Background and Aims
The optimal timing of intervention to obtain significant effects with regard to reducing the consumption of antimicrobial agents or antimicrobial-resistant bacteria in facilities that lack the manpower to maintain an antimicrobial stewardship team (AST) is well-known.

The objective of this study is to evaluate the effects of earlier intervention by an AST on antimicrobial use, antimicrobial resistance rates, and the clinical outcomes, without changing the weekly intervention.

Methods
Timeline of antimicrobial stewardship program (ASP) implementation
The ASP targeted patients who had used anti-MRSA agents and carbapenems for more than 14 days.

SP1 (From April 1, 2014 to March 31, 2015): Expanded the policy to include patients who were treated with PIPC/TAZ and fluoroquinolones for more than 14 days, and include all patients to whom anti-MRSA agents were prescribed, regardless of the duration of use (17 days).

SP2 (From April 1, 2015 to March 31, 2016): Expanded the policy to include all patients treated with specific antimicrobials, regardless of the duration of treatment, without changing the weekly interval of intervention.

Results
By changing to earlier intervention, the timing of AST intervention shortened on average from 15.5 days after antimicrobial treatment to 4.2 days.

1) AST intervention.

2) The ACDs of specific antimicrobials and other antimicrobials with activity against P. aeruginosa.

Cost

<table>
<thead>
<tr>
<th>Antimicrobial</th>
<th>SP1</th>
<th>SP2</th>
<th>SP3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Piperacillin/tazobactam</td>
<td>18.0S (13.0T2)</td>
<td>15.15% (860/53)</td>
<td>8.5% (645/74)</td>
</tr>
<tr>
<td>Carbenapenem</td>
<td>23.4% (11/460)</td>
<td>17.4% (860/46)</td>
<td>9.0% (645/63)</td>
</tr>
<tr>
<td>Anti/MRSA agents</td>
<td>24.2% (104/420)</td>
<td>18.7% (860/41)</td>
<td>16.9% (645/44)</td>
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<tr>
<td>Phenicol/sulfoximides</td>
<td>12.5% (50/400)</td>
<td>10.6% (860/807)</td>
<td>5.2% (645/128)</td>
</tr>
</tbody>
</table>

4) Drug resistance.

5) Mortality, length of stay and cost.

Conclusions
In summary, the weekly performance of AST intervention for all cases treated with specific antimicrobials, regardless of the duration of use, improved the proper use of antimicrobials, leading to a reduction in the related costs and the rates of antimicrobial resistance in P. aeruginosa isolates and in the rate of MRSA, without introducing any obvious disadvantages such as relapse.

References