Bla Bla black sheep, have you any AMR?

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Introduction

Antimicrobial resistance (AMR) is a global challenge with national, regional and local implications.

Collection of antimicrobial sensitivity (AMS) data from all levels of the food chain is required to help inform the issue of antimicrobial resistance (AMR), its development and transmission.

The objectives were to estimate the prevalence of AMR in:

• enteric samples from sheep slaughtered at a Scottish abattoir
• faecal samples from Scottish slaughter lambs in field flocks

And to explore the utility of sheep movement data as a means to improve the design and interpretation of such monitoring & surveillance activities.

Methods

<table>
<thead>
<tr>
<th>2017/18</th>
<th>Abattoir samples</th>
<th>Field flock samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phenotypic resistance</td>
<td>One E. coli isolate Disc diffusion Panel of 12 antimicrobials – 5 match field flock panel</td>
<td>One E. coli isolate Disc diffusion Panel of matching 5 antimicrobials – plus colistin (tested as MIC)</td>
</tr>
<tr>
<td>Genotypic resistance markers</td>
<td>One E. coli isolate PCR Panel of 7 AMR genes – all match field flock panel</td>
<td>Faecal extract tested using PCR Panel of matching 7 plus 4 additional AMR genes</td>
</tr>
<tr>
<td>Number</td>
<td>388 holdings</td>
<td>51 samples 11 flocks</td>
</tr>
</tbody>
</table>

Sheep movement data from a statutory database (ScotEID) was analysed to describe the abattoir throughput and the catchment area, plus their relationship to the Scottish slaughtered and slaughter sheep populations.

Conclusions: no sir, no sir, three bags empty

• The levels of AMR detected in these abattoir and field flock samples from Scottish sheep are extremely low.
• It will be difficult to measure changes in AMR in this sector without significant investment of resources.
• Analysis of sheep movement data can help to optimise surveillance activities.

References and Acknowledgements

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Fig 1. Density Maps Showing Areas Supplying Sheep To Selected Abattoir.