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Medicare Health Care Quality Demonstration Evaluation

North Carolina—Community Care Network

Final Case Study Report

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RTI INTERNATIONAL

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North Carolina—Community Care Network

Final Case Study Report

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EXECUTIVE SUMMARY

Introduction and Background

Section 1866C of the Social Security Act, as amended by Section 646 of the Medicare Prescription Drug, Improvement, and Modernization Act of 2003, P. L. 108-173, Section 1866C(b), requires the Secretary of the Department of Health and Human Services (DHHS) to establish a five-year demonstration program under which the Secretary may approve demonstration projects that examine health delivery factors that encourage improved quality in patient care. CMS intends to use this Medicare Health Care Quality (HCQ) demonstration to identify, develop, test, and disseminate major and multi-faceted improvements to the health care system.

At present, three demonstration sites are active, including the North Carolina-Community Care Network (NC-CCN), the Indiana Health Information Exchange (IHIE), and the Gundersen-Lutheran Health System. This case study addresses the NC-CCN site; companion case studies address the other two sites. The information presented in this case study reflects the situation at NC-CCN at the time this case study was written, in August 2010.

Case Study Goals, Methods, and Data Sources

The purpose of this case study is to provide an in-depth understanding of the NC-CCN's history and goals; organizational structure and operations; relationship to participating networks and physician practices; and methods applied to improve health care delivery systems, quality of care, and efficiency. We also summarize planned changes to the program in anticipation of enrollment of dually eligible and Medicare populations as well as the experience of the first year of demonstration implementation.

Information presented in this case study is based on data collected through in-person discussions with 27 individuals representing NC-CCN central office, networks, and practices and review of internal documents and publications. An evaluation of the sites will continue through the 5-year demonstration period with the goal of examining the impact of these programs on Medicare beneficiaries' health and satisfaction, providers' ability to provide high-quality care, cost of health services, and utilization of health services.

North Carolina Health Care Environment

Several environmental conditions contributed to the establishment of Community Care of North Carolina (CCNC) and consequently NC-CCN. Large areas of North Carolina are rural, with large underserved populations receiving health care through Medicaid and Medicare. Small physician group practices or individual physician practices, "mom and pop shops" or county clinics, federally funded community health centers, and health departments provide many of the primary care services. These disparate health care providers have historically had limited linkages with other practice sites, limited investments in health information technology, and limited use of care management methods and coordination of care for the treatment of chronic diseases, such as diabetes and cardiovascular disease that are prevalent in this region.

Several state and nonprofit organizations engaged in efforts to design ways to improve the state's health care system, improve coordination of care, and reduce unnecessary use of emergency services. Nominal monthly per-enrollee fees for Medicaid patients were proposed for funding these new projects, and these had the full backing of North Carolina state legislators because of the prospect for significant Medicaid cost savings for the state.

The state piloted one of these health system improvement and coordination of care programs on a small scale in one county in the late 1980s. After its first year, an evaluation indicated that the program had achieved significant reduction in hospital admissions and cost savings. In the meantime, statewide Medicaid expenditures increased at a double-digit rate in the early 1990s, with a relatively small group of enrollees incurring a large proportion of expenditures. In the mid-1990s, the Secretary of North Carolina's DHHS supported the development of the community care pilot program. The new plan included the formation of local networks of primary care providers, introduction of health care population management tools, case management and clinical support services, and data and feedback mechanisms. North Carolina's primary care case management program was launched in 1991. By 1995, it included 99 of 100 NC counties.

North Carolina Community Care Network (NC-CCN)

NC-CCN is a nonprofit, physician-led organization established in May 2006. NC-CCN has assumed some of the responsibilities that were previously performed by Community Care of North Carolina (CCNC). NC-CCN provides clinical and technical assistance to 14 networks representing more than 4,000 physicians in all 100 NC counties. NC-CCN helps the networks to identify their patient population and to develop performance measures, supports training for networks and providers on new quality improvement initiatives, and provides legislative reporting for the State Medicaid program. NC-CCN builds on a primary care case management program model developed by North Carolina's Medicaid program and applies that model to the Medicare demonstration for the dually eligible and Medicare-only populations.

Medicare Health Care Quality Demonstration

The NC-CCN Medicare Demonstration, which began on January 1, 2010, is scheduled to end May 31, 2014. Under this demonstration, the NC-CCN will implement a four-pronged strategy to improve care delivery. The demonstration will

1. assign beneficiaries to participating primary care physician practices. These practices will be responsible for coordinating care and improving performance on a defined set of quality measures.

2. provide community-based care coordination services to participating practices and beneficiaries.

3. expand the current Medicaid case management information system to include the dually eligible and Medicare-only population.

4. develop and implement a performance measurement, reporting, and incentive program to recognize and encourage improvements in performance by participating physicians.

NC-CCN plans to implement a range of targeted interventions for chronically ill patients that include services similar to those provided by CCNC; these services include screening, assessment, and care planning; transition care support; care coordination; targeted risk management of high-risk patients, especially those with multiple chronic conditions; patient-centered chronic care model (medical home); disease management; pharmacy home, medication reconciliation; self-management support; mental health integration; provider education; practice improvement; and data and reports to networks and practices.

The NC-CCN Informatics Center is an electronic data exchange infrastructure sponsored by the NC Department of Health and Human Services (DHHS). The Informatics Center provides a secure Web portal and report distribution system to networks for beneficiary-, patient-, practice-, county-, and network-level data.

Performance measures that will be used by NC-CCN for Year 1 include diabetes care, congestive heart failure, diabetes and hypertension, post myocardial infarction, and transitional care. Additional measures for Year Two include ischemic vascular disease, hypertension, chronic obstructive pulmonary disease, and patient safety (medication reconciliation performed after hospital discharge). NC-CCN Informatics Center will report these measures to the networks who will share the data with practices. Recently, NC-CCN built a secure log-in that allows providers to access their quarterly or weekly reports and data directly.

NC-CCN plans to link CMS claims data with data from Medicaid and providers to generate patient-level and provider-level quality reports, alerts, and reminders for participating providers. The demonstration will be implemented in 26 of the state's 100 counties that are part of eight networks.

In the first 2 years, the demonstration is targeting enrollment of dually eligible Medicare beneficiaries who are affiliated with physician practices participating in the NC-CCN. In subsequent years, the demonstration will expand to include the Medicare-only population affiliated with the same physician practices. This strategy allows networks to work out challenges pertaining to data systems, patient attribution, and financial sustainability early on, prior to including the Medicare-only population.

NC-CCN expects that Medicare and its beneficiaries will experience improved health outcomes and reduced costs as a result of its programs and services that target case management, care transitions, medication reconciliation, and improved care for patients with multiple chronic conditions.

Challenges to date include delays in starting the demonstration and receiving Medicare data; the limited ability of satellite NC hospitals to have data access and provide the same level of services for patients as multiple networks; dependence on claims data, which has limited comprehensiveness and timeliness; and the national shortage of clinical pharmacists, which affects NC-CCN's ability to expand clinical pharmacy services.

I. INTRODUCTION AND BACKGROUND

The current payment methodology in the U.S. health care system results in care fragmentation and encourages omissions and duplication of care. To rectify this, Congress directed CMS to test major delivery system and payment changes to improve the quality of care, while also increasing efficiency across the health care system.

Section 1866C of the Social Security Act, as amended by Section 646 of the Medicare Prescription Drug, Improvement, and Modernization Act of 2003, P.L. 108-173, Section 1866C(b), requires the Secretary of the Department of Health and Human Services (DHHS) to establish a 5-year demonstration program under which the Secretary may approve demonstration projects that examine health delivery factors that encourage improved quality in patient care. This section also authorizes the Secretary to waive compliance with such requirements of Titles XI and XVIII of the Social Security Act (42 U.S.C. 1395 et seq.) as may be necessary for the purposes of carrying out the demonstration project.

This legislation anticipates that the Centers for Medicare & Medicaid Services (CMS) can facilitate these overarching goals by providing incentives for system redesign. This would be achieved through several types of interventions: adoption and use of information technology and decision support tools by physicians and their patients, such as evidence-based medicine guidelines, best practice guidelines, and shared decision-making programs; reform of payment methodologies; improved coordination of care among payers and providers serving defined communities; measurement of outcomes; and enhanced cultural competence in the delivery of care. CMS intends to use this demonstration to identify, develop, test, and disseminate major and multifaceted improvements to the health care system.

Three types of "health care groups" are eligible to participate in the Medicare Health Care Quality (HCQ) Demonstration: (1) groups of physicians, (2) integrated health care delivery systems (IDSs), and (3) organizations representing regional coalitions of groups or systems. The HCQ Demonstration programs are designed to examine the extent to which major, multifaceted changes to traditional Medicare's health delivery and financing systems lead to improvements in the quality of care provided to beneficiaries without increasing total program expenditures.

At present, three demonstration sites are active, including the North Carolina Community Care Network (NC-CCN), the Indiana Health Information Exchange (IHIE), and the Gundersen-Lutheran Health System. Each demonstration site uses a different approach for changing health delivery and financing systems, but all share the goal of improving quality of care for Medicare beneficiaries. This case study addresses the NC-CCN site; companion case studies address the other two sites. The information presented in this case study reflects the situation at NC-CCN as of August 2010.

II. CASE STUDY GOALS, METHODS AND DATA SOURCES

The purpose of this case study is to provide an in-depth understanding of the NC-CCN's history and goals; organizational structure and operations; relationship to participating networks and physician practices; and methods applied to improve health care delivery systems, quality of care, and efficiency. We also summarize planned changes to the program in anticipation of enrollment of dually eligible and Medicare populations as well as the experience of the first year of demonstration implementation.

To achieve these case study objectives, RTI International staff conducted a 3-day site visit to NC-CCN in April 2010 and a 1-day site visit in July 2010. We conducted interviews with a total of 27 individuals, including NC-CCN leadership and staff (N = 9), staff of two NC-CCN networks (N = 8), and physicians and staff who are part of three physician practices (N = 10). Two RTI International staff and the CMS Project Officer conducted the first site visit in April. Three RTI International staff conducted a follow-up site visit in July. The interview guides used for these site visits are included in **Appendix A**.

RTI's Institutional Review Board (IRB) reviewed and approved the study protocols. We obtained informed consent from each participant prior to each interview.

This case study focuses on documenting the current activities and future plans of NC-CCN as reported in the interviews. We identified patterns and common themes across the interviews conducted during the site visits. We used triangulation across multiple data sources, including interviews and secondary data sources. We also summarized and categorized the content of the interviews across the multiple participants. Secondary data sources included internal reports, slide presentations, Web sites, journal articles, and other publications. Prior to finalizing this report, we shared a draft version with NC-CCN staff to review the accuracy of the information.

This case study is a first step in documenting each site's current activities and future plans. An evaluation will continue through the entirety of the demonstration period with the goal of examining the impact of these programs on Medicare beneficiaries' health and satisfaction, providers' ability to provide high-quality care, and cost and use of health services. Of particular interest will be evaluating the role of Medicare in a multipayer system that seeks to improve quality and improve efficiency by redesigning the way health care services are provided.

III. NORTH CAROLINA HEALTH CARE ENVIRONMENT

Several environmental conditions contributed to the establishment of Community Care of North Carolina (CCNC) and consequently NC-CCN. Large areas of North Carolina are rural, with large underserved populations receiving health care through Medicaid and Medicare. Small physician group practices or individual physician practices, “mom and pop shops” or county clinics, federally funded community health centers, and health departments provide many of the primary care services. These disparate health care providers have historically had limited linkages with other practice sites, limited investments in health information technology, and limited use of care management methods and coordination of care for the treatment of chronic diseases, such as diabetes and cardiovascular disease that are prevalent in this region.

A founder of the North Carolina Office of Rural Health developed a number of ideas for improving the local health care systems and envisioned linking networks of primary care physician practices and rural health clinics operated by nurse practitioners. Several state and nonprofit organizations engaged in efforts to design ways to improve the state’s health care system, improve coordination of care, and reduce unnecessary use of emergency services. Nominal monthly per-enrollee fees for Medicaid patients were proposed for funding these new projects, and these had the full backing of North Carolina state legislators because of the prospect for significant Medicaid cost savings for the state.

The state piloted one of these health system improvement and coordination of care programs on a small scale in one county in the late 1980s. After its first year, an evaluation indicated that the program had achieved significant reduction in hospital admissions and cost savings.

In the meantime, statewide Medicaid expenditures increased at a double-digit rate in the early 1990s, with a relatively small group of enrollees incurring a large proportion of expenditures. It became apparent that creating access to primary care was not enough to manage the enrolled Medicaid population. A strategy was needed to incorporate population management strategies, and in the mid-1990s, the Secretary of North Carolina’s DHHS supported the development of the community care pilot program. The new plan also included the formation of local networks of primary care providers, introduction of health care population management tools, case management and clinical support services, and data and feedback mechanisms. North Carolina’s primary care case management program was launched in 1991. By 1995, it included 99 of 100 NC counties.

IV. NORTH CAROLINA COMMUNITY CARE NETWORK, INC.

1. Historical Background and Development

Community Care of North Carolina

The historical background and development of the NC-CCN begins with a description of CCNC to provide context for what has been occurring in the State of North Carolina, which make the environment conducive to the programmatic change envisioned by the demonstration. The NC-CCN is a fairly recent outgrowth of CCNC, which was a Medicaid demonstration program. CCNC (formerly known as Access II & III), which was established in 1998, builds on North Carolina's Primary Care Case Management Program (Carolina Access) by working with community providers to better manage the health of the enrolled Medicaid population. The program was authorized under Medicaid section 1915(b) waiver and is sponsored by NC's Office of the Secretary of DHHS, the NC Division of Medical Assistance, and the NC Foundation for Advanced Health Programs, Inc. CCNC is part of the Office of Rural Health that creates and formalizes program direction and assures federal and state compliance with rules and regulations.

CCNC is designed to bring together health care providers to plan cooperatively for meeting patient needs and to strengthen the community health care delivery infrastructure. Providers are expected to take responsibility for managing the care of an enrolled Medicaid population, to provide preventive services, and to develop processes by which at-risk patients can be identified and their care managed before high-cost interventions become necessary. As a result, the CCNC is designed to both improve quality of care for enrollees and reduce costs to the Medicaid program.

The program is based on a partnership of the NC DHHS, community physicians and hospitals, health departments, and departments of social services across all 100 NC counties. Local networks have been organized to cover defined geographic areas in the state and work with local agencies and stakeholders. For example, the Sandhills Community Care Network is based in Pinehurst, North Carolina, and covers 7 counties in the middle of the state. It provides network services to 93 physician practices that include more than 250 primary care providers and care for more than 54,000 Carolina Access Medicaid beneficiaries.

The program is designed as a state/local partnership, in which the state provides resources, information, and technical support to help the local CCNC networks to more effectively deliver and manage enrollee care. CCNC goals include:

- providing support to the medical home/primary care providers in managing their enrolled populations;
- implementing population management strategies and interventions that target the highest risk and highest cost patients;
- focusing on patients with multiple chronic conditions;
- reducing 30-day hospital readmissions;

- reducing emergency department (ED) visits;
- reducing prescription drug costs; and
- improving physicians' adherence to evidence-based treatment guidelines.

Using a population health management approach, CCNC addresses the overall health status of enrollees, proactively manages their care, and employs care management tools such as risk stratification, disease management, case management and access management. In this way, the networks are establishing the care management processes and support mechanisms needed to improve enrollee care, reduce costs, and achieve program objectives. From 2003 to 2007, the state of North Carolina reported significant Medicaid savings, which were attributed to CCNC efforts (State of North Carolina Office of the Governor, 2007; Dobson and Hewson, 2009).

Specific strategies used by CCNC for enrollees with chronic conditions include:

- providing transition support for aged, blind, and disabled (ABD) patients who are hospitalized;
- coordinating home health and doctor visits after a hospital stay, including reviewing medications, to prevent readmissions;
- managing ABD patients with two or more chronic conditions to prevent hospital stays and expensive complications;
- coordinating care, including home services, for multiple agency involvement to prevent duplication of services; and
- helping their enrollees access community resources to get well and stay well.

North Carolina Community Care Network

NC-CCN is a nonprofit organization established in May 2006. This new organizational structure served as a vehicle for participation in the Medicare HCQ Demonstration, because the demonstration required a contractual relationship with an entity representing the provider networks, and governmental organizations such as CCNC were not eligible to apply.

NC-CCN assumed some of the responsibilities that were previously performed by CCNC. For example, NC-CCN provides clinical and technical assistance to the 14 networks; legislative reporting for the State Medicaid program; and training for networks and providers on new quality improvement initiatives.

NC-CCN builds on a primary care case management program model developed by North Carolina's Medicaid program and applies it for the Medicare demonstration to the dually eligible and Medicare-only populations. Under this community care "medical home" model, each patient has access to a primary care provider who is responsible for overseeing comprehensive and preventive care and collaborating with other health care providers, including nurses, medical

specialists, and other health care professionals. The primary care provider serves as the nexus for all of a patient's care and medical history.

Because of their similar organizational structures and the recent application of the same or very similar model and services to the new population, the differences between CCNC and NC-CCN are often not completely clear to outsiders or even to participating providers. This lack of differentiation is intentional, as it is the same organizational structure and staff that is supporting the service providers for all their enrolled patients, including Medicaid, dually eligible and Medicare.

2. Current Mission and Future Goals

The goal of the NC-CCN is to continue building a medical home for the patients through promotion of patient safety, enhanced quality, increased efficiency, reduced unwarranted variation in medical practice and costs, and provision of patient-centered, holistic approach to caring for patients with multiple diseases. It is envisioned that these goals will be achieved through programs and services that assist patients during transitions, help those with multiple chronic conditions, provide medication reconciliation services, provide care-management support services for patients with chronic conditions, strengthen communication among community providers, and provide timely and meaningful data and reports to networks and practices. NC-CCN anticipates that these programs and services will lead to reductions in 30-day hospital readmissions, ED visits, and prescription drug costs as well as improvements in physicians' adherence to evidence-based treatment guidelines.

3. Involvement in the Medicare Health Care Quality Demonstration Project

As noted earlier, NC-CCN was developed as a mechanism to expand on the CCNC model for dually eligible and Medicare-only populations for the Medicare HCQ Demonstration and to represent all 14 community care networks in other initiatives, 8 of which are part of this demonstration. NC-CCN provides clinical support, training and technical assistance to the networks, and initiatives for the Medicare HCQ demonstration.

Dually eligible beneficiaries are known to have multiple chronic conditions that cause excessive rates of morbidity and mortality for the patients and high costs for Medicare (Wade, 2009a). Targeting these patients in the Medicare HCQ Demonstration is a promising approach for linking quality improvement and cost savings. Table 1 summarizes the prevalence of chronic conditions among dually eligible beneficiaries who are eligible to participate in the Medicare HCQ demonstration project. NC-CCN plans to implement a range of targeted interventions to serve chronically ill patients that address topics similar to those addressed by CCNC. These interventions include:

- screening, assessment, and care planning;
- transition care support;
- care coordination;

- targeted risk management of high-risk patients, especially those with multiple chronic conditions;
- patient-centered chronic care model (medical home);
- disease management;
- pharmacy home and medication reconciliation;
- self-management support;
- mental health integration;
- provider education;
- practice improvement; and
- data and reports to networks and practices.

Table 1
Chronic Conditions among the Dually Eligible Beneficiaries Eligible for Participation in the Medicare Health Care Quality Demonstration Project

Medical Condition	Percent of Dually Eligible Beneficiaries with Condition
Hypertension	73%
Three or more chronic diseases	54%
At least one emergency department visit	40%
Diabetes	39%
Mental health condition	32%
At least one hospital admission	26%
Ischemic vascular disease	24%
Chronic obstructive pulmonary disease	19%
Asthma	13%
Chronic kidney disease	11%

SOURCE: Wade (2009a).

4. North Carolina Community Care Network Stakeholders, Organizational Structure, Staffing, and Processes

NC-CCN is physician led at each level of its infrastructure: (1) the Board of Directors, (2) management, (3) networks, and (4) practices. NC-CCN is governed by the Board of Directors and its four committees: Information Technology, Nominations and Bylaws, Finance, and Governance. Other leadership positions include members of the executive committee, the president, and the executive director. NC-CCN is structured around four key programs: the Information Center, Clinical Programs, Pharmacy Programs, and Administration.

Each community-based network has a clinical director who is a part-time physician that is well known to the community, meets with physicians to encourage provider participation, provides oversight to quality improvement in practices, and serves on the state clinical directors' committee. In addition, all of the networks have network directors who manage daily operations, care managers who coordinate services for enrollees, and pharmacists who provide medication management for the most complex patients. All networks plan to hire psychiatrists to assist in mental health integration.

For the Medicare demonstration, the central NC-CCN office supports local networks in a number of ways. The central office provides networks with practice-level information on dually eligible beneficiaries who are eligible for demonstration services, work with the NC Medicaid program to enroll dually eligible Medicare demonstration beneficiaries into the community care program, help secure resources to manage the target populations, provide technical support, and coordinate reporting and other Medicare demonstration requirements.

5. Local Networks and Physician Practices

Local Networks

NC-CCN builds on the 14 community-based networks that the CCNC originally established. NC-CCN provides technical support to the networks to help identify the patient population and reporting performance measures. These networks work together and with the state government to define, track, and report performance measures that gauge the effectiveness of participating physicians in achieving quality, utilization, and cost objectives. Currently, the CCNC networks include more than 4,000 physicians in all 100 NC counties. The Medicare demonstration includes 26 counties within 8 networks.

Community Care Networks and physician practices work together in a number of different ways. They help patients in transitioning between care settings, such as from the hospital to home and ambulatory care; assist patients with complex medical and social conditions; reduce medication problems; support patients and families in the self-management of their diseases; strengthen links among community providers; and enhance the ability of physicians to manage patients with chronic conditions.

The networks are established based on a "one size does not fit all" principle, which allows flexibility and leadership at the community level. NC-CCN does not mandate specific intervention components for all communities, given that the needs of individual communities are quite diverse in terms of physician interest and expertise in quality improvement programs,

staffing and financial capacity of network practices, interest and compliance of participating patients, and prevalence and severity of medical conditions. All 14 networks have standard expectations and are held accountable to the same performance measures for quality, cost, and utilization.

Some networks built on existing community organizations while others were established as new entities. The networks make decisions locally about the physician practices with which to partner, because each county has a different delivery system, culture, and politics. Each local network has a different relationship with the statewide central NC-CCN office. Local networks have a strong role in NC-CCN governance. Each network has a minimum of two seats on the NC-CCN Board of Directors (and larger networks have additional seats). Networks also have autonomy in deciding how to use their funds but submit standard budgets to the program office on a quarterly basis and are expected to expend most of their funds on care and population management staff and activities.

All of the NC-CCN local networks have legal status as 501(c)(3) nonprofit organizations. A typical organizational structure for a local network includes a chairman of the board, a network director, a medical director, and a medical management committee. The Network Director and the Medical Director report to the Board Chairman and oversee network clinical and care management staff who provide services in various counties and practices, and the network's administrative staff. For example, one network has 18 chronic care coordinators, 8 pediatric care coordinators, 2 health coordinators and enrollment specialists, a behavioral health coordinator, 3 clinical pharmacists, an information technology (IT) privacy officer, an IT coordinator, a finance/human resources officer, an office manager, and an administrative assistant.

Networks were found to differ with regard to their plans in carrying out the Medicare HCQ Demonstration. One network expected to get most information and direction for enrollment from the central NC-CCN program office. Another network had a more proactive approach and sought to identify strategies and new innovations through discussions with other networks and through its own plans and initiatives in collaboration with local physicians.

Recently, NC-CCN started convening monthly meetings with all eight local networks involved in the Medicare Demonstration to strategize on how best to care for the dually eligible beneficiaries involved in the demonstration. In these meetings, the networks discuss lessons learned and best practices for interventions relevant to the demonstration populations as well as enrollment data. For example, discussions included review of data existing in the NC-CCN Informatics Center on the total number of dually eligible beneficiaries who could become involved in the demonstration for each network; those duals already linked and those not yet linked to a local primary care provider; and the duals that have been treated or "touched" by an NC-CCN provider.

Some networks proactively build on other ongoing initiatives and funding opportunities to advance their services. For example, staff of one network described working with a Southern Region Area Health Education Center (AHEC) that recently received nearly $14 million in American Recovery and Reinvestment Act (ARRA) funds to establish regional extension centers to promote use of electronic health records (EHRs) in primary care practices throughout the

state. An AHEC employee is stationed at that network and is investigating the needs for EHR implementation in the network's local physician practices. AHEC and Blue Cross also collaborate with the network to promote development and improvement of medical homes for primary care services, since those two organizations also support similar initiatives.

In anticipation of the Medicare demonstration, one network was proactive and initiated the idea of a kickoff meeting for the network practices identified for the CMS HCQ demonstration. The goal was to get all of the local medical providers together to get the message out and get state-level staff, hospital staff, and legislative staff together. They were the first local network to do this, and some other networks contacted them to get copies of their PowerPoint slides to help organize similar kickoff meetings. The first network indicated they were not mandated to do this but wanted to have a kickoff meeting as a way of building local support for the network and for the Medicare demonstration.

Staff members from different networks maintain close contact through state meetings, conference calls, monthly meetings, chronic care meetings, and ongoing Internet communications. They indicated that these meetings and interactions enable them to "share or steal" ideas and strategies.

Physician Practices

Participating physician practices review a projected patient participation list, work with local networks in defining target patients and establishing intervention plans, establish a process for identifying and screening patients eligible for demonstration, identify support and information needs, and review performance data. Network staff indicated that they hold regular meetings with the physician practices in their local areas, where they share quality of care data, ideas for effective strategies and implementation experiences.

Network staff members develop close collaborations with the physician practices. For example, one practice provided a network case manager with access to its EHR, so the case manager could better track medication usage and provide education services to the practice's patients. One doctor commented that the practice could not afford to develop a full medical home model without the network staff providing the case management and medication reconciliation services that are hard to fund on practice overhead. Relationships between networks and practices also enable the case managers to target their services to the Medicare demonstration beneficiaries. In another example, a network pharmacist provided medication reconciliation services for Medicare demonstration beneficiaries at local hospitals. This individual developed close relationships with hospitalists and referring physicians from participating practices to better enable follow-up on medication adherence.

Physician practices also collaborate with network case managers and local hospitals to reduce ED usage, reduce readmissions, and increase medical home focus for patients. One practice reported linking its EHR to a hospital data portal that provides real-time updates to the practice as soon as one of the practice's patients is admitted to the hospital. In this way, the small, but costly, number of repeat hospital users can be more quickly identified and tracked. The practice then arranges for the network case manager to visit the patient at home to

investigate factors that may be causing the frequent readmissions. The case managers also complement the practice visits by following up with patient education in the patient's home.

6. North Carolina Community Care Network Services

Case management and clinical pharmacy services are the key interventions that most of the networks provide. (The terms "case management" and "care management" are sometimes used interchangeably to describe similar interventions.) Some networks furnish additional types of services, such as medical group visits and telehealth services.

Case Management

Case management services target dually eligible patients with two or more chronic conditions and those that have high rates of hospitalization or ED use. Networks identify eligible patients using claims data, ED reports, provider referrals, community referrals, transition care, or chronic care. Case management services require clear documentation of the patient's comprehensive health assessment, medical diagnoses, interventions, goals, and other case management activities recorded in a network database. The database allows cases to be categorized into three levels of case management need: heavy, medium, or light. Case managers perform a range of tasks in working with patients and families, including:

- teaching disease processes and care;
- evaluating patient medication regimens;
- teaching appropriate use of the ED;
- promoting the relationship to the patient's primary care physician and medical home;
- connecting patients and practices with community resources; and
- conducting home visits, provider visits, chart/claims reviews, and follow-up phone calls.

The ultimate goal of case management services is to empower the patient to seek and receive appropriate medical care. Case managers often serve as liaisons promoting patient relationships with the medical practice by filling communication gaps and following up with patients when the provider does not otherwise have the time or resources to do so.

Clinical Pharmacy Services

Patients eligible for Medicaid and Medicare can receive clinical pharmacy services for management of chronic diseases. Services include patient education, patient consultation, and medication reconciliation. Clinical pharmacist services also include serving as a liaison between primary and specialty care providers, the patient, and in-home care services. Some clinical pharmacists are based at local hospitals to assist with medication reconciliation at admission or discharge. Some pharmacists provide services at larger clinics or split their time between a clinic

and a hospital. Others work out of the local network office, a community pharmacy, or other locations.

Medication reconciliation is an important task that both improves quality and reduces costs. Networks report that medication reconciliation finds an average of 5.1 medication discrepancies per patient. The most common discrepancies include:

- unconfirmed discontinuation—patients who discontinue medications prescribed at hospital discharge;
- medication adherence—patients who are not taking the medication prescribed for them at discharge from the hospital, or patients who do not take chronic disease medications that could prevent them from needing readmission; and
- medication dose/frequency/duration—patients who are not taking medications according to instructions at discharge from the hospital when a follow-up visit occurs, including patients who resume medications taken prior to hospitalization that were not part of their discharge instructions.

Staff of one network undertook a phased approach for expanding clinical pharmacy services. The network employed a clinical pharmacist at a hospital for a limited period, anticipating that the hospital would absorb this position and provide ongoing funding toward the end of the initial contract after the hospital recognized the program's benefits. The network then planned to use the funds freed up by expanded hospital funding to implement the same position in several other hospitals, thus expanding clinical pharmacy services to several other hospitals.

New Services Targeting Medicare Beneficiaries

One network is piloting a new initiative targeting nursing homes and physician groups that have a large number of patients in nursing homes. The goal of this pilot program is to determine whether services such as clinical pharmacy and care management services in the nursing homes will reduce the utilization of ED and inpatient admissions.

7. Information Technology Infrastructure

The NC-CCN Informatics Center is an electronic data exchange infrastructure sponsored by the NC DHHS and Office of Rural and Community Care. Networks indicate that they also provide funding for IT services. Current data available through the Informatics Center include Medicaid claims and enrollees' health information that NC-CCN obtains directly from health care providers, care managers, and/or primary care providers. As of July 2010, NC-CCN used existing Medicaid systems to identify and generate reports for dually eligible beneficiaries. NC-CCN staff anticipated that the existing systems and reports would require modifications for the Medicare data. In addition to integrating Medicare claims data, NC-CCN planned to integrate Surescripts pharmacy data, Labcorps laboratory data, and real-time hospital admissions, discharge, and transfer data from 48 large NC hospitals for dually eligible beneficiaries.

The Informatics Center provides a secure Web portal and report distribution system to networks for beneficiary-, patient-, practice-, county-, and network-level data. The center plans

to upgrade its capacity to provide direct access for providers to data containing patient information, case management and care team contacts, medical and pharmacy claims history, medication adherence, and clinical care gap alerts.

Case Management Information System

The Case Management Information System (CMIS) is a user-built data set designed in 2001 to provide case managers with direct access to patient data. Through CMIS, case managers can access demographic and claims data for all NC Medicaid enrollees regardless of their enrollment status. Patient records within CMIS help to ensure continuity of care because patient records remain the same regardless of the patient's geographic location or change in eligibility status. The CMIS provides care managers with a consistent source for documenting care management interventions, assessments, care plans, and other activities.

Pharmacy Home

The Pharmacy Home data system aggregates information on drug use that serves network pharmacists, case managers, and primary care providers. It provides patient-level information on medication history for point-of-care activities and population-based reports to identify patients who may benefit from clinical pharmacy and case management services.

Chart Audit System

Each year, NC-CCN contracts with Area Health Education Center staff to conduct medical record reviews at the primary care practices. These audits involve abstracting medical record data pertaining to quality of care measures. The system generates a random sample of eligible patients based on claims data to pre-populate the audit tool. The system uses secure client-server software to automatically synchronize data with the server, encrypt data, and send data to the server to generate process, progress, and analysis reports. Participating practices have immediate access through a secure Web portal to the chart review results with local, state, and national comparative benchmarks. Networks use this data to identify practices that need opportunities for improvement in quality measures and to provide support to practices in performance improvement. Network staff indicated that providers value the audits as a way to address their concerns about the data reports and to verify data accuracy. These audits will continue for the demonstration patients as some of the performance measures are based upon data from chart audits.

V. MEDICARE HEALTH CARE QUALITY DEMONSTRATION

1. Demonstration Design

The NC-CCN Medicare demonstration began January 1, 2010, and is scheduled to continue until May 31, 2014. Under this demonstration, the NC-CCN will implement a four-pronged strategy to improve care delivery. The demonstration will

1. assign beneficiaries to participating primary care physician practices. These practices will be responsible for coordinating care and improving performance on a defined set of quality measures.

2. provide community-based care coordination services to participating practices and beneficiaries.

3. expand the current Medicaid case management information system to include the dually eligible and Medicare-only population.

4. develop and implement a performance measurement, reporting, and incentive program to recognize and encourage improvements in performance by participating physicians.

Quality reports, alerts, and reminders for participating providers will be provided by NC-CCN. It is anticipated that reports will be based in on both claims and chart abstraction data. These reports will support providers in their efforts to coordinate and manage patient care. Examples of quarterly reports currently provided to networks and practices for Medicaid and ABD patients are included in **Appendix B**.

The demonstration will be implemented in 26 of the state's 100 counties that are part of 8 networks. In the first 2 years, the demonstration will target enrollment of dually eligible Medicare beneficiaries who are affiliated with physician practices participating in the NC-CCN. In subsequent years, the demonstration will also target enrollment of the Medicare-only population who are affiliated with the same physician practices.

The NC-CCN plans to use Medicare claims data to determine patient-provider attribution. Eligible beneficiaries must:

1. be alive at the beginning of the demonstration year;

2. have at least 1 month of Part A and Part B enrollment;

3. reside in North Carolina during the entire demonstration year;

4. not have been enrolled in Medicare Advantage plan during the demonstration year; and

5. not have been covered under an employer-sponsored health plan during the demonstration year.

Assignment of beneficiaries to the practices will be based on:

1. retrospective analysis of claims data;

2. identification of beneficiaries that received a qualifying service from a participating physician during the assignment period (3 months before the start date of the demonstration year and ends 3 months before the close of the demonstration year);

3. CMS's "one touch rule"—eligible beneficiaries must have received at least one Evaluation and Management (E&M) service from a participating practice during a demonstration year.

In the interim, NC-CCN will work in concert with the North Carolina Medicaid agency to enroll dually eligible beneficiaries with primary care providers using Medicare claims data about where they have historically received care. If desired, beneficiaries will be able to opt out or change their primary care provider.

Practices in the 26 counties will manage care for approximately 44,000 dually eligible beneficiaries in the first 2 years and for an estimated 214,000 Medicare fee-for-service and dually eligible beneficiaries in the third through fifth years of the demonstration. Demonstration counties include: Madison, Yancey, Mitchell, Buncombe, Lincoln, Union, Mecklenburg, Stanly, Cabarrus, Montgomery, Moore, Hoke, Chatham, Orange, Sampson, Pender, New Hanover, Greene, Pitt, Edgecombe, Bertie, Hertford, Gates, Chowan, Pasquotank, and Perquimans.

2. Anticipated Benefits to the Medicare Program, Medicare Beneficiaries, and the North Carolina Community Care Network

NC-CCN expects that Medicare and its beneficiaries will have improved health outcomes and reduced costs as a result of its programs and services targeting case management, care transitions, medication reconciliation, and improved care for patients with multiple chronic conditions. For example, currently about 20% of Medicare patients in North Carolina are readmitted within 30 days of hospital discharge; only 50% of them see a physician in the period between discharge and readmission (Wade, 2009a). NC-CCN believes it can significantly increase the percentage of patients seeing doctors and care managers after discharge, and reduce the percentage of readmitted Medicare beneficiaries. Furthermore, heart failure and diabetes are two of the more prevalent chronic illnesses for Medicare patients, and improvements in their care can affect costs by reducing hospital admissions and lowering the risk of complications. As one doctor put it:

> I want to give patients what they need; some heart failure patients bouncing in and out of hospital need help every week to load pill planners, and a call almost every day to see if they swallowed their pills today. Diabetics could be doing extremely well with a nurse manager checking blood sugar levels weekly either over phone or in person, but I don't have time to call these people every week [to] review their sugars and make adjustments on a weekly basis.

The services of NC-CCN care managers and clinical pharmacists may also increase provider efficiency by reducing visit time or visit frequency (e.g., for coordinating care and avoiding duplicative testing for complex patients with multiple chronic conditions).

3. Generalizability: The Potential for North Carolina Community Care Network Replication in Other Communities

In the view of the NC-CCN central office and networks, the keys to successful replication are autonomy for local networks; flexibility to develop services in response to the needs of local populations; and a minimal level of bureaucracy that might inhibit local leaders, physicians, and patients. Dually eligible beneficiaries are known to be complex and often challenging patients to treat, who often have multiple medical comorbidities and sometimes have mental health or social issues as well. Primary care physicians are very busy and are often under pressure to see a lot of patients. The goal of the NC-CCN model is to enable the medical home to operate smoothly for the physicians, providing extra services that they cannot bill for in fee for service—such as case management, pharmacy, and care transitions—without adding a lot of paperwork for the physicians and their practices.

Local autonomy is important, so the physicians, other local providers, and stakeholders can have confidence that the program will not be dictated by policies developed elsewhere that may not have local impact. Local physicians want to ensure that they will have a voice in the program, and organizing local networks helps to make that possible.

Maintaining a focus on case management, medication reconciliation, and patient self-management was also cited by several interviewees as important to consider for replication efforts. They noted that these services can often reinforce each other. For example, the case manager who visits patients in the home can help the pharmacist in the hospital better understand the patient's medication situation at admission and follow-up after medication reconciliation at discharge. Both case managers and pharmacists can work to educate the patient and family members to improve adherence to care and promote self-management of chronic diseases. Sometimes, just providing medication lists and educating the patients about why the doctor changed the medications can help improve adherence significantly. In turn, better patient and family self-management can reduce future medication discrepancies and free case managers and pharmacists to focus on other patients.

These principles would not necessarily be difficult to apply in other states. The key challenge might be finding a mix of stakeholder support and specific services that can provide for effective network development and significant quality and cost of care impacts, while still being affordable for the local networks providing the services. Starting on a smaller scale (one network) might be most feasible approach, given that launching a statewide implementation may not be successful without pilot testing.

4. Performance Measures and Incentive Systems

Performance measures that will be used by NC-CCN for Year 1 include diabetes care, congestive heart failure, diabetes and hypertension, post myocardial infarction, and transitional care (Table 2).

Table 2
Performance Measures: North Carolina Community Care Network, Year 1

Performance Measure	Measure Specification (Applicable National Standard)
Diabetes Care	1. One hemoglobin A1c measurement in 1 year (NCQA, NQF, AQA) 2. Lipid profile done in measurement year (LDL-C) (NCQA DPRP) 3. Documented retinal or dilated eye exam by an eye care professional (NCQA DPRP) 4. Nephropathy screening or evidence of nephropathy management (NCQA HEDIS, NCQA DPRP)
Heart Health – Congestive Heart Failure (CHF)	1. Patients with left ventricular function assessment in claims history (NCQA, ACC/AHA,PCPI)
Diabetes & Hypertension	1. Percentage of patients with a diabetes and hypertension diagnosis having a prescription filled for an ACEI or ARB in the previous year (NCQA HEDIS, NQF)
Post Myocardial Infarction (MI)	1. Patients with a filled prescription for beta blockers (ACC/AHA/PCPI, CMS PQRI, NCQA HEDIS)
Transitional Care	1. Potentially preventable readmission rate (30-day readmissions)

NOTES: NCQA = National Committee for Quality Assurance; NQF = National Quality Forum; AQA = Ambulatory Quality Alliance; LDL-C = low-density lipoprotein cholesterol; DPRP = Diabetes Physician Recognition Program; HEDIS = Healthcare Effectiveness Data and Information Set; ACC/AHA = American College of Cardiology/American Heart Association; PCPI = Physician Consortium For Performance Improvement; ACEI = angiotensin converting enzyme inhibitors; ARB = angiotensin receptor blockers; CMS = Centers for Medicare & Medicaid Services; PQRI = Physician Quality Reporting Initiative.

Additional measures for Year Two include ischemic vascular disease, hypertension, chronic obstructive pulmonary disease, and patient safety (medication reconciliation performed after hospital discharge) (Table 3).

Table 3
Performance Measures: North Carolina Community Care Network, Year 2

Performance Measure	Measure Specification (Applicable National Standard)
Diabetes Care	1. One hemoglobin A1c measurement in 1 year (NCQA, NQF, AQA) 2. Lipid profile done in measurement year (LDL-C) (NCQA DPRP) 3. Documented retinal or dilated eye exam by an eye care professional (NCQA DPRP) 4. Nephropathy screening or evidence of nephropathy management (NCQA HEDIS, NCQA DPRP) 5. Foot exam (NCQA HEDIS, NCQA DPRP) 6. Smoking status and cessation advice and/or treatment (NCQA HEDIS, NCQA DPRP)
Heart Health – Congestive Heart Failure (CHF)	1. Patients with left ventricular function assessment in claims history (NCQA, ACC/AHA,PCPI) 2. ACEI/ARB therapy (percentage of patients with EF < 40%, prescribed ACEI or ARB Therapy) (ACC/AHA/PCPI, CMS PQRI) 3. Beta blocker therapy (% of patients with EF < 40% prescribed a beta blocker) (ACC/AHA/PCPI, CMS PQRI) 4. BP control (<140/90) (NCQA HEDIS, PQRI)
Ischemic Vascular Disease (IVD)	1. Lipid measurement (lipid panel or LDL within past year) (NCQA HSRP, NCQA HEDIS, ACC/AHA/PCPI) 2. BP control (<140/90) (NCQA HSRP) 3. Aspirin use (NCQA HSRP, ACC/AHA/PCPI) 4. Smoking status and cessation advice and/or treatment
Hypertension	1. BP control (<140/90) (NCQA HSRP; NCQA HEDIS)
Diabetes & Hypertension	1. Percentage of patients with a diabetes and hypertension diagnosis having a prescription filled for an ACEI or ARB in the previous year (NCQA HEDIS, NQF)
Post Myocardial Infarction (MI)	1. Patients with a filled prescription for beta blockers (ACC/AHA/PCPI, CMS PQRI, NCQA HEDIS)
Transitional Care	1. Potentially preventable readmission rate (30-day readmissions)
Chronic Obstructive Pulmonary Disease (COPD)	1. Smoking cessations counseling documented (GOLD guidelines)
Patient Safety	1. Medication reconciliation performed after hospital discharge

NOTES: NCQA = National Committee for Quality Assurance; NQF = National Quality Forum; AQA = Ambulatory Quality Alliance; LDL-C = low-density lipoprotein cholesterol; DPRP = Diabetes Physician Recognition Program; HEDIS = Healthcare Effectiveness Data and Information Set; ACC/AHA = American College of Cardiology/American Heart Association; PCPI = Physician Consortium For Performance Improvement; ACEI = angiotensin converting enzyme inhibitors; ARB = angiotensin receptor blockers; EF = ejection fracture; BP = blood pressure; BP = blood pressure; HSRP = Heart/Stroke Recognition Program; CMS = Centers for Medicare & Medicaid Services; PQRI = Physician Quality Reporting Initiative; GOLD = Global Initiative for Chronic Obstructive Lung Disease.

A list describing denominators and data sources for each measure is included in **Appendix C**. NC-CCN and CMS are finalizing these measures. As all Year 1 measures are based on the claims data, delays in data reconciliation might affect NC-CCN's ability to set baseline measures in the first year of performance.

Community Care Networks receives $3.72 per member per month (PMPM) from the state Medicaid agency for most enrollees and $13.72 PMPM for ABD enrollees. Participating primary care providers receive $2.50 PMPM for most enrollees and $5.00 PMPM for ABD enrollees to provide medical home services and participate in disease management and quality improvement. These fees are paid for by the state for beneficiaries who are dually eligible. Fees will not be made by the state for the fee-for-service Medicare beneficiaries that will be included beginning in Year 3 of the demonstration. It is anticipated that the cost of providing medical home services for the Medicare beneficiaries will be offset by savings resulting from reduced fragmentation and improved coordination of care.

5. Current Challenges and Future Goals

Challenges

Unanticipated State Fiscal Crisis. The State of North Carolina's current financial crisis meant that much of the focus of the NC-CCN's leadership has been on budgetary issues rather than on the demonstration; recall the State does provide financial support for the Medicaid patients and adding the dually eligible increases the pool of people supported under this program. In the current fiscal climate, one interview participant stated, "we have to come up with a lot of savings to get this [NC-CCN] established."

Baseline Claims Data. NC-CCN had hoped to use Medicare claims data to establish baseline utilization patterns among the dually eligible beneficiaries included in the demonstration. In addition, they hoped to validate their list of patients by linking network providers with patients via Medicare claims data. NC-CCN sent a list of National Provider Identifier (NPI) numbers for the demonstration providers to CMS in March 2010. Although NC-CCN can identify the dually eligible beneficiaries that are in their system, they would like confirmation that their list matches a list generated by CMS using the assignment and attribution criteria outlined in Section V.1. Since March, CMS and NC-CCN have been working together to match the data. Recently, NC-CCN provided CMS with additional provider tax identifiers in an attempt to further reconcile the list of physicians and practices included in the demonstration. An illustration of the complexity of the process is an example provided by NC-CCN; a physician

may be working as a hospitalist and see patients at an outpatient clinic. The interest is in that physician's panel of patients in the outpatient setting, not the patients he or she sees as a hospitalist in the inpatient setting. The matching is nearing completion, and NC-CCN expects to have Medicare data to generate baseline measures from the 2009 claims. The complexity of matching data and the resulting delays present a challenge for NC-CCN in being able to launch the demonstration as anticipated.

The NC-CCN leadership expressed concern that their slow start and challenges in obtaining data to establish baseline utilization may result in a loss of momentum that might affect their overall performance. NC-CCN anticipates that delays will slow the patient improvement process. Staff at one network shared similar concerns; they engaged in a kickoff meeting and enrolled physician practices as soon as the demonstration started but were unable to maintain the momentum because of challenges encountered when identifying the demonstration patients.

NC-CCN is unable to enroll dually eligible beneficiaries that live in nursing homes due to a State Plan requirement from the State Medicaid Program. NC-CCN is discussing plans with the State Medicaid Program to eventually enroll dually eligible patients residing in nursing homes; however, the program currently does not have the processes in place to enroll this population. The State Medicaid Program must also submit and receive CMS approval for a State Plan Amendment before implementing the change.

Provision of Services to Medicare and Dually Eligible Patients. Network staff anticipated that coordinating care for dually eligible patients through participating physician practices might be challenging because part of the benefit of Medicare fee for service is the ability to seek care directly from specialists in addition to or instead of from primary care providers. However, a medical home concept (with an emphasis on care coordination) only works if the primary care physician is aware of all of the providers seen, medications and treatments ordered, and services provided to avoid fragmentation of care and duplication.

The long-term goal is to establish patient-centered medical home services for all NC-CCN patients. In this model, the medical home providers can help the patients to identify specialists when needed while maintaining communication across providers. In their view, primary care physicians should be providing most of the basic care for chronic diseases such as asthma, diabetes, basic heart conditions, and others. The goal is to decrease care fragmentation and support the coordination of care.

Information Technology Systems. Large NC hospitals are challenged to provide the same level of services for patients that come from multiple networks. Current IT systems do not allow effective facilitation of health information across the networks, which hinders the ability of a hospital to effectively communicate about patients with other hospitals and practices, share information, and provide the same quality of services. The Informatics Center has launched a provider portal that will develop a process for information exchange across providers and delivery settings.

Data Quality. A few interviewees expressed concern about limitations of claims data because such data is retrospective and has limited accuracy, completeness, and timeliness.

Several physicians emphasized that to be effective, the data must be timely. As a result, the NC-CCN data systems' dependency on claims data may have limited timeliness and usability. Some physicians reported that for the CCNC program they combined claims data with local ED utilization reports rather than depending on one data source. One provider shared that she never relied on one set of data and cross-referenced CCNC data with the data based in her own system.

Shortage of Pharmacists. The current staff capacity of the clinical pharmacy program exceeds the need for their services. Staffing is limited by a lack of pharmacists because of high demand for pharmacy services from other providers across the health care sector. Pharmacists carry a high patient load, and there is a need at NC-CCN for at least 10 additional pharmacists.

Future Goals

NC-CCN staff started the Medicare demonstration implementation in a strategic way, focusing on a small scale, initially on the dually eligible population. This strategy allows networks to work out challenges pertaining to data systems, patient attribution, and financial sustainability early on. Physicians recognized the long-term goal of improving care and the benefits of becoming involved in medical home and case management approaches to care that are likely to become more widespread in future years. Most physicians planned to apply similar interventions to commercial insurance patients, stating that their goal was to provide best possible treatment and options to all of their patients regardless of insurance status.

NC-CCN leadership recognized that measures of success of this demonstration would include financial ones: savings from unnecessary hospitalizations, medication reconciliation, and strategies for dealing with end-of-life issues. They believed that overall improvements in transitions of care, data flows, coordination of care, and financial cost savings were all important to the success of the Medicare demonstration.

Interviewees also recognized that for this demonstration to be effective, it would need to engage other providers (e.g., mental health providers, geriatricians, other specialists) and a range of care settings. Some interviewees shared concerns about NC-CCN's ability to engage the specialists. The focus of the Medicare demonstration is on the primary care model, and so it is unclear how much cooperation the demonstration will receive from specialists (surgical or medical). Physician buy-in will target family practitioners, internists, and perhaps geriatricians. The goal is to approach physicians in a way that will generate their support by emphasizing that this demonstration can help them to improve the quality of care for their patients and will not cost them much in terms of overhead expenses or increased workload for their practices.

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APPENDIX A
INTERVIEW GUIDES

Interview Guide for CCNC and NC-CCN Management and Program Staff

General Questions Regarding CCNC

1. First, we would like to ask about your role at CCNC. What is your title and area of responsibility?

2. What is CCNC?

3. What prompted the original effort to establish CCNC?

4. What are the current goals of CCNC?

5. Please describe CCNC's current organizational structure? (Probe on informatics center group, clinical quality improvement center, technical assistance team, community networks, case managers, physician practices.)

6. What is the role of the CCNC's board of directors?

7. What other organizations collaborate with CCNC's? How do they work with CCNC? How do they influence CCNC's activities?

8. How is CCNC funded?

9. Does CCNC have any plans for expansion (e.g., services, revenue sources, participating providers)?

General Questions Regarding NC-CCN

1. What is your role with NC-CCN? What is your title and area of responsibility?

2. What is NC-CCN? How does it relate to CCNC?

3. What prompted the original effort to establish NC-CCN?

4. What are the current goals of NC-CCN?

5. Please describe NC-CCN's current organizational structure? (Probe on board of directors, informatics center group, clinical quality improvement center, technical assistance team, community networks, case managers, physician practices.)

6. What other organizations collaborate with NC-CCN's? How do they work with NC-CCN? How do they influence NC-CCN's activities?

7. How is NC-CCN funded?

Questions Regarding Both NC-CCN and CCNC

1. How many networks are in CCNC? Does this cover the entire state of NC? How many networks are participating in NC-CCN?

2. How are the community networks organized? What roles do community physicians, hospitals, health departments, and departments of social services play in the networks?

3. Please describe the goals of these networks. How similar (or different) are these goals across all the networks?

4. What are specific outcomes that these networks aim to achieve?

5. How many primary care practices currently participate in CCNC? How many practices do you plan to engage in NC-CCN?

6. What medical specialties are currently engaged in NC-CCN and how? Which other medical specialties do you plan to engage?

7. What is the target population for CCNC? What is the target population for NC-CCN?

8. What mechanisms does CCNC use to improve health of Medicaid enrollees?

9. What mechanisms does NC-CCN use to improve health of Medicare enrollees?

10. How does CCNC collect, report, and track data? What challenges did you face? How did you overcome them? How will these be adopted for the Medicare population?

11. What data sources does CCNC use? What measures are collected and tracked?

12. What new types of data does NC- CCNC plan to collect and report on?

13. How do you receive lab and/or pharmaceutical data?

14. Does CCNC currently have relationships with other public or private payers? If so, how do they work together?

15. What motivates physicians to participate in CCNC? Did you experience any difficulties in gaining physician participation? What helped to overcome these?

16. What motivates physicians to participate in NC-CCN?

17. How do physicians and physician groups use CCNC data and reports to improve medical care? How would you like them to use the data for NC-CCN?

18. [FOR CASE MANAGERS ONLY] Please describe the nature of your work with physician practices. How large is the area that you cover? How does this work differ from your work with younger populations?

19. In your opinion, could the CCNC model be replicated in other communities? What basic components would be necessary for other communities to implement such model?

Medicare Demonstration Questions

1. What is your understanding of NC-CCN's role in the Medicare Health Care Quality demonstration? How will this role change over time?

2. How does this Medicare demonstration fit with the current goals and services of NC-CCN?

3. What motivated NC-CCN to participate in the Medicare demonstration?

4. How does NC-CCN's involvement in the Medicare demonstration enhance or inhibit work with Medicaid?

5. What benefits does the NC-CCN Medicare demonstration project expect to bring to Medicare beneficiaries?

6. What changes did NC-CCN have to make to existing processes or information technology systems in order to participate in the Medicare demonstration?

7. Did NC-CCN's participation in this Medicare demonstration require staff training, recruitment, or external technical assistance?

8. What challenges has NC-CCN experienced in carrying out this Medicare demonstration?

9. What is NC-CCN's experience to date with Medicare data? How does this compare with experiences to date with Medicaid data?

10. Which performance measures has NC-CCNC implemented thus far for the Medicare demonstration? Which measures remain to be implemented?

11. What hinders NC-CCN's ability to carry out its role in the Medicare demonstration? Which of these issues are specific to the Medicare demonstration and which ones apply to NC-CCN or CCNC's operations in general?

12. How will we know that NC-CCN demonstration is successful?

Interview Guide for CCNC Informatics Center, Quality Improvement Center, Technical Assistance Staff, and Case Managers

1. First, we would like to ask about your role at CCNC. What is your title and area of responsibility?

2. What is the nature of your involvement with NC-CCN?

3. What is the role of CCNC's informatics center [quality improvement center]? What is the center's role with NC-CCN?

4. Please describe the informatics center [quality improvement center] operations.

5. Please describe how this center fits into CCNC's current organizational structure. How many and what types of employees does this center have? How many projects do you have?

6. How does this center fit into NC-CCN's organizational structure?

7. Please describe the data input, processing, and reporting systems at CCNC. How do these processes differ for NC-CCN? Do you anticipate making any changes in these processes in the future?

8. What challenges are you experiencing in developing data systems and report cards? How are you overcoming them?

9. How does CCNC provide data reports and other types of feedback to networks and physicians? Do you anticipate any changes in these processes for the MHCQ demonstration?

10. How do you monitor the quality of data? What processes do you use to receive feedback or corrections of the data? How are corrections processed?

11. What is the complete range of data sources for CCNC? In addition to getting Medicare data for the MHCQ demonstration, do you anticipate incorporating any additional data?

12. How does CCNC attribute patients to physicians and physician groups? How do these processes differ for NC-CCN?

13. How does CCNC identify and match physician data? Do you use the same processes for NC-CCN?

14. What are the strengths and weaknesses of CCNC's data collection, reporting, and tracking systems? How does CCNC conduct data quality assurance and enable updates and corrections?

15. Has CCNC had any issues with data security? If so, please share examples.

16. Are there plans for future development of data sources, data processing capabilities, reports, services, revenue sources, and community service areas?

17. In your opinion, could the CCNC model be replicated in other communities? What basic IT components would be necessary for implementation of such model in other communities/states?

Medicare Demonstration Questions

1. What is your understanding of NC-CCN's role in the Medicare Health Care Quality demonstration?

2. What is your involvement with this Medicare demonstration?

3. What changes did NC-CCN have to make to existing processes or information technology systems in order to participate in the Medicare demonstration?

4. How well do NC-CCN's patient attribution algorithms fit Medicare beneficiaries who are older, have more chronic conditions, and have more physicians? Are there any age limits for patients who are attributed?

5. Did NC-CCN's participation in this Medicare demonstration require staff training, recruitment, or external technical assistance?

6. What challenges has NC-CCN experienced in carrying out this Medicare demonstration?

7. What is NC-CCN's experience with Medicare data to date? How does this compare with CCNC's experiences with other data sources?

8. Are there any obstacles that hinder NC-CCN's ability to carry out its role in the Medicare demonstration? Which of these issues are specific to the Medicare demonstration and which ones apply to NC-CCN's operations in general?

Interview Guide for CCNC's Local Health Networks

General Questions

1. First, we would like to ask about your role at [NAME OF NETWORK]. What is your title and area of responsibility?

2. What is [NAME OF NETWORK]?

3. What are the goals of your network? Please describe the organizational structure of your network.

4. How do you work with CCNC? How do you work with NC-CCN?

5. When did you become involved with CCNC? What prompted you to collaborate with CCNC?

6. When did you become involved with NC-CCN? What prompted you to collaborate with NC-CCN?

7. How do you interact with other networks?

8. How do you interact with physician practices?

9. Who generates and provides the report cards? What information do report cards provide? (Probe on quality and efficiency measures; ask for de-identified example of a report card.)

10. How does your network use report cards?

11. What is your understanding of CCNC's data collection, data processing, and data reporting systems? In your opinion, what are the strengths and weaknesses of the CCNC data systems?

12. How do you provide feedback on incorrect data you find in report cards you receive? What do you do to ensure the accuracy of data?

13. What motivates you to participate in CCNC? What motivates you to participate in NC-CCN?

14. What changes in medical care practices have you observed in physicians or in physician groups that receive CCNC report cards?

15. What benefits has your network received thus far from its involvement with CCNC?

16. What benefits does CCNC provide to local communities?

17. What benefits has CCNC provided to patients and to health care providers in the North Carolina state?

18. In your opinion, could the CCNC model be replicated in other communities?

Medicare Demonstration Questions

1. What portion of your patients are Medicare and Medicaid beneficiaries?

2. How do you anticipate that your workload and/or administrative needs will change due to having additional beneficiaries for whom you will manage care?

3. What is your understanding of NC-CCN's role in the Medicare Health Care Quality demonstration?

4. What is your network's involvement with this Medicare demonstration? How does it differ from the nature of your involvement with CCNC?

5. In what ways have your network's processes been modified due to your participation in NC-CCN? In what ways do you anticipate they may be modified in the future?

6. What benefits does the Medicare demonstration project bring to your network?

7. What benefits does the Medicare demonstration project bring to Medicare patients?

8. How well do you think CCNC's patient attribution algorithms will fit Medicare beneficiaries who are older, have more chronic conditions, and more physicians?

Interview Guide for CCNC's Physician Practices

General Questions

1. First, we would like to ask about your role at [PRACTICE]. What is your title and area of responsibility?

2. What has been the nature of your practice's involvement with CCNC? When did you become involved with CCNC? How do you work with CCNC?

3. What has been the nature of your practice's involvement with NC-CCN? When did you become involved? How do you work with NC-CCN?

4. What prompted you to collaborate with CCNC? What prompted you to collaborate with NC-CCN?

5. How do you interact with the local network(s)?

6. How do you interact with other physician practices?

7. Who generates and provides the report cards? What information do report cards provide? (Probe on quality and efficiency measures; ask for de-identified example of a report card.)

8. How does your practice/network use report cards?

9. In what ways have your office practices or processes been modified due to your participation in CCNC? In what ways do you anticipate they may be modified in the future?

10. What is your understanding of CCNC's data collection, data processing, and data reporting systems? In your opinion, what are the strengths and weaknesses of the CCNC data systems?

11. How well do you think the CCNC attribution model captures the patients you serve?

12. How do you provide feedback on incorrect data you find in report cards you receive? What do you do to ensure the accuracy of data?

13. What changes has your practice receive thus far from your involvement with CCNC?

14. What practice changes do you anticipate from participation with NC-CCN?

15. What benefits has CCNC provided to patients and to health care providers in the North Carolina state? What benefits do you expect from NC-CCN?

16. What benefits does CCNC provide to local communities? What benefits do you expect from NC-CCN?

17. In your opinion, could the CCNC model be replicated in other communities?

Medicare Demonstration Questions

1. What portion of your patients are Medicare and Medicaid beneficiaries?

2. How do you anticipate that your workload and/or administrative needs will change due to having additional beneficiaries for whom you will manage care?

3. What is your understanding of NC-CCN's role in the Medicare Health Care Quality demonstration?

4. What is your practice's involvement with this Medicare demonstration?

5. What benefits does the Medicare demonstration project bring to your practice or group?

6. What benefits does the Medicare demonstration project bring to Medicare patients?

7. How well do you think CCNC's patient attribution algorithms will fit Medicare beneficiaries who are older, have more chronic conditions, and have more physicians?

APPENDIX B
SAMPLE QUARTERLY REPORT CARD

COMMUNITY CARE OF NORTH CAROLINA

IMPORTANT UPDATE

YourNetwork Profile

Community Care Peer Review Summary

Administrative Entity: AccessCare

Admin Number: 6701006

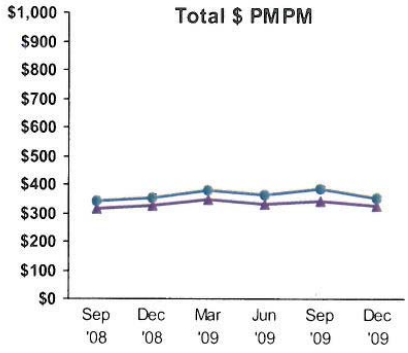
Managed Care Provider Type: Community Care of North Carolina

Time Period: Quarter ending Dec, 09

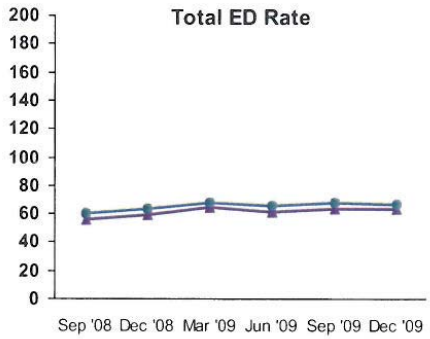
Avg. Monthly Enrollment: 217753

Eligibility 0 - 21: 179504

Eligibility > 21: 38249



	Sep '08	Dec '08	Mar '09	Jun '09	Sep '09	Dec '09
Network ($)	312	325	348	330	338	322
CCNC ($)	343	352	376	362	382	353



	Sep '08	Dec '08	Mar '09	Jun '09	Sep '09	Dec '09
Network Rate	56	59	64	61	63	63
CCNC Rate	60	63	68	66	68	67

Utilization	Network Qtr End 6/09		Network Qtr End 9/09		Network Qtr End 12/09		CCNC	
	Rate	PMPM	Rate	PMPM	Rate	PMPM	Rate	PMPM
PCP	329	$22	340	$23	393	$25	335	$22
Specialist	147	$20	148	$20	141	$18	160	$22
Hospital Inpatient	5	$25	5	$25	5	$25	6	$30
Hospital Outpatient	122	$34	121	$35	121	$32	127	$33
Pharmacy	915	$69	916	$68	981	$69	980	$70
ED Total	61	$19	63	$19	63	$19	67	$22
ED Non emergent	36	$9	37	$9	38	$9	41	$11
Labs	43	$2	44	$2	40	$2	54	$3
X-Rays	4	$2	4	$2	4	$1	3	$2
Out-patient Mental Health	209	$52	218	$53	210	$45	215	$55

Disease Management	Network Qtr End 6/09	Network Qtr End 9/09	Network Qtr End 12/09	CCNC
Asthma				
Case Count	9697	9309	9619	39317
Case Rate	4.30%	4.35%	4.39%	4.03%
ED Asthma Visits (rate per 1000 MM)	8.39	10.74	11.99	15.39
IP Asthma Visits (rate per 1000 MM)	1.79	1.93	3.08	3.47
Diabetes				
Case Count	4629	4706	4707	27080
Case Rate	2.06%	2.20%	2.15%	2.77%
Eye Exam (15 mo reviewed)	54.01%	53.40%	54.81%	55.83%

Questions? Need additional information? Call (919) 715-1453.

1

COMMUNITY CARE OF NORTH CAROLINA

IMPORTANT UPDATE

YourPractice Profile

ACCESS II & III

Community Care Peer Review Summary

Name: [redacted]

Managed Care Provider Type: Community Care of North Carolina

Administrative Entity: AccessCare

PCP Number: [redacted]

Address1:

Address2:

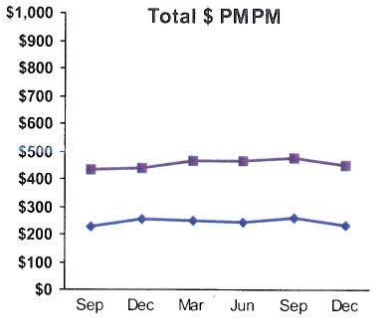
Time Period: Quarter ending Dec, 09

Peer Group: GP/FAMILY PRACTICE

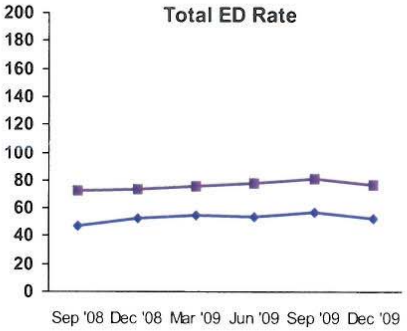
Avg. Monthly Enrollment: 4889

Eligibility 0 - 21: 4319

Eligibility > 21: 570



	Sep '08	Dec '08	Mar '09	Jun '09	Sep '09	Dec '09
PCP ($)	227	252	249	243	258	231
Peer Group ($)	430	438	467	463	476	449



	Sep '08	Dec '08	Mar '09	Jun '09	Sep '09	Dec '09
PCP Rate	47	52	55	54	57	53
Peer Group	72	73	75	78	81	77

Utilization	PCP Qtr End 6/09		PCP Qtr End 9/09		PCP Qtr End 12/09		Peer	
	Rate	PMPM	Rate	PMPM	Rate	PMPM	Rate	PMPM
PCP	238	$14	466	$28	470	$27	280	$18
Specialist	237	$21	84	$16	78	$13	202	$29
Hospital Inpatient	3	$15	3	$24	3	$15	7	$40
Hospital Outpatient	61	$22	58	$24	57	$21	135	$42
Pharmacy	642	$43	636	$42	660	$42	1404	$99
ED Total	54	$14	57	$15	53	$13	77	$29
ED Non emergent	32	$6	34	$8	32	$6	46	$13
Labs	38	$2	43	$2	40	$2	75	$4
X-Rays	1	$1	1	$1	1	$1	3	$3
Out-patient Mental Health	102	$29	106	$28	95	$26	254	$59

Disease Management	PCP Qtr End 6/09	PCP Qtr End 9/09	PCP Qtr End 12/09	Peer
Asthma				
Case Count	166	165	184	-
Case Rate	3.61%	3.44%	3.73%	-
ED Asthma Visits	5	6	9	N/A
IP Asthma Visits	1	0	1	N/A
Diabetes				
Case Count	67	65	67	-
Case Rate	1.46%	1.36%	1.36%	-
Eye Exam (15 mo reviewed)	64.18%	73.85%	76.12%	56.17%

Questions? Need additional information? Call (919) 715-1453.

APPENDIX C
PERFORMANCE MEASURES

NC-CCN, Inc., Performance Measures for 646

Year 1

Description	Quality Measures - Numerators	Eligible Population – Denominators	Data Collections
Diabetes Care	1. One hemoglobin A1c measurements in 1 year (NCQA, NQF, AQA) 2. Lipid profile done in measurement year (LDL-C) (NCQA DPRP) 3. Documented retinal or dilated eye exam by an eye care professional (NCQA DPRP) 4. Nephropathy screening or evidence of nephropathy management (NCQA HEDIS, NCQA DPRP)	• Dually eligible • 18 years of age or older for # 1, 2, 3, 4 • Diagnosis of diabetes based on: ICD-9 or DRG codes for outpatient, non acute inpatient, acute inpatient or ED visits (specific CPT or revenue codes); pharmacy data indicating prescription for insulin or oral hypoglycemics/antihyperglycemics	• Claims data
Heart Health - Congestive Heart Failure (CHF)	1. Patients with left ventricular function assessment in claims history (NCQA, ACC/AHA, PCPI)	• Dually eligible • 18 years of age or older • Diagnosis of CHF based on: ICD-9 or DRG codes for outpatient, nonacute inpatient, acute inpatient, or ED visits (specific CPT or revenue codes); subsets of patients for measures applicable to patients with EF < 40%.	• Claims data
Diabetes & Hypertension	1. Percentage of patients with a diabetes and hypertension diagnosis having a prescription filled for an ACEI or ARB in the previous year (NCQA HEDIS, NQF)	• Dually eligible • 18 years of age and older • Diagnosis of diabetes and hypertension based on ICD-9 or DRG codes for outpatient, nonacute inpatient, acute inpatient or ED visits (specific CPT or revenue codes)	• Claims data
Post Myocardial Infarction (MI)	1. Patients with a filled prescription for beta blockers (ACC/AHA/PCPI, CMS PQRI, NCQA HEDIS)	• Dually eligible • All ages • Diagnosis of coronary artery disease with prior MI. ICD-9 or DRG codes for outpatient, nonacute inpatient, acute inpatient, or ED visits (specific CPT or revenue codes); pharmacy data	• Claims data

Description	Quality Measures - Numerators	Eligible Population – Denominators	Data Collections
Transitional Care	1. Potentially preventable readmission rate (30-day readmissions)	• Dually eligible • All ages • Preventable readmissions as a percent of total admissions, excluding: same-day transfers, long-term care admissions, rehabilitation, state mental hospital, hospice admissions, and observation stays are not considered hospital admissions.	• Claims data

NOTES: NCQA = National Committee for Quality Assurance; NQF = National Quality Forum; AQA = Ambulatory Quality Alliance; LDL-C = low-density lipoprotein cholesterol; DPRP = Diabetes Physician Recognition Program; HEDIS = Healthcare Effectiveness Data and Information Set; ICD-9 = International Classification of Diseases, 9th revision; DRG = diagnosis-related group; ED = emergency department; CPT = Current Procedural Terminology; ACC/AHA = American College of Cardiology/American Heart Association; PCPI = Physician Consortium For Performance Improvement; EF = ejection fracture; ACEI = angiotensin converting enzyme inhibitors; ARB = angiotensin receptor blockers; CMS = Centers for Medicare & Medicaid Services; PQRI = Physician Quality Reporting Initiative.

Year 2

Description	Quality Measures - Numerators	Eligible Population – Denominators	Data Collections
Diabetes Care	1. 1 hemoglobin A1c measurements in one year (NCQA, NQF, AQA) 2. Lipid profile done in measurement year (LDL-C) (NCQA DPRP) 3. Documented retinal or dilated eye exam by an eye care professional (NCQA DPRP) 4. Nephropathy screening or evidence of nephropathy management (NCQA HEDIS, NCQA DPRP) 5. Foot exam (NCQA HEDIS, NCQA DPRP) 6. Smoking status and cessation advice and/or treatment (NCQA HEDIS, NCQA DPRP)	• Dually eligible • 18 years of age or older for # 1, 2, 3, 4; All ages for #5 and #6. • Diagnosis of diabetes based on: ICD-9 or DRG codes for outpatient, non acute inpatient, acute inpatient or ED visits (specific CPT or revenue codes); pharmacy data indicating prescription for insulin or oral hypoglycemics/antihyperglycemics	• Claims data (1,2,3,4) • Chart review (5,6)
Heart Health - Congestive Heart Failure (CHF)	1. Patients with left ventricular function assessment in claims history (NCQA, ACC/AHA,PCPI) 2. ACEI/ARB therapy (percentage of patients with EF < 40%, prescribed ACEI or ARB therapy) (ACC/AHA/PCPI, CMS PQRI) 3. Beta blocker therapy (% of patients with EF < 40% prescribed a beta blocker) (ACC/AHA/PCPI, CMS PQRI) 4. BP control (<140/90) (NCQA HEDIS, PQRI)	• Dually eligible • 18 years of age or older for # 1, 2 and 3; 18 – 85 years of age for # 4 (NCQA HEDIS BP control in general HTN is 18 -85; CMS PQRI has ages 18-75 for BP control in patients with diabetes) • Diagnosis of CHF based on: ICD-9 or DRG codes for outpatient, nonacute inpatient, acute inpatient, or ED visits (specific CPT or revenue codes); subsets of patients for measures applicable to patients with EF < 40%.	• Claims data (1) • Chart reviews (2,3,4)
Ischemic Vascular Disease (IVD)	1. Lipid measurement (lipid panel or LDL within past year) (NCQA HSRP, NCQA HEDIS, ACC/AHA/PCPI) 2. BP control (<140/90) (NCQA HSRP) 3. Aspirin use (NCQA HSRP, ACC/AHA/PCPI) 4. Smoking status and cessation advice and/or treatment	• Dually eligible • 18 years of age or older for #1 and 3; 18–85 years of age for # 2 (NCQA HEDIS 18-85; CMS PQRI 18 – 75); All ages for #4 • Diagnosis of IVD based on ICD-9 or DRG codes for outpatient, nonacute inpatient, acute inpatient, or ED visits (specific CPT or revenue codes)	• Chart reviews (1,2,3,4)
Hypertension	1. BP control (<140/90) (NCQA HSRP; NCQA HEDIS)	• Dually eligible • 18-85 years of age (NCQA HEDIS) • Diagnosis of hypertension based on ICD-9 or DRG codes for outpatient, nonacute inpatient, acute inpatient or ED visits (specific CPT or revenue codes)	• Chart reviews (1)

Description	Quality Measures - Numerators	Eligible Population – Denominators	Data Collections
Diabetes & Hypertension	2. Percentage of patients with a diabetes and hypertension diagnosis having a prescription filled for an ACEI or ARB in the previous year (NCQA HEDIS, NQF)	• Dually eligible • 18 years of age and older • Diagnosis of diabetes and hypertension based on ICD-9 or DRG codes for outpatient, nonacute inpatient, acute inpatient or ED visits (specific CPT or revenue codes)	• Claims data (1)
Post Myocardial Infarction (MI)	2. Patients with a filled prescription for beta blockers (ACC/AHA/PCPI, CMS PQRI, NCQA HEDIS)	• Dually eligible • All ages • Diagnosis of coronary artery disease with prior MI. ICD-9 or DRG codes for outpatient, nonacute inpatient, acute inpatient, or ED visits (specific CPT or revenue codes); pharmacy data	• Claims data (1)
Transitional Care	2. Potentially preventable readmission rate (30-day readmissions)	• Dually eligible • All ages • Preventable readmissions as a percent of total admissions, excluding: same-day transfers, long-term care admissions, rehabilitation, state mental hospital, hospice admissions, and observation stays are not considered hospital admissions.	• Claims data (1)
Chronic Obstructive Pulmonary Disease (COPD)	2. Smoking cessations counseling documented (GOLD guidelines)	• Dually eligible • All ages • Diagnosis of COPD based on: ICD-9 or DRG codes for outpatient, non acute inpatient, acute inpatient or ED visits (specific CPT or revenue codes)	• Chart reviews (1)
Patient Safety	5. Medication reconciliation performed after hospital discharge	• All ages	• Chart review (1) as documented in CMIS

NOTES: NCQA = National Committee for Quality Assurance; NQF = National Quality Forum; AQA = Ambulatory Quality Alliance; LDL-C = low-density lipoprotein cholesterol; DPRP = Diabetes Physician Recognition Program; HEDIS = Healthcare Effectiveness Data and Information Set; ICD-9 = International Classification of Diseases, 9th revision; DRG = diagnosis-related group; ED = emergency department; CPT = Current Procedural Terminology; ACC/AHA = American College of Cardiology/American Heart Association; PCPI = Physician Consortium For Performance Improvement; ACEI = angiotensin converting enzyme inhibitors; ARB = angiotensin receptor blockers; EF = ejection fracture; BP = blood pressure; BP = blood pressure; HSRP = Heart/Stroke Recognition Program; CMS = Centers for Medicare & Medicaid Services; PQRI = Physician Quality Reporting Initiative; GOLD = Global Initiative for Chronic Obstructive Lung Disease.