Antimicrobial Resistance

Summary Points

- The rate of total number of prescribed antibiotics in Bristol is significantly lower than the national average and lowest of all core cities
- The percentage of broad-spectrum antibiotics prescribed in Bristol, North Somerset, South Gloucestershire (BNSSG) ICB is higher than the England average
- Rates of MRSA in the BNSSG ICB are the fourth highest of all ICB's in England and significantly higher than the national average

Introduction

Antimicrobial resistance arises when the micro-organisms that cause infection survive exposure to a medicine that would normally kill them - this is a particular concern with antibiotics.

Many of the medical advances in recent years need antibiotics to prevent and treat the bacterial infections that can be caused by the treatment. Without effective antibiotics, even minor surgery and routine operations become high risk procedures[1]. For many years now we haven't seen any new antibiotics being developed so are reliant on the existing ones working. We have seen increasing demand for antibiotics worldwide both in human, animal and agriculture. Sometimes these antibiotics are not used appropriately; used when there is no bacterial infection (antibiotics don't work on viral infections), the wrong antibiotic being used, or courses of treatment not being fully completed. We are seeing bacterial infections emerge that are now resistant to the many antibiotics such as Tuberculosis and Gonorrhea and this is a significant risk in keeping people well.

Local NHS guidance on the use of antibiotics in primary care helps prescribers to choose the most appropriate and encourages the use of narrow-spectrum antibiotics rather than broad-spectrum[2].

Data sets are primarily reported at BNSSG Integrated Care Board (ICB) level but where available this report also includes local authority data.

Prescribed antibiotics

In terms of rates for the total number of prescribed antibiotics, Bristol has been consistently lower (better) than nationally since 2015. For the calendar year 2023, Bristol prescribed 0.68 antibiotic items[3], significantly lower than the England average of 0.88 prescribed antibiotic items. Figure 1 overleaf highlights the continual improvement in prescribing between 2015 and 2021. Although prescribing increased in 2022 and 2023 in both Bristol and England the gap between them has grown, indicating a bigger national increase.

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[1] www.gov.uk/government/collections/antimicrobial-resistance-amr-information-and-resources

[2] Cephalosporin, quinolone and co-amoxiclav, which are associated with an increased risk of Clostridium difficile (C. diff) infection and antimicrobial resistance.

[3] Prescribed antibiotic items per STAR-PU (Specific Therapeutic group Age-sex weightings Related Prescribing Unit). Source: Public Health England via PHOF, September 2024

Bristol has the lowest prescribing rate in the South West region, and the 17th lowest of all English local authorities. In terms of comparison with other core cities Bristol has the lowest rate of prescribed antibiotics. The next lowest rate is in Nottingham at 0.77 and the highest rate is 0.95 in Manchester.

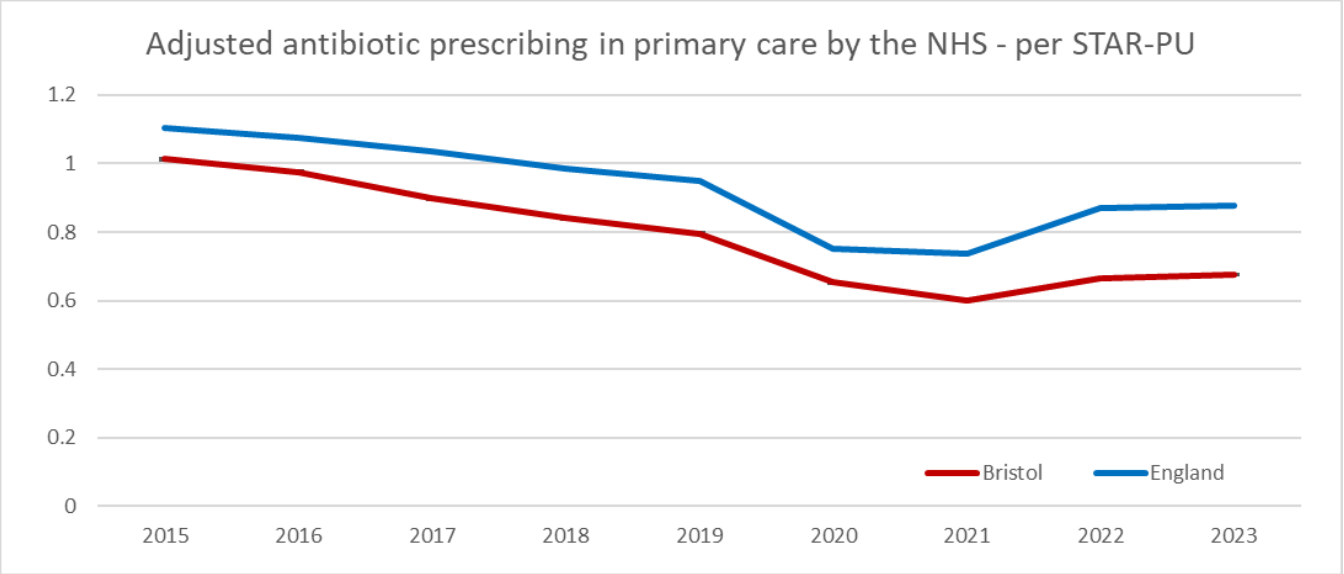

Figure 1: Annual total number of prescribed antibiotic items per STAR PU (Specific Therapeutic group Age sex weightings Related Prescribing Unit)

For broad-spectrum antibiotics the most recent data for March 2024 shows that the percentage prescribed in Bristol, North Somerset, South Gloucestershire (BNSSG) ICB is higher (worse) than the England average. During 2019 and 2020 performance was very similar but a gap opened up during 2021 until midway through 2022 when the gap reduced – see Figure 2. Improved prescribing practice of antibiotics including broad spectrum antibiotics needs to be maintained so that the right people receive the right antibiotics at the right time.

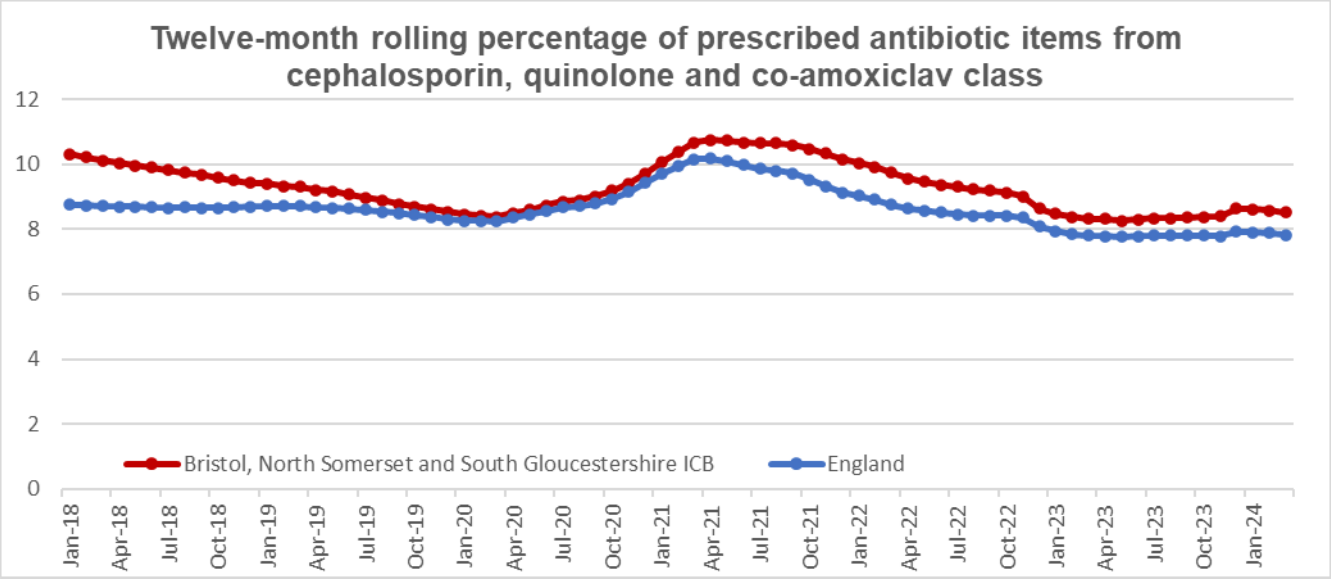

Figure 2: Source: % Prescribed antibiotics (broad spectrum) (Jan 2018 – Jan 2024) via https://fingertips.phe.org.uk/profile/amr-local-indicators

BNSSG has not reduced the rate of healthcare associated infections as much as intended. Infections from "C.diff" had been falling in BNSSG until 2020/21 when infections started to rise again. Infections peaked in July 2021 at a crude rate of 33.8 per 100,000 and has gradually decreased over time to the latest rate of 27.0 per 100,000 (December 2023), similar to the national average (28.4) – Figure 3.

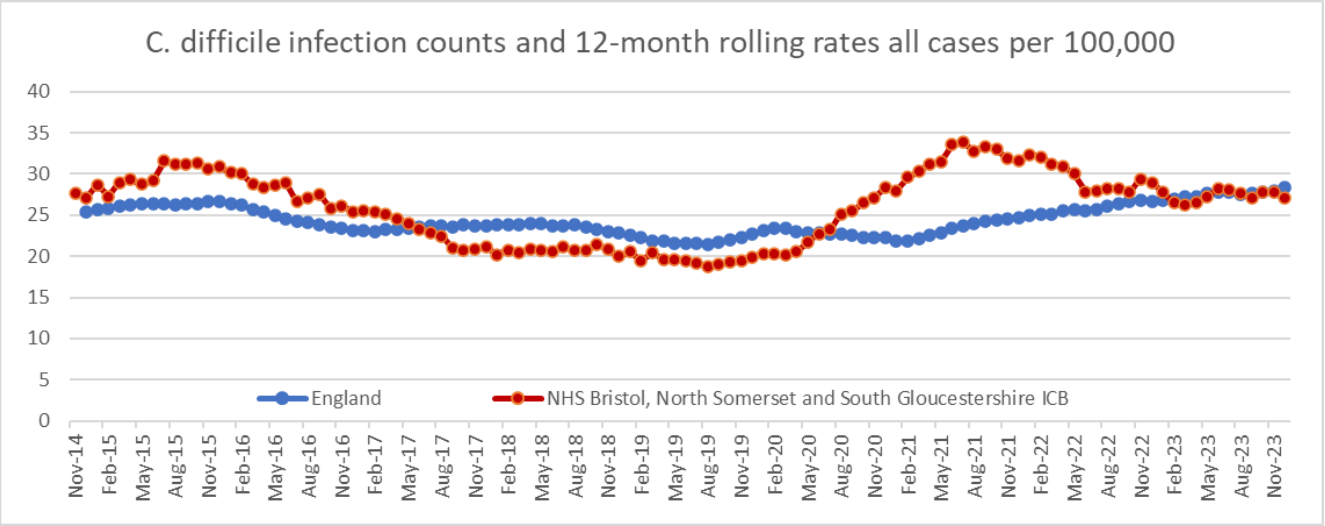

Figure 3: Source: Rate of C.difficile infection in BNSSG (Nov 2014 – Dec 2023) via https://fingertips.phe.org.uk/profile/amr-local-indicators

Methicillin-resistant staphylococcus aureus (MRSA) is a bacterial infection which is resistant to commonly used antibiotics. Rates of MRSA in the BNSSG ICB has decreased over the last 3-4 years from its peak in the Summer of 2017, but remains significantly higher than the national average and is the fourth highest rate of all ICB's in England as at December 2023 (Figure 4).

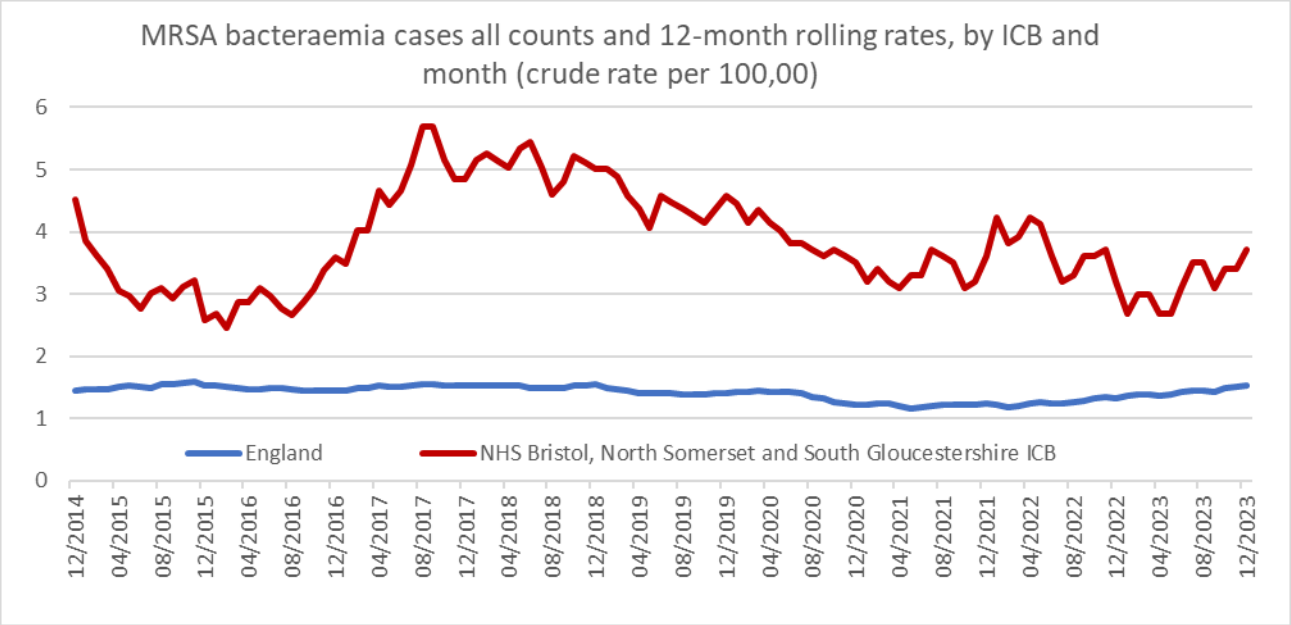

Figure 4: Source: Rate of MRSA infections per 100,000 (Dec 2014 – Dec 2023) via https://fingertips.phe.org.uk/profile/amr-local-indicators/

Antibiotic Guardians

"Antibiotic Guardians" (http://antibioticguardian.com/) is a Public Health campaign to encourage improved behaviours around the use and prescription of antibiotics with the public and healthcare professionals. As at September 2024 the latest published data for 2020 showed that BNSSG ICB had 50.1 Antibiotic Guardians per 100,000 population, lower than the England average of 55,8 per 100,000 population – Figure 5.

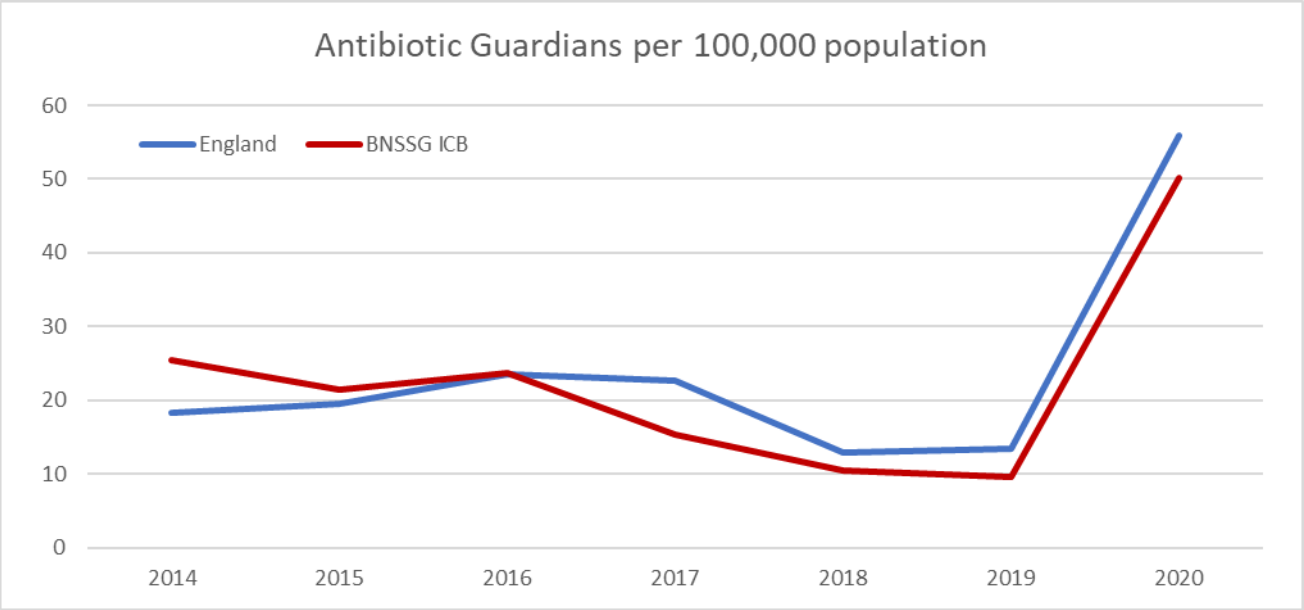

Figure 5: Antibiotic Guardians per 100,000 population (2014 – 2020) via https://fingertips.phe.org.uk/profile/amr-local-indicators/

Covid-19 impact:

Internationally, and within the UK, we saw a sharp increase in prescribed antibiotics particularly in the early months of the pandemic, this is likely to be due to a range of reasons; limited Covid-19 treatment options leading to antibiotics being used at times inappropriately for those with more severe covid, fewer in person clinical assessments of patients in the community (Primary Care and Dental) and, due to the scale of Covid-19 cases, a likely increase in secondary bacterial respiratory infections. There is however also evidence that due to the reduction in social mixing the incidence of some bacterial infections, where antibiotic prescribing is appropriate, was reduced such as scarlet fever in children.

Further data / links / consultations:

- Antimicrobial Resistance (AMR) local indicators: https://fingertips.phe.org.uk/profile/amr-local-indicators

Date updated: September 2024 **Next update due:** September 2025