Antimicrobial resistance (AMR) is a public health threat; infections with resistant organisms are estimated to cause over 650,000 infections and over 30,000 deaths in Europe1. AMR is associated with antibiotic consumption: appropriate prescribing of antibiotics is key in combating AMR2,3. To fight this threat, it has been suggested that point-of-care diagnostics to inform antibiotics prescribing are an important tool in reducing antibiotics prescriptions.

Main objectives

With the objective of knowing the state of the art on diagnostic, health-economic models, we reviewed cost-effectiveness analyses (CEAs) on diagnostics for infectious disease, focusing on model types and AMR.

General conclusions of articles in two disease areas

<table>
<thead>
<tr>
<th>Disease Area</th>
<th>Cost-effectiveness</th>
<th>Other conclusions</th>
</tr>
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<tbody>
<tr>
<td>Influenza</td>
<td>Cost-effective</td>
<td></td>
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<tr>
<td>Respiratory tract infections (general)</td>
<td>Cost-effective</td>
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</tbody>
</table>

Most cost-effectiveness analyses dealing with diagnostics are for certain types of respiratory tract infections: such as general respiratory tract infections, influenza or tuberculosis. Sexual transmitted disease, malaria and gastroenteritis (e.g. helicobacter infections) are also common disease groups.

Although bacterial or viral resistance is often discussed in the included papers, it is rarely included in the analysis. Examples of methods to include resistance are: an ICER with prescriptions saved as an outcome; calculating the threshold cost of resistance that would change the conclusion of cost-effectiveness; or a point estimate of resistant pathogens.

References


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