Asthma Disease Management Program

In 1998, CCNC Clinical Directors implemented their first program-wide quality improvement initiative, which was the Asthma Disease Management Program. The decision to address asthma was based on established guidelines for selecting a quality improvement (QI) initiative and on a review of Medicaid claims utilization data. *The Childhood Asthma in North Carolina Report* (1999) from the N.C. State Center for Health Statistics was the primary source for much of this utilization data which illustrated:

- In fiscal year 1998, the North Carolina Medicaid program spent more than $23 million on asthma-related care.
- Approximately 14 percent of the Medicaid population had been diagnosed with asthma.
- Analysis of Medicaid claims data for Community Care enrollees demonstrated that the primary reason for both hospital and emergency room visits for patients under 21 was asthma.

The basis of the Asthma Disease Management Program was built on best practices defined by the CCNC Clinical Directors. The four core elements listed below served as a road map for the networks and participating providers and practices, early on in the initial phases of the initiative:

1) *Build capacity for routine assessment of asthma.*
   - Adopt NIH (National Institutes of Health) guidelines for the diagnosis and management of asthma.
   - Develop and implement a method for identifying and recruiting asthma patients in the participating networks.
   - Develop and implement a simple questionnaire that allows providers to quickly stage the severity of a patient with asthma.
   - Develop a method to record symptom frequency on a regular basis.
   - Establish peak flow meter readings as a tool for all patients with asthma, and record the peak flow at all appropriate times and in all appropriate settings.
   - Record each patient's personal best peak flow in the medical record and/or care management plan.
   - Use spacers/holding chambers when appropriate.
   - Identify one staff person in each practice as the "asthma QI champion."

2) *Reduce unintended variation in care, and establish consistency of care.*
   - Educate all medical personnel regarding the proper use of maintenance medications based on the National Institutes of Health (NIH) guidelines.
   - Educate all medical personnel regarding the stepwise approach to asthma management based on NIH guidelines.
   - Offer practice profiling as a part of this effort; i.e., conduct detailed visits with physicians and their staff members to review each practice's prescribing histories, including a case-by-case discussion of diagnoses and recommended medications.
   - Use case managers to coordinate information gathering, transfer and care delivery, as appropriate.
   - Assess home environments for smoking, allergenic materials and other known asthma triggers.
   - Coordinate sharing of information among all caregivers.

3) *Build capacity to educate patients, families and school personnel about asthma.*
   - Develop and implement asthma action plans that include the patient monitoring peak flow meter readings when appropriate.
   - Develop the capacity to teach patients with asthma and caregivers how to properly use peak flow meters, inhalers, spacers and/or holding chambers.
   - Collaborate when possible with school nurses, teachers, administrators and day care center personnel to assure appropriate education, assessment and treatment for school-age children with asthma.
   - Educate family on symptom-based management for children who cannot use peak flow meters.

4) *Report outcomes and process measures to all providers and staff regularly.*
   - Develop the information system capability to collect, monitor and analyze data for measuring performance.
   - Collect and disseminate information by physician, by practice and by network.
   - Use this information to assess current performance, encourage efforts to improve care processes at all levels, and set goals for performance improvement targets.

Performance Measures for Asthma

Community Care has adopted performance measure to monitor progress of enrollees in different disease categories. As noted in the **Quality Improvement: Performance Measures** section of this website, Performance measures are defined by the Clinical Directors to measure the ability of providers and networks to establish quality processes and to achieve quality outcomes for the core program initiatives. Measures are reviewed on an annual basis and are not intended to capture every aspect of good clinical care. Rather the goal is to identify a broad set of quality measures with: 1) clinical importance (based on

disease prevalence and impact, and potential for improvement), 2) scientific soundness (strength of evidence underlying the clinical practice recommendation; evidence that the measure itself improves care; and the reliability, validity, and comprehensibility of the measure), and 3) implementation feasibility, and 4) synergy with other state and national quality measures or quality improvement programs. Thus, the outcome and process measures for the Asthma Disease Management Program have changed over time based on the above. The following are key indicators of the 2011 measure set:

Chart review measures

- **Percentage of patients with a continued care visit that includes an assessment of symptoms.** A continued care visit is defined as one with a listed diagnosis of asthma. A symptom assessment is determined from review of progress notes or completed patient questionnaires.
- **Percentage of patients with an Asthma Action Plan** documented in chart
- **Percentage of patients with an assessment of environmental triggers**. Documentation collected from review of progress notes, action plans, and patient questionnaires. Environmental trigger assessment may include documentation of tobacco use or exposure
- **Percentage of patients with appropriate pharmacological therapy**. This is reported among patients whose chart documentation indicates persistent asthma or poor symptom control, what % have been prescribed controller therapy

Claims derived measures

- **Asthma ED visits** (those with a primary diagnosis, per 1000 asthma member-months)
- **Asthma Hospitalizations** (Hospital admissions with asthma primary diagnosis, per 1000 asthma member-months)
- **Suboptimal Control (Beta agonist overuse)** Among patients with diagnosis of asthma (modified Hedis), % overusing Beta agonist (4 or more canister fill dates in any 90 day window during the measurement year)
- **Suboptimal control and absence of controller therapy** Among patients with beta agonist overuse as defined above, % with no dispensed controller medication during the measurement year

Practice and Provider Supports

Community Care network and central office staff members supply participating practices and providers with a variety of supports and tools for implementing the Asthma Disease Management Program. Highlights include:

- Direct access through the CCNC Informatics Center to program, network, practice and patient data on process measures (chart audits), outcomes measures (emergency room and hospital utilization data) and other data extracted from the Medicaid claims system.
- Technical assistance in quality improvement and provider educational sessions.
- Case management services for patients with asthma:
    - Disease specific assessment.
    - Medication adherence counseling.
    - Coordination of care.

- Follow-up form for emergency department and inpatient visits.
- Education on community resources.
- Education on disease, medication, equipment and avoidance of triggers.
- Practice assistance with quality improvement and the “plan, do, study, act” (PDSA) cycle.

- Office tools such Asthma Action Plans and Patient Questionnaire samples to determine severity of disease and Asthma Visit Forms to prompt providers on recommended clinical management and patient education
- Provider toolkits with best practice guidelines (adapted from the National Asthma Education and Prevention Program’s *Guidelines on the Diagnosis and Management of Asthma*. National Institutes of Health National Heart Lung and Blood Institute).
- Dedicated pediatrician or family physician leading the asthma initiative who is available to provide the following types of activities and technical assistance:
  - Asthma training and educational sessions to physicians, practice staff and/or case manager.
  - Update and present findings to network clinical directors.
  - Serve on local and state level asthma advisory groups and committees representing Community Care.
  - Update and present findings at local network level to staff and physicians.
  - Research and make recommendation for program changes and enhancements.

Summary of Results:

Improvement in three out of three asthma measures from over 6,700 charts reviewed from 2009 compared to 2010.

Asthma	**2009**		**2010**	
Measure	Denominator	Results	Denominator	Results*
Continued care visit w/ assessment of symptoms	6737	68.9%	6738	70.4%
Assessment of Triggers	6737	46.9%	6738	55.9%
Action Plan	6737	29.2%	6738	35.4%

Asthma	YEAR ENDING	ASTHMA PATIENT COUNT	MEMBER MONTHS	IP ASTHMA VISITS	ED ASTHMA VISITS	BETA AGONIST OVERUSE DENOM	IP ASTHMA PER 1000 MM	ED ASTHMA PER 1000 MM	BETA AGONIST OVERUSE PERCENT
ALL NETWORKS	Sep 2010	25,155	293,729	403	2,833	24,796	1.4	9.6	1.0%
ALL NETWORKS	Sep 2009	19,872	230,421	325	2,455	19,476	1.4	10.7	1.2%