

O0529 **Measuring inappropriate antibiotic prescribing in acute NHS hospitals: development and validation of a national audit tool**

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**Background:** The UK government has an ambition to reduce inappropriate antibiotic prescribing by 50% by 2021. Research has been carried out to estimate the proportion of inappropriate antibiotic prescribing in primary care in the UK but there are no corresponding data from secondary care. An audit tool was developed to quantify the extent of inappropriate antibiotic prescribing that occurs within acute NHS hospitals. This audit aims to help identify where policy initiatives and training should be focused to facilitate appropriate antibiotic prescribing.

**Materials/methods:** A RAND-modified Delphi process was used to evaluate a set of data fields that can be used to determine appropriateness of antibiotic use. Initial data fields were identified from literature and review of international guidance. A national multidisciplinary panel consisting of 19 infection and public health experts was convened to evaluate and validate these data fields by using standardised questionnaires. Over two rounds a 5-point Likert scale was used to confirm the relevance of each data field and its contribution to assessment of appropriateness of prescribing.

**Results:** Initial literature identified 25 data fields that could be used to determine appropriateness of antibiotic use. Data fields included indication for antibiotic prescribing, results of microbiology investigations and other evidence of infection such as inflammatory markers and sepsis scores. A 68% response rate was achieved for the first round of the Delphi; when the panel accepted 23 out of 25 data fields. One of the two rejected fields was rephrased and the second rescored and accepted by the expert panel in round two with a 68% response rate. The accepted data fields were used to develop an audit tool that can quantify the extent of inappropriate antibiotic prescribing by expressing non-essential days of therapy (as judged by the auditor) as a percentage of total days of therapy.

**Conclusions:** A national audit tool was developed and validated to determine the extent of appropriateness of antibiotic prescribing in acute NHS hospitals. A final set of 25 data fields were incorporated into the audit tool. The finalised audit tool is currently being piloted in 10 acute NHS hospitals involving over 500 patients.