Trends in Gram-negative bloodstream infection, antimicrobial use and antimicrobial resistance in Northern Ireland


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Introduction:
Antimicrobial resistance (AMR) is a present and growing threat to global human health. Gram-negative organisms present a particular challenge due to their ability to develop resistance, while the inappropriate and overuse of antibiotics further accelerates the AMR process. The Northern Ireland (NI) Department of Health, Social Services and Public Safety aimed to ‘establish and maintain systems to monitor antimicrobial usage and surveillance of resistance’ (DHSSPSNI, 2012). The selected results outlined in this poster are the product of that system. Full results are available at: http://pha.site/AMR2017

Methods:
Trust microbiology labs (x 5) test for GNBs +VEs voluntarily reported to CoSurv

Results:

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<thead>
<tr>
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<tbody>
<tr>
<td><strong>E. coli</strong></td>
<td>Bloodstream Infection</td>
<td>980 in 2009</td>
<td>1487 in 2016</td>
</tr>
<tr>
<td><strong>K. pneumoniae</strong></td>
<td>Bloodstream Infection</td>
<td>143 in 2009</td>
<td>208 in 2016</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Consumption: Carbapenems</th>
<th>Piperacillin/tazobactum</th>
<th>Colistin</th>
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<tbody>
<tr>
<td><strong>Carbapenems</strong></td>
<td>2009-2016 period</td>
<td></td>
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<tr>
<td><strong>Piperacillin/tazobactum</strong></td>
<td>2009-2016 period</td>
<td></td>
</tr>
<tr>
<td><strong>Colistin</strong></td>
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Conclusions:
- There has been an increasing incidence of gram-negative bloodstream infections and a small rise in the proportion resistant to selected antibiotics.
- Rates of antibiotic consumption are stable but substantially higher than other parts of the UK.
- We have limited information about who is receiving antibiotics and who is prescribing them.

Recommendations:
- Further investigation is needed to identify who is receiving and prescribing antibiotics in Northern Ireland.
- Availability of timely, detailed intelligence for practitioners/managers should help target efforts to reduce consumption and inappropriate antibiotic use.