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**ePoster Viewing**

**Pharmacoepidemiology, improved prescribing and antibiotic stewardship**

**Evaluation of the effectiveness of carbapenem and piperacillin/tazobactam guidance in Scotland**

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**Background:** In 2013 the Scottish Antimicrobial Prescribing Group (SAPG) produced national guidance on use of carbapenems and piperacillin/tazobactam (piptaz) as a measure to reduce emergence of Multi-Drug Resistant Gram Negative Bacteria (MDRGNB). The effectiveness of implementation of this guidance and its impact on utilisation of these agents in clinical practice was unknown.

**Material/methods:** A multi-professional study steering group was established and an online survey developed to assess local uptake and implementation of the SAPG guidance and determine how carbapenems and piptaz were used in practice. A link to the survey was sent via email to Antimicrobial Management Teams in all health boards. Results were analysed at national and regional level. A bespoke point prevalence survey was carried out in acute hospitals to determine the prevalence and patterns of use for carbapenems and piptaz using the National Antimicrobial Stewardship Point Prevalence System© (NAS-PPS). Results were analysed at national and regional level to evaluate compliance with local guidance.

**Results:**

**Survey results** - All 15 health boards responded to the survey. Local guidelines were either updated or reviewed based on SAPG guidance in 93% of boards. Clinicians were informed about the guidance verbally or electronically in 60% of boards and 80% of boards integrated it into routine training on antimicrobials. Meropenem is subject to prescribing restrictions in 87% of boards and the most common indication for its use is second line for febrile neutropenia. All boards routinely test meropenem sensitivity but 87% suppress results when reporting to clinicians. Imipenem is used in 20% of boards. Ertapenem is used in 80% of boards, predominantly for Out-patient Antimicrobial Therapy. Piperacillin/tazobactam is subject to prescribing restrictions in 46% of boards with neutropenic sepsis and febrile neutropenia the most common indications. Sensitivity testing is performed in all boards but results are suppressed in 80%. Carbapenem-sparing antimicrobials are used to varying extents.

**Point prevalence results** - A bespoke PPS was carried out in October 2015 using a dataset similar to previous European surveys. Results showed a marked variation in prevalence of carbapenem and piptaz use between boards and good compliance with local guidelines for meropenem. Compliance

with guidance for piperacillin/tazobactam was more variable, in part due to less restrictions on its use. Individual board reports on both the survey and PPS data have allowed comparison between local guidelines recommendations and actual prescribing practice to identify areas for improvement.

**Conclusions:** The majority of boards have implemented the SAPG guidance as part of their local antimicrobial stewardship programme. Compliance with local guidelines varies and target areas for local quality improvement have been identified. Further qualitative work will evaluate clinician attitudes to use of carbapenems and piperacillin/tazobactam to inform behavioural change strategies.