Barriers to and facilitators of implementing the CPE toolkit: a qualitative process evaluation

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Background

• Carbapenemase-producing Enterobacteriaceae (CPE):
  – Gram-negative bacteria with resistance to carbapenem class antibiotics
  – Hospitalisation abroad as key risk factor

• 2013 – Public Health England established Incident Control team
CPE toolkit

• Content:
  – Answers to key questions and recommendations around CPE prevention, management and control
  – Tools to develop local plans required by June 2014

• Development:
  – Literature and guidelines search
  – Publication in December 2013 / formal launch March 2014
Process evaluation

• Aim:
  – Investigate the implementation and usefulness of the CPE toolkit
  – Identify potential implementation barriers and facilitators to inform future policies

• Evaluation frameworks:
  – Behaviour Change Wheel and Theoretical Domains framework
    (Michie, van Stralen, & West, 2011; Cane, O'Connor, & Michie, 2012)
Method

• **Semi-structured interviews:**
  – Purposively sampled 12 trusts
  – 44 interviews with range of infection control and frontline staff
  – Interviews conducted between April and August 2017
  – Average length = 26 mins (9 mins – 1h 48 min)

• **Analysis:**
  – Thematic analysis of verbatim transcripts
### Participating trusts’ and staff characteristics

<table>
<thead>
<tr>
<th>Sampling criteria</th>
<th></th>
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</thead>
<tbody>
<tr>
<td><strong>Local CPE management plan:</strong></td>
<td></td>
</tr>
<tr>
<td>Pre-CPE toolkit</td>
<td>3</td>
</tr>
<tr>
<td>Early adopters (2014)</td>
<td>5</td>
</tr>
<tr>
<td>Late adopters (2015-16)</td>
<td>4</td>
</tr>
<tr>
<td><strong>CPE colonisations:</strong></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>3</td>
</tr>
<tr>
<td>Some cases (1-10)</td>
<td>4</td>
</tr>
<tr>
<td>Many cases (&gt;=11)</td>
<td>5</td>
</tr>
</tbody>
</table>

- Including large, medium and small acute trusts from each region
## Participating trusts’ and staff characteristics

<table>
<thead>
<tr>
<th>Staff characteristics</th>
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</thead>
<tbody>
<tr>
<td>Gender:</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>31</td>
</tr>
<tr>
<td>Male</td>
<td>11</td>
</tr>
<tr>
<td>Rather not say</td>
<td>2</td>
</tr>
<tr>
<td>Age</td>
<td></td>
</tr>
<tr>
<td>20-29 years</td>
<td>6</td>
</tr>
<tr>
<td>30-39 years</td>
<td>6</td>
</tr>
<tr>
<td>40-49 years</td>
<td>17</td>
</tr>
<tr>
<td>50-59 years</td>
<td>10</td>
</tr>
<tr>
<td>60-69 years</td>
<td>2</td>
</tr>
<tr>
<td>I would rather not say</td>
<td>3</td>
</tr>
<tr>
<td>Time at department</td>
<td>0.4 - 33.25 years (mean 8.53 years)</td>
</tr>
<tr>
<td>Time at trust</td>
<td>0.5 - 36 years (mean 12.04 years)</td>
</tr>
</tbody>
</table>
Results

• Awareness:
  – Staff with specific infection control responsibilities were aware of CPE toolkit but only few frontline members of staff

• Implementation:
  – Local CPE plans in place at all trusts by 2017
  – Plans typically developed by IPC staff and based on CPE toolkit with local adaptions where required

We extracted what was relevant out of the CPE toolkit, there was a few of us that were looking at it, a couple of nurses and a microbiologist at the time. We used the toolkit quite heavily.
Implementation facilitators

• Social and environmental influences:
  – Multidisciplinary efforts and knowledge sharing
  – Dedicated IPC staff, leadership support and financial investments

• Staff motivation:
  – CPE management seen as priority and part of professional role
  – Concerns about CPE and its consequences

• Knowledge and skills:
  – Awareness and knowledge of CPE
  – Clarity on patient management
Implementation barriers

• **Knowledge and skills:**
  – Lack of CPE awareness and knowledge of and required procedures
  – Completing demands and information overload

• **Staff motivation:**
  – Concerns about evidence base and practicality
  – Over-confidence in CPE management based on clinical expertise

• **Social and environmental influences:**
  – Time pressure and high staff turn-over
  – Shortage of isolation facilities
Improvement suggestions

- Additional clarifications, tailored information and updates

I think you need to adapt it to what’s going on locally and use that as your basis and then justify how you’ve changed from it. If that was spelt out to people, and how they might change it if their circumstances were different, that might help colleagues out there who are maybe less sure of what to do.
For the toolkit itself the time’s right for, following this evaluation, obviously, to re-address it. And to address how it fits into the UK – well, English – epidemiology now. Because I think this is a moving target, really, and we need to adapt. (...) Once we have a feel for what the issues are from the toolkit itself.

Improvement suggestions

• Additional clarifications, tailored information and updates
Summary and conclusion

• Lack of awareness of the CPE toolkit amongst frontline staff but recommendations considered for local plans where possible

• Updating the CPE toolkit considering identified implementation barriers / facilitators and participants’ suggestions recommended
Thank you for listening! Any questions or suggestions?

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