

# Antimicrobial Use and Resistance in Humans in 2015

Year Ending 31 December 2015

Publication Date – 30 August 2016

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## About this release

This release from NHS National Services Scotland (Information Services Division and Health Protection Scotland) provides an annual update on antibiotic use and resistance in Scotland.

## Main points

- Antibiotic use in primary care was the second lowest in twenty years and decreased by 2.4% from 2014. It was 9.5% lower than the highest rate on record in 2012.
- Antibiotic use in acute hospitals increased by 3.5% from 2014 and continues an increasing trend from 2012 (9.9% increase).
- Inappropriate use of very broad spectrum antibiotics is a factor in the development of resistance. Carbapenem use increased by 6.5% from 2014 and is 9.3% higher than in 2012, however piperacillin-tazobactam use decreased by 7.9% from 2014, the first reduction observed.
- *E. coli* was the most frequent cause of Gram-negative bacteraemia. Non-susceptibility to most antibiotics remained stable with the exception of a 6.1% increase to co-amoxiclav and 8.6% to piperacillin-tazobactam. The same pattern was observed for *K. pneumoniae* with a 14.8% increase in non-susceptibility to co-amoxiclav and a 28.7% increase to piperacillin-tazobactam.
- Non-susceptibility to key antibiotics in both MRSA and MSSA has remained stable since 2012.
- Vancomycin non-susceptibility in *E. faecium* bacteraemia isolates has increased significantly since 2012 with an overall increase of 16.6%.

## Background

Resistance to antibiotics continues to pose a serious public health threat globally. The loss of effective antibiotics undermines our ability to fight infectious diseases. The problem is made worse by the fact that a new infectious disease has been discovered almost every year over the past 30 years, while very few new antibiotics have been developed.

This annual report presents detailed information on the use of antibiotics and on antibiotic resistance in Scotland and provides recommendations on interventions and national healthcare improvement activities aimed at stemming the tide of further antibiotic resistance.

Note that while the term 'antibiotic' has been used in this summary for clarity, the report focuses exclusively on antibacterial drugs, those drugs that act against bacteria causing infections. The term 'antimicrobial' covers drugs that act against any kind of micro-organism, including fungi, viruses and bacteria.

**Please note:** Please note that two minor errors were found in the antimicrobial use analysis for the Report on Antimicrobial Use and Resistance in Humans report published on 30th August 2016. These are in the calculation of two age band denominators for 2015 data and a minor inflation of the Defined Daily Doses in acute hospital antimicrobial use in 2012 and subsequent comparison to 2015 figures. These errors and subsequent revisions will not affect the overall interpretation or conclusions drawn from the previously published data. A revised publication to correct these was released on 22nd November 2016 and should be referred to instead.

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## Find out more

Further information can be found in the [Antimicrobial Use and Resistance in Humans in 2015 report](#).

The next update of this publication will be in December 2017.

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## ISD and Official Statistics

Information Services Division (ISD) is the principal and authoritative source of statistics on health and care services in Scotland. ISD is designated by legislation as a producer of 'Official Statistics'. Our official statistics publications are produced to a high professional standard and comply with the Code of Practice for Official Statistics. [Find out more about our statistics](#).