

# National Quality Improvement Project to Decrease Inappropriate Antibiotic Use in Pediatric Urgent Care

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# Background

- In 2018, a research letter published in JAMA reported Urgent Cares had highest rate of inappropriate antibiotic prescriptions
  - Did not separate ***pediatric*** from general UCs
  - A separate study demonstrated pediatric providers are ***more likely*** to follow evidence-based guidelines compared to non-pediatric providers
- Call to Action
  - The Society of Pediatric Urgent Care wanted to ***differentiate*** the antibiotic practices of pediatric UC
  - Collaborated with the CDC and ARAC to develop a QI project to ***improve*** antibiotic prescribing practice in pediatric UC

# Aim Statement

Decrease inappropriate antibiotic use in acute otitis media (AOM), otitis media with effusion (OME), and pharyngitis by a relative 20% from baseline for pediatric urgent care providers participating in the national collaborative by December 1, 2019.

# Methods

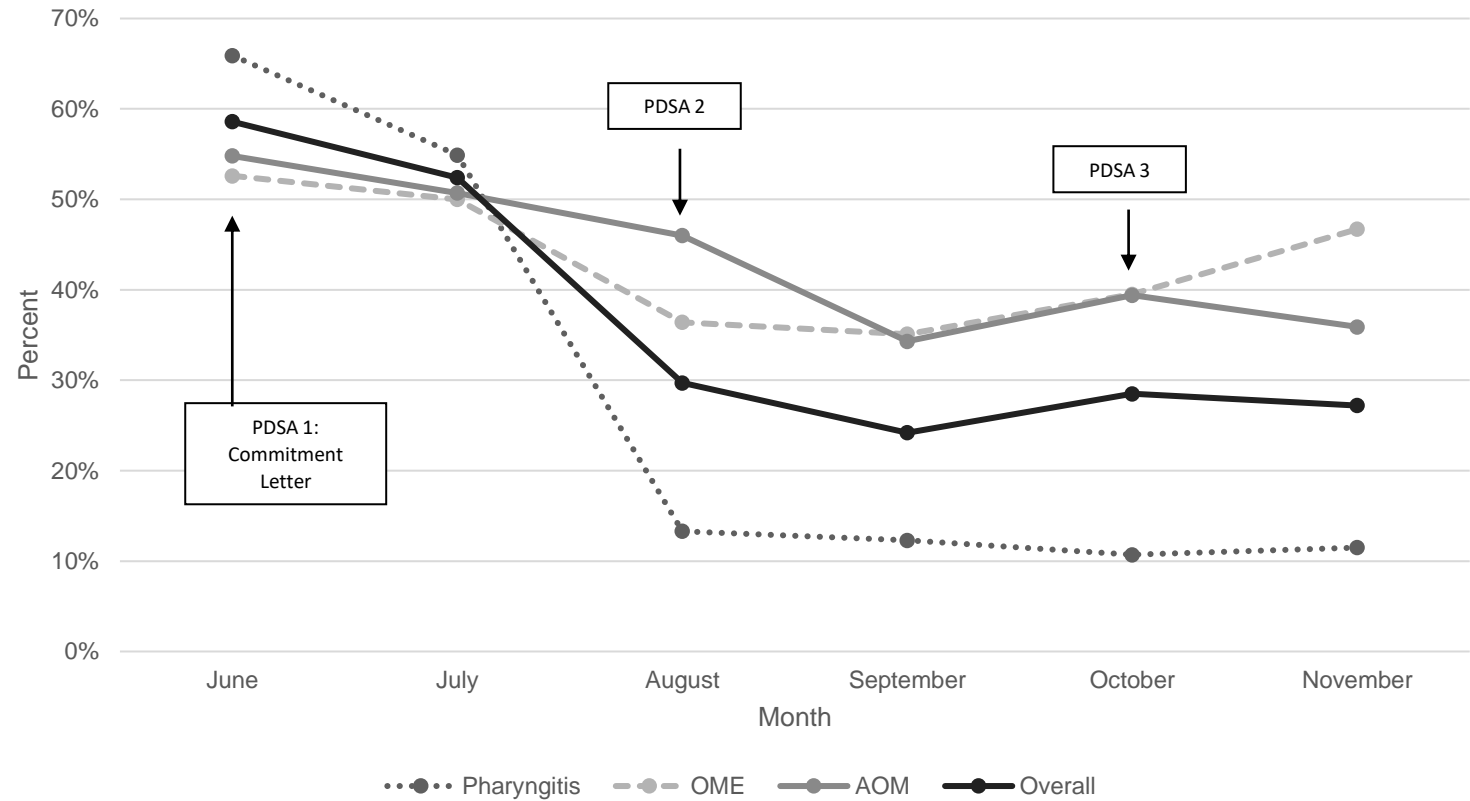
- Study Period
  - REDCap Survey
  - Baseline Data to determine candidate diagnoses: March-May 2019
    - AOM, OME and pharyngitis
  - QI Work: June to November 2019
- Interventions
  - 1<sup>st</sup> PDSA: Sign/post Commitment to Antibiotic Stewardship Letter
  - 2<sup>nd</sup> and 3<sup>rd</sup>: Interventions from the CDC's MITIGATE toolkit
- Outcome Measure
  - Algorithms developed to determine if antibiotic Rx was appropriate based on ***indication, duration and antibiotic choice***
- Process Measure
  - Monthly webinar attendance
- Balancing Measure
  - Ancillary Imaging/Testing

# Results

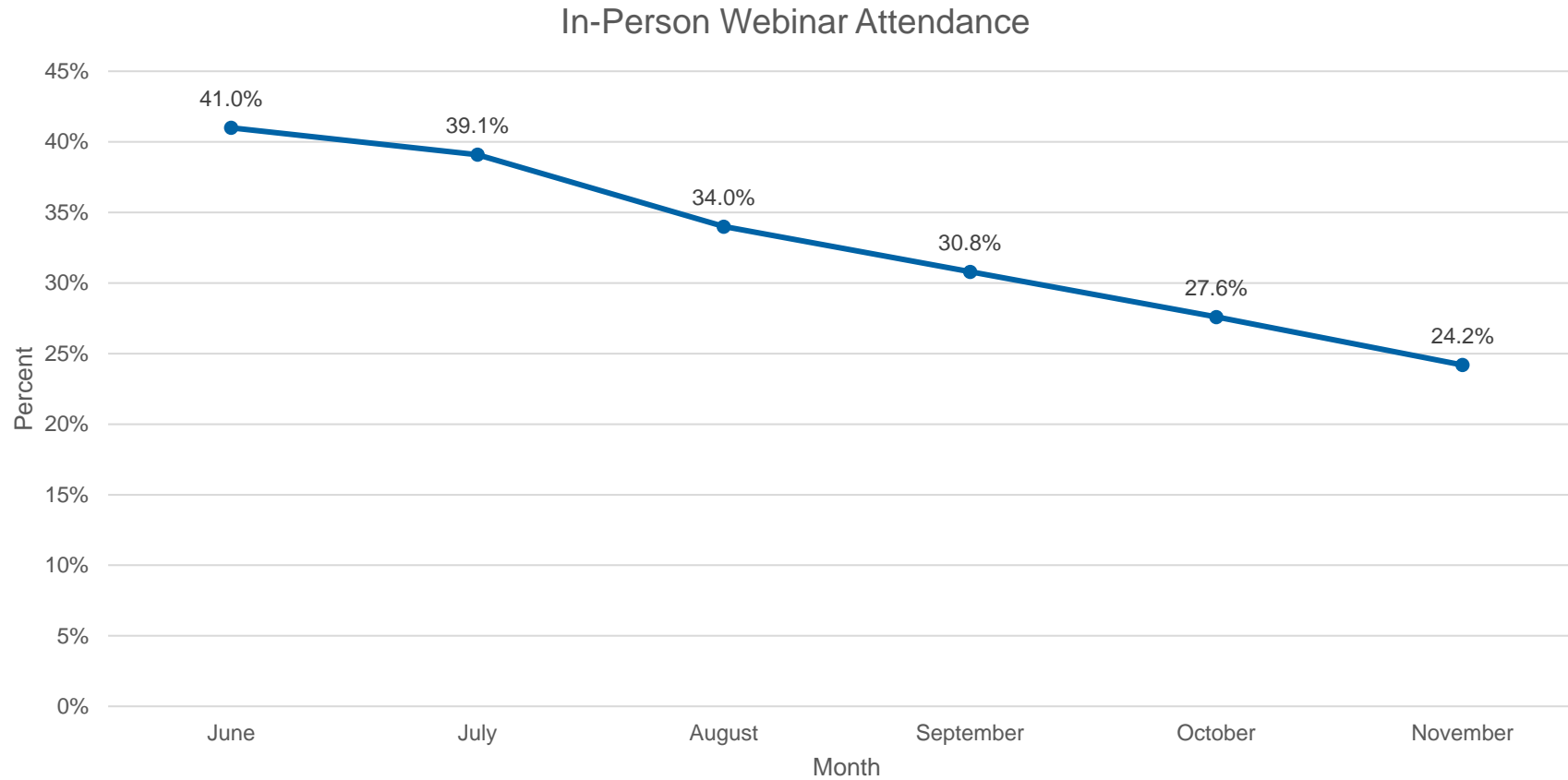
- 20 free standing pediatric UC institutions
- 157 providers
- 3,836 patient encounters
  - AOM 52.0%
  - OME 7.1%
  - Pharyngitis 40.9%

# Outcome Measure Inappropriate Antibiotic Rx

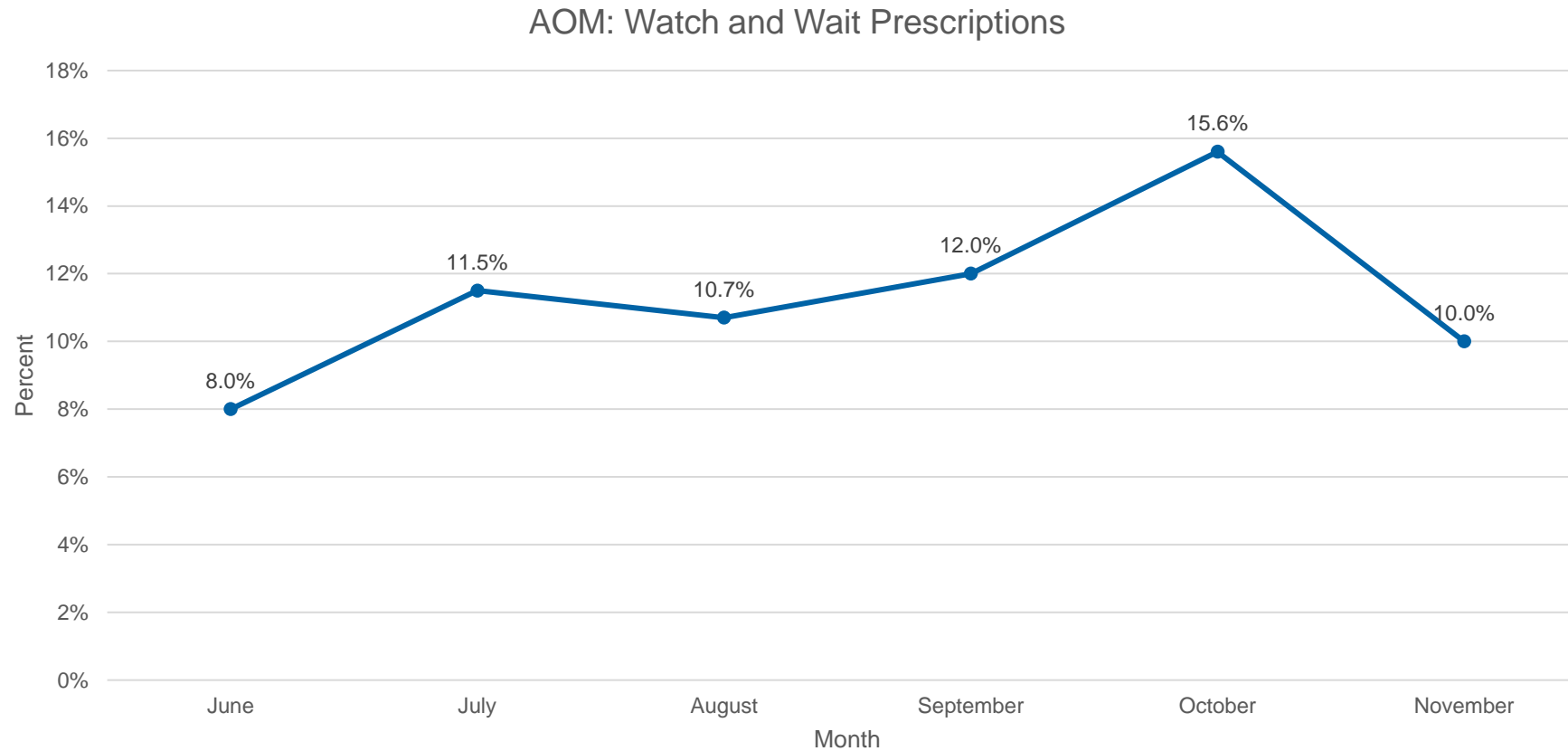
- Pharyngitis 65.9% → 11.5%  
(relative ↓ 82.5%)
- AOM 54.8% → 35.9%  
(relative ↓ 34.5%)
- OME 52.6% → 46.7%  
(relative ↓ 11.2%)
- **Overall 58.4% → 27.2%**  
**(relative ↓ 53.4%)**



# Process Measure Webinar Attendance



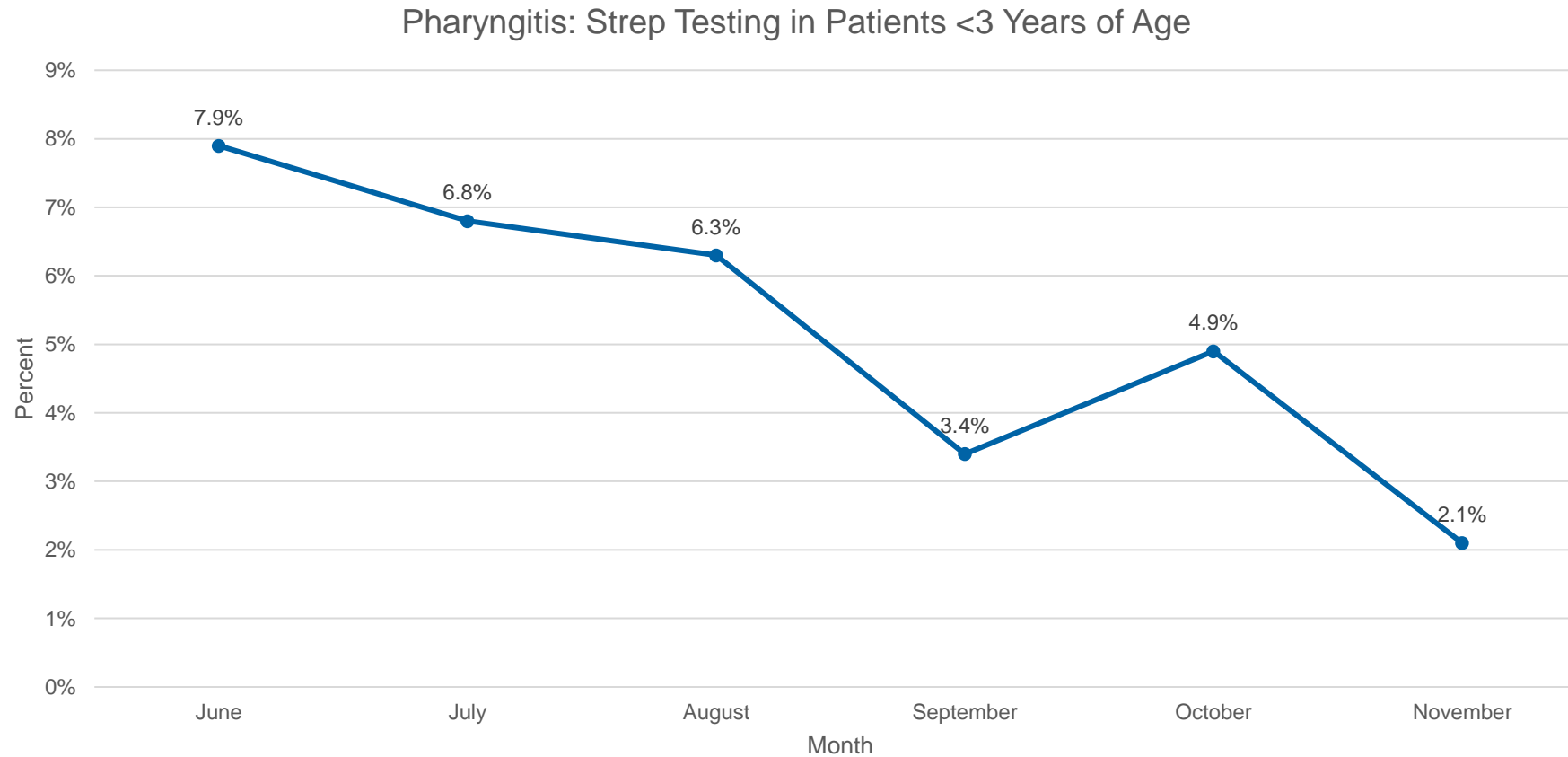
# Process Measure Watch/Wait Rx for AOM





# Process Measure

## Strep Testing in Patients <3 Years



# Limitations

- Does not capture all inappropriate antibiotic use for all diagnoses as the study was limited to 3 diagnoses
- Relied on the integrity of provider reporting their own data
- Possible Hawthorne effect
- Variability in optional interventions chosen by individual sites makes it difficult to determine the individual effect of each intervention on the outcome

# Conclusions

- We achieved our aim of decreasing overall inappropriate antibiotic use by a relative 20% in this first national pediatric quality improvement project
  - OME improved but did not reach goal
  - AOM had significant improvement but did not see significant increase in use of watch and wait Rx
  - Pharyngitis significantly improved with sustained decrease in strep testing in patients <3 years old
- Live webinar attendance decreased over time despite improvement in inappropriate antibiotic use
  - Local engagement and interventions likely more impactful
- Next Steps: Providing standard scripting for each diagnosis



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