



Diabetes Disease Management Program

In 2002, a report from the North Carolina division of Public Health found that approximately 389,000 adults in North Carolina had been diagnosed with diabetes. From 1995 to 2005, the prevalence of diagnosed diabetes in North Carolina adults almost doubled, increasing from 4.5 % to 8.5%. Diabetes is the leading cause of blindness, kidney failure, stroke, heart disease and hypertension. Diabetes causes approximately 14,000 hospital admissions per year and 3,000 lower extremity amputations across the state. Diabetes was ranked as the seventh leading cause of death in North Carolina in 2005, and resulted in 2,255 deaths. Diabetes is a predominant disease among the adult Medicaid population, and it is widely known that poorly managed or uncontrolled diabetes may lead to multiple serious and costly long-term complications. This was evidenced by a high percentage of adult recipients who had a diagnosis of diabetes and frequent inpatient admissions and emergency department visits. This evidence, along with following the guidelines for selecting a QI initiative, the decision was made by the Clinical Directors to choose diabetes as the second program-wide quality improvement initiative.

The Diabetes Quality Improvement Initiative is built on the core components of process improvement and patient outcome improvement. Based on national studies, improving the quality of care people with diabetes receive can result in a variety of benefits to the individual and cost savings to the health care system. Several long-term studies, most notably the [Diabetes Control and Complications Trial \(DCCT\)](#) and the [United Kingdom Prospective Diabetes Study \(UKPDS\)](#), have shown that improved glucose control, improved blood pressure control and improved lipid control can delay the onset and progression of diabetes complications. Improving metabolic control, blood pressure control and preventing complications requires primary care, follow-up care and education that is consistent with evidence-based practice guidelines. Community Care is committed to improving the quality of care provided to our patients with diabetes. This initiative has been designed based on guidelines developed by the American Diabetes Association (ADA) and national models for improvement.

Diabetes Program Summary

The following steps are defined as the core elements of the Diabetes Initiative:

- 1) *Criteria for Diagnosis and Standards for Best Practice*

- Clinical Directors adopt ADA (American Diabetes Association) criteria for diagnosing diabetes and ADA Clinical Practice Recommendations to define Best Practice guidelines and audit measures.

2) *Identify and Implement Diabetes Teams*

- Networks identify and recruit Diabetes Champions and multidisciplinary staff resources within their local practices and communities.
- Diabetes Teams work with providers and practice staff to achieve QI goals based on data from program-wide audits.

3) *Define and Develop Diabetes Resources and Tools*

- Develop and customize tools, tailored to meet the varying needs of each Network.
- Define the practice assessment process to determine the patient's needs and assets.
- Develop a diabetes education program to maximize diabetes self-care behavior.

4) *Enhance Partnerships with Community Resources*

- Identify, collaborate, and coordinate with existing community resources.
- Develop and implement processes of communication with hospitals to follow-up with patients who have diabetes.

5) *Develop Materials and Tools for Provider Education and Buy-In*

- Customize tools; identify and meet new needs on an ongoing basis.
- Provide technical assistance to practices for implementation of PDSA (plan, do, study, act) cycles targeted to improve provider processes and patient outcomes.
- Work with practice level "Diabetes Champions" to track and monitor program implementation.

Diabetes Disease Management Program Performance Measures

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 Diabetes Disease Management Program have changed over time based on the above. The following are key indicators of the 2011 measure set:

Chart Review Measures

- A1C testing – percent of patients (all ages) with 1 or more measurements during the year
- A1c control <8.0% (good control) – percent of patients (Age ≥18) whose most recent HbA1c is <8.0%
- A1c control >9.0% (poor control) – percent of patients (all ages) whose most recent HbA1c is >9.0%
- Lipid Management
Good control – percent of patients (Age ≥18) whose most recent LDL-C is <100mg/dl
Poor control – percent of patients (all ages) whose most recent LDL-C is >130mg/dl
- BP Control (good) – percent of patients (Age ≥18) whose most recent BP <130 systolic and <80 diastolic
- BP Control (poor) – percent of patients (Age ≥18) whose most recent BP >140 systolic or >90 diastolic
- Smoking status and cessation advice or treatment – for patients age >10, is there documentation that patient is a non-smoker, or documentation of cessation advice or treatment within the past year

Claims Derived Measures

- A1C testing – claim for A1C test during past 12 months for patients of all ages
- Eye Exam – claim for eye exam during past 15 months for patients age ≥10
- Nephropathy screening – Patients (Age ≥10) screened for nephropathy or evidence of nephropathy, based on any one of the following:
 - dx or tx for nephropathy, using specific CPT codes and ICD9 codes
 - urine microalbumin test during year
 - ACE inhibitor/ARB therapy during year
- Use of ACE/ARB for patients with DM and HTN - Among patients who have been dispensed medication for HTN and DM, % who are receiving ACE inhibitor or ARB

Summary of Results

Over 6,600 charts were reviewed for enrollees with diabetes during 2009 and 2010 and experienced improvement in 5 out of the 6 measures, no change in the 6th measure. When compared to national benchmarks, CCNC met or exceeded goals for 2009 Medicaid HMO HEDIS mean in all 4 comparable measures and in 5 of the 7 comparable measures for NCQA Diabetes Recognition Program. See the table below for more detail:

Diabetes Measure	2009		2010	
	Denominator	Results	Denominator	Results*
A1c < 7.0	6669	42.3%	6437	40.4%
BP < 130/80	6669	34.7%	6437	36.9%
LDL < 100	6669	45.7%	6437	46.1%
Foot exam	6669	71.2%	6437	76.3%
A1c > 9.0	6935	29.4%	6708	29.5%
BP > 140/90	6669	29.3%	6437	27.1%
LDL > 130	6935	38.5%	6708	37.2%

Diabetes Measure	2010				
	Denominator	Results*	Medicaid HMO HEDIS Mean 2009	Medicaid HMO HEDIS 90th Percentile	NCQA DRP Goal
A1c < 7.0	6437	40.4%	33.9%	44.5%	<input type="checkbox"/> 40%
BP < 130/80	6437	36.9%	32.2%	44.3%	<input type="checkbox"/> 25%
LDL < 100	6437	46.1%	33.5%	45.5%	<input type="checkbox"/> 36%
Foot exam	6437	76.3%	---	---	<input type="checkbox"/> 80%
A1c > 9.0	6708	29.5%	44.9%	27.7%	<input type="checkbox"/> 15%
BP > 140/90	6437	27.1%	---	---	<input type="checkbox"/> 35%
LDL > 130	6708	37.2%	---	---	<input type="checkbox"/> 37%

Based on Medicaid claims, 87% of the qualifying patients with diabetes had at least 1 A1C test in 2010, 54% had an eye exam, 74% had a cholesterol screening and 84% had evidence of a nephropathy screening.

Diabetes	YEAR ENDING	A1C %	EYE EXAM %	CHOLESTEROL SCREENING %	NEPHROPATHY SCREENING %
ALL NETWORKS	Sep 2010	87%	54%	74%	84%
ALL NETWORKS	Sep 2009	86%	55%	75%	82%

Practice and Provider Supports for Diabetes

Community Care networks and central office staff provide participating practices and providers with a wide range of tools and supports for implementing the diabetes disease management initiative, including, but not limited to, the following:

- Provider toolkit with best practice guidelines and office tools, such as diabetes flow sheet.
- Program, network and practice level data on process and outcome measures.
- Technical assistance in quality improvement, diabetes care and targeted educational sessions for providers and care managers.
- Targeted care management support and interventions.
- Dedicated diabetes nurse educator to lead the initiative and provide training, technical assistance and follow-up.

The following attachments to this module are relevant to Community Care's Diabetes Program:

- Diabetes Assessment Tool in CCNC Case Management Information System (CMIS)
- 2010 ADA Executive summary review.
- A1c Stoplight Tool (English).
- A1c Stoplight Tool (Spanish).
- "Take off your shoes" posters for offices
- Diabetes Flowsheet for use in paper charts or conversations with patients
- Other patient education or self management tools are available on our [Patient Management Toolbox](#)