The following document is a resource guide for practice Quality Champions. Practice Quality Champions are asked to communicate the program recommendations, requirements and tools with their peers and staff. Practice Quality Champions are expected to lead the implementation process in the practice setting.

Start Date: September 16, 2015

Program Objectives: The Children’s Care Network (TCCN) Asthma clinical programs objectives are:

- Improve the quality of care and outcomes for patients who have asthma by improving education for asthma self-management and recognition of symptoms.
- Reduce the overall work of your practice staff and physicians by streamlining communication with families about asthma, reducing unnecessary telephone calls, especially after hours.
- Reduce asthma patient ED utilization due to acute exacerbation by improving asthma control through primary care initiatives
- Improve communication between the hospital, PCP, and patient after the patient is discharged from the emergency department/urgent care center to ensure proper follow-up care

Background - Action Plan Primer

The American Academy of Pediatrics has defined “Optimal Asthma Care” as including:

1. Assessment of **asthma severity**
2. Assessment of **asthma control**
3. Use of a **stepwise approach** to initiate or adjust therapy based on asthma classification
4. Provision of an up-to-date **asthma action plan**
5. Use of a **controller medication** in patients classified with persistent asthma
6. Identifying **asthma triggers** and helping patients avoid them
7. Obtaining **spirometry** every 1-2 years for patients 5 years and over
8. Annual **influenza vaccination**

Optimal asthma care is our ultimate network goal. Physicians assess and diagnose asthma according to the National Heart, Lung and Blood Institute (NHLBI) classifications for severity and control, which are included in Supporting Evidence. Providers commonly use an assessment (recommended by NHLBI) to support their clinical decision-making. The network recommends that physicians regularly assess an asthmatic patient’s control, but does not mandate a specific test. An assessment should take place at each office visit using an asthma questionnaire, either the Asthma Control Test™ or another form recognized by the American Academy of Pediatrics (AAP). There are several assessments available including the asthma therapy assessment questionnaire (ATAQ); the asthma control questionnaire (ACQ); the asthma control test (ACT); and the asthma control score. The Asthma Control Test™ (ACT) is available for network physicians to utilize and to distribute to the patient and family. The NHLBI also recommends that asthma patients receive regular influenza immunizations, as they are at higher risk of developing influenza-related complications. The network’s population health tool will allow physician
practices to search asthma patients by ICD Codes each flu season. Practices should reach out to those patients without a documented flu shot, inquire on vaccine status, and schedule an appointment to immunize if necessary.

The Children’s Care Network advocates the incorporation of all of these recommendations into the care of asthma patients.

**Asthma Action Plans**

The Asthma Action Plan is a tool recommended by NHLBI to enable patients (and their parents) to self-manage at home and school. It was selected as our initial measure because it encompasses so many other aspects of optimal care. A complete asthma action plan addresses triggers, controller and rescue medications, and who and when to contact a healthcare provider when asthma is not in control. The Asthma Action Plan is an easy-to-use, one-page document that outlines “green zone” (doing well), “yellow zone” (asthma getting worse), and “red zone” (medical alert) self-management protocols (see sample, page 5). Each zone is explained with a quick list of associated symptoms or, when appropriate, peak flow measurements, and clear instructions are provided for escalation of care. An Asthma Action Plan including all of these components should be included in a patient’s medical record, provided to the patient’s parent or guardian, shared with patient’s school or daycare provider and will be used to gauge process improvement.

| TCCN Program Requirement: All patients with asthma should receive a written asthma action plan to guide their self-management efforts. An Asthma Action Plan can be coded with a non-payable code of 5250F. (See coding section interventions #4 below). Please update your encounter forms or EMR with code 5250F. |

**Program SMART Aim(s) - (Specific, Measurable, Attainable, Relevant/Realistic, Time-bound)**

- **Program Aim #1**: We will increase The Children’s Care Network’s (TCCN) provider utilization and documentation of asthma action plans from 0.3% to 20% by April, 2016.
- **Program Aim #2**: We will increase The Children’s Care Network’s (TCCN) provider utilization and documentation of asthma action plans from 0.3% to 50% by October 2016.

Asthma action plan rate will be defined as:

**Numerator**: Number of children (aged 1 month to 21 years) with an asthma diagnosis and a documented asthma action plan in past 12 months

**Denominator**: Number of children (aged 1 month -21 years) with asthma diagnosis.

**Key Drivers**

The following key drivers have been identified by TCCN pilot practices participating in the CHOA Asthma Demonstration Project and the American Academy of Pediatrics – Chapter Quality Network 4 Project as essential elements that must be present in order to meet the network’s stated Aim:

1. Provider acceptance of the effectiveness and necessity for Asthma Action Plans
2. Easy Identification of Asthma Patients
3. Easy Documentation of Asthma Action Plan
4. Appropriate Coding for administrative capture of Asthma Action Plan
5. Adequate time for provider development of review of Asthma Action Plan

Each of these Key Drivers has been addressed in pilot practices with Interventions tested through rapid cycle quality improvement (Plan-Do-Study-Act Cycles). Sample interventions listed by Key driver are listed below for incorporation into individual practice settings.
1. **Provider acceptance of the effectiveness and necessity for Asthma Action Plans**

   The Children’s Care Network advocates the adoption of evidence-based protocols. References will be provided to provide the supporting evidence for the initiatives adopted (see Supporting Evidence). Specifically, please share the information below regarding Asthma Action Plans with the providers in your setting.


   **Abstract | Background:** Written action plans for asthma facilitate the early detection and treatment of an asthma exacerbation. Several versions of action plans have been published but the key components have not been determined. A study was undertaken to determine the impact of individual components of written action plans on asthma health outcomes.

   **Methods:** Randomized controlled trials (n = 26) that evaluated asthma action plans as part of asthma self-management education were identified. Action plans were classified as being individualized and complete if they specified when and how to increase treatment (n = 17), and as incomplete (n = 4) or non-specific (n = 5) if they did not include these instructions.

   **Results:** For individualized complete written action plans the use of 2–4 action points and the use of both inhaled (ICS) and oral (OCS) corticosteroid consistently improved asthma outcomes. Action points based on personal best peak expiratory flow (PEF) consistently improved health outcomes while those based on percentage predicted PEF did not. The efficacy of incomplete action plans was inconclusive because of insufficient data. Non-specific action plans led to improvements in knowledge and symptoms.

   **Conclusion:** Individualized written action plans based on personal best PEF, using 2–4 action points, and recommending both ICS and OCS for treatment of exacerbations consistently improve asthma health outcomes. Other variations appear less beneficial or require further study. These observations provide a guide to the types of variations possible with written action plans, and strongly support the use of individualized complete written action plans.

2. **Easy Identification of Asthma Patients for management**

   - Every primary care practice participating in the Children’s Care Network submits un-adjudicated claims data to the McKesson Population Health Management tool. Asthmatics are identified and assigned to the Asthma Registry within the tool using the following codes:

   **ICD-9:**

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>493</td>
<td>Asthma</td>
<td>493.20</td>
<td>Chob asth w/o stat asthma</td>
</tr>
<tr>
<td>493.0</td>
<td>Extrinsic asthma</td>
<td>493.21</td>
<td>Chob asthma w stat asthma</td>
</tr>
<tr>
<td>493.00</td>
<td>Ext asthma w/o stat asthma</td>
<td>493.22</td>
<td>Chr obsr asthma w exacer</td>
</tr>
<tr>
<td>493.01</td>
<td>Ext asthma w status asthma</td>
<td>493.81</td>
<td>Bronchospasm D/T exercise</td>
</tr>
<tr>
<td>493.02</td>
<td>Extr asthma w exacer</td>
<td>493.82</td>
<td>Cough variant asthma</td>
</tr>
<tr>
<td>493.1</td>
<td>Intrinsic asthma</td>
<td>493.9</td>
<td>Asthma NOS</td>
</tr>
<tr>
<td>493.10</td>
<td>Int asthma w/o stat asthma</td>
<td>493.90</td>
<td>Asthma w/o status asthma</td>
</tr>
<tr>
<td>493.11</td>
<td>Int asthma w status asthma</td>
<td>493.90</td>
<td>Asthma w/o status asthma</td>
</tr>
<tr>
<td>493.12</td>
<td>Intr asthma w exacer</td>
<td>493.91</td>
<td>Asthma w status asthmaticus</td>
</tr>
<tr>
<td>493.2</td>
<td>Chronic obstructive asthma</td>
<td>493.92</td>
<td>Asthma NOS w exacer</td>
</tr>
</tbody>
</table>
ICD-10:

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>J45.20</td>
<td>Mild intermittent asthma, uncomplicated</td>
<td>J45.50</td>
<td>Severe persistent asthma, uncomplicated</td>
</tr>
<tr>
<td>J45.21</td>
<td>Mild intermittent asthma with (acute) exacerbation</td>
<td>J45.51</td>
<td>Severe persistent asthma with (acute) exacerbation</td>
</tr>
<tr>
<td>J45.22</td>
<td>Mild intermittent asthma with status asthmaticus</td>
<td>J45.52</td>
<td>Severe persistent asthma with status asthmaticus</td>
</tr>
<tr>
<td>J45.30</td>
<td>Mild persistent asthma, uncomplicated</td>
<td>J45.901</td>
<td>Unspecified asthma with (acute) exacerbation</td>
</tr>
<tr>
<td>J45.31</td>
<td>Mild persistent asthma with (acute) exacerbation</td>
<td>J45.902</td>
<td>Unspecified asthma with status asthmaticus</td>
</tr>
<tr>
<td>J45.32</td>
<td>Mild persistent asthma with status asthmaticus</td>
<td>J45.909</td>
<td>Unspecified asthma, uncomplicated</td>
</tr>
<tr>
<td>J45.40</td>
<td>Moderate persistent asthma, uncomplicated</td>
<td>J45.990</td>
<td>Exercise induced bronchospasm</td>
</tr>
<tr>
<td>J45.41</td>
<td>Moderate persistent asthma with (acute) exacerbation</td>
<td>J45.991</td>
<td>Cough variant asthma</td>
</tr>
<tr>
<td>J45.42</td>
<td>Moderate persistent asthma with status asthmaticus</td>
<td>J45.998</td>
<td>Other asthma</td>
</tr>
</tbody>
</table>

- Lists of asthmatic patients may be generated from the McKesson Population Health Management Tool or out of individual practice’s Electronic Medical Record or Practice Management systems using the same diagnostic codes listed above. These lists may be used to “tag” charts of Asthmatics in order to bring them to the attention of providers not only to provide Asthma Action plans – but also for assessment of severity and control, prescription of controller meds (if warranted), obtaining spirometry and offering influenza vaccination.

- The McKesson tool will generate lists of both patients meeting the recommendation and those not meeting the recommendation according to the operational definition above. The lists will be provided to practices on a quarterly basis.

- Pilot practices have used a variety of methods to denote the diagnosis of asthma for providers including: chart stickers, specific chart folder colors, and chart flow sheets for each of the components of asthma care and EHR alerts. Some EHR systems allow for the insertion of “rules” associated with specific diagnosis such as asthma. Utilizing these tools to encourage optimal asthma based care confers a high level of reliability to your office system.

3. **Easy Documentation of Asthma Action Plan**

   As described above, the Asthma Action Plan must have the following components:
   - use of preventative/maintenance medicines,
   - avoidance of potential triggers,
   - steps for escalation of care and when and
   - how to seek medical treatment.

TCCN does not mandate a specific form as long as these components are incorporated. A sample paper form is included below. An Asthma Action Plan, including all of these components, should be included in a patient’s medical record, provided to the patient’s parent or guardian, shared with patient’s school or daycare provider and will be used to gauge process improvement. CHOA has developed a triplicate paper form that may be obtained at a cost of $99.85 for a packet of 100 forms.
Free forms can also be accessed free of charge by visiting: http://www.choa.org/Childrens-Hospital-Services/Pulmonology/Asthma-Program/Educational-Resources/About-Asthma. English and Spanish forms are available.

For practices utilizing an Electronic Medical Record – in many cases the Asthma Action Plan can be populated and generated by this system. Alternatively, or during template development, a paper copy could be scanned into the EMR. A list of potential vendors having Asthma Action Plan templates available that can be adapted to individual practice flows and settings can be requested from TCCN. Please contact your vendor for specific information to your software versions. In addition TCCN staff can facilitate collaboration between practices utilizing the same systems.

4. Appropriate Coding for administrative capture of Asthma Action Plan
   • 5250F – Practices will need to add code 5250F to their encounter forms or EMR to capture the use of the asthma action plan.

   • Many practices have already incorporated Asthma action plans into their patient care and lack only a mechanism for reporting. The McKesson Population Health Management Tool will determine Asthma Action plan rate using the operational definition above. The tool is populated using un-adjudicated claims data. Asthma action plans will need to be billed in the practice management system using the codes 5250F. This coding will allow administrative review and avoid the need for time consuming chart audit.

   • At present this code is not reimbursed by Metro Atlanta payors. Pilot practices have billed the code with a $0 charge with no delay or interruption in claims payment. We recommend discussion with your individual practice management system vendor for inclusion of the codes into your billing system. Use the PDSA cycles (Plan-Do-Study-Act) to track “test batches” of patients to verify correct capture by the McKesson Population Health Management Tool and effective claims submission and reimbursement before implementing for all patients. This intervention is an excellent way to familiarize your practice with this important rapid cycle improvement method. These codes may be incorporated directly into an EHR system or be inserted by coders and billers in a front office setting. Note that as a CPT code this will not change with the implementation of ICD-10 in October 2015.

   • If your practice can not capture multiple codes on claims and this presents a problem for you, please contact Elizabeth Hogan at TCCN Elizabeth.hogan@tccn-choa.org, or 770-333-0033x205

   • In addition, discussion and assessment of asthma along with documentation of an Asthma Action Plan at Preventative visits warrants addition of a 99212 with a 25 modifier which is reimbursable. Additional codes for “patient education and self management” provided by non-physicians that can be billed are 98960 (for an individual patient), 98961 (for 2-4 patients) and 98962 (for 5-8 patients).

5. Adequate time for provider development and review of Asthma Action Plans
   • We recognize that changes to office flow and practice are difficult. On average, it takes 15 years for evidenced-based medicine to be adopted into clinical practice. In addition to the interventions noted above – pilot practices have tested several other strategies to incorporate asthma action plans into their care settings.
   • Pre-completed asthma action plans for specific age groups, severity, controls and triggers in paper or EHR formats
- Medical Assistant or Nurse pre visit chart review for pre-existing Asthma Action Plan for review and/or revision
- Development of documentation for an unchanged Asthma Action Plan subsequent to review and assessment of patient’s current severity and control
- In addition, a link to a video developed by TCCN is included below to further provider’s knowledge concerning Asthma Action Plans and their effective utilization in the primary care office setting.
- Pilot practices have universally reported an upfront increase in the time necessary to provide this self-management tool to asthmatics. However, pilot practices also report that subsequent visits are more efficient and effective with improved patient satisfaction and understanding of their disease process. We want to acknowledge their meaningful contribution to our network adoption of this measure as a first step in improving care for this at risk population.

**Next Steps**
Planned expansions of our asthma program include tracking the effectiveness of these interventions and future programs over time by monitoring subsequent ED utilization/hospitalization. This is already occurring in pilot practices within our network. Additional programs will focus on other aspects of optimal asthma care including assessment of asthma control using standardized assessments such as the Asthma Control Test and Spirometry as well as Influenza vaccination.

**Resources**
**Coming Soon:** TCCN will be providing practices with an educational video in October 2016.

Please reference a January 2013 article from the National Heart, Lung and Blood Institute (NHLBI).  

**Asthma Action Plans:** [http://www.choa.org/Childrens-Hospital-Services/Pulmonology/Asthma-Program/Educational-Resources/About-Asthma](http://www.choa.org/Childrens-Hospital-Services/Pulmonology/Asthma-Program/Educational-Resources/About-Asthma)

**Supporting Evidence**
4. Atlanta Asthma Demonstration Project AADP Baseline Report 2013
5. Hughes Spalding Asthma Center Study (Aug 2009-April 2012) with funding by Healthcare Georgia Foundation; reduced ED Utilization by 87% at 6 months and 66% at 12 months

**Acknowledgements**
TCCN would like to thank and acknowledge the practices that participated in the CHOA Asthma Demonstration Project, American Academy of Pediatrics – Chapter Quality Network 4 Project, and Georgia Pediatric Pulmonology Associates.
I want to be able to: ________________________________

My asthma action plan

Patient name: ___________________________ DOB: ____________________

Doctor’s name: __________________________ Signature: ____________________

Doctor’s phone #: __________________________ Date: ____________________

Controller medicines

<table>
<thead>
<tr>
<th>How much to take</th>
<th>How often</th>
<th>Other instructions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Quick-relief medicines

<table>
<thead>
<tr>
<th>How much to take</th>
<th>How often</th>
<th>Other instructions</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 puffs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.6 puffs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 nebulizer treatment</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Asthma triggers (check all that apply):

- Exercise
- Change in temperature
- Molds
- Animals
- Strong odors or fumes
- Smoke
- Pollens
- Respiratory infections
- Dust
- Strong emotions
- Food/Other

NOTE: If you need this medicine more than 2 days a week, call your doctor.

Doing well.

- No coughing, wheezing, chest tightness, shortness of breath during the day or night
- Can go to school and play

PREVENT asthma symptoms every day:

- Take my controller medicines (above) every day
- Before exercise, take ____ puffs of _____
- Avoid triggers that make my asthma worse (See above)

Be careful.

- Coughing, wheezing, chest tightness, shortness of breath
- Waking at night due to asthma symptoms
- Can do some, but not all, usual activities
- Runny nose, watery eyes

CAUTION. Continue taking my controller medicines every day.

- Take ____ puffs or ____ nebulizer treatment(s) of quick relief medicine. If I am not back in the Green Zone within one hour, then I should:
- Continue using quick relief medicine every 4 hours as needed. Call provider if not improving in ____ days.
- Increase ____________
- Add ________________

Ask for help.

- Very short of breath
- Coughing continually
- Skin between ribs is pulling inwards
- Difficulty speaking without running out of breath
- Quick-relief medicines have not helped
- Symptoms same or worse after 48 hours in Yellow Zone

MEDICAL ALERT! Get help!

- Take quick-relief medicine: ____ puffs every ____ minutes and get help immediately.
- Take ______
- Call ______

If skin, fingernail, or lip color is blue at any time:

Call 911 for help or go to the nearest Emergency Department

Always consult your child’s doctor or other healthcare provider if you have any questions or concerns about the care or health of your child.

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