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Improving the treatment of community-acquired pneumonia in the inpatient setting, a QI initiative

Elizabeth Seelbach, MD
Erich C. Maul, DO, MPH, University of Kentucky
Jaime Pittenger, MD
Jeffrey Bennett, MD

Available at: https://works.bepress.com/erich_maul/34/
Introduction

- In 2011 IDSA and PID released joint guidelines for the treatment of community acquired pneumonia (CAP) for children.
- The AAP Quality Improvement Innovations Network identified adherence to the CAP guidelines as a multi-centered project.
- Fifty-three sites were chosen.

Objective

- To increase the use of narrow spectrum antibiotics for CAP on admission.
- To increase the use of narrow spectrum for CAP at discharge.
- To decrease the use of macrolides.
- To decrease the concurrent treatment of asthma.

Methods

- Pre-intervention data was collected from Sept 2013-May 2014.
  - Three, 3 month cycles.
  - Patients were 3mns to 18yrs, and treated with antibiotics for CAP.
  - Patients were excluded if they had ICU care, had a co-morbid condition that would predispose to severe respiratory illness or needed pleural drainage.
- After baseline data was collected, an educational campaign began.
  - Educational flyers were created and distributed in work areas.
  - Residents received email notification of the project.
  - Residents were educated monthly when starting wards.
  - Project was discussed at monthly hospitalist meetings.
  - Data was again collected in 3 month cycles.
- Analyzed using chi-square one-tailed hypothesis testing.
- The data was shared with residents and hospitalist at the end of each cycle to improve compliance.

Results

<table>
<thead>
<tr>
<th>Preventive antibiotic use for CAP</th>
<th>Pre-intervention %</th>
<th>Post-intervention cycle 1 %</th>
<th>P-value</th>
<th>Post-intervention cycle 2 %</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use of narrow spectrum on admission</td>
<td>51%</td>
<td>78.6%</td>
<td>0.0066</td>
<td>94.4%</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Use of narrow spectrum at DC</td>
<td>53%</td>
<td>78.6%</td>
<td>0.0424</td>
<td>100%</td>
<td>0.0002</td>
</tr>
<tr>
<td>Use of macrolides 0-5y</td>
<td>30%</td>
<td>10%</td>
<td>0%</td>
<td>0%</td>
<td>0.0048</td>
</tr>
<tr>
<td>Use of macrolides 5-18y</td>
<td>70%</td>
<td>50%</td>
<td>0.22</td>
<td>0%</td>
<td>0.0048</td>
</tr>
<tr>
<td>Concurrent asthma treatment</td>
<td>23.5%</td>
<td>7.1%</td>
<td>0.0873</td>
<td>11.1%</td>
<td>0.13</td>
</tr>
</tbody>
</table>

Conclusions

- Consistent education across our hospitalist and resident group led to significant improvement with national guidelines for the treatment of community acquired pneumonia.
- Similar interventions should be considered to increase compliance with other published guidelines.

References

- Improving Community Acquired Pneumonia Project Orientation packet.
- Improving Community Acquired Pneumonia Project Change packet.