Heart Failure Program Summary
BACKGROUND

The Heart Failure Program is the third state-wide disease management program developed by Community Care of North Carolina. The clinical directors reviewed prevalence and outcome data for several chronic diseases and reviewed the evidence for disease management models for cardiovascular disease and heart failure. The consensus of the clinical directors was to design a program to improve the quality of care and health outcomes for North Carolina’s heart failure population. There are several heart failure disease management models that have clearly demonstrated improved outcomes including decreased mortality, hospitalizations, improved quality of life, and decreased cost. The development of the heart failure initiative began in 2006 and all fourteen networks have begun to implement the program in 2007.

National Burden of Illness – Heart failure has a tremendous impact on individuals’ functional status and quality of life. They are frequently hospitalized and suffer from chronic shortness of breath and fatigue. On the population level, heart failure is the most common cause of hospitalization for the elderly and accounts for 5.4% of healthcare expenditures nationally or $38 billion. Ten percent of individuals are re-hospitalized within 6 months. The prevalence of heart failure increases with age with 8/1000 individuals age 50-59 and a prevalence of 66/1000 individuals for age 80-89. Heart failure is also an important area to address healthcare disparities as the prevalence of heart failure is 25% higher in blacks. Mortality for heart failure is worse than most cancers with an annual mortality of 12-19% and five year mortality of > 50%.

N.C. Data – In North Carolina, heart failure is the second leading cause of preventable hospitalization and expenditures per individual far exceed those for individuals with diabetes or asthma. In the CCNC program, about 3,000 individuals were identified with heart failure, while there are over 17,000 CCNC enrollees with either diabetes or asthma. However, the annual mean Medicaid expenditure for individuals with heart failure is $27,000, while it is $7,900 and $12,000 for people with asthma and diabetes, respectively. Fortunately there are opportunities to improve outcomes for people with heart failure by promoting evidence-based therapies, self management, and access to the medical home.

Heart failure is a treatable condition with several proven strategies that can improve health outcomes. While heart failure patients are frequently hospitalized, up to 53% of hospitalizations are thought to be avoidable. Lack of adherence to medications and diet accounts for 41% of hospitalizations. Modifiable factors leading to hospital readmissions for heart failure include:

- Inadequate patient and caregiver education and counseling
- Poor communication among healthcare providers
- Failure to organize follow up care
- Clinician failure to emphasize non-pharmacologic aspects of heart failure care (diet, activity, and symptom monitoring).

Best Practices for Managing Heart Failure – The optimal disease management approach focuses on case management of high risk individuals to promote adherence and self management and working with clinicians to follow evidence based clinical practice guidelines. A decline in health status can often be prevented if patients or caregivers are able to monitor symptoms and daily weights. If an individuals’ weight increases rapidly, it is often a sign of worsening heart failure. If these individuals are able to access healthcare promptly where their medication can be adjusted, often a hospitalization can be avoided. Medication adherence is also a key issue in keeping heart failure patients healthy.
Angiotensin converting enzyme inhibitors (ACEI), angiotensin receptor blockers (ARB), and beta blockers have been shown to reduce mortality, prevent hospitalization, and improve quality of life for patients with heart failure. Patients are often on complex medical regimens and frequent monitoring and support is necessary to help patients benefit from these therapies.

**PROGRAM SUMMARY**

**CCNC Heart Failure Program Design**

1. **Identifying the Heart Failure Population:** The program will primarily use claims data to identify individuals with heart failure. Individuals will also be identified at hospital discharge and by referral from physicians.

2. **Improving Quality of Care in CCNC Practices:** The CCNC Medical directors reviewed several heart failure clinical practice guidelines and identified the ACC/AHA Guidelines for the Evaluation and Management of Chronic Heart Failure in the Adult to adopt statewide. Working with clinical experts in heart failure, CCNC developed a Heart Failure Toolkit to promote best practices in heart failure management.

   Each network identifies a PCP physician champion and a cardiology physician champion. The Network Clinical Director and Network Coordinator, along with the Medical Management Committee and physician champions, work with practices to improve quality of care for heart failure patients. The Network also identifies community resources such as hospital-based heart failure programs and case management programs.

   **Measuring Improvement:** The CCNC clinical directors reviewed the literature for evidence based measures that are effective in changing practice and improving outcomes. Measures evaluated whether an accurate diagnosis was made, whether patients were prescribed evidence based therapies, medication adherence, utilization, cost, and whether individuals are assessed regularly by case managers. Heart failure performance reports will be distributed to networks on quarterly intervals with performance data at the individual network and state level.

3. **CCNC Heart Failure Case Management Program:** Effective case management models for heart failure involve identifying a high risk population and contacting them at regular intervals.
   - **Everyone in the heart failure population receives a comprehensive assessment every 12 months**
   - **Those that are determined to be high risk are contacted weekly for approximately 6 months.**
   - **Those developing symptoms of a heart failure exacerbation are referred to their primary provider.**

   During phone calls or visits, case managers provide self management support, educate individuals and caregivers about the disease process, promote medication adherence, and help identify early signs of a heart failure exacerbation. A patient centered tool kit was developed, “Managing Your Heart Failure”, to promote self management.

   Individuals are assessed with a web based assessment tool that is integrated into the Case Management Information System (CMIS). The tool determines the clinical status of the patient, educational needs, medication adherence, and psychosocial needs. The CMIS Heart Failure Module allows case managers to assess individuals over the phone and then transmit messages and tasks to local case managers who can address local needs. Measures are collected in the module that will be used in evaluating the effectiveness of the program.
DATA DISCUSSION

Baseline Date: The following data were obtained in FY2006, prior to the implementation of the CCNC Heart Failure Program.

Figure 1 identifies the total number of individuals with heart failure identified in 2006. Forty-three (43%) of the population was dually eligible for both Medicare and Medicaid. Individuals were identified if they had an inpatient admission or emergency room visit in the last two years or at least two outpatient visits for heart failure in the last year.

Figure 2 shows the mean age of the heart failure population is 56 with the majority being female (66%) and non-white (62%).
**Figure 3** presents the emergency department visit rates. The rates are standardized to 1000 member months so that rates can be compared across other populations and over time. There were 146.1 emergency department visits per 1000 member months for any diagnosis and 15.0 per 1000 member months for a primary or secondary diagnosis of heart failure.

**Figure 4** presents the inpatient rates for the heart failure population. There were 83 inpatient admissions per 1000 member months for any diagnosis and 29.3 admissions per 1,000 member months for a primary or secondary diagnosis of heart failure. This rate translates into 35% of the population admitted with a primary or secondary diagnosis of heart failure per year.
Figure 5 shows the percentage of the non-dual population that were prescribed ACEI or ARB medications. This includes individuals with both systolic and diastolic heart failure. The percentage of the population receiving an echocardiogram in the last 3 years is also shown.

FAST FACTS:

- Over 3,000 CCNC enrollees suffer from CHF at a cost of more than $27,000 per patient.
- Up to 53% of hospitalizations are thought to be avoidable. Lack of adherence to medications and diet accounts for 41% of the hospitalizations.
- While 83% of CCNC patients with CHF have had an echocardiogram in the last three years, 74% are on ARB and 65% are on beta blockers.

*Readmissions to ED and IP are counted only if they were for a primary or secondary diagnosis of CHF.
PRACTICE & PROVIDER SUPPORTS

Building on successful models for asthma and diabetes, CCNC has developed a disease management program for heart failure. The program began working with heart failure patients in the fall of 2006. A successful program will have a substantial impact on improving both the quality of life and health outcomes for Medicaid recipients with heart failure. There is also opportunity to garner savings by decreasing hospitalization rates and improving the efficiency of utilization in this population.

The CCNC Heart Failure Program capitalizes on the relationships that have been fostered between CCNC case managers and physicians and the collaborative learning process that occurs between networks. The majority of heart failure disease management programs designed by payers are “carve out” programs where case managers work remotely from patients and do not have established relationships with physicians, hospitals, or public health. The program will also improve the cost-effectiveness of care management by testing a telephone case management approach where individuals are initially engaged and assessed on the phone and then ongoing local needs are addressed at the local level.

There are several challenges that have been identified in working with the Medicaid Heart Failure population. In evaluating baseline performance data, it seems that NC healthcare providers caring for this population are prescribing evidence based therapies at high rates compared to national benchmarks. However, among people prescribed these medicines, only half are taking their medications regularly. This data reinforces the need for case managers to support self management and medication adherence. The program will also rely heavily on contacting patients frequently by phone. Medicaid recipients often are difficult to contact and may move frequently. Networks will use their established relationships with practices, social services, and hospitals to engage these individuals.

Heart failure patients can remain healthy if they learn to self manage their disease and work closely with healthcare providers to adhere to optimal therapies. CCNC’s community networks are well designed to improve the health outcomes and quality of life for NC Medicaid’s heart failure population through improving quality of care in CCNC practices and through case management of individuals with heart failure.