Using rapid qualitative methods to inform implementation of provider interventions to reduce the length of antibiotic prescribing for children with acute otitis media

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Background

• Acute Otitis Media (AOM) is the most common reason children are prescribed antibiotics.

• Unnecessary antibiotic use results in emergence of antibiotic-resistant pathogens and adverse patient outcomes.

• In 2019, National Guidelines were published recommending a 5-7 day antibiotic duration for non-severe AOM for children ≥ 2 years of age.

• Over 94% of children are still prescribed longer than recommended durations for AOM.

Study objective: To understand facilitators and barriers to implementation of interventions to improve guideline-concordant antibiotic duration prescribing.
Interventions

**Electronic Health Record**
- antibiotic templates with link to guidelines, help text, dosage/duration buttons

**Clinician Feedback**
- antibiotic prescribing duration compared to other clinicians
Methods

• The Practical Robust Implementation and Sustainability Model (PRISM) guided the study.
• Conducted 19 semi-structured qualitative interviews (14 clinicians and 5 administrators) from 2 large Urban HealthCare systems.
• Utilized the Rapid Assessment Process to identify themes within PRISM domains. Iterative team-based approach:
## Characteristics Influencing Prescribing

<table>
<thead>
<tr>
<th>Individual Level</th>
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</thead>
<tbody>
<tr>
<td>• Patient history</td>
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<tr>
<td>• Years of practice/habits</td>
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<tr>
<td>• Connection/familiarity with family</td>
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<tr>
<td>• Perceptions of medication adherence</td>
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<table>
<thead>
<tr>
<th>Organizational Level</th>
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<tbody>
<tr>
<td>• Type of practice</td>
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<tr>
<td>• Important to maintain consistency across providers and settings; impacts patient trust</td>
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<table>
<thead>
<tr>
<th>Short Durations</th>
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<tr>
<td>• Many clinicians use 7 vs 5-day duration, some still 10 days</td>
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<tr>
<td>• Need more evidence; not convinced 5 is sufficient length; compliance concerns</td>
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<td>• Decrease in 2 days is not much of a difference</td>
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<td>• Mixed views on parental push back</td>
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Intervention Implementation

Electronic Health Record

- Ensure not adding extra time/clicks
- Include clinicians early, communicate project to all staff
- Could take time to make changes and need to understand how to encourage use of this template

Clinician Feedback

- Must be anonymous, sent quarterly from someone they know/expert
- Need to clearly explain outcome measuring
- Compare to similar settings (urgent to urgent)
Conclusion

Supportive of interventions

Use of rapid qualitative analysis and PRISM allowed for quick identification of important multi-level factors important to implementation

Providers and parents don’t always know latest treatment recommendations, and continued education is needed
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Questions?

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EHR Changes

- Link to local guidelines
- Help text
  - Dose, duration for Acute Otitis Media
- Dosage “quick” buttons
- Duration “quick” buttons
- For amoxicillin, amoxicillin-clavulanate and cefdinir
Provider Feedback

First-line Treatment of AOM

- **Y-axis**: % of prescriptions for AOM with 5-day duration
- **X-axis**: Clinics
- **Blue dots**: individual providers in each clinic
- **Red dot**: You