Using the Model for Improvement to Improve Asthma Care and Outcomes for Texas Children
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Background
- Childhood asthma prevalence has continuously increased.
- The asthma rate for children in Texas is higher than the national average (8.6%).
- Asthma results in serious health and economic burdens to families, communities, and the health care system as a whole.
- Significant gaps exist in the implementation of evidence-based asthma care in practices.
- Pediatricians have an important role to play in improving asthma care by implementing the National Heart Lung and Blood Institute (NHLBI) Asthma Guidelines.

Methods
- Institute for Healthcare Improvement (IHI) Modified Breakthrough Series Quality Improvement (QI) 12-month learning collaborative with the AAP Texas Pediatric Society involving 33 practices, 73 physicians and 34 allied health professionals.
- Practices were divided into three geographic hubs and led by a local physician hub leader. Hubs included Houston/Dallas, San Antonio and Austin/South Texas.
- Implementation based on the AAP Chapter Quality Network (CQN) structure.
- Practice participation represented a diverse mix of rural, urban areas, private pediatric practices, federally qualified health centers, academic centers, and residency clinics.
- National AAP provided direction, quality improvement coaching, online data collection system, technical assistance and a change package.
- Project implemented at the state level through Texas Chapter Leadership Team which included a physician lead, physician hub leaders (3), subject matter experts and a chapter project manager.
- Practices were required to submit monthly data, attend monthly webinars and attend four Learning Sessions (in-person and virtual) over the 12-month period.
- Practices submitted 12 cycles of monthly data, including 1 baseline cycle. Each month, participating providers reported on all eligible patient encounters or a random sample of 10 encounters.
- Project Measures:
  - Optimal asthma care composite (use of a validated asthma control test, use of a stepwise approach, review of a current asthma action plan, and use of controller medication for patients with persistent asthma)
  - Assessment of asthma control
  - Provision of self-management materials
  - Flu vaccination coverage rate
  - Review of inhaler technique
- Practices submitted monthly Plan-Do-Study-Act (PDSAs) tests and reported on progress during monthly practice calls.
- This study was deemed exempt by the IRB of the AAP.

Results
- A total of 238 PDSA tests were submitted by project participants.
- Performance on measures of optimal asthma care, provision of self-management materials, flu vaccination coverage rates, and review of inhaler technique improved during the learning collaborative. The goal rate of 90% for optimal asthma care was achieved by the first month of the project and sustained.
- Performance on assessment of asthma control was relatively high at baseline (80.18%). The goal rate of 90% was achieved within the first month of the project and sustained.
- Practices submitted 64 PDSA tests related to optimal asthma care.
- Example tests included:
  - Educating staff on procedures and protocols for asthma care
  - Embedding a validated asthma control test into EHR
  - Developing smart phrase for an asthma action plan customized for sick visits
- Practices submitted 41 PDSA tests related to provision of self-management materials.
- Example tests included:
  - Embedding multiple “catch points” for providing materials into work-flow
  - Pre-printing educational materials in multiple languages
  - Providing patients with links to electronic materials accessible by phone
- Practices submitted 32 PDSA tests related to flu vaccination coverage rates.
- Example tests included:
  - Establishing protocols for patient reminders and recalls for vaccination
  - Offering vaccination at well and sick visits
  - Improving accuracy of vaccination order to ensure adequate supply
- Practices submitted 47 PDSA tests related to review of inhaler technique.
- Example tests included:
  - Standardizing teaching techniques across staff
  - Instructing patients to bring inhaler to visit for review
  - Using of videos to teach technique

Conclusions
- An estimated 4043 additional children received optimal asthma care during the project due to project improvements.
- Factors that affected success include a multi-disciplinary team approach and intentional small tests of change.
- Next Steps: Practice sites will be surveyed in 6 months to measure sustainability impact.
- Upon completion, participants received Maintenance of Certification Part 2 and Part 4, and Performance Improvement Continuing Medical Education (PI CME).

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AIM
From June 2018 to June 2019 we will lead a quality improvement collaborative and achieve measurable improvements in asthma outcomes with the participating 33 pediatric practices in 3 Texas hubs, by implementing the National Heart, Lung, and Blood Institute (NHLBI) and the National Asthma Education and Prevention Program (NAEPP) guidelines to improve outcomes.

Practice Key Drivers

1. Engage your QI Team and your practice
2. Manage your asthma population
3. Use a planned care approach to ensure reliable asthma care in the practice
4. Develop an approach to deploy protocols
5. Provide self-management and support (SMS) and education
6. Actively participate in a peer to peer learning network