

Publication Summary



Report on Antimicrobial Use and Resistance in Humans in 2012

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About this Release

This is the fifth annual report published by Health Protection Scotland (HPS)/ Information Services Division (ISD) part of the Public Health and Intelligence (PHI) strategic business unit of NHS National Services Scotland (NSS) that combines information on antimicrobial use and resistance in humans in Scotland. The information presented here covers up to the end of 2012.

Key Points

- Since 2009, there has been a 23.1% increase in the use of carbapenems in Scottish hospitals. Resistance to carbapenems among Gram-negatives remains rare although sporadic reports of confirmed carbapenemase producers are received.
- There has been a continued increase in the use of trimethoprim and nitrofurantoin since 2009 suggestive of increased compliance with prescribing policies for urinary tract infection. However, 11,538 persons received trimethoprim or nitrofurantoin on six or more occasions, suggesting prophylactic use, although there is limited evidence for this practice.
- In 2012, the use of antibacterials in primary care was 3.3% higher than in 2011. This is the second consecutive year an increase has been observed. Overall 33.0% of the Scottish population had at least one antibacterial item dispensed in 2012. However, there was continued progress in 2012 toward reduction in the use of broad spectrum antibacterials associated with *Clostridium difficile* infection (CDI) in primary care.
- In 2012, the total use of antibacterials in hospitals was 6.2% higher than in 2011 continuing the upward trend since 2009. Work to analyse reasons for this increase will be a key priority in 2014.
- In 2012, *E. coli* (3925 cases) and *K. pneumoniae* (718 cases) continued to be the most frequent causes of Gram-negative bacteraemia, and a continuing upward trend in burden of disease was observed for both organisms. The number of cases of *P. aeruginosa* bacteraemia remained stable (234 cases). The number of cases of *A. baumannii* (23 cases) continued to decrease in 2012.
- Resistance among *E. coli* causing bacteraemia has remained stable for the last four years and significant decreases in resistance, comparing the year 2011 to 2012, were

reported for ampicillin, co-amoxiclav, cefotaxime, ceftazidime, ciprofloxacin and piperacillin/tazobactam.

- Resistance among *K. pneumoniae* bacteraemias has decreased since 2009 for most agents; with resistance to the third generation cephalosporins (ceftriaxone, cefotaxime and ceftazidime) within the range of 6.5-8.5% and gentamicin 7.3% in 2012.
- In 2012, the lowest number of cases of *S. aureus* (1360 cases) was reported since 2009, which was mainly caused by reductions in meticillin resistant *S. aureus* (a concomitant reduction has not been seen in numbers of meticillin sensitive *S. aureus*).
- A reduction in vancomycin resistance was observed among the Scottish isolates *E. faecium* in 2012 (24.4%); this was above the proportion reported for the whole of the UK (13.3%) and is the third highest percentage reported in Europe.

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 covering the period to the end of 2012 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](#) www.isdscotland.org/About-ISD/About-Our-Statistics/