Chapter Quality Network Asthma Quality Improvement Project, Phase 5 | Change Package

American Academy of Pediatrics

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Table of Contents

Acknowledgements and Contributors | pages 3-5
About the CQN Project Phase 5 | page 6
About the Asthma Change Package | pages 6-9
  Figure 1. Top 6 Interventions | page 8
How to Use the Asthma Change Package | pages 10-11
  Figure 2. Asthma Change Package Key Drivers | page 10
  Figure 3. Institute for Healthcare Improvement Model for Improvement | page 11
How to Measure Quality Improvement Efforts | page 12
CQN Texas Asthma Change Package for Clinicians & Care Teams | page 13-20
  1. Table 1. Asthma Care Change Package – Engaging Your QI Team and Your Practice | pages 13-14
  2. Table 2. Asthma Care Change Package – Managing Your Asthma Population | page 14
  3. Table 3. Asthma Care Change Package – Using a Planned Care Approach to Ensure Reliable Asthma Care in the Practice | pages 14-16
  4. Table 4. Asthma Care Change Package – Developing an Approach to Employing Protocols | pages 16-17
  5. Table 5. Asthma Care Change Package – Providing Self-Management and Support (SMS) and Education | pages 18-20
Appendix A: CQN Texas Asthma Key Driver Diagram | page 21
Appendix B: CQN Texas Asthma Measures Grid | pages 22-25
Appendix B: CQN Texas Asthma Project Phase 5 Final Project Measures Data | page 26
Appendix C: Quality Improvement Glossary | pages 27-29
Appendix D: Quality Improvement Resources | pages 30-31
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- American Academy of Pediatrics (AAP)
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- Boston’s Children’s Hospital (BCH)
- Center for Health Care Strategies (CHCS)
- Centers for Disease Control & Prevention (CDC) National Center for Immunization and Respiratory Diseases (NCIRD)
- California Healthcare Foundation (CHCF)
- Children’s Health Foundation (CHF)
- GlaxoSmithKline (GSK)
- Improving Chronic Illness Care (ICIC)
- Immunization Action Coalition (IAC)
- Institute for Healthcare Improvement (IHI)
- Permanente Medical Group, Roseville, California: Kenneth Hempstead, MD, FAAP
- Public Health Foundation (PHF)
- McColl Center for Health Care Innovation
- National Asthma Control Initiative (NACI)
- National Asthma Education and Prevention Program (NAEPP)
- National Environmental Education Foundation (NEEF)
- National Heart, Lung and Blood Institute (NHLBI)/National Institutes of Health (NIH)
• National Initiative for Children’s Healthcare Quality (NICHQ)
• Texas Pediatric Society, The Texas Chapter of the American Academy of Pediatrics
• U.S. Department of Health and Human Services: National Institute for Occupational Safety and Health (NIOSH)
• UT Kids, San Antonio
• Veterans Affairs Center of Excellence in Primary Care Education (CoEPCE)

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About the Chapter Quality Network (CQN) Texas Asthma QI Project

From June 2018 to June 2019, the American Academy of Pediatrics (AAP) Chapter Quality Network (CQN) partnered with the Texas Pediatric Society (Texas Chapter of the AAP) and engaged with primary care practice care teams in each of 3 regional hubs to lead its fifth quality improvement collaborative to achieve measurable and sustainable process improvements in asthma care management, for children 2-21 years old diagnosed with asthma, by implementing the NHLBI/NAEPP guidelines. The network was comprised of 33 practices representing urban, rural, and suburban areas across three regions in Texas (Austin/South Texas, Houston/Dallas and San Antonio). Practice teams participated in a series of in-person and online learning sessions during which they learned about asthma-related clinical content and quality improvement (QI) methods and tools. Learning sessions were followed by “action periods” during which practices implemented what they learned and tested ways to improve asthma care. Throughout the project, the AAP National Team and the Texas chapter and hub leaders provided direct QI coaching support, clinical expertise, access to a data collection system, and a variety of educational resources. At the conclusion of the project, 25 of the participating practice teams submitted feedback on the interventions tested and employed that led to process improvements in asthma management and care. This feedback across the learning network culminated in a list of “Top 6” Interventions. This list can be found in Figure 1 on page 8 and resources for each intervention are included in this change package under the appropriate key driver(s).

About the Asthma Change Package

Despite tremendous improvements made in asthma care, significant gaps exist in the implementation of evidence-based asthma care practices in the United States. Childhood asthma prevalence has continuously increased in the U.S. since 2001 with nearly 6.3 million children (8.6%) affected by asthma.¹ Not only does asthma result in serious health burdens, substantial economic and social issues affect individuals and their family members, communities and the health care system as a whole. Annually, asthma costs the U.S. $56 billion including medical expenses, loss of productivity, and premature death.²

¹ Center for Disease Control and Prevention (2017). Asthma. Available at: https://www.cdc.gov/nchs/fastats/asthma.htm
In Texas, an estimated 9.1% of children have asthma, higher than the national average (8.6%). The burden of asthma disproportionately impacts children of lower-income and minority populations. The minority population accounts for 50.2% of Texas’ total population, and there is a noted lack of patient education related to asthma care delivered to these families. Children with these characteristics are also more likely to have poorly controlled asthma and increased hospitalization rates. These children are also less likely to receive anti-inflammatory medications and timely follow-up care after an asthma ED visit.

The purpose of the Asthma Change Package is to help your practice create reliable processes and systems that enable your team to improve the care and management of your patients with asthma and implement population health strategies. The change package is a directory of evidence, best practices, and promising ideas that pediatric and family medicine practices can use as they work to improve asthma care for children and adolescents. The change package is organized by key drivers and interventions. Key drivers are broad, evidence-based actions that can be useful in the development of more specific ideas for changes that lead to improvement. Five evidence-based key drivers are the foundation of this change package (Figure 2). Interventions are specific ideas for changing a process; they can be rapidly tested on a small scale to determine whether they result in improvements in a particular context or environment. Each key driver has several associated interventions. The evidence or practice-based tools and resources are paired with the intervention(s) to which they relate (Tables 1-5).

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These tools and resources are meant to be adapted or adopted in your healthcare setting to improve asthma care processes. The tools and resources were developed and/or used in the CQN Texas Asthma Project to systematize and improve asthma care; additionally, many of them have been used in other contexts outside of CQN and were recommended for use by experts. Consequently, some clinical details in the tools may reflect office processes and policies that differ from your practice. However, the tools can be adapted based on your specific patient population, patient needs and your environment.

For a visual reference of the change package framework, please refer to the key driver diagram (Appendix A), which shows the causal pathway between the interventions and the global aim of the CQN Texas Asthma Improvement Project.

**Figure 1. Top 6 Interventions**

1. Implementing the use of an Asthma Control Test (ACT) at every visit for all patients with asthma.
2. Reviewing and giving every asthma patient/family an Asthma Action Plan, along with additional educational materials/resources.
3. Creating specific order sets in the EHR that include the key components of asthma care; using smart phrases for customizing asthma action plans and other templates.
4. Demonstrating proper inhaler and spacer techniques, with the help of videos and trained staff using the teach-back method to evaluate understanding.
5. Creating an asthma registry of all patients seen for asthma in the past year, to improve scheduling of follow-up visits and generating reminders for flu vaccination.
6. Enhancing access to flu vaccine, when available, at all visits and specially scheduled events.
Tables 1-5 include the full list of key drivers, interventions, and resources that practices have successfully implemented to improve care and management for their 2-21 years old patient population diagnosed with asthma. A high-level overview is below.

1. **Engaging Your QI Team and Your Practice**
   Having an interdisciplinary QI Team led by a designated practice champion that meets regularly and communicates project status with appropriate leaders within the organization. Table 1 provides tools and resources to support forming a QI team who will use improvement methodology and share data with appropriate stakeholders through the course of a project, to improve practice-wide systems of asthma care.

2. **Managing Your Asthma Population**
   Having a process to identify the population of patients diagnosed with asthma and the ability to generate and use population-level report(s); to manage patient care and to increase adherence to asthma guidelines. Table 2 provides resources on registry formation and use.

3. **Using a Planned Care Approach to Ensure Reliable Asthma Care in the Practice**
   Team-based care is essential to improving asthma care. Table 3 provides tools and resources that can be used for onboarding and training new and existing staff. It also includes ideas for sharing responsibilities and accountability across the team to ensure every interaction is an opportunity to reinforce asthma management.

4. **Developing an Approach to Employing Protocols**
   Use of standardized care processes and practice-wide implementation of asthma guidelines. Table 4 provides resources such as national guidelines and examples of asthma care processes.

5. **Providing Self-Management and Support (SMS) and Education**
   Enhancing patient engagement by improving health literacy and using shared decision-making strategies. Table 5 provides tools and resources to assess and increase a caregiver’s comfort level in managing their child’s asthma, provide training to staff in providing patient self-management materials, support and education.
Figure 2. Asthma Package Key Drivers

1. Engaging Your QI Team and Your Practice
2. Managing Your Asthma Population
3. Using a Planned Care Approach to Ensure Reliable Asthma Care in the Practice
4. Developing an Approach to Employing Protocols
5. Providing Self Management and Support (SMS) and Education

How to Use the Asthma Change Package

We recommend that a physician champion create an interdisciplinary team (physicians, nurses, medical assistants, practice administrator, etc.) to discuss the aspects of asthma care that are most in need of improvement in your practice. A “current state” workflow or process map can help your team identify areas that need improvement.

Your team will create focus and alignment by answering the three fundamental questions from the Institute for Healthcare Improvement’s Model for Improvement (Figure 3):

1. What are we trying to accomplish?
2. How will we know that a change is an improvement?
3. What changes can we make that will result in improvement?

The answers will help your team determine quality improvement aims (question 1) and related measures (question 2). Then, you can select specific interventions from the change package (question 3) that your team can test through Plan-Do-Study-Act cycles to see if they help your team accomplish its aim. The change package is meant to be a menu of options from which practices can select specific interventions to improve asthma care. The interventions are not meant to be implemented all at once and not all interventions will be applicable to your clinical setting.

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You can learn more about improvement concepts by referring to the quality improvement glossary (Appendix C).

**Figure 3. Model for Improvement**

<table>
<thead>
<tr>
<th>What are we trying to accomplish?</th>
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<tbody>
<tr>
<td>How will we know that a change is an improvement?</td>
</tr>
<tr>
<td>What change can we make that will result in improvement?</td>
</tr>
</tbody>
</table>

**AIM:** determine which specific outcomes you are trying to change

**MEASURES:** identify appropriate measure to track your success

**CHANGES:** identify key changes that you will actually test

**MULTIPLE PDSA CYCLES:**
Hunches, theories and ideas for changes that result in improvement
How to Measure Quality Improvement Efforts

Monitoring and measuring office processes and outcomes is a critical part of quality improvement work. Overall outcomes, such as reducing hospitalizations and ED visits due to asthma, are important to measure but process measures, such as the bundled measure of optimal asthma care (including assessment of asthma control (using ACT), a stepwise approach used to identify treatment options or adjust therapy, an asthma action plan provided and reviewed at the visit and, if a persistent asthmatic, the patient is on a controller medication) can provide much needed information on whether interventions are being implemented consistently and reliably.

The measures set that was developed in this CQN Texas Asthma project is included in Appendix B for reference, adaptation and use in your practice.
### Table 1 | Asthma Change Package
Key Driver 1: Engaging Your QI Team and Your Practice

<table>
<thead>
<tr>
<th>Interventions</th>
<th>Tools &amp; Resources</th>
<th>Where to Access</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ensure QI team meets regularly to work on improvement (at least 1x a month)</td>
<td><strong>AAP CQN: Running QI Team Meetings</strong>&lt;br&gt;<strong>AAFP: A Team Approach to Quality Improvement</strong>&lt;br&gt;<strong>CoEPCE: Huddle Checklist &amp; Feedback Form</strong></td>
<td><a href="https://downloads.aap.org/DOCCSA/RunningQITeamMeetings.pdf">https://downloads.aap.org/DOCCSA/RunningQITeamMeetings.pdf</a>&lt;br&gt;<a href="https://www.aafp.org/fpm/1999/0400/p25.html">https://www.aafp.org/fpm/1999/0400/p25.html</a>&lt;br&gt;<a href="https://www.va.gov/oaa/CoePCE/docs/Huddle_Checklist_for_EdPACT_Trainees.pdf">https://www.va.gov/oaa/CoePCE/docs/Huddle_Checklist_for_EdPACT_Trainees.pdf</a></td>
</tr>
<tr>
<td>Collect baseline data and monitor improvement efforts by collecting data monthly at the physician or practice level</td>
<td><strong>NICHQ: 6 Tips for Encouraging Pilot Sites to Collect Data</strong>&lt;br&gt;<strong>AAP CQN: Chart by Chart Asthma Data Collection Form</strong></td>
<td><a href="https://www.nichq.org/insight/6-tips-encouraging-pilot-sites-collect-data">https://www.nichq.org/insight/6-tips-encouraging-pilot-sites-collect-data</a>&lt;br&gt;<a href="https://downloads.aap.org/DOCCSA/Datacollectionform.pdf">https://downloads.aap.org/DOCCSA/Datacollectionform.pdf</a></td>
</tr>
</tbody>
</table>
Communicate project status with appropriate leaders within the participating physicians’ organization

NICHQ: Engaging Senior Leadership in Your Quality Improvement Work

https://vimeo.com/159267900

Table 2 | Asthma Change Package

Key Driver 2: Managing Your Asthma Population

<table>
<thead>
<tr>
<th>Interventions</th>
<th>Tools &amp; Resources</th>
<th>Where to Access</th>
</tr>
</thead>
</table>
| Create an asthma registry of all patients seen for asthma in the past year, to improve scheduling of follow-up visits and generating reminders for flu vaccination | ICIC: Constructing an Asthma Registry  
CHF: Pediatric Asthma Registry  
CHCF: Using Computerized Registries in Chronic Disease Care | www.improvingchroniccare.org/downloads/astregis.doc  
| Generate and use population-level report(s) to manage patient care to increase adherence to asthma guidelines (e.g., flu vaccinations, recall for follow up visits) | Ahmed S, Tamblyn R, Winslade N. Using decision support for population tracking of adherence to recommended asthma guidelines. BMJ Open 2014;4:e003759.  
CHCF: Findings from Provider Organizations Using Patient Registries | https://bmjopen.bmj.com/content/bmjopen/4/3/e003759.full.pdf  

Table 3 | Asthma Change Package

Key Driver 3: Using a Planned Care Approach to Ensure Reliable Asthma Care in the Practice

<table>
<thead>
<tr>
<th>Interventions</th>
<th>Tools &amp; Resources</th>
<th>Where to Access</th>
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</table>
| Care team is aware of patient needs and works together to ensure all needed services are completed | NHLBI/NACI: Puting Guideline Priorities into Action  
http://www.improvingprimarycare.org/  
<table>
<thead>
<tr>
<th>Capability to document all components of reliable asthma care in patient record</th>
<th>AHRQ: Pediatric Asthma Template</th>
<th><a href="https://healthit.ahrq.gov/health-it-tools-and-resources/pediatric-resources/pediatric-documentation-templates/pediatric-asthma-template">https://healthit.ahrq.gov/health-it-tools-and-resources/pediatric-resources/pediatric-documentation-templates/pediatric-asthma-template</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>Determine workflow to support reliable care at time of visit</td>
<td>NHLBI: Asthma Care Quick Reference Diagnosing and Managing Asthma</td>
<td><a href="https://www.nhlbi.nih.gov/sites/default/files/media/docs/asthma_qrg_0_0.pdf">https://www.nhlbi.nih.gov/sites/default/files/media/docs/asthma_qrg_0_0.pdf</a></td>
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<td></td>
<td>IHI: Flowchart</td>
<td><a href="http://www.ihi.org/resources/Pages/Tools/Flowchart.aspx">http://www.ihi.org/resources/Pages/Tools/Flowchart.aspx</a></td>
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<td></td>
<td>AAP CQN: Asthma Visit Workflow Sample</td>
<td><a href="https://downloads.aap.org/DOCCSA/Asthmaworkflowdiagram.PDF">https://downloads.aap.org/DOCCSA/Asthmaworkflowdiagram.PDF</a></td>
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<td>AAP CQN: Asthma Encounter Form</td>
<td><a href="https://downloads.aap.org/DOCCSA/Asthmaencounterform.pdf">https://downloads.aap.org/DOCCSA/Asthmaencounterform.pdf</a></td>
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Review/Give every asthma patient an Asthma Action Plan

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<tr>
<td>• For children 4-11 years</td>
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<tr>
<td>• For teens 12 years and older</td>
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</tbody>
</table>

### Table 4 | Asthma Change Package

**Key Driver 4: Developing an Approach to Employing Protocols**

<table>
<thead>
<tr>
<th>Interventions</th>
<th>Tools &amp; Resources</th>
<th>Where to Access</th>
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</thead>
<tbody>
<tr>
<td><strong>Standardize Care Processes</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AAP: Clinical Report - Clinical Tools to Assess Asthma Control in Children (Pediatrics, Jan 2017, 139 (1) e20163438)</td>
<td><a href="https://pediatrics.aappublications.org/content/139/1/e20163438">https://pediatrics.aappublications.org/content/139/1/e20163438</a></td>
<td></td>
</tr>
<tr>
<td>AAP: Yellow Zone Practice Parameters for Management of Acute Loss of Asthma Control (July 9, 2015)</td>
<td><a href="https://www.youtube.com/embed/YhzgAQoBFXQ">https://www.youtube.com/embed/YhzgAQoBFXQ</a></td>
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<tr>
<td>• Slides</td>
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<td>AAP CQN: Office Spirometry</td>
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<td>o ALA: Spirometry Quality Checklist</td>
<td><a href="https://downloads.aap.org/DOCCSA/SpirometryQualityChecklist.PDF">https://downloads.aap.org/DOCCSA/SpirometryQualityChecklist.PDF</a></td>
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<tr>
<td>o NIOSH: Valid Results Poster</td>
<td><a href="https://downloads.aap.org/DOCCSA/NIOSHvalidresultsposter.PDF">https://downloads.aap.org/DOCCSA/NIOSHvalidresultsposter.PDF</a></td>
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<tr>
<td>AAAAI: Referral to an Asthma Specialist for Consultation or Co-management</td>
<td><a href="https://www.aaaai.org/practice-resources/consultation-and-referral-guidelines">https://www.aaaai.org/practice-resources/consultation-and-referral-guidelines</a></td>
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<tr>
<td>Practice-wide asthma guidelines implemented</td>
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<tr>
<td><strong>NHLBI/NAEPP: Guidelines for the Diagnosis and Management of Asthma (EPR-3)</strong></td>
<td><a href="https://www.nhlbi.nih.gov/health-topics/guidelines-for-diagnosis-management-of-asthma">https://www.nhlbi.nih.gov/health-topics/guidelines-for-diagnosis-management-of-asthma</a></td>
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<tr>
<td>- Use inhaled corticosteroids to control asthma.</td>
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<td>- Use written asthma action plans to guide patient self-management.</td>
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<td>- Assess asthma severity at the initial visit to determine initial treatment.</td>
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<td>- Assess and monitor asthma control and adjust treatment if needed.</td>
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<td>- Schedule follow-up visits at periodic intervals.</td>
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<tr>
<td>- Control environmental exposures that worsen the patient’s asthma.</td>
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<tr>
<td><strong>AAP: Key Points for Asthma Guideline Implementation</strong></td>
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<tr>
<td><strong>NEEF: Environmental Management of Pediatric Asthma. Guidelines for Health Care Providers (English and Spanish)</strong></td>
<td></td>
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<tr>
<td><strong>AAP CQN: Environmental Management of Pediatric Asthma: Guidelines for Health Care Providers. Presentation by Lisa De Ybarondo, MD, CQN Texas Asthma Project, September 2018</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Enhance access to flu vaccine, when available at all visits and specially scheduled events</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>AAP: Recommendations for Prevention and Control of Influenza in Children, 2018-2019</strong></td>
<td><a href="http://pediatrics.aappublications.org/content/142/4/e20182367">http://pediatrics.aappublications.org/content/142/4/e20182367</a></td>
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### Table 5 | Asthma Change Package

**Key Driver 5: Providing Self-Management and Support (SMS) and Education**

<table>
<thead>
<tr>
<th>Interventions</th>
<th>Tools &amp; Resources</th>
<th>Where to Access</th>
</tr>
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</table>
| Testing/implementing strategies that enhance patient/family engagement (e.g., Shared decision-making, health literacy, motivational interviewing) | **AAP**: Effectively Engaging Families - How Motivational Interviewing can be used to Improve Asthma Management - Presented 12/14/2015  
- Webinar Recording  
- Slides  
**AHRQ**: Health Literacy Universal Precautions Toolkit, 2nd Edition  
- Use the Teach-Back Method: Tool #5  
**AAP CQN**: Health Literacy Presentations  
- Presented by L. Ferguson, MD, MEd, CQN Texas Asthma Project  
  - Health Literacy Part 1  
  - Health Literacy Part 2  
**AAP**: PDSA – Enhancing Family Engagement  
https://downloads.aap.org/DOCCSA/PDSAFamilyEngagement.PDF  
| Obtain and test/implement patient education materials | **AAP**: Taking Care of Your Child’s Asthma: Knowing Your Resources  
https://downloads.aap.org/DOCCSA/AsthmaApps.pdf |
| Demonstrate proper inhaler technique and spacer techniques | **AAP CQN: QR Codes for Asthma Videos (shared with permission from UT Kids, San Antonio)**  
BCH: Use of Inhaler With Spacer and Mouthpiece Video | https://downloads.aap.org/DOCCSA/QRCodes.pdf  
https://www.youtube.com/watch?v=8SXkuuv6p6w&feature=youtu.be |
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<tbody>
<tr>
<td>Gauge caregiver’s self-assessment of comfort level in managing child’s asthma</td>
<td><strong>NHLBI/NAEPP: Education for a Partnership in Asthma Care (Section 3, Component 2, Guidelines for the Diagnosis and Management of Asthma, EPR-3)</strong></td>
<td><a href="https://www.ncbi.nlm.nih.gov/books/NBK7239/">https://www.ncbi.nlm.nih.gov/books/NBK7239/</a></td>
</tr>
</tbody>
</table>
| Assess and set patient goals and degree of control collaboratively | **CHCS: Asthma Self-Management Goals for Children**  
| Provide training to staff in providing patient self-management materials | **NIH/NHLBI: Resources for Organizing and Leading a Physician Asthma Education (PACE) Seminar**  
**Gizmos and Gadgets (Medication Devices)**  
- AAN: Respiratory Inhalers at a Glance  
- AAP CQN: Presentation by C. Martin, RPFT, AE-C, CHES, CQN Texas Asthma Project, January 12, 2019  
- AAP CQN: Presentation by A. Waddimba, MD, DSc, CQN Texas Asthma Project, February 16, 2019  
https://downloads.aap.org/DOCCSA/inhalerdevices.pdf  
https://downloads.aap.org/DOCCSA/GizmosGadgetsCMartin.pdf  
https://downloads.aap.org/DOCCSA/Barrierstoadherence.PDF |
|------------------------------|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------|
Appendix A | CQN Texas Asthma Key Driver Diagram

<table>
<thead>
<tr>
<th>CQN Project Aim:</th>
<th>Practice Level Key Driver Diagram</th>
<th>Interventions</th>
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</table>
| Make sustainable and measurable process improvements in participating practices to improve asthma care management for children 2-21 years old, diagnosed with asthma | Key Drivers | 1. Form a 3-5 person interdisciplinary QI Team led by designated practice champion  
2. Ensure QI team meets regularly to work on improvement (at least 1x a month)  
3. Use Model for Improvement to plan and test PDAs/Implement practice-level changes  
4. Collect and enter baseline data and submit monthly data for each participating physician  
5. Communicate project status with appropriate leaders within the participating physicians’ organization |
| Practice Aim: | 2. Managing Your Asthma Population | 1. Have a process by which to identify the population of patients diagnosed with asthma  
2. Generate and use population-level report(s) to manage patient care (e.g., flu vaccinations, recall for follow-up visits); to increase adherence to asthma guidelines |
| From June 2018 to June 2019 we will lead a quality improvement collaborative and achieve measurable improvements in asthma outcomes with the participating 10-12 practices in each of 4 region hubs, by implementing the NHLBI/NAEPP guidelines. | 3. Using a Planned Care Approach to Ensure Reliable Asthma Care in the Practice | 1. Care team is aware of patient needs and works together to ensure all needed services are completed  
2. Capability to document all components of reliable asthma care in patient record  
3. Determine workflow to support reliable care at time of visit  
4. Use EHR asthma care template or paper encounter form with each asthma patient at initial and each follow-up visit  
5. Ensure registry updated after each encounter  
6. Monitor completeness of asthma care documentation, as determined by practice |
2. Practice-wide asthma guidelines implemented |
| “Optimal asthma care” – 50% of encounters with all of the following:  
- Asthma control assessed  
- NHLBI Stepwise approach used to identify treatment options or adjust therapy  
- Written asthma action plan provided and reviewed  
- Patients with persistent asthma on a controller medication  
- 50% of encounters with:  
  - Level of severity or control assessed  
  - Educational materials provided and explained to patient/family  
  - Patient up-to-date for flu vaccination  
  - Inhaled technique assessed and proper technique reviewed | 5. Providing Self Management and Support (SMS) and Education | 1. Testing/Implementing strategies that enhance patient/family engagement (e.g., Shared decision-making, health literacy)  
2. Obtain and test/implement patient education materials  
3. Gauge caregiver’s self-assessment of comfort level in managing child’s asthma  
4. Assess and set patient goals and degree of control collaboratively  
5. Document & monitor patient progress toward goals  
6. Determine reliable staff workflow to support SMS  
7. Provide training to staff in providing patient self-management materials  
8. Link with community resources |
| 6. Active participation in a peer-to-peer learning network | 6. Active participation in a peer-to-peer learning network | 1. Attend 2 face-to-face learning sessions, 2 online webinars and monthly webinars with practice team members  
2. Share best practices, tools, methods and approaches across the learning network  
3. Review data regularly with practice improvement team and staff to drive improvement  
4. Seek practices within the network to learn from, who can provide support and encouragement to other practice teams  
5. Work as a team to complete practice level surveys  
6. Turn in completed PDAs to Chapter Project Manager  
7. Ensure that practicing clinicians are meeting maintenance of certification (MOC) criteria as determined by CQN |
### Appendix B | CQN Texas Asthma Measures Grid

<table>
<thead>
<tr>
<th>Ref #</th>
<th>Measure Name &amp; Type</th>
<th>Measure Definition</th>
<th>Measure Calculation (Numerator/Denominator)</th>
<th>Data Source/Associated Collection Tool</th>
<th>Measure Target/Goal %</th>
<th>Collection Frequency</th>
</tr>
</thead>
</table>
| 1     | Use of a validated asthma control test Process Measure | % of encounters with assessment of asthma control using the Asthma Control Test (ACT) or another validated instrument | **Numerator:** Number of encounters with assessment of asthma control using ACT or another validated instrument  
**Denominator:** All encounters with visit diagnosis of asthma | CQN Texas Asthma Data Collection Form | 90% | Monthly |
| 2     | Use of stepwise approach to adjust or maintain treatment Process Measure | % of encounters in which the stepwise approach is used to identify treatment therapy and adjust or maintain therapy based on asthma control | **Numerator:** Number of encounters in which the stepwise approach is used to identify treatment therapy and adjust or maintain therapy based on asthma control  
**Denominator:** All encounters with visit diagnosis of asthma | CQN Texas Asthma Data Collection Form | 90% | Monthly |
<table>
<thead>
<tr>
<th>#</th>
<th>Process Measure</th>
<th>% of encounters where patients have a current (within 12 months), written asthma action plan provided and reviewed at the visit</th>
<th>Numerator: Number of encounters in which patients have a current (within 12 months) written asthma action plan provided and reviewed at the visit</th>
<th>Denominator: All encounters with visit diagnosis of asthma</th>
<th>CQN Texas Asthma Data Collection Form</th>
<th>Goal</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Asthma action plan</td>
<td>% of encounters where patients have a current (within 12 months), written asthma action plan provided and reviewed at the visit</td>
<td>Numerator: Number of encounters in which patients have a current (within 12 months) written asthma action plan provided and reviewed at the visit</td>
<td>Denominator: All encounters with visit diagnosis of asthma</td>
<td>CQN Texas Asthma Data Collection Form</td>
<td>90%</td>
<td>Monthly</td>
</tr>
<tr>
<td>4</td>
<td>Use of controller medication, if persistent asthma</td>
<td>% of encounters where patients with persistent asthma have a current prescription for/ are prescribed a controller medication</td>
<td>Numerator: Number of encounters where patients with persistent asthma have a current prescription for/ are prescribed a controller medication</td>
<td>Denominator: All encounters with visit diagnosis of persistent asthma</td>
<td>CQN Texas Asthma Data Collection Form</td>
<td>90%</td>
<td>Monthly</td>
</tr>
<tr>
<td>5</td>
<td>Optimal Asthma Care</td>
<td>% of encounters with all of the following: -Assessment of asthma control (using ACT) -Stepwise approach used to identify treatment options or adjust therapy -Asthma action plan provided and reviewed at visit -If persistent asthmatic, patient is on a controller medication</td>
<td>Numerator: Number of encounters with all of the following: -Assessment of asthma control (using ACT or validated instrument) -Stepwise approach used to identify treatment options or adjust therapy -Asthma action plan provided and reviewed at visit -If persistent asthmatic, patient is on a controller medication</td>
<td>Denominator: All encounters with visit diagnosis of asthma</td>
<td>CQN Texas Asthma Data Collection Form</td>
<td>90%</td>
<td>Monthly</td>
</tr>
<tr>
<td></td>
<td>Assessment of asthma control</td>
<td>% of encounters where level of severity (new diagnosis) or control (previous diagnosis) is assessed</td>
<td>Numerator: Number of encounters where level of severity (new diagnosis) or control (previous diagnosis) is assessed</td>
<td>Denominator: All encounters with visit diagnosis of asthma</td>
<td>CQN Texas Asthma Data Collection Form</td>
<td>90%</td>
<td>Monthly</td>
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<tr>
<td>6</td>
<td>Self-management materials</td>
<td>% of encounters in which educational materials (separate from asthma action plan) are provided and explained to the patient and family</td>
<td>Numerator: Number of encounters in which patients and their families had education materials (separate from the asthma action plan) provided and explained to them at the visit</td>
<td>Denominator: All encounters with visit diagnosis of asthma</td>
<td>CQN Texas Asthma Data Collection Form</td>
<td>90%</td>
<td>Monthly</td>
</tr>
<tr>
<td>7</td>
<td>Flu vaccination</td>
<td>% of encounters where patient is up-to-date on the flu vaccination</td>
<td>Numerator: The number of encounters in which patients are up-to-date on the flu vaccination</td>
<td>Denominator: All encounters with visit diagnosis of asthma</td>
<td>CQN Texas Asthma Data Collection Form</td>
<td>90%</td>
<td>Monthly</td>
</tr>
<tr>
<td></td>
<td>Inhaler technique <strong>Process Measure</strong></td>
<td>% of encounters where inhaler technique is assessed, and proper technique is reviewed</td>
<td><strong>Numerator:</strong> Number of encounters in which patients received hands-on training of proper inhaler and spacer technique</td>
<td><strong>Denominator:</strong> All encounters with visit diagnosis of asthma</td>
<td>CQN Texas Asthma Data Collection Form</td>
<td>Monthly</td>
<td></td>
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<tr>
<td>9</td>
<td><strong>Inhaler technique</strong></td>
<td>% of encounters where inhaler technique is assessed, and proper technique is reviewed</td>
<td><strong>Numerator:</strong> Number of encounters in which patients received hands-on training of proper inhaler and spacer technique</td>
<td><strong>Denominator:</strong> All encounters with visit diagnosis of asthma</td>
<td>CQN Texas Asthma Data Collection Form</td>
<td>90%</td>
<td>Monthly</td>
</tr>
</tbody>
</table>

**Source:** American Academy of Pediatrics, Chapter Quality Network (CQN)  
**Updated:** July 15, 2019
CQN Texas QI Project: Phase 5 Final Project Measures Data

- Use of a validated asthma control test
- Use of stepwise approach to adjust treatment
- Asthma action plan
- Use of controller medication, if persistent asthma
- Optimal asthma care
- Assessment of asthma control
- Self-management materials
- Flu vaccination
- Inhaler technique

Source: American Academy of Pediatrics, Chapter Quality Network (CQN)  Updated: July 15, 2019
Appendix C | Quality Improvement Glossary

Action Period
The period of time between learning sessions. During these periods, practice teams work on improvement in their practice or office settings. These teams are supported by the collaborative leadership (chapter project team) and collaborate with other core QI teams on monthly webinars.

Aim
A written, measurable, and time-sensitive statement of the expected results of an improvement process.

Change Concept
A general idea for changing a process. Change concepts are usually at a high level of abstraction but evoke multiple ideas for specific processes. “Simplify,” “reduce handoffs,” and “consider all parties as part of the same system,” are all examples of change concepts.

Key Changes
The list of essential process changes that will help lead to breakthrough improvement.

Key Driver Diagram
The Key Driver Diagram organizes the theory of improvement for a specific aim. It is a way to organize and visualize the relationship between this project’s goal, the high-level changes that will get you to your goal (key drivers), and the specific activities that a practice needs to complete (interventions). The key drivers provide a focus for changes to test. The CQN Texas Asthma key driver diagram was developed to identify pathways to improve asthma care and management.

Learning Session
In this project, there are two types of learning sessions. We will hold one face-to-face learning session, hosted by the Texas Pediatric Society and National faculty, during which participating core QI teams will learn and practice foundational information and skills for the project. We will also hold two learning sessions that will be webinar-based.
We call these learning sessions rather than training workshops, as these sessions are designed to optimize learning amongst the participating core QI teams, highlight successes, and share stories to learn from one another. Core QI teams leave these meetings with new knowledge, skills, and materials that prepare them to make immediate changes.

**Implementation**
Taking a change and making it a permanent part of the system. A change may be tested first and then implemented throughout the organization. **Key Changes:** The list of essential process changes that will help lead to sustainable improvements.

**Measure**
An indicator of change. Key measures should be focused, aligned with the aim, and be reportable. A measure is used to track the delivery of proven interventions to patients and to monitor progress over time.

**Model for Improvement**
An approach to process improvement, developed by Associates in Process Improvement, which helps core QI teams accelerate the adoption of proven and effective changes. The model is composed of three foundational questions and PDSA cycles. Participating teams learned more about the model at Learning Session 1 and had opportunities to practice using this QI framework throughout the project.

**PDSA Cycle**
A structured way to test a process change in the real work setting. This includes:

- **Plan:** a specific planning phase;
- **Do:** a time to try the change and observe what happens;
- **Study:** an analysis of the results of the trial; and
- **Act:** devising next steps based on the analysis.

This PDSA cycle will naturally lead to the “plan” component of a subsequent cycle.
Process Change
A specific change in a process in the organization. More focused and detailed than a change concept, a process change describes what specific changes should occur. “Institute a pain management protocol for patients with moderate to severe pain” is an example of a process change.

Reliability
The measurable capacity of a process to perform intended function in required time under commonly occurring conditions. The patient has a consistent experience of care; the practice has an “approach” to asthma care (e.g., a consistent way to gather data and a consistent approach to treatment); and the practice can demonstrate that the approach is used consistently.

Run Chart
A graphic representation of data over time, also known as a “time series graph” or “line graph.” This type of data display is particularly effective for process improvement activities.

Sampling Plan
A specific description of the data to be collected, the interval of data collection, and the subjects from whom the data will be collected. It emphasizes the importance of gathering samples of data and how to obtain “just enough” information.

Sustainability
The extent to which [best practice or] evidence-based intervention can deliver its intended benefits over an extended period of time after external support is terminated.¹

Spread
The intentional and methodical expansion of the number and type of people, units, or organizations using the improvements. The theory and application come from the literature on Diffusion of Innovation (Everett Rogers, 1995).

Tests of Change
A small-scale trial of a new approach or a new process. A test is designed to learn if the change results in improvement and to fine tune the change to fit the practice and patients. Tests are carried out using one or more PDSA cycles.
Appendix D| Quality Improvement Resources
These quality improvement resources are adapted by The National Institute for Children’s Health Quality (NICHQ). To learn more, visit www.nichq.org.

Online Modules: Quality Improvement 101 and 102 Courses:

Quality Improvement 101: This digital course is the first step in understanding the fundamentals of QI methodology, from aim statements to Plan-Do-Study-Act (PDSA) cycles. Users will gain a robust understanding of how they can use QI to lead change initiatives in their communities. Take the course.

Quality Improvement 102: Completed QI 101? Get started with QI 102, the next step in understanding and implementing improvement best practices. You’ll learn how to move confidently from one PDSA cycle to another, testing your improvement ideas to increase their impact. Take the course.

PDSA Cycle Skill Building
The PDSA cycle is a fundamental tool in the quality improvement tool belt—it helps teams test, implement and spread change ideas in a systematic way. Here are five articles with strategies to help you maximize learning during your PDSA cycle.

- How to Avoid the Most Common Pitfalls in Planning PDSA Cycles
- 9 Tips for Moving from One PDSA Cycle to the Next
- Mastering the Planning Stage of PDSAs
- 5 Tips for Testing to Optimize Your Next PDSA
- How to Avoid Analysis Paralysis and Underplanning in PDSAs

Do More with Data
Tracking and evaluating data can transform your improvement efforts. Use these resources and ideas to help you effectively leverage data at every phase of a QI initiative.

Source: American Academy of Pediatrics, Chapter Quality Network (CQN) Updated: July 15, 2019
• Introduction to Using Control Charts, a statistical tool that can help users identify variation and use that knowledge to guide their improvement work.
• Why Data Collection is a Necessary Part of Quality Improvement
• Use Evaluation to Guide PDSAs Rather Than Derail Them
• 3 Tips for Transforming Data into Visuals That Tell a Clear Story

Sustainability Strategies
Ever worry that the changes you've made during an improvement process won't stick? Here's advice on building a foundation for sustainability that ensures continued impact.

• Setting the Stage for Sustainability in Quality Improvement Projects
• Holding your Gains without the Pain
• Tips for Sustaining Leadership Involvement in your QI Projects