

Publication Summary



Scottish Antimicrobial Prescribing Group (SAPG) Report on Antimicrobial Use and Resistance in Humans in 2010

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About this Release

This is the third annual report from the Scottish Antimicrobial Prescribing Group (SAPG), published by Health Protection Scotland (HPS)/Information Services Division (ISD) of NHS National Services Scotland (NSS) that combines information on antimicrobial use and resistance in humans in Scotland.

The information on antimicrobial use and resistance covers the period to the end of 2010, which is the second year following the introduction of the antimicrobial stewardship programme in Scotland coordinated by SAPG. Interventions to improve quality in antimicrobial prescribing and infection management have been implemented across Scotland since 2008.

The information in this report is intended to support NHS Boards in evaluating current strategies and prioritise future activities to improve antimicrobial prescribing. In particular this report should be of relevance to Antimicrobial Management Teams (AMTs), Infection Control Teams (ICTs) and microbiologists.

Key Points

- In 2010 the overall use of systemic antibacterials in primary care was 1.9% lower than in 2009 when expressed as number of items per 1000 population per day, equivalent to 53,000 fewer prescriptions. Reductions in the use of broad spectrum antibacterials known to increase the risk of Clostridium difficile infection (CDI) (expressed as items/1000/day) were observed from 2008 to 2010. Reductions within specific groups are as follows: cephalosporins 46.7%; combination penicillins (mainly co-amoxiclav) 36.7%; fluoroquinolones 26.3%. These changes are equivalent to 311,000 fewer prescriptions for high risk antibacterials since 2008.
- Information from the Hospital Medicines Utilisation Database (HMUD) from hospitals in 10 NHS boards (covering 58% of the Scottish population) shows the use (expressed as DDD/1000/day) of antibacterials associated with high risk of CDI in 2010 was 30.7% lower than in 2008. Reductions were observed in all four groups of high risk antibacterials: cephalosporins 54%; co-amoxiclav 27%; fluoroquinolones 26%; clindamycin 13%.
- Antimicrobial resistance among Gram-negative bacteraemias showed, with one exception, stable or decreasing trends in the period 2008-2010. This compares favourably to the situation in Europe. In particular the stable or decreasing trend in cephalosporin resistance in E. coli and K. pneumoniae is remarkable. In more than half of European countries increases in cephalosporin resistance were reported in the same period.
- An exception to the positive development is the increasing gentamicin resistance in E. coli (from 7.3% to 9.2% from 2008 to 2010). Gentamicin is increasingly used in hospitals as cephalosporin use has been restricted in order to contain CDI.
- Emergence of carbapenem resistance is also a matter of concern. One percent of the Scottish K. pneumoniae bacteraemia isolates were resistant to carbapenems in 2010. Increasing numbers of carbapenemase producers have been reported since 2008.
- These findings suggest that SAPG in collaboration with AMTs is having a continued positive impact on the quantity and quality of prescribing in primary and secondary care and helping to contain the

emergence of resistance. CDI rates have decreased 65% in the period 2008-2010 which coincides with reduction in use of high risk antimicrobials in both primary and secondary care. There is still room for improvement though; more detailed examination of antimicrobial use in primary care showed that older people who are most at risk for CDI are more likely to be prescribed a high risk antimicrobial and the threat of emerging resistance remains as shown by the rise in gentamicin resistance.

Background

Antimicrobial resistance (AMR) is recognised as a major threat to public health and patient safety. It reduces the available treatment options for infection and is associated with increased morbidity (the frequency and severity of illness) and mortality due to a failure of the initial choice of antimicrobial therapy. It is recognised that the way in which antimicrobials are used, sometimes inappropriately, will increase the risk of antimicrobial resistance developing.

SAPG is a national clinical multi-disciplinary forum formed in March 2008 by SGHD and its primary objective is to co-ordinate and deliver a national framework for antimicrobial stewardship to enhance the quality of antimicrobial prescribing and infection management in Scotland.

Data on use of systemic antibacterials comes from a database of all NHS prescriptions written by general practitioners, nurses and community pharmacists which are dispensed in the community in Scotland. This report does not take into account antibacterials dispensed by hospitals or hospital based clinics.

Antimicrobial resistance data is gathered from reports to HPS from the microbiology laboratory service. Not all laboratories test and report all the antibiotics of interest and therefore analysis relates to subsets of the total number of bacteraemia isolates recorded

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Further Information

Further information can be found in the [full SAPG report](#), on the [HPS](#) or [ISD](#) websites.

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/