

Publication Summary



Report on Antimicrobial Use and Resistance in Humans in 2013

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About this Release

This is the sixth annual report published by Health Protection Scotland (HPS) and Information Services Division (ISD) of NHS National Services Scotland (NSS) that combines information on antimicrobial use and resistance in humans in Scotland. The majority of information presented here covers up to the end of 2013.

Key Points

- In 2013, the use of antibacterials in primary care was lower than in 2012. This reduction was observed both in terms of antibiotic items (down 5.4%) and Defined Daily Doses (down 2.5%).
- In 2013 an increase of 1.6% was observed in the total use of antibacterials in hospitals compared to 2012. This continues the upward trend seen since 2009, however the rate of increase is less than it has been for previous years.
- A continued increase in the use of carbapenems in Scottish hospitals was observed. However, the increase from 2012 to 2013 was lower than that of previous years. Despite this rise resistance to carbapenems among Gram-negatives remains low, with 0.2% of *K. pneumoniae* and none of the *E. coli* isolates being resistant to meropenem.
- However, the epidemiological status of carbapenemase producers in Scotland recently changed from 'sporadic' to 'regional spread' following two incidents of local spread reported in 2014. An increase in meropenem resistance was also observed among Scottish *E. coli* urinary isolates (from 0% in 2012 to 0.03% in 2013)
- There was continued progress in 2013 toward reduction in the use of broad spectrum antibacterials associated with *Clostridium difficile* infection (CDI) in primary care with a 12.7% decrease
- There was a 4.5% increase in the use of co-amoxiclav in secondary care in 2013 as compared to 2012. This coincided with an increase in resistance to co-amoxiclav among *E. coli* bacteraemias from 18.4% in 2012 to 28.4% in 2013, above that reported in 2009-2011 (range: 23.4%-25.4%).
- The use of piperacillin-tazobactam has continued to rise, with a 7.4% increase in 2013 as compared 2012. The high resistance (8.6% in 2013) to piperacillin-tazobactam among *E. coli* bacteraemias is of concern due to its frequent clinical use.

Background

Antimicrobial resistance (AMR) continues to pose a serious public health threat globally. The loss of effective antimicrobials undermines our ability to fight infectious diseases and manage the infectious complications common in vulnerable patients undergoing chemotherapy for cancer, dialysis, and surgery, especially organ transplantation, for which the ability to treat secondary infections is crucial. The problem is further exacerbated by the fact that a new infectious disease has been discovered almost every year over the past 30 years, while very few new antimicrobials have been developed. In 2013, antimicrobial resistance was added to UK national risk register to ensure it receives adequate attention of policy makers in the UK.

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

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Further Information

Further information can be found in the [Full Publication Report](#) or on the [ISD website](#) or [HPS website](#)

About ISD

Scotland has some of the best health service data in the world combining high quality, consistency, national coverage and the ability to link data to allow patient based analysis and follow up. Information Services Division (ISD) is a business operating unit of NHS National Services Scotland - and has been in existence for over 40 years. We are an essential support service to NHSScotland and the Scottish Government Health Department and others, responsive to the needs of NHSScotland as the delivery of health and social care evolves.

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. The Code of Practice is produced and monitored by the UK Statistics Authority which is independent of Government. Under the Code of Practice, the format, content and timing of statistics publications are the responsibility of professional staff working within ISD.

Further information on ISD's statistics, including compliance with the Code of Practice for Official Statistics, and on the UK Statistics Authority, is available on the [ISD website](http://www.isdscotland.org/About-ISD/About-Our-Statistics/) www.isdscotland.org/About-ISD/About-Our-Statistics/