Reduction of Antibiotic Starts for Asymptomatic Bacteriuria in Skilled Nursing Facilities
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Introduction
Treatment of asymptomatic bacteriuria in long term care facilities is problematic and exposes residents unnecessarily to the complications of antibiotic use.

Responding to abnormal results from urine laboratory studies may be a driver of inappropriate antibiotics for presumed urinary tract infections.

Objective
To reduce the number of antibiotic starts for asymptomatic bacteriuria by 25% through use of evidenced-based criteria for ordering of urinalysis.

Intervention
Two practice algorithms were developed based on published guidance, one for clinical providers which addressed laboratory testing and treatment and one for nursing staff outlining signs and symptoms of urinary tract infections.

- Clinical providers only ordered urinalysis and treated for UTI based on the algorithm criteria.
- For individuals not meeting the UTI algorithm criteria, the nursing staff implemented monitoring and hydration for non-specific changes in resident behavior or character of urine.
- Additional materials provided to facilities included educational resources about the intervention for direct care providers, families, and residents.

- Measurements: Antibiotic starts for suspected urinary tract infections were determined during a 3 month baseline period and a 4 month, post-intervention period at each facility.

Results

<table>
<thead>
<tr>
<th>Facility</th>
<th>Pre Intervention Average UTI</th>
<th>Post Intervention Average UTI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facility 1 (55 beds)</td>
<td>29.6%</td>
<td>17.5%</td>
</tr>
<tr>
<td>Facility 2 (50 beds)</td>
<td>29.4%</td>
<td>14.0%</td>
</tr>
<tr>
<td>Facility 3 (120 beds)</td>
<td>29.7%</td>
<td>14.0%</td>
</tr>
<tr>
<td>Facility 4 (60 beds)</td>
<td>29.8%</td>
<td>14.0%</td>
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</tbody>
</table>

Conclusions
- A multifactorial intervention including facility, physician, patient, and family education decreased antibiotic starts for asymptomatic bacteriuria by greater than or equal to 25% in the majority of pilot facilities.
- All facilities had the greatest reduction at the start of the intervention.
- Continued education and support will be needed with facilities to maintain and expand the intervention.
- No adverse outcomes reported.

Next Steps
Expansion into 10 new skilled nursing facilities: 5 with an NP & 5 without an NP.

Additional Primary and Safety outcome measures for rates of c. difficile and hospital transfers.