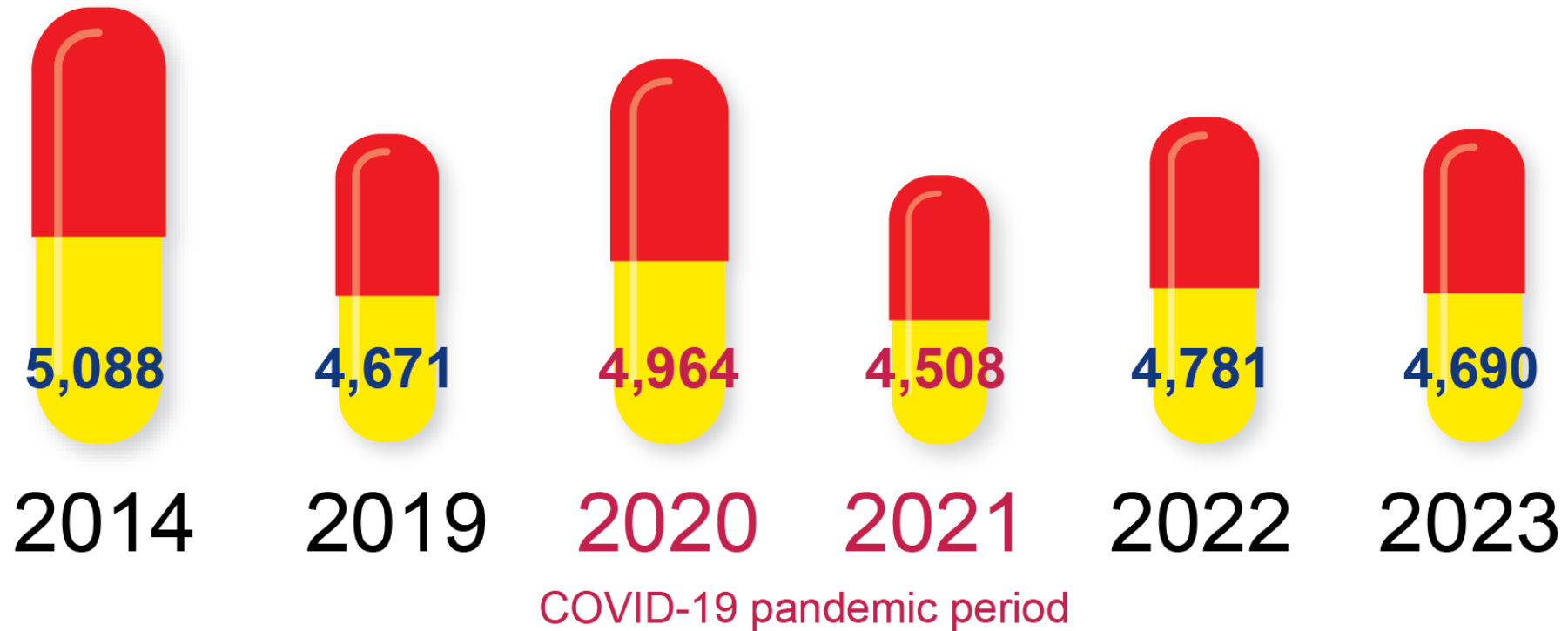
COVID-19 pandemic period

(Items per 1,000 inhabitants per day)

Antibiotic prescribing decreased in secondary care

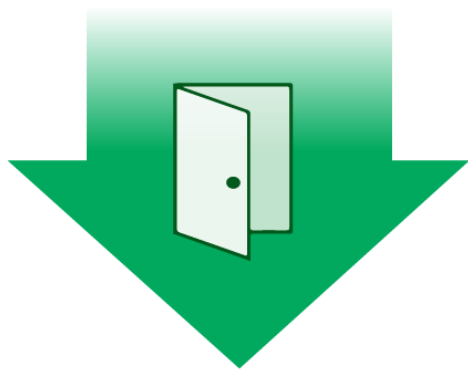


DDDs per 100,000 admissions



Being AWaRe

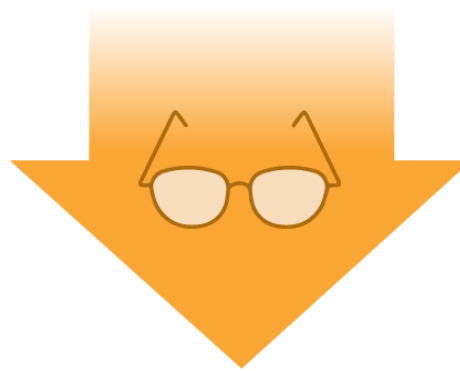
Access



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

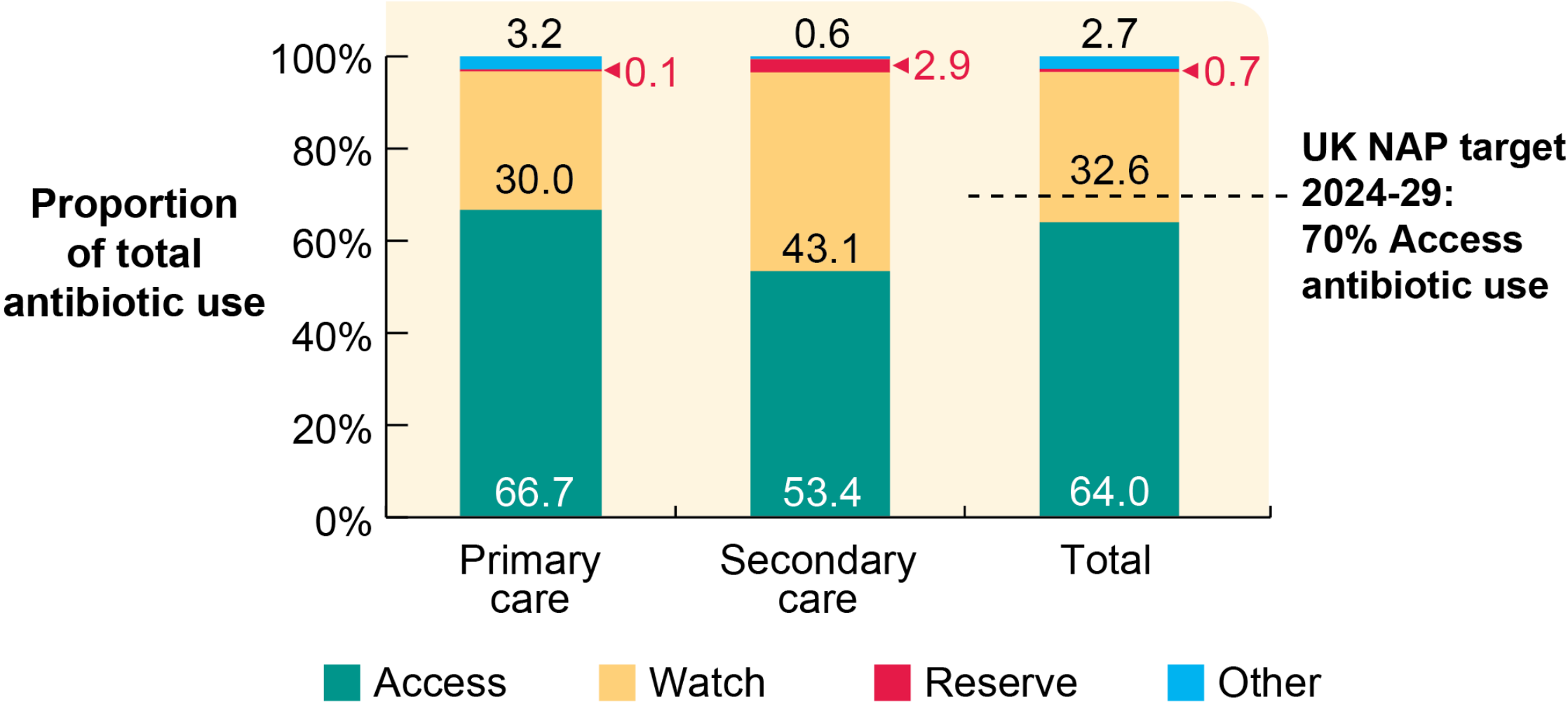
Reserve



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 healthcare system in 2023 (2024 UK AWaRe classification)



Change in Secondary Care AWaRe consumption: 2022 vs 2023 compared to 2019 vs 2023

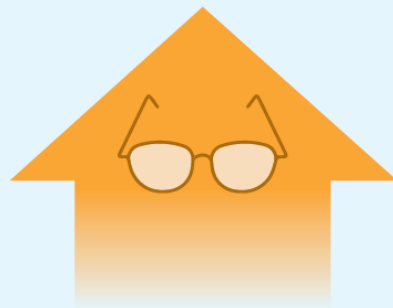
(% change in DDDs per 1,000 admissions)

% Change:
2019 vs 2023



-1.1%

Access



+1.4%

Watch



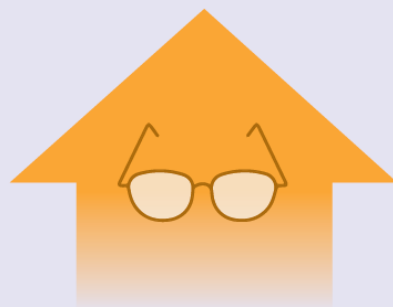
-0.5%

Reserve

% Change:
2022 vs 2023



+0.8%

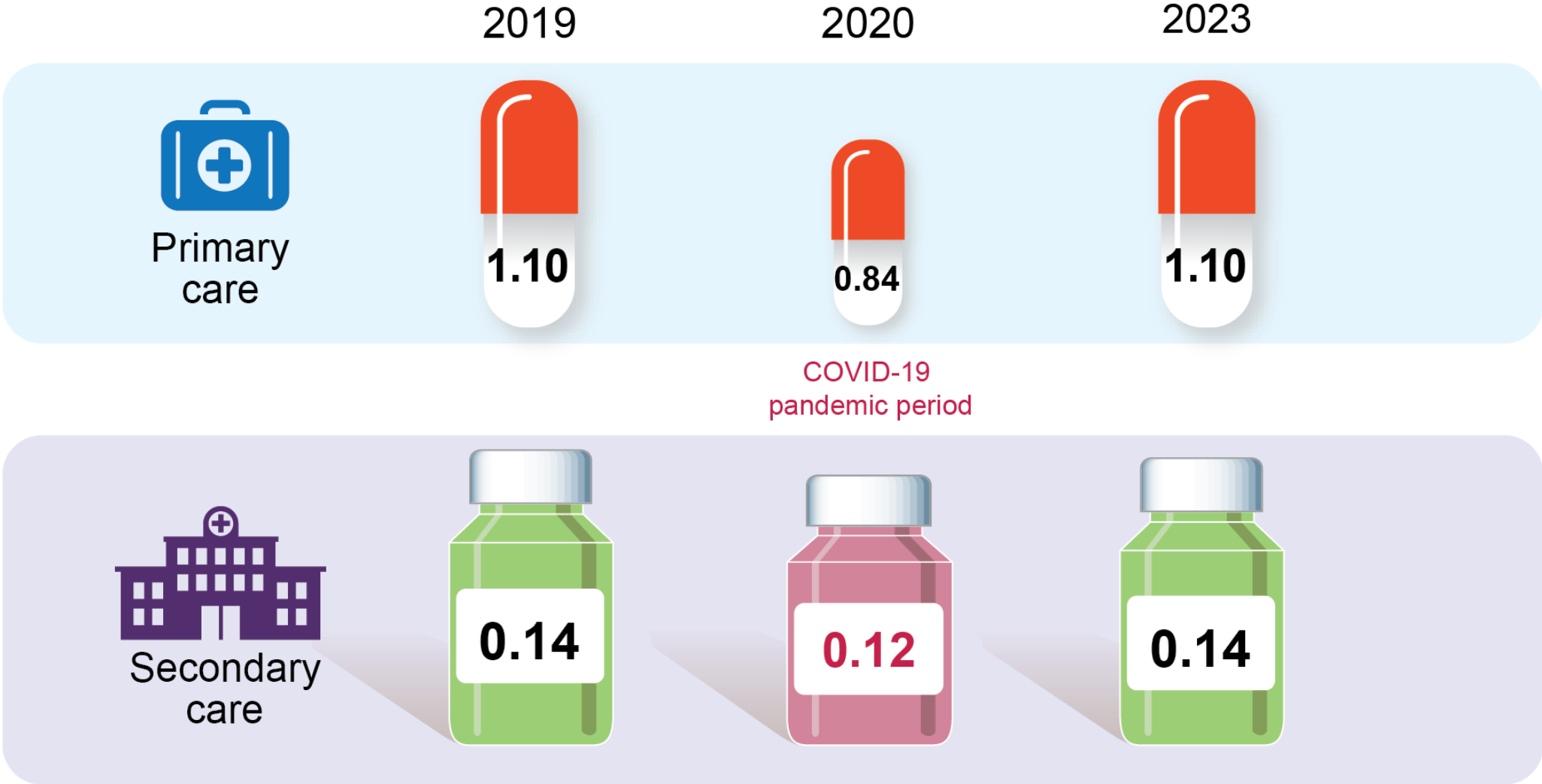


+3.5%



+5.0%

Consumption of antifungals in primary and secondary care



(DDDs per 1,000 inhabitants per day)

UK National Action Plan ambitions and England Progress

United Kingdom

AMR by 2025

Reduce a specified set of drug resistant infections by 10%



Consumption by 2024

Reduce UK antimicrobial use in humans by 15% by 2024 (i.e. to/below 16.92 DID), compared to 2014 baseline



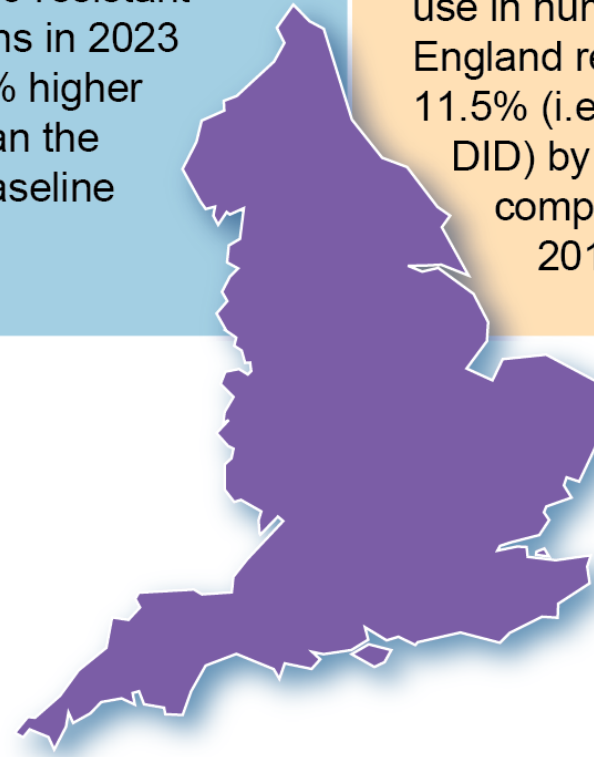
England

AMR in 2023

The estimated number of severe antibiotic-resistant infections in 2023 is 12.8% higher than the 2018 baseline

Consumption in 2023

Total antimicrobial use in humans in England reduced by 11.5% (i.e. to 17.61 DID) by 2023 compared to 2014





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Chapter 4: Point-prevalence survey on healthcare-associated infections, antimicrobial use and antimicrobial stewardship in England, 2023

Participation in PPS on HCAI and AMU in England, 2023

Trusts/organisations and patients



58

**NHS Acute-
General**



9

**NHS Acute-
Specialist**



21

**NHS Mental
Health**



9

**NHS
Community**



16

**Independent
Sector**



36,985



1,251



3,540



1,451



1,145

PPS on HCAI and AMU in England, 2023

HCAI prevalence



8 out of 100 adult patients in hospitals participating in the PPS England 2023 were affected by at least one HCAI



7 out of 100 children in hospitals participating in the PPS England 2023 were affected by at least one HCAI

% of patients on at least one antimicrobial



37%

NHS Acute-General



47%

NHS Acute-Specialist



7%

NHS Mental Health



9%

NHS Community



44%

Independent Sector



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Chapter 5: Antimicrobial stewardship

TARGET antibiotics toolkit activities 2023 to 2024



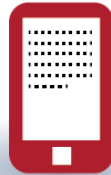
New summary of antimicrobial guidance section on **TARGET website** - viewed over 67,000 times



Ran **three webinars** with a combined total of 922 live attendees and 436 online views



Developed and promoted resources to support clinicians **managing patients on long-term antibiotics**



Over **134,000** people used a UTI pre-consultation survey developed by TARGET, supporting clinicians to follow national UTI guidance



UTI and RTI leaflets for community pharmacy were accessed **15,226** and **10,667** times respectively



WAAW campaign reached over **51,000 RCGP members**

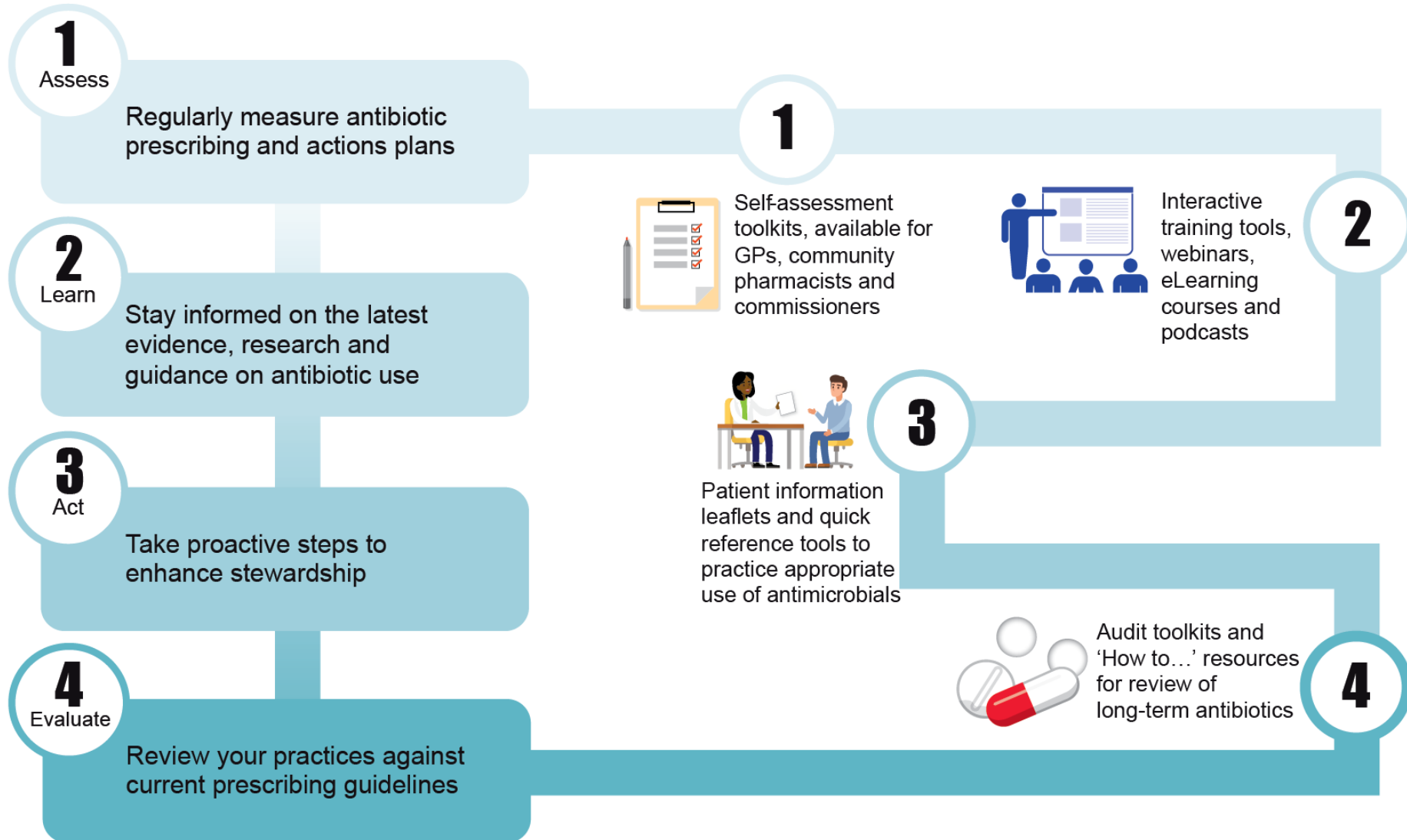
Abbreviations: RCGP, Royal College of General Practitioners; RTI, respiratory tract infection; UTI, urinary tract infection, WAAW, World Antimicrobial Awareness Week.

The TARGET Antibiotics Toolkit

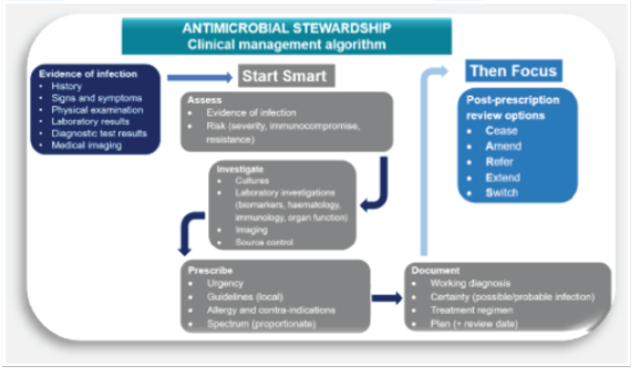
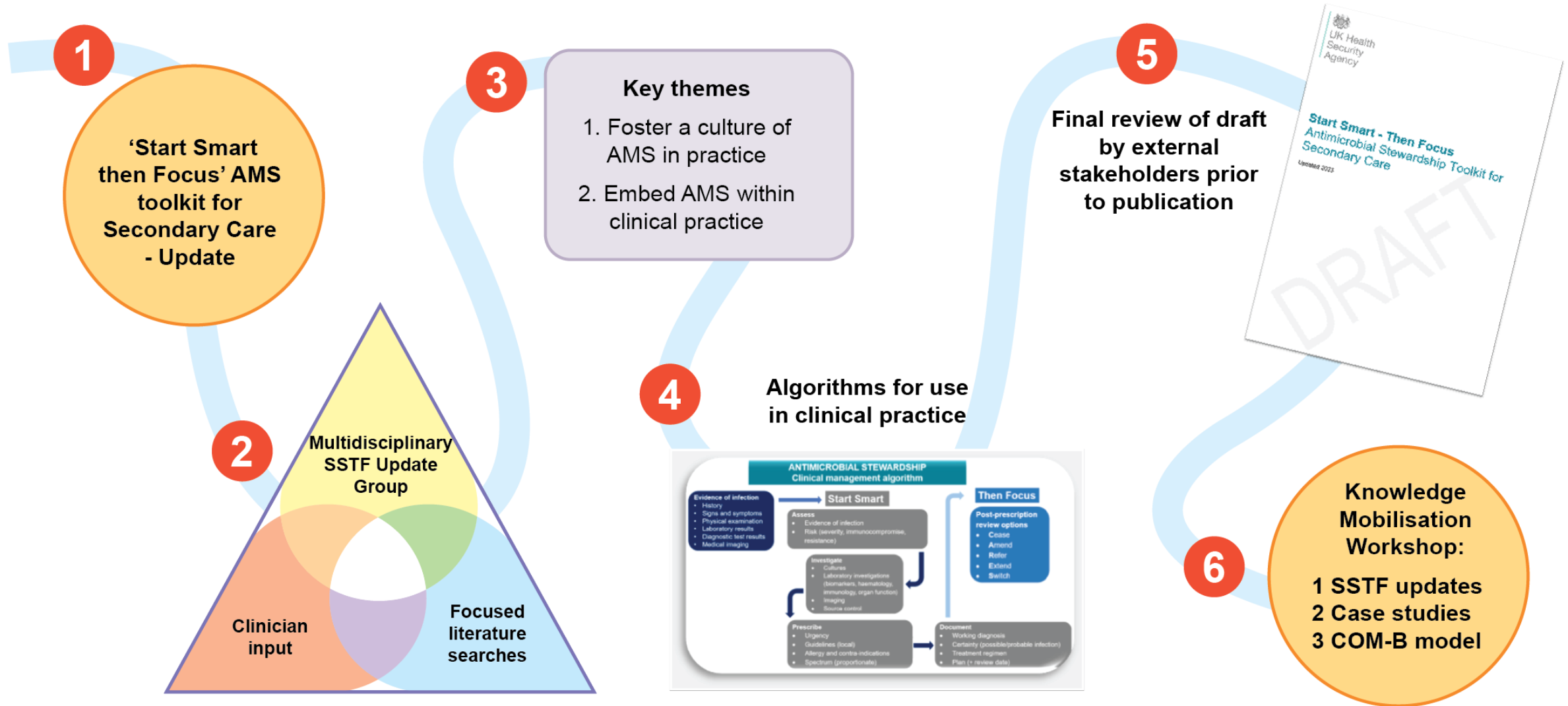


TARGET

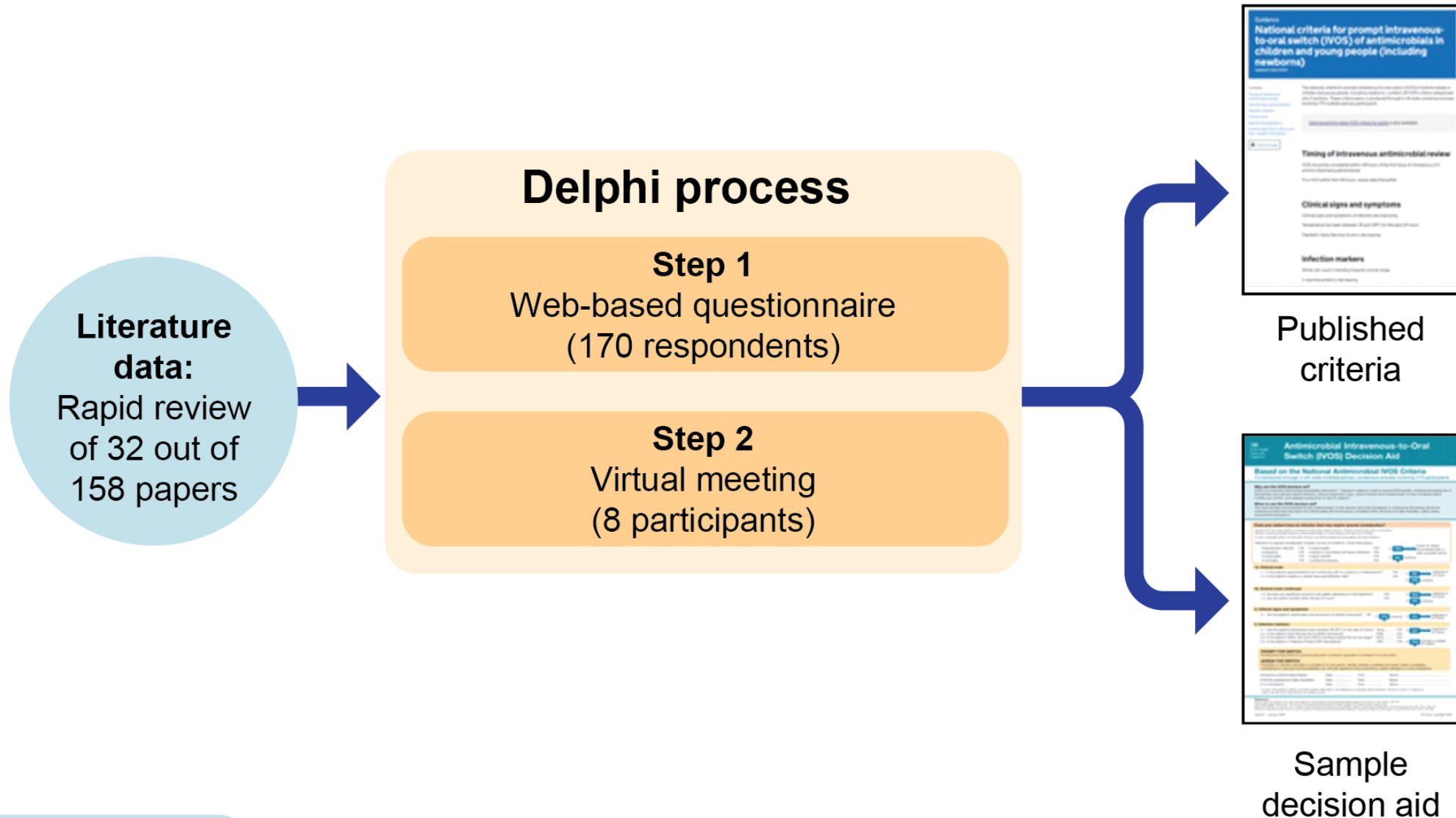
Keep Antibiotics Working



SSTF AMS Toolkit: Updating the 'Start Smart then Focus' (SSTF) Antimicrobial Stewardship (AMS) toolkit for Secondary Care



IV-to-oral switch in children and young people: a modified-Delphi approach



Antimicrobial stewardship in domiciliary care: infographic for ESPAUR

Key contextual factors:

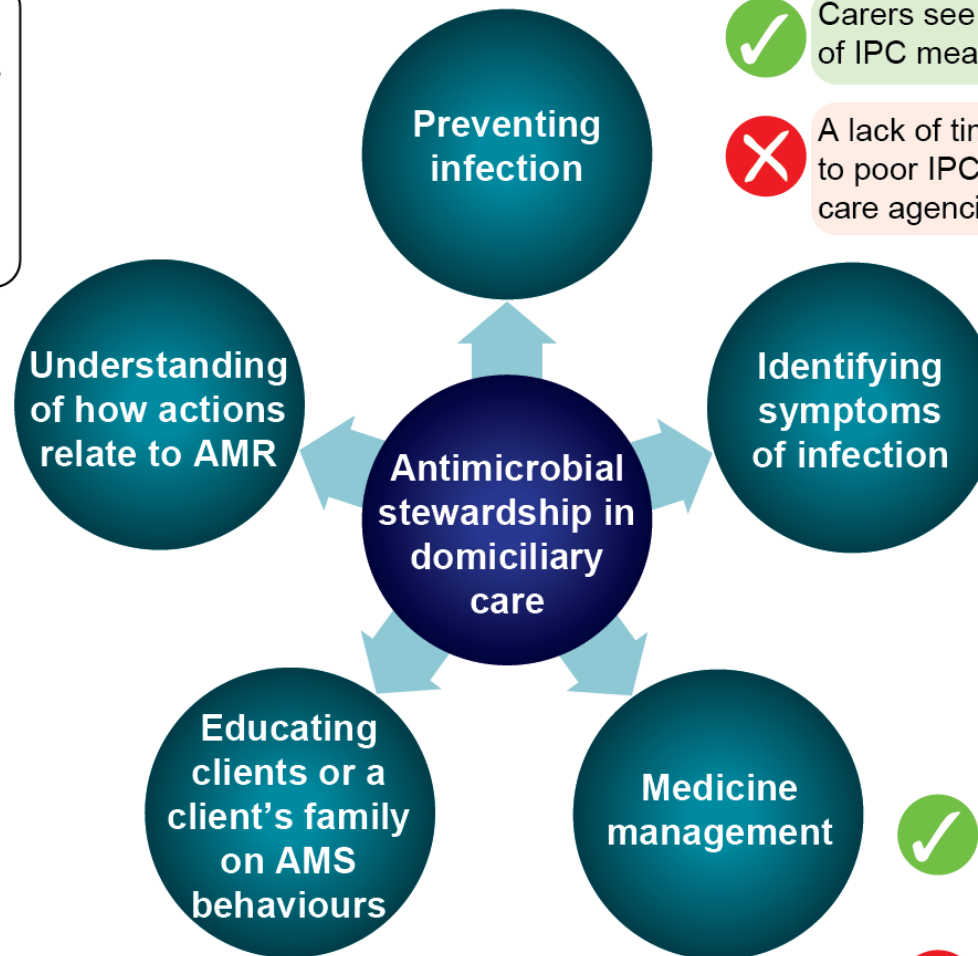
- unpredictable client home environments
- carers travelling from home to home, often seeing many clients in a day
- a compliance culture, where carers strictly adhere to a Care Plan

✓ While they have limited understanding of AMR currently, they are open to learning more and – when told about AMR – agree their role is important.

✗ Currently, their limited awareness of how their actions relate to AMR means that, when faced with an unexpected situation, they may unintentionally act in an unhelpful way.

✓ Carers will reinforce instructions for antibiotic use.

✗ Their role in reinforcing AMS practices with the client and their families could be formalised.



✓ Carers see IPC as “common sense” and undertake a wide range of IPC measures.

✗ A lack of time and challenges working in clients’ homes can lead to poor IPC practices. Current training on IPC varies between care agencies and is often developed organically by managers.

✓ Associate some symptoms with infection e.g. UTIs. Will signpost clients to seek healthcare.

✗ Do not see themselves as having a medical role; ability to notice and act on early signs of infection could be strengthened.

✓ Routinely administer and monitor antibiotic use by clients, in line with medical advice and if on care plan.

✗ If antibiotics are not recorded on care plans in a timely way, there may be delays in carers administering antibiotics. Occasional examples of antibiotic misuse identified and inconsistencies with taking antibiotics to the pharmacy for disposal.

Rapid systematic review of inclusion health groups and adult social care*



Levels of AMR and AMU among People in Contact with the Criminal Justice System

Antibiotic use: 3 studies
Inappropriate prescribing found (1 paper)
Recent antibiotic use associated with higher risk of resistant infections (2 papers)
Bacterial AMR: 14 papers
Prevalence of drug-resistant tuberculosis: 5.2% to 37% (4 papers)
MRSA colonization: 8.1% to 8.8% (4 papers)

Individuals in contact with the criminal justice system are at risk of resistant bacterial infections.



Interventions to tackle AMR or AMU in Sex Workers

No studies of relevant interventions for sex workers identified.

Research into AMS interventions for sex workers is urgently needed.



Interventions to tackle AMR and AMU in Adult Social Care

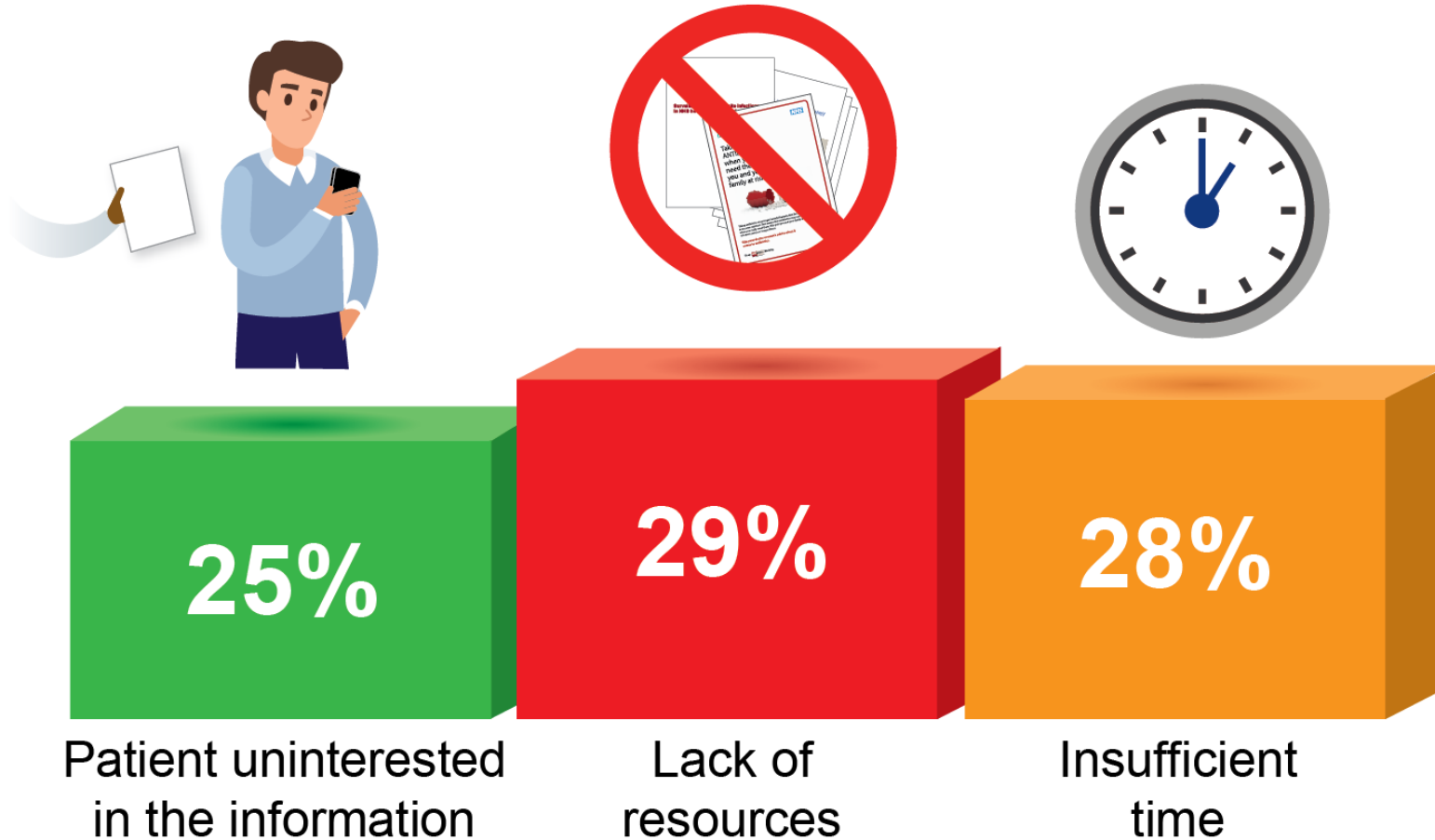
18 studies found.
Education and training reduced inappropriate antimicrobial prescribing by 13% to 55.5% (17 papers).
Pharmacist oversight improved correct treatment options being prescribed to patients (1 paper).

Interventions including education and training reduced inappropriate antibiotic use in adult social care settings.

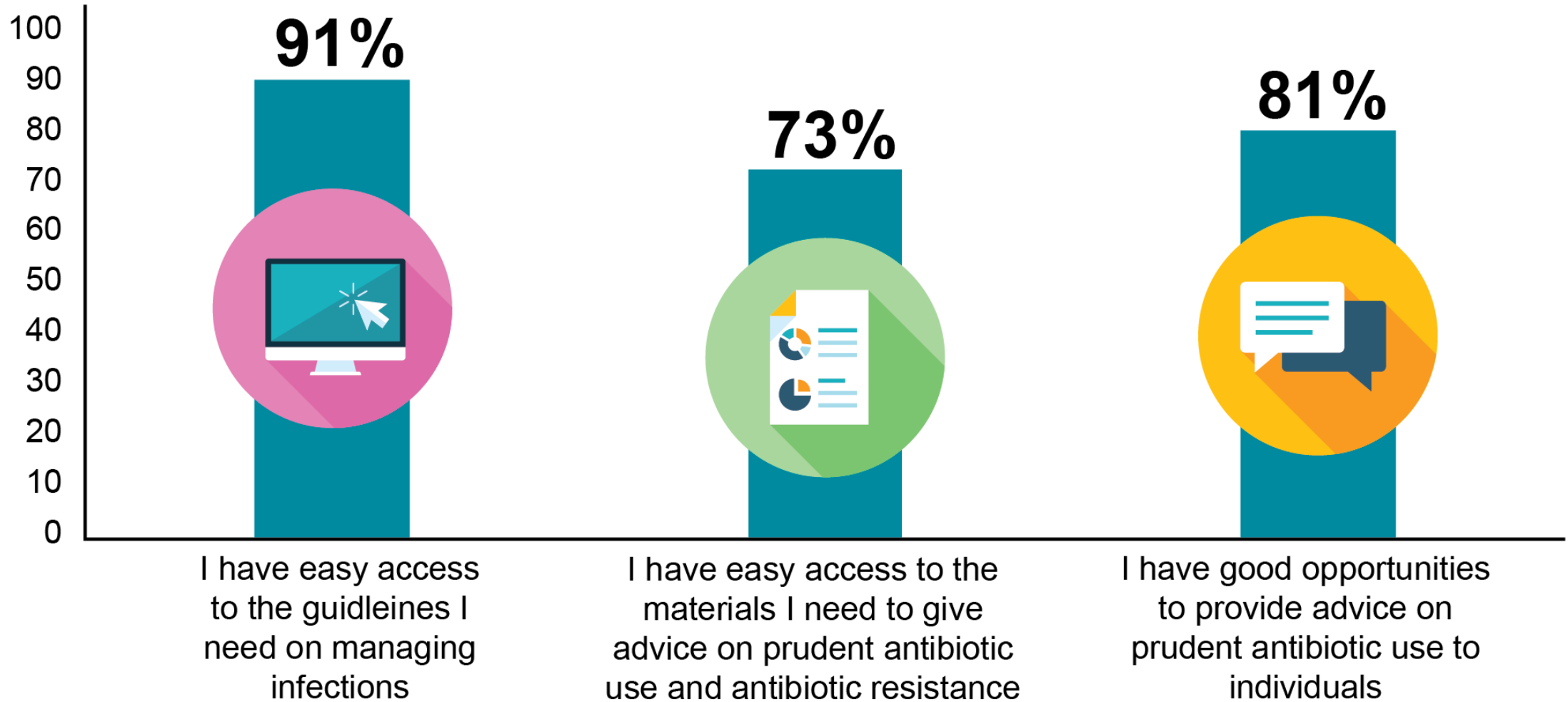
* Oliver-Williams C, Nasim M, Akpan-Ajetunmobi A, Cook M, Edge C, Ashiru-Oredope D. Rapid Systematic Reviews of Inclusion Health Groups and Adult Social Care. 2024

Barriers

The barriers to providing advice or resources on prudent antibiotic use or management of infections



Access



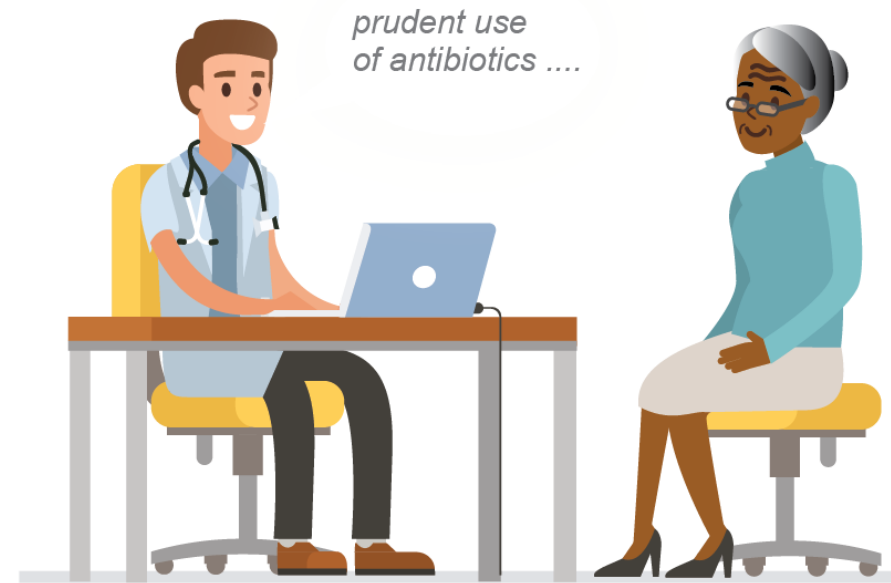
Behaviour

27%

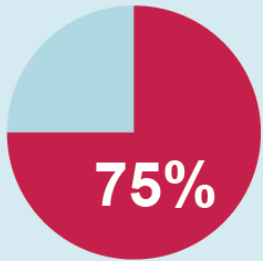
Gave out resources on antibiotic use at least once in the previous week

63%

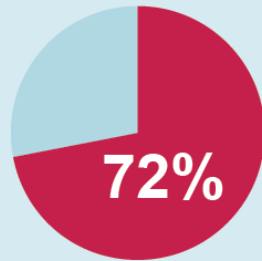
Gave out advice on the prudent use of antibiotics at least once in the previous week



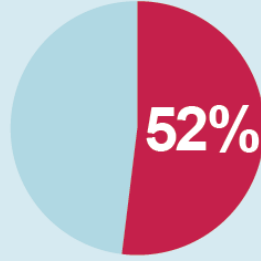
Capability - % of respondents answering all 7 knowledge test questions correctly (by profession)



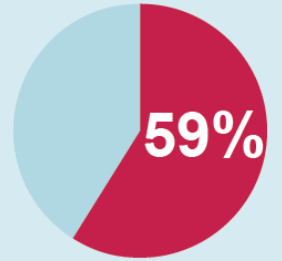
Medical doctors



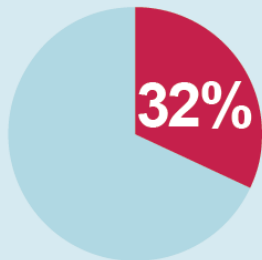
Pharmacist



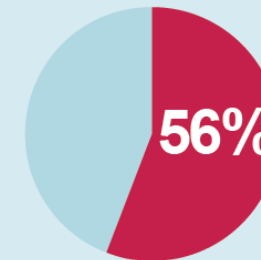
Nurses



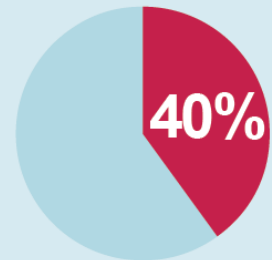
Dentist



Pharmacy technicians



Allied health professionals



Other HCWs
(eg: dental care professionals,
assistant nurses)

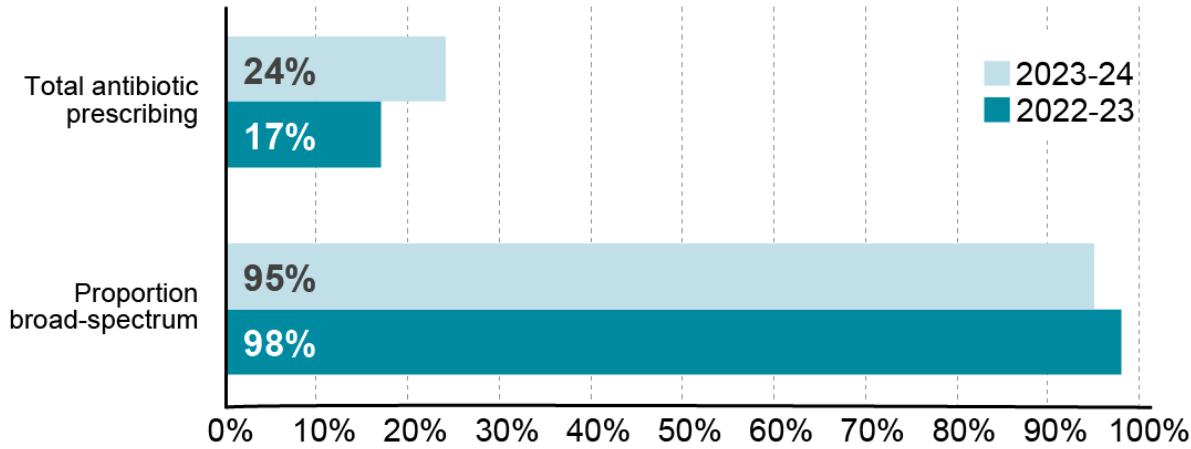


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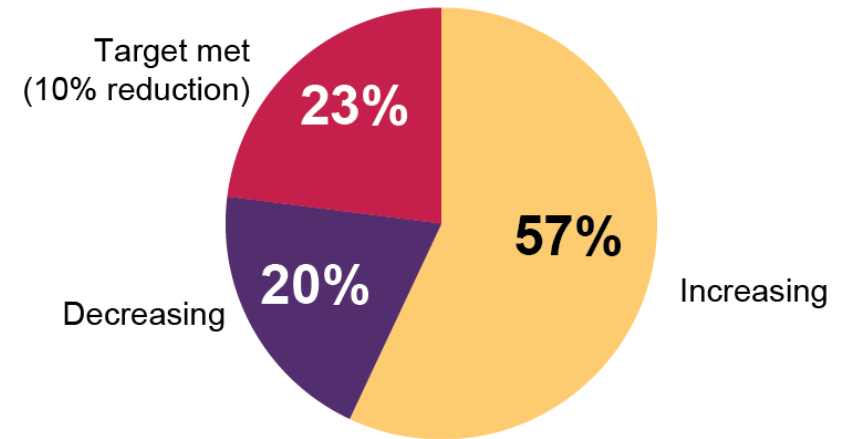
Chapter 6: NHS England – improvement and assurance schemes

NHS England Improvement & Assurance Schemes: prescribing in primary and secondary care

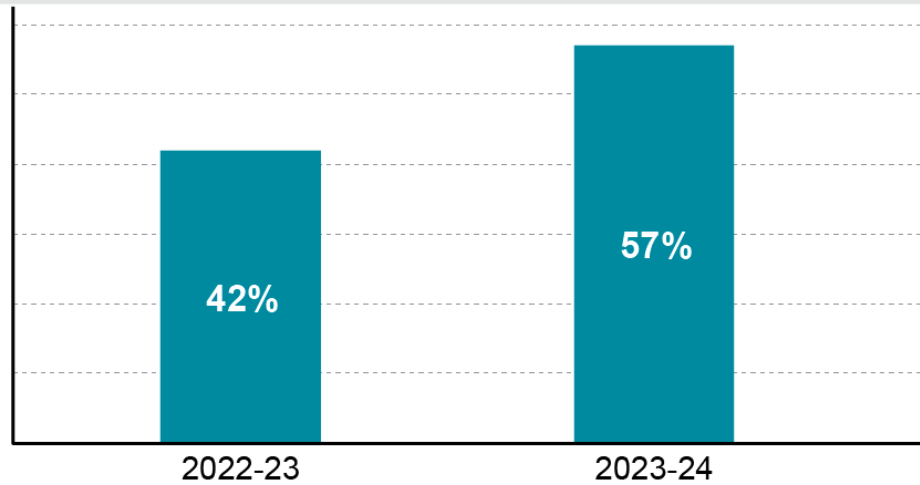
ICBs meeting NHS Oversight Framework Targets for Primary Care



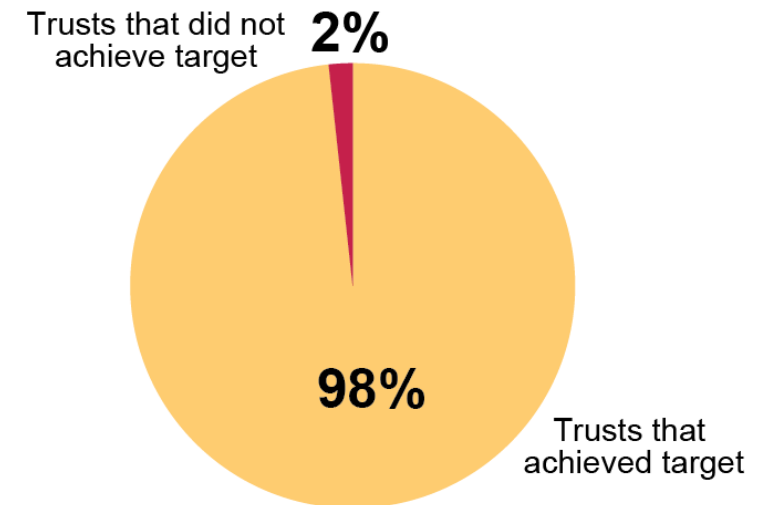
Prescribing of "Watch" and "Reserve" antibiotics (% of Trusts)



Proportion of 5-day prescriptions for amoxicillin capsules in Primary Care



IV-to-oral switch CQUIN target

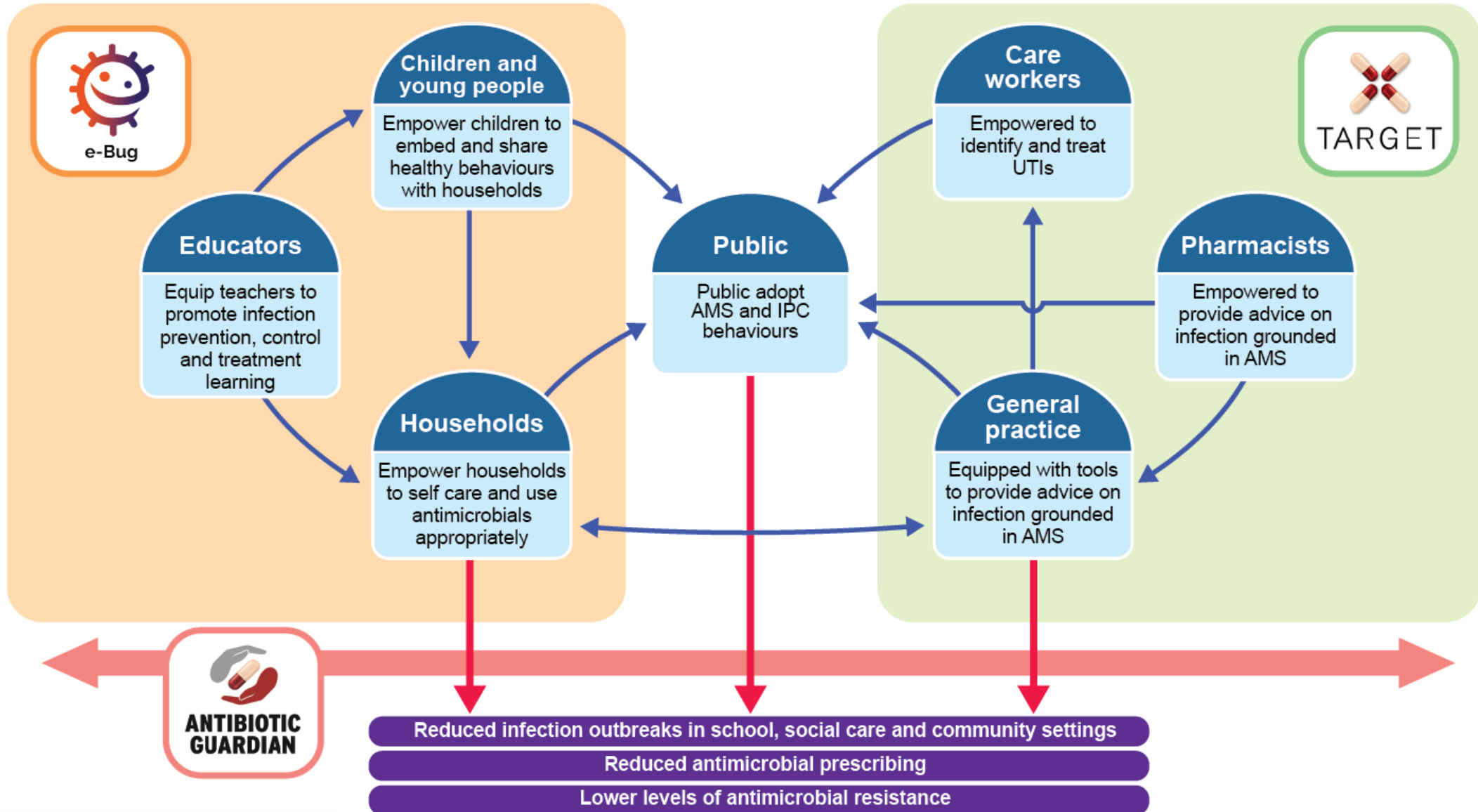




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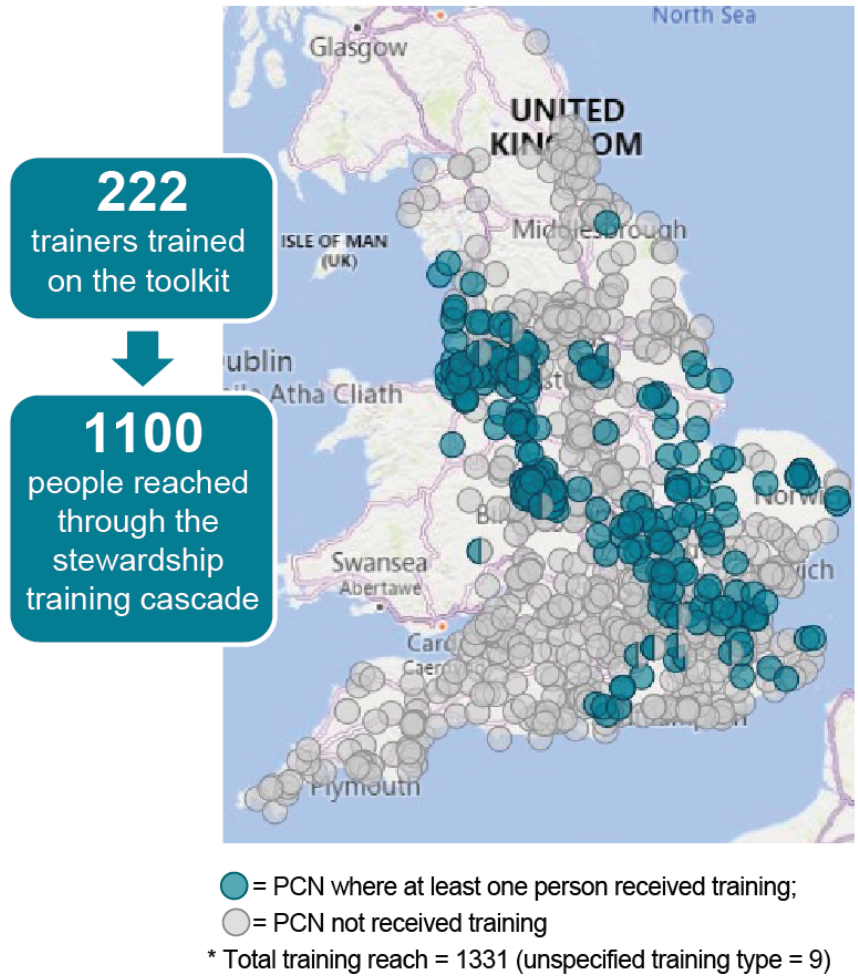
Chapter 7: Professional and public education and training

AMS interventions to provide wrap around support for the public and healthcare professionals

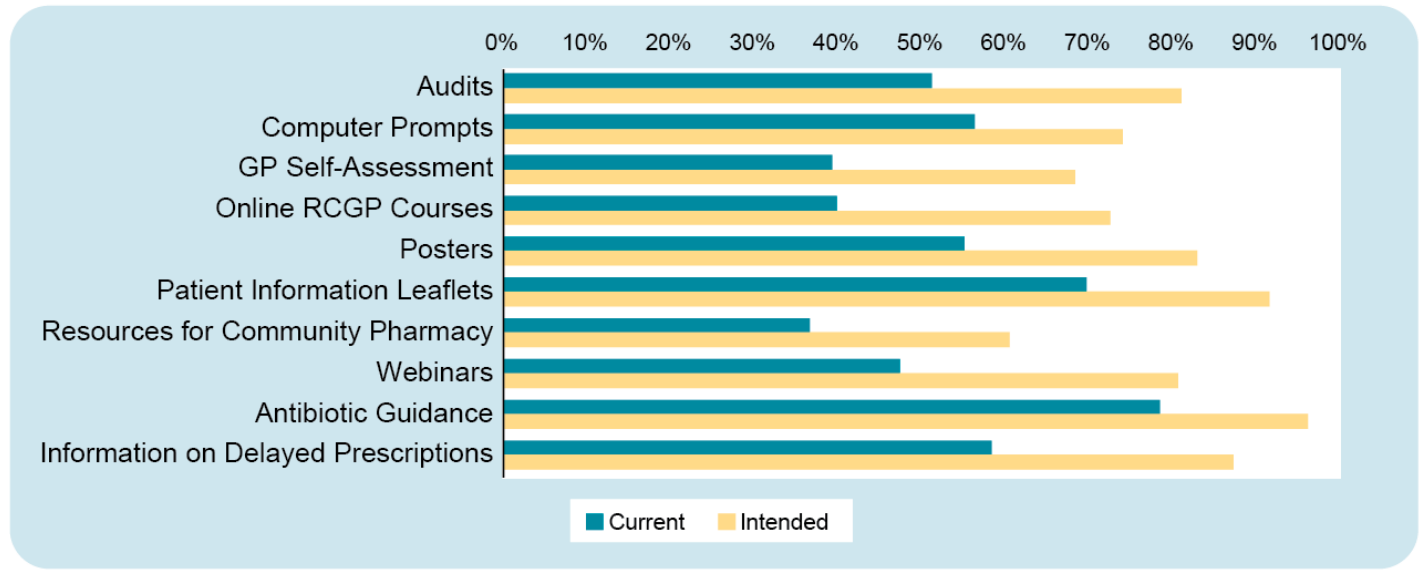


TARGET Training Roll Out Reach, Impact, and Next Steps

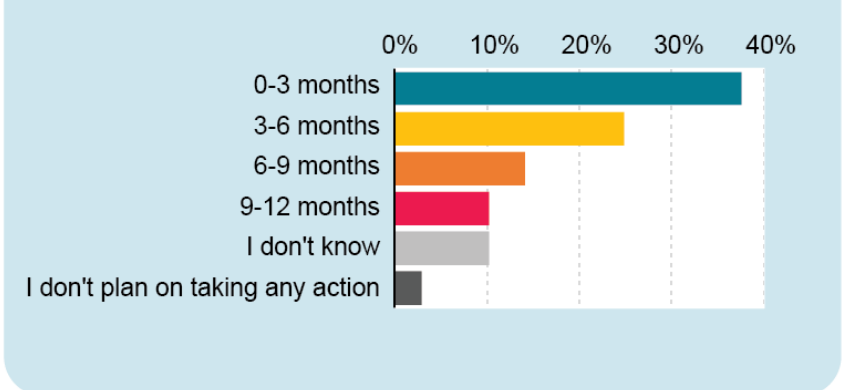
'TARGET training reach 23/24



Intention to use AMS resources post-training



Implementation timeframe



Next Steps

- Extend training reach
- Assess impact on prescribing rates
- Review local implementation of TARGET

10 years of Antibiotic Guardian

“If I’m prescribed antibiotics, I will take them exactly as prescribed and never share them with others”
- **Public**

“I will ensure that guidelines for diagnosis and management of common infections (including Sepsis) are readily and reliably accessed by supporting their design and dissemination”
- **Infection Prevention Specialists**

“When handing out a prescription that includes antibiotics, I will inform the patients of dose and duration and to take their antibiotics exactly as prescribed and to return any unused antibiotics to a pharmacy for safe disposal”
- **Pharmacy Teams**

“When I see a patient with dental pain, I will discuss methods of controlling symptoms rather than prescribing antibiotics as a first course of action”
- **Dentist**

“If I prescribe an antibiotic then I will document indication, duration and review dates on the drug chart in line with Start Smart then Focus AMS guidance”
- **Primary/Secondary Care Prescribers**

**BECOME AN ANTIBIOTIC GUARDIAN
CHOOSE YOUR PLEDGE NOW!**

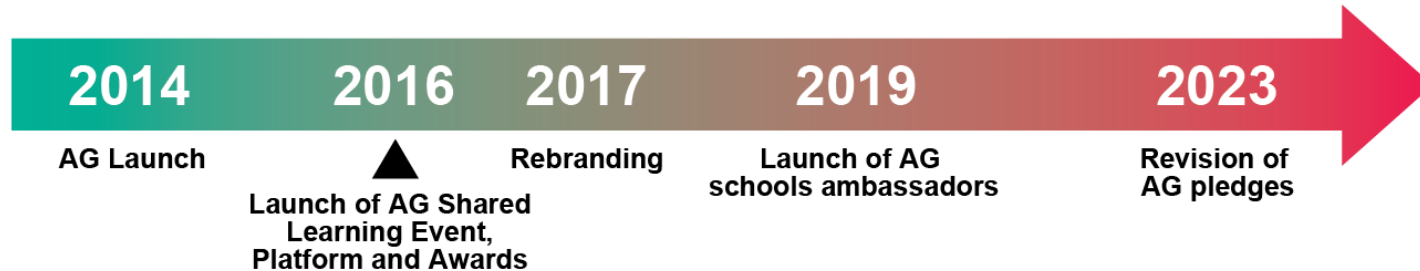
I AM A

HEALTH OR SOCIAL CARE PROFESSIONAL OR LEADER
- Select from the list -

MEMBER OF THE PUBLIC
- Select from the list -

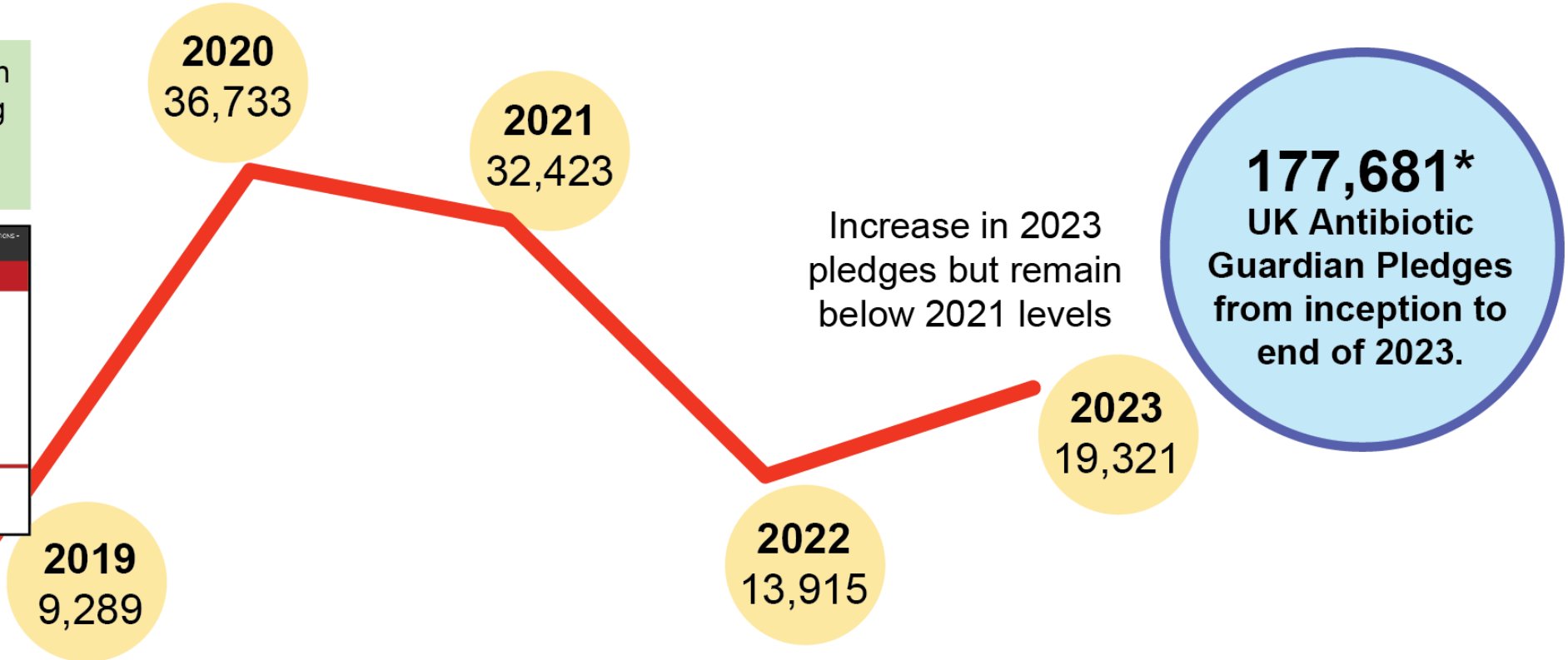
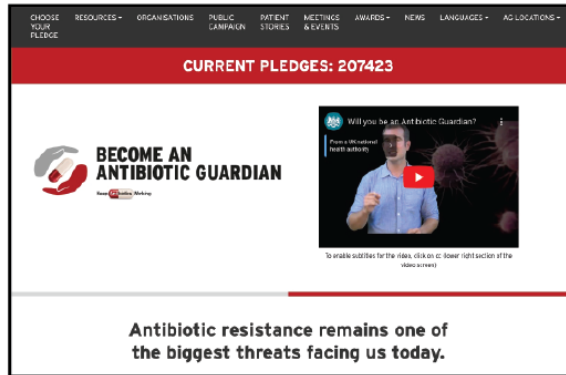
STUDENT, EDUCATOR OR SCIENTIST
- Select from the list -

> **200,000** pledges
10 peer review publications
1025 organisation pledges
241 AG school ambassadors
469 entries to AG Awards



Antibiotic Guardian pledges

Quality scheme implemented in 2020 required all patient facing pharmacy staff to become Antibiotic Guardians



82

Organisations registering AMS activity through Antibiotic Guardian in 2023

62

Entries for the 2022/23 Antibiotic Guardian Shared Learning and Awards

26

Antibiotic Guardian Schools Ambassadors registrants in 2023

Global collaborations with:

- Africa CDC
- WHO Europe
- Belgium and South Africa national AMR programmes

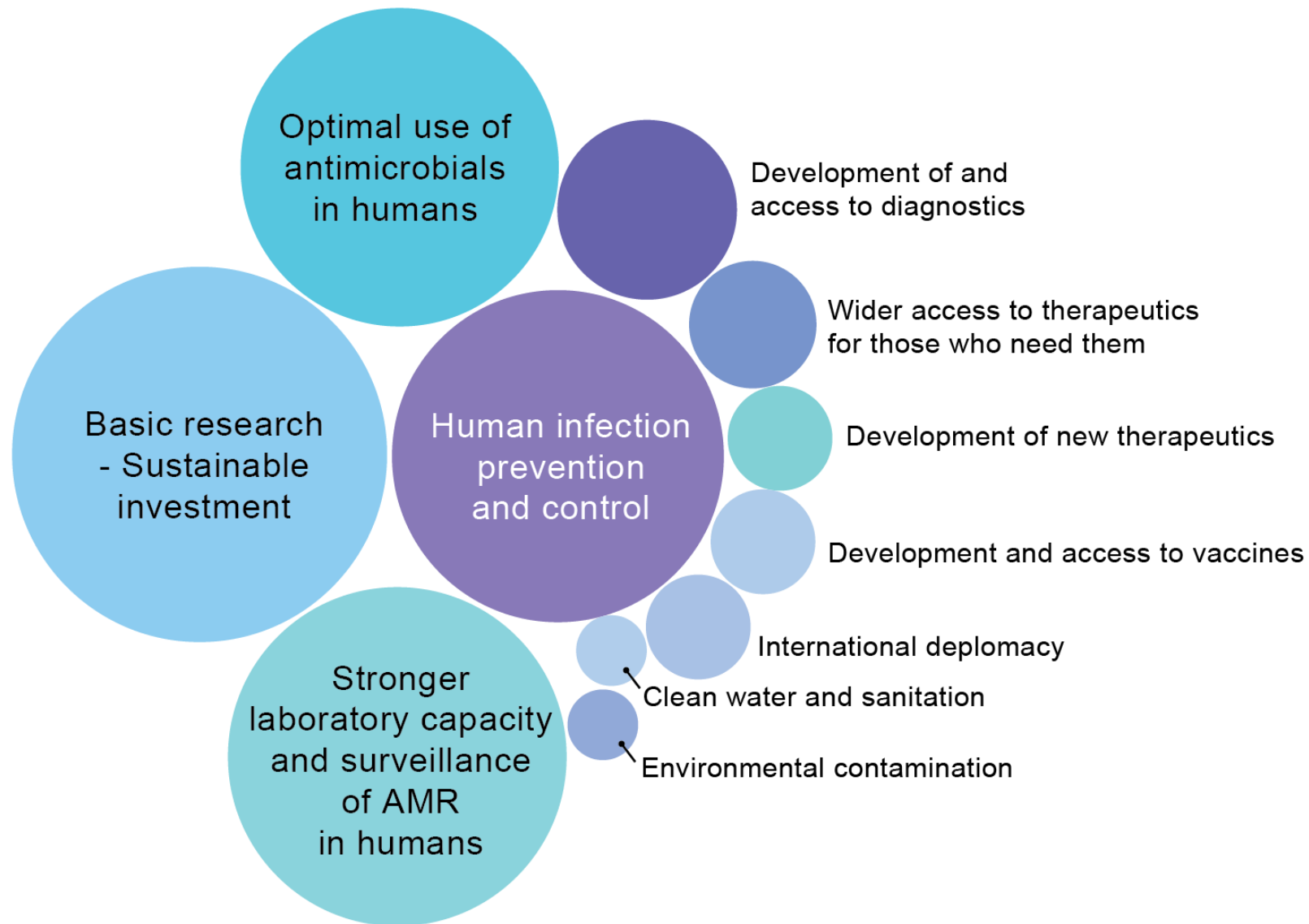
* There are over 200,000 pledges including international pledges



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Chapter 8: Research

AMR peer-reviewed publications from April 2023 to March 2024, by National Action Plan (2019-2024) major theme



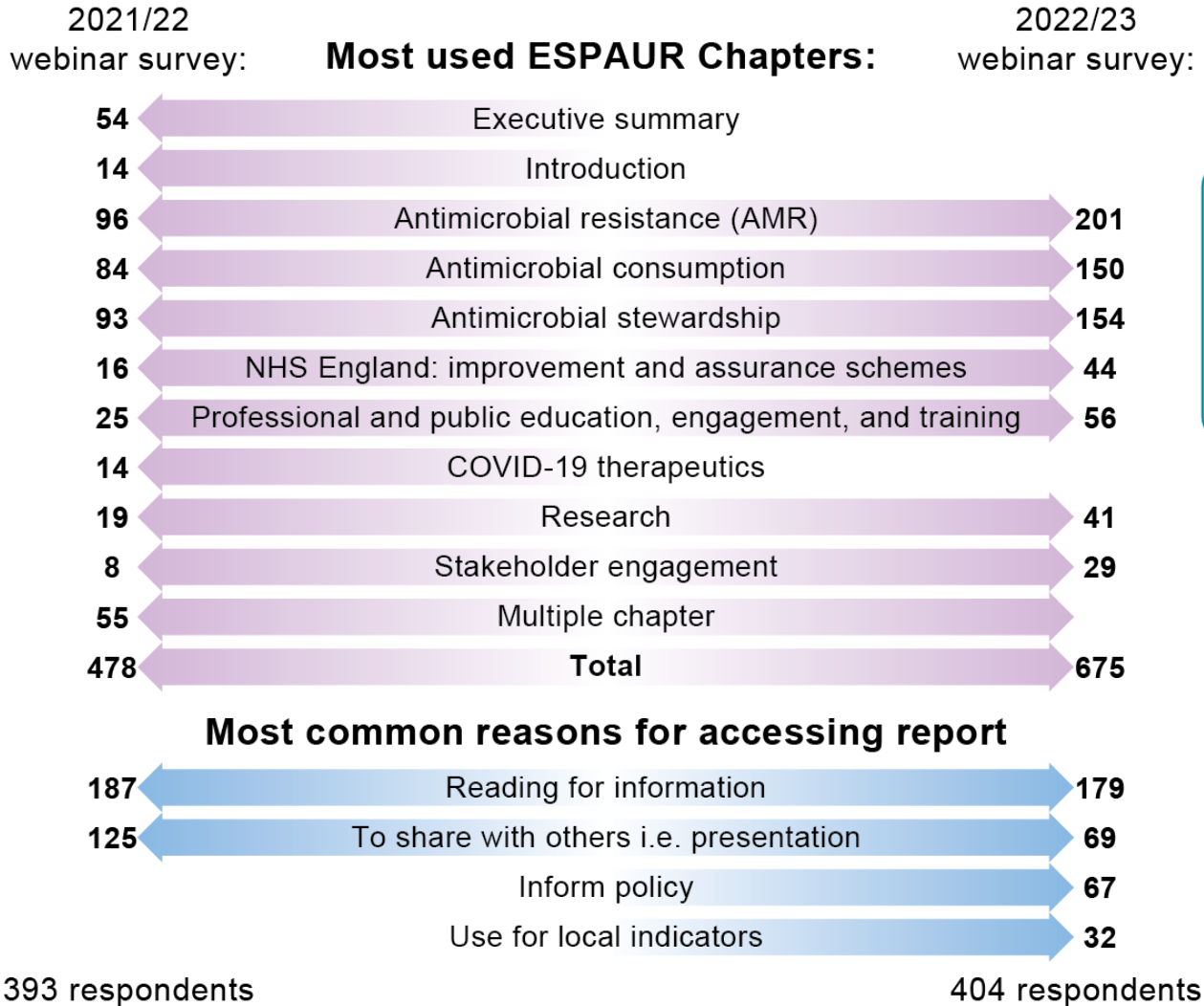


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Chapter 10: Knowledge mobilisation of ESPAUR report – feedback from stakeholders and report users

ESPAUR report feedback from stakeholders and report users

Report user feedback from webinars



11 out of 21 ESPAUR OG Member organisations responded



What does ESPAUR help you achieve?

