

Collaborative Quality Improvement Efforts Yield Success for Asthma Patients

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An important function of the Community Care of North Carolina (CCNC) networks is to engage physicians in efforts to continually improve quality of care for enrolled patients. When considering quality improvement (QI), people often think of expensive technology or additional work, yet that does not have to be the case.

In the fall of 2011, we began to consider the possibility of collaborating on a QI project related to asthma, when Caroline Brown, supervisor of the pediatric residents at Wake Forest Baptist Health's Downtown Health Plaza, contacted Kelly Garrison, QI coordinator for the Northwest Community Care Network (NCCN). At that time, Downtown Health Plaza had an emergency department utilization rate for asthma of 27.1 visits per 1,000 member-months (MM) and an inpatient utilization rate for asthma of 3.2 admissions per 1,000 MM, compared to a state emergency department utilization rate of 11.4 visits per 1,000 MM and a state inpatient admission rate of 1.4 admissions per 1,000 MM. Further evidence of a need for improved asthma care was furnished by the results of a recent chart review, which revealed significant inconsistencies in the approach to care taken by various providers.

The goals to be accomplished during the first phase of the QI project were simple. Over a 3-month period, the percentage of patients with asthma who had a continued

care visit that included an assessment of symptoms was to increase from 38% to 50%, the percentage of patients with asthma who had a documented assessment of environmental triggers of their asthma was to increase from 11% to 50%, and the percentage of patients with asthma who were given a written asthma action plan was to increase from 30% to 50%. We anticipated that appropriate diagnosis, treatment, and control of patients' asthma would lead to decreased hospital utilization.

This resident-based clinic, which provides care for more than 7,000 pediatric Medicaid patients, would not initially turn to use of an electronic health record or other technology in its quest for increased quality; instead, the clinic would develop its own internal process to ensure the highest quality of care.

In the beginning, changes in care were implemented only 1 day per week, with members of the nursing staff asking 2 questions to every patient: first, "Have you ever been diagnosed with asthma?" and then, "Have you been prescribed or have you used an inhaler in the past 12 months?" A "yes" response to either question would prompt the resident and attending physicians to initiate a series of steps that would guarantee that each component of the asthma visit was completed. The physicians used a checklist that included the following items: discussion

by benchmarks and comparisons to peers, which help motivate providers to improve processes that will enable them to provide the best care. The focus is on implementing evidence-based best practices in the medical home.

Clinical quality improvement activities are tailored to the needs and capacities of each practice, and such activities are often pursued in partnerships with other stakeholder organizations that have aligned goals. CCNC provides material support to practices seeking National Committee for Quality Assurance recognition as a patient-centered medical home. CCNC also coordinates with the North Carolina Healthcare Quality Alliance and with North Carolina Area Health Education Centers (AHECs) to engage practices in focused quality improvement projects through initiatives such as Improving Performance in Practice and Infrastructure for Maintaining Primary Care Transformation (IMPACT). Quality improvement teams in each of CCNC's 14 networks have dedicated resources for focused quality improvement activities in pediatrics, maternity care, and care of adults with chronic, disabling conditions. Countless other quality improvement activities represent local collaborations between the CCNC network, provider groups, academic centers or hospital systems, local public health departments, and other stakeholders. These local relationships have been cultivated over

a period of 2 decades. For more information, please visit www.communitycarenc.org.

Progress

Since its beginning in 1998, CCNC has used performance measurement and feedback to help meet its goals of improving the quality of care for Medicaid recipients while controlling costs. This process has evolved over time to meet the changing needs of the program, such as enrollment expansion in aged, blind, and disabled Medicaid eligibility categories beginning in 2008. CCNC aims to stay current with changes to evidence-based clinical practice guidelines over time and to align measures with other quality initiatives, such as the National Committee for Quality Assurance Diabetes Recognition Program, the Heart Stroke Recognition Program, and the Healthcare Effectiveness Data and Information Set; the Physician Quality Reporting Initiative; the meaningful use measures of the Electronic Health Record Incentive Program; and the "core sets" of quality measures for Medicaid-eligible children and adults issued by the Centers for Medicare & Medicaid Services.

A quality measurement and performance workgroup with representation from all 14 CCNC networks convenes annually to review performance measures. The goals of the workgroup are to identify measures with clinical importance (based

of the severity and frequency of the patient's symptoms; documentation of the patient's asthma control test score; identification of triggers; classification of severity; updating the patient's asthma action plan; review of medications taken by the patient; consideration of care management, pulmonary referral, or additional resources; and scheduling a follow-up appointment.

After several plan-do-study-act cycles were completed and changes to the process had been made, the process was implemented throughout the clinic and throughout the week. After the new process and checklist had been in place for 2 months, a chart review was completed to look for improvements in the percentages of patients receiving a continued care visit with an assessment of symptoms, an assessment of triggers, and an updated asthma action plan. The results of these audits demonstrated improvements of at least 30% in each area.

This collaborative QI effort between NCCN and the Downtown Health Plaza demonstrated exciting results. CCNC's 2012 chart audit showed remarkable improvements, which were noted in the annual Quality Measures and Feedback Report. On 2 measures—the percentage of patients with a continued care visit that included assessment of symptoms and the percentage of patients with an assessment of triggers—the clinic's score was 100%. The clinic had also increased the percentage of patients with an asthma action plan from 25% to 72%. In addition, the clinic saw a decrease in its emergency department utilization rate for asthma, from 27.1 visits per 1,000 MM to 21.9 visits per 1,000 MM, and a decrease in the number of inpatient admissions, from 3.2 admissions per 1,000 MM

to 2.0 admissions per 1,000 MM.

To further improve quality of care, NCCN purchased iPads (Apple) that can be used to aid in patient education. Through the use of CCNC's online Provider Portal, which houses a patient education site called *Meducation*, clinic staff members can show patients and families videos in various languages demonstrating the appropriate use of metered-dose inhalers, spacers (aerosol holding chambers used with inhalers), and various medications.

Overall, what makes each of the CCNC networks successful is its ability to work with primary care physicians at the ground level on issues that are important to the physicians' practices. NCCN hopes that continued support of local primary care physicians will yield additional successful QI efforts that will aid in achieving the mission and vision of the network. NCMJ

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on disease prevalence, disease impact, and potential for improvement), scientific soundness (judged by the 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 the feasibility of implementation. Workgroup recommendations are presented to CCNC network leaders, and final measures are chosen by a vote of the network clinical directors.

CCNC contracts with AHECs to perform independent, randomized chart reviews using an electronic data abstraction tool for more than 26,000 recipients in more than 1,300 CCNC practices annually. Patients are eligible for chart review on the basis of having asthma, diabetes, hypertension, ischemic vascular disease, or heart failure. Practice-level results with patient-level detail are available on a next-day basis. Additional quality measures are derived from Medicaid claims data, and these results are updated every 3 months.

CCNC quality measures were expanded in 2009 beyond diabetes and asthma to include a broader set of chronic conditions. As shown in Table 1, improvements have been realized over the past 3 years for every chronic condition studied, and North Carolina consistently outperforms national norms for Medicaid populations in which benchmark data are available. Because of the broad reach of CCNC, even modest incremental improvements in these measures can

have a large impact on the health of the population. CCNC providers care for more than 159,000 Medicaid recipients with hypertension, more than 136,000 Medicaid recipients with asthma, more than 82,000 Medicaid recipients with diabetes, and more than 30,000 Medicaid recipients with advanced cardiovascular disease. Table 2 shows the benefits of higher quality of care in absolute terms, both relative to CCNC's own performance 3 years ago and relative to national norms for commercial managed care companies. The difference is thousands more North Carolinians receiving recommended chronic disease care today, which sets the stage for better health and lower health care costs in the future.

Opportunities

In addition to providing retrospective performance measurements and feedback, CCNC continually seeks to proactively identify concrete quality improvement opportunities and to enable providers to efficiently address them.

A "care alert" system, released in the fall of 2010, scans claims data on a weekly basis to identify patients who are not receiving recommended services. Care alerts are posted within the patient's record on CCNC's secure Web-based Provider Portal and are included in population-based reports for primary care practices that provide medical home services. For example, primary care practices can readily

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