Antibiotic use in humans

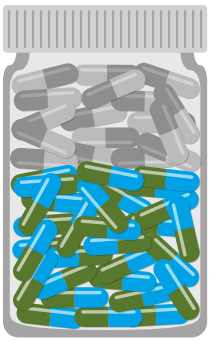
NHS National Services Scotland

Antibiotic use and antibiotic resistance are inextricably linked. One of the main drivers of resistance is antibiotic use and a key way of tackling resistance is to optimise antibiotic use.

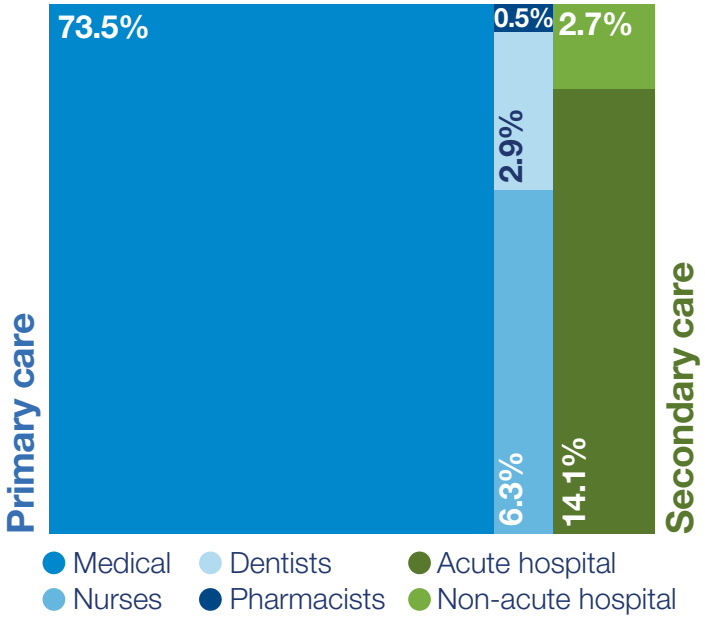
Total antibiotic use

There has been a **6.2% decrease** in **antibiotic use** between **2014** and **2018**

58.5% of **antibiotic use** in **humans** was **Access** (first line) **antibiotics**



Total **breakdown** of **antibiotic use**



The three ages of antimicrobial stewardship in Scotland

‘what to prescribe’

Reducing the use of certain broad-spectrum antibiotics due to their association with antimicrobial resistance and *Clostridioides difficile* infection

‘whether to prescribe’

Reducing the use of antibiotics for common self-limiting infections where antibiotics are seldom required in healthy individuals

‘for how long to prescribe’

Encouraging the use of short courses where indicated

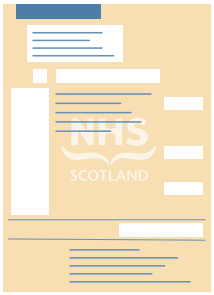
Health Protection Scotland

Antibiotic use in primary care

There has been a **10.2%** **decrease** in **antibiotic use** in **primary care** between **2014** and **2018**

27.3% of the **Scottish population** had **at least one course** of **antibiotics** in **2018**

Nurses accounted for

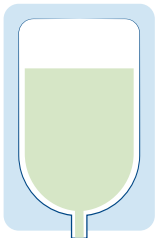


1 in **10** **antibiotic prescriptions**

Over **75%** of **antibiotic prescriptions** were **Access** (first line) **antibiotic items**

Antibiotic use in acute hospitals

There has been a **16.0%** **increase** in **antibiotic use** in **acute hospitals** between **2014** and **2018**



Intravenous antibiotics accounted for **30%** of **antibiotic use** in **acute hospitals**

59.7% of **antibiotic use** in **acute hospitals** was **Access** (first line) **antibiotics**

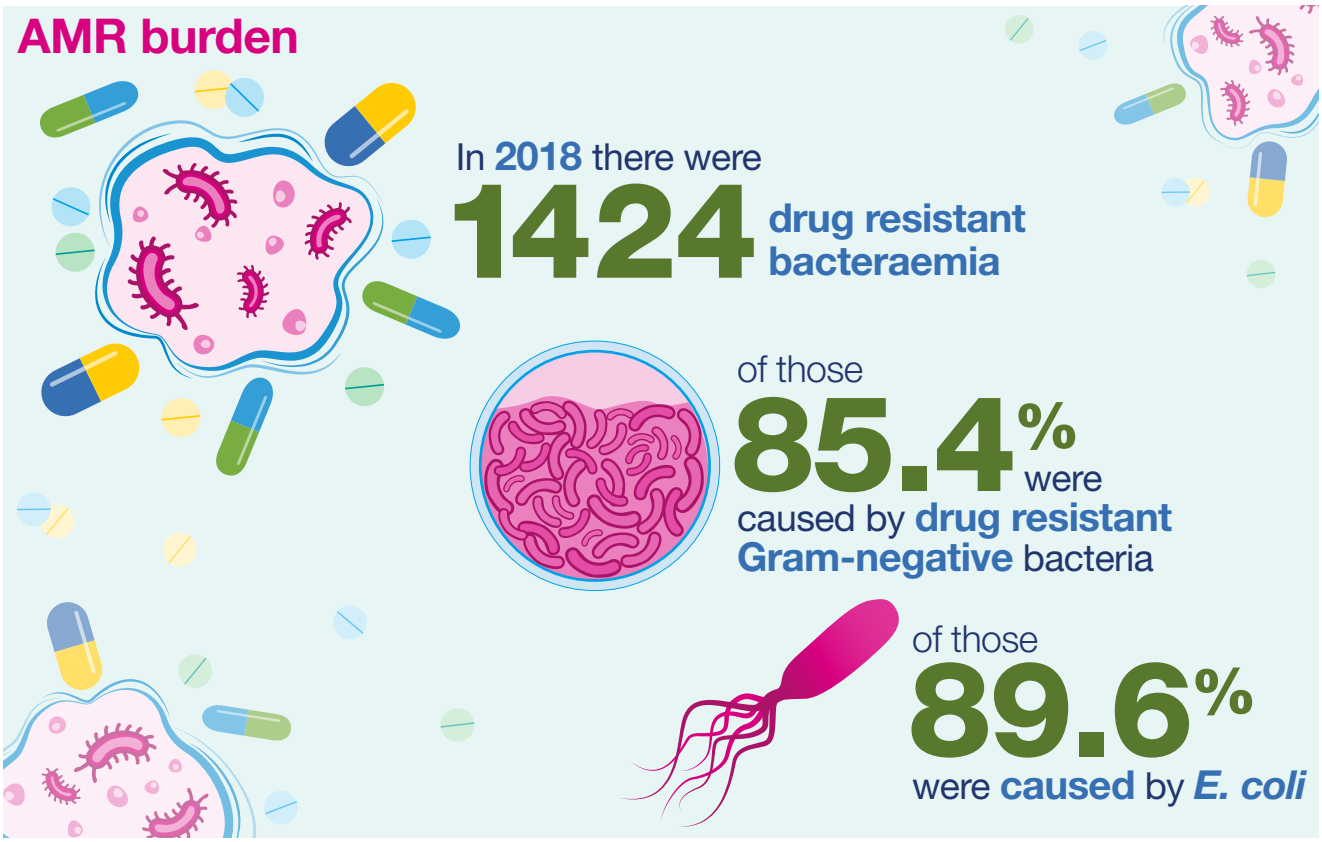
Antimicrobial resistance in humans

NHS National Services Scotland

Antimicrobial resistance is a global concern and the scale and threat is well described in the UK 5-year action plan for antimicrobial resistance 2019 to 2024.

Gram-negative infection

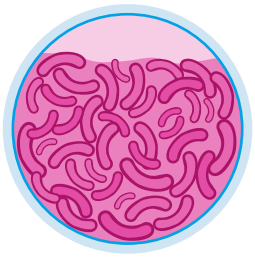
AMR burden



Carbapenemase producing organisms

In 2018 there were **98** CPO isolates

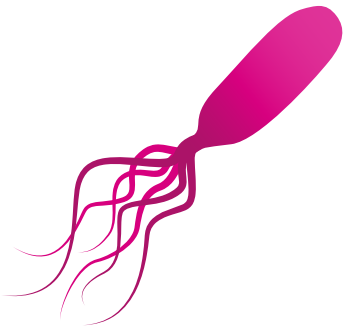
This is **stable compared** with **2017**



of those **89.8%** were **carbapenemase producing Enterobacterales**

Health Protection Scotland

E. coli bacteraemia

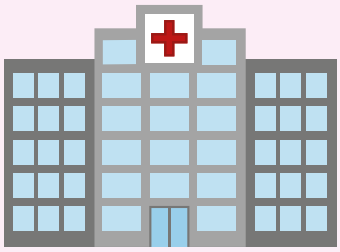


E. coli was the **most common** cause of **Gram-negative bacteraemia**

↔ The **rate** of **ECB** has remained **stable** over the **last 5 years**

↔ **Resistance** in **ECB** has remained **stable** over the **last 5 years**

ECB resistance for all antibiotics was **higher** in isolates with

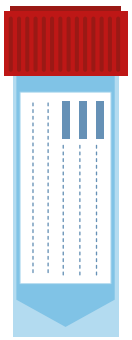


a **healthcare associated** or **hospital acquired source**

compared to

a **community source**

Urinary tract infections



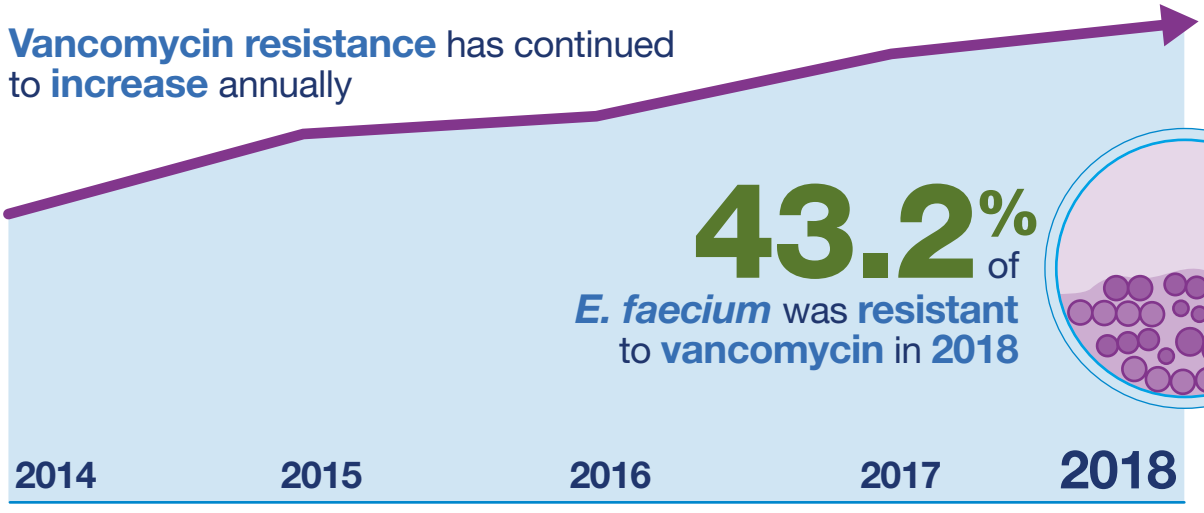
E. coli is the **most common** cause of **UTI**

↑ **Incidence** of ***E. coli*** **urinary isolates** has **increased** by **0.7%** over the **last 5 years**

↔ **Resistance** in ***E. coli*** **urinary isolates** has remained **stable**

Gram-positive bacteraemia

Vancomycin resistance has continued to **increase** annually

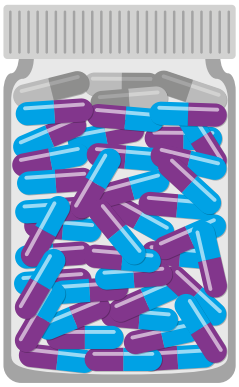


AMR and AMU in animals

NHS National Services Scotland

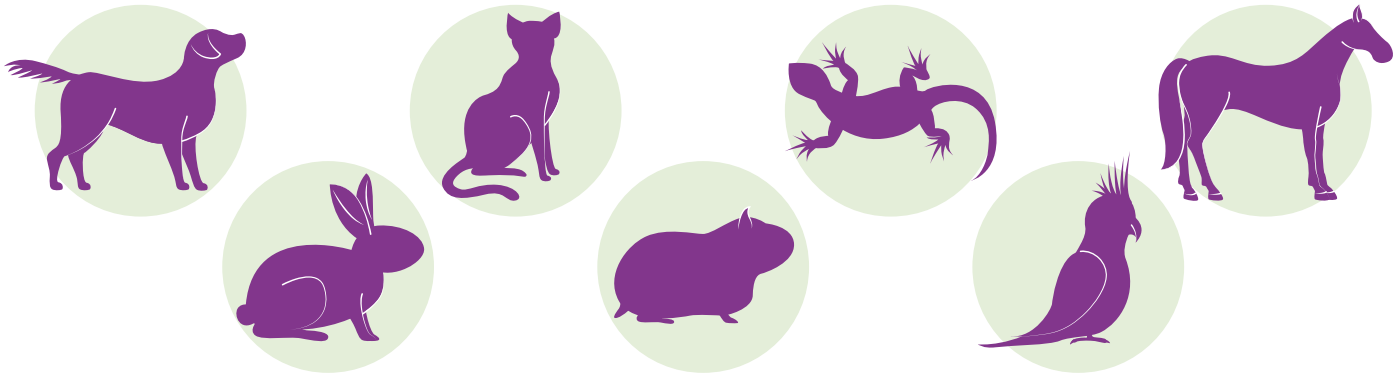
Central to tackling AMR is a One Health approach that encompasses humans, animals, environment and food. For the first time, data on antimicrobial resistance and antimicrobial use in companion animals were available, building on existing intelligence on AMR in animals.

17.5% of all **consultations** for companion animals resulted in **prescriptions** of **antimicrobials** in **2018**

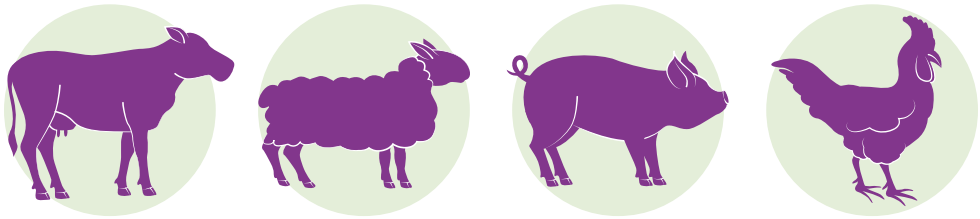


Over **90%** of antimicrobials prescribed to companion animals are **not critical to human health**

AMR is **identified** in **bacteria** from **all companion animal species**



AMR in **healthy animals** is **stable**



Guidance on disease avoidance and antimicrobial stewardship for all animal sectors can be found on Scotland's Healthy Animals website

Health Protection Scotland