Scottish One Health Antimicrobial Use and Antimicrobial Resistance report 2019

An Official Statistics statistical release for Scotland

Publication date: 17 November 2020

Revised: 07 September 2021

About this release

A data quality issue was found in the human antimicrobial resistance data and these data were subsequently re-processed. An unplanned revision has been undertaken and corrections to figures and messages have been highlighted in red. Updates have also been made to Animal Antimicrobial Use and Minimising the spread of AMR through the environment sections.

This release by Antimicrobial Resistance and Healthcare Associated Infection (ARHAI) Scotland provides data relating to antibiotic use and resistance to antibiotics in Scotland during 2019. 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

In relation to antibiotic use in humans:

- Total antibiotic use in humans has decreased by 7.6 % since 2015.

- 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 9.1% since 2015; the lowest figure since data became available in 1993.

- 26.8% of the Scottish population received at least one course of antibiotics prescribed in primary care; the lowest proportion since data became available in 2010.

- Antibiotic use in acute hospitals has increased by 12.6% since 2015 however the rate of increase has slowed compared to previous years.

- Use of Watch and Reserve (restricted) antibiotics in acute hospitals has decreased by 9.8% since 2015.

In relation to antibiotic use in animals:

- The number of consultations where at least one antibiotic was prescribed for companion animals (practices contributing to SAVSNET) has fallen over the last 5 years, from 20.6% in 2015 to 16.2% in 2019.

- Over 90% of antibiotics prescribed to companion animals (practices contributing to SAVSNET) were not from the group of antibiotics considered to be critical to human health

In relation to antibiotic resistance in humans:

- Gram-negative bacteria are a common cause of serious infection in both healthcare and community settings.

- Antimicrobial resistance (AMR) in Gram-negative bacteria significantly contributes to the overall burden of AMR.

- AMR in Gram-positive bacteria also contributes to the burden of AMR.

- *E. coli* is the most common cause of Gram-negative bacteraemia and contributes significantly to the burden of AMR.

- Since 2018 non-susceptibility in *E. coli* bacteraemia (ECB) has remained stable with the exception of an increase in co-amoxiclav and a decrease in piperacillin with tazobactam.

- CPO incidence has increased significantly since 2015 (p<0.001).

- *E. coli* is the most frequently isolated bacteria from urine specimens; non-susceptibility of *E. coli* to co-amoxiclav and ceftazidime has increased since 2018.

- Incidence of *E. faecalis* and *E. faecium* bacteraemia has remained stable since 2015.

- 41.9% of *E. faecium* bacteraemia are non-susceptible to vancomycin.

- 78.7% of *E. faecium* bacteraemia are non-susceptible to high-level gentamicin.

In relation to antibiotic resistance in animals:

- Monitoring AMR in animals is a vital component of understanding and mitigating risk of AMR across the entire ecosystem.

- Non-susceptibility for veterinary clinical isolates has been relatively stable since 2015.

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.

Find out more

Find out more in the full report. Data from this publication is available to download from our web page.

Contact

William Malcolm | Pharmaceutical Advisor (SONAAR Programme Lead) | 0141 300 1174
NSS.HPSSonaar@nhs.scot