Background/Purpose

- According to data from the CDC:
  - >30% of outpatient antibiotic prescriptions are unnecessary
  - Antibiotic complications result in 143,000 ED visits annually
  - Antibiotic resistance leads to approximately 23,000 deaths annually
- Joint Commission:
  - New standards for outpatient antimicrobial stewardship programs to be implemented by 2020
- Study objective:
  - Decrease inappropriate outpatient antibiotic prescribing for upper respiratory tract infections (URIs) and UTIs by 20%.

Methods

- A quasi-experimental design, interventional study identified patients diagnosed with URIs or UTI in six ambulatory care settings.
- Inclusion criteria:
  - Diagnosis of bronchitis, sinusitis, or UTI
  - Timeframe: December 1, 2018 through March 31, 2019
- Exclusion criteria:
  - Requirement for antibiotics for other indication(s)
  - Immunocompromising conditions
  - Presence of COPD, cystic fibrosis or bronchiectasis
- The following data points were analyzed:
  - Total number of antibiotics prescribed
  - Number of inappropriate antibiotic prescriptions based on:
    - Antibiotic initiation
    - Antibiotic choice
    - Antibiotic duration
- Interventions that have been implemented as of December 1, 2019:
  - Education (provider and patient)
  - Material from the CDC are posted in clinics for patients
  - Re-educated providers on updated guidelines
  - Audit and Feedback on a monthly basis
  - Peer comparison method with areas for improvement
- Post interventional data: December 1, 2019 through March 31, 2020

Baseline Data

<table>
<thead>
<tr>
<th>Table 1 Baseline Characteristics (n=450)</th>
<th>Table 2 Antibiotics Used (n=308)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average age (range) 56 (18–97)</td>
<td>Azithromycin 30.2% Bactrim 3.2%</td>
</tr>
<tr>
<td>Age ≥60 44%</td>
<td>Augmentin 29.2% Levofloxacin 1.3%</td>
</tr>
<tr>
<td>Male 28%</td>
<td>Nitrofurantoin 13.0% Moxifloxacin 0.6%</td>
</tr>
<tr>
<td>β-lactam allergy 20%</td>
<td>Doxycycline 9.1% Clarithromycin 0.6%</td>
</tr>
<tr>
<td>Severe 3%</td>
<td>Cephalexin 6.5% Amoxicillin 0.6%</td>
</tr>
<tr>
<td>Non-severe 13%</td>
<td>Ciprofloxacin 4.9% Other 0.6%</td>
</tr>
<tr>
<td>Not-specified 4%</td>
<td></td>
</tr>
</tbody>
</table>

URTI and UTI Results Overview

<table>
<thead>
<tr>
<th>Disease State</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inappropriate</td>
<td>32%</td>
</tr>
<tr>
<td>Wrong Antibiotic Initiation</td>
<td>18%</td>
</tr>
<tr>
<td>Wrong Antibiotic Choice</td>
<td>59%</td>
</tr>
<tr>
<td>Wrong Antibiotic Duration</td>
<td>41%</td>
</tr>
<tr>
<td>Sinusitis</td>
<td>20%</td>
</tr>
<tr>
<td>Bronchitis</td>
<td>30%</td>
</tr>
<tr>
<td>UTI</td>
<td>20%</td>
</tr>
</tbody>
</table>

Conclusion

- Over half of outpatient antibiotic prescription are inappropriate
- Initiation of antibiotics was inappropriate in 32% of the patients
- Most patients were treated with antibiotics for more than 5-7 days
- Based on this baseline data, evidence-based interventions of audit and feedback, peer comparison, and education have been implemented
- Final results will be presented at Western States Conference in May 2020

References


Disclosure

Authors of this presentation disclose the following relationship with commercial interests related to the subject of this poster:
- Jennifer Garcia, Pharm D: Nothing to disclose
- Niraj Ganjawala, MD: Nothing to disclose
- Melinda Montoya, Pharm D, BCIDP: Nothing to disclose
- Michael Palestine, MD: Nothing to disclose