Development of national prescribing indicators for antimicrobials to support reduction in Clostridium difficile infection


Background

The Scottish Antimicrobial Prescribing Group1 (SAPG) is a national multidisciplinary clinical forum formed to implement the recommendations of Scottish Management of Antimicrobial Resistance Plan (ScotMARAP). SAPG implements national improvement initiatives via a network of NHS Board Antimicrobial Management Teams (AMTs). Reduction of Clostridium difficile infection (CDI) is currently a priority in Scotland and in 2009 the Scottish Government set a target of 30% reduction by 2011 (increased to 50% reduction in May 2010). SAPG were asked to develop measures related to antibiotic use to support achievement of this reduction in CDI.

Aim

To develop and report on national prescribing indicators for primary and secondary care that demonstrate quality improvement in antimicrobial prescribing practice and contribute to reducing the incidence of clostridium difficile.

Method

Development of prescribing indicators

SAPG had issued guidance to AMTs in July 2008 advising that antibiotics associated with high risk of CDI should be restricted within local antibiotic policies and this was used as the basis for development of prescribing indicators. Following consultation with SAPG members and AMTs, three indicators were agreed and announced in Chief Executive Letter CEL11 in April 20092.

Data management

The Institute of Healthcare Improvement method and Extranet data management system were chosen for the hospital prescribing indicators as it is already in widespread use for the Scottish Patient Safety Programme. The primary care indicator was developed as a standard report within the Prescribing Information System for Scotland.

Reporting

SAPG produces reports on national compliance with the hospital indicators 3-monthly and for the primary care indicator annually. AMTs can access their own ‘real time’ NHS Board data.

Results

1. Empirical prescribing: policy compliant and indication documented

Data is collected monthly in all medical and surgical acute admission units. Current median compliance with antibiotic policy is 86% and median compliance with indication documented in the medical notes is 91%. Compliance with the combined measure is illustrated below:

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Target</th>
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<tbody>
<tr>
<td>1. Indication recorded in patient medical record and empirical antibiotic choice compliant with local Antimicrobial Prescribing Policy.</td>
<td>≥95% Compliance</td>
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<tr>
<td>2. Duration of surgical prophylaxis &lt;24 hours and compliant with local Antimicrobial Prescribing Policy.</td>
<td>≥95% Compliance</td>
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<tr>
<td>3. Seasonal variation in quinolone use is ≤5% calculated using the equation: (October-March total DDDs - April-September total DDDs -1) x 100%.</td>
<td>≤5% Variation</td>
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2. Surgical prophylaxis: policy compliant and duration < 24 hours

Clinical engagement and data collection has been challenging and some Boards did not implement a restrictive policy until 2010. Data is currently being reported in 10 NHS Boards covering 7 surgical specialties. Compliance with policy and duration is >90% for most specialties in most Boards. We are working to integrate our measures with those of the Scottish Patient Safety Programme and the national surgical site infection surveillance programme.

3. Seasonal variation in quinolone use

Conclusion

Broad consultation and clinical engagement has allowed development and implementation of national prescribing indicators to support reduction in CDI. Use of quality improvement methodology and regular feedback of results to prescribers has driven increasing compliance with the indicators. National CDI rates have reduced by 42%3 and we are currently using statistical methodology to confirm that changes in antimicrobial use have made a significant contribution to this reduction.

References