

Scottish One Health Antimicrobial Use and Antimicrobial Resistance report 2020

An Official Statistics statistical release for Scotland

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About this release

This release by Antimicrobial Resistance and Healthcare Associated Infection (ARHAI) Scotland provides data relating to antibiotic use and resistance to antibiotics in Scotland during 2020. The report also provides information on antibiotic use and resistance in animals, using data from Scotland's Rural College, the Small Animal Veterinary Surveillance Network and the Scottish Environmental Protection Agency.

Main points

COVID-19 has impacted healthcare delivery in both hospital and community settings making comparisons with previous years difficult. These must be interpreted in the context of the pandemic and with due caution. Further information can be found in the [Healthcare Associated Infections, 2020 Annual Report](#).

In relation to antimicrobial use in humans:

- Total antibiotic use in humans has decreased by 17.1% since 2016.
- Over 60% of all antibiotic use in Scotland was Access antibiotics (recommended first line narrow spectrum agents).
- The majority of antibiotic use in humans occurs in primary care.
- Antibiotic use in primary care has decreased by 20.9% since 2016.
- 22.3% of the Scottish population received at least one course of antibiotics prescribed in primary care.
- Antibiotic use in acute hospitals has increased by 2.3% since 2016.
- Use of Watch and Reserve (restricted) antibiotics in acute hospitals has decreased by 10.4% since 2016.

In relation to antimicrobial use in animals:

- 16.2% of companion animal consultations in 2020 resulted in an antibiotic being prescribed; 90.5% of these were not from the group of antibiotics considered to be high priority critically important in humans.

- **Scotland's Healthy Animals** website continues to offer guidance for vets and animal keepers on disease avoidance and antimicrobial stewardship.

In relation to antimicrobial resistance in humans:

- Gram-negative bacteria are a common cause of serious infections in both healthcare and community settings.
- Antimicrobial non-susceptibility in Gram-negative bacteria significantly contributes to the overall burden of AMR.
- In 2020, *Escherichia coli* (*E. coli*) was the most common cause of Gram-negative bacteraemia in Scotland with an incidence of 76.9 per 100,000 population.
- Since 2019 non-susceptibility in *E. coli* bacteraemia (ECB) has remained stable.
- Non-susceptibility of *Klebsiella pneumoniae* (*K. pneumoniae*) blood isolates remained stable between 2019 and 2020 apart from an increase in cefotaxime/ceftriaxone and ceftazidime.
- Non-susceptibility in *Enterococcus faecium* (*E. faecium*) blood isolates has remained stable between 2019 and 2020.
- 45.6% of *E. faecium* blood isolates were non-susceptible to vancomycin.
- Urinary tract infections (UTI) are commonly diagnosed in community, healthcare and hospital settings and antimicrobial non-susceptibility in urinary isolates significantly adds to the burden of AMR.
- *E. coli* is the most frequently isolated bacteria from urine specimens. The incidence of *E. coli* urinary isolates has decreased 16.9% between 2019 and 2020.
- Between 2019 and 2020, antimicrobial non-susceptibility of *E. coli* urinary isolates to co-amoxiclav decreased whilst non-susceptibility to fosfomicin increased.
- In 2020, 59 carbapenemase-producing organisms (CPOs) were reported with a rate of 1.1 per 100,000 population.

In relation to antimicrobial resistance in animals:

- Monitoring AMR in animals is a vital component of understanding and mitigating risk of AMR across the entire ecosystem.
- Intelligence relating to AMR in animals will continue to be developed to inform the evidence base supporting a One Health approach to AMR.

Background

Antibiotic resistance poses an urgent threat to human health and increasing levels of resistance globally means that some infections are becoming more difficult or even impossible to treat. A five-year United Kingdom National Action Plan and a 20-year vision for containing and controlling AMR was published in January 2019. There is a close connection between antibiotic resistance in humans and in animals, so the “One Health” approach encompassing humans, animals, environment and food is central. Robust intelligence and evidence for action across the One Health ecosystem are essential to informing local and national interventions and initiatives in human and animal health.

This report describes antimicrobial use and antimicrobial resistance and will support stakeholders across all sectors in the One Health ecosystem.

The COVID-19 pandemic, which emerged in Scotland, in February 2020 has had an unprecedented impact across society. There have been significant changes in healthcare delivery in all settings in 2020 as a response to the challenges presented by the pandemic. Comparing antimicrobial use (AMU) and antimicrobial resistance (AMR) in 2020 with previous years is challenging. The impact of COVID-19 on epidemiology of antimicrobial use and resistance will have implications for interpretation of the trends for the years ahead.

Find out more

Find out more in the [full report](#). Data from this publication is available to download from our web page.

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