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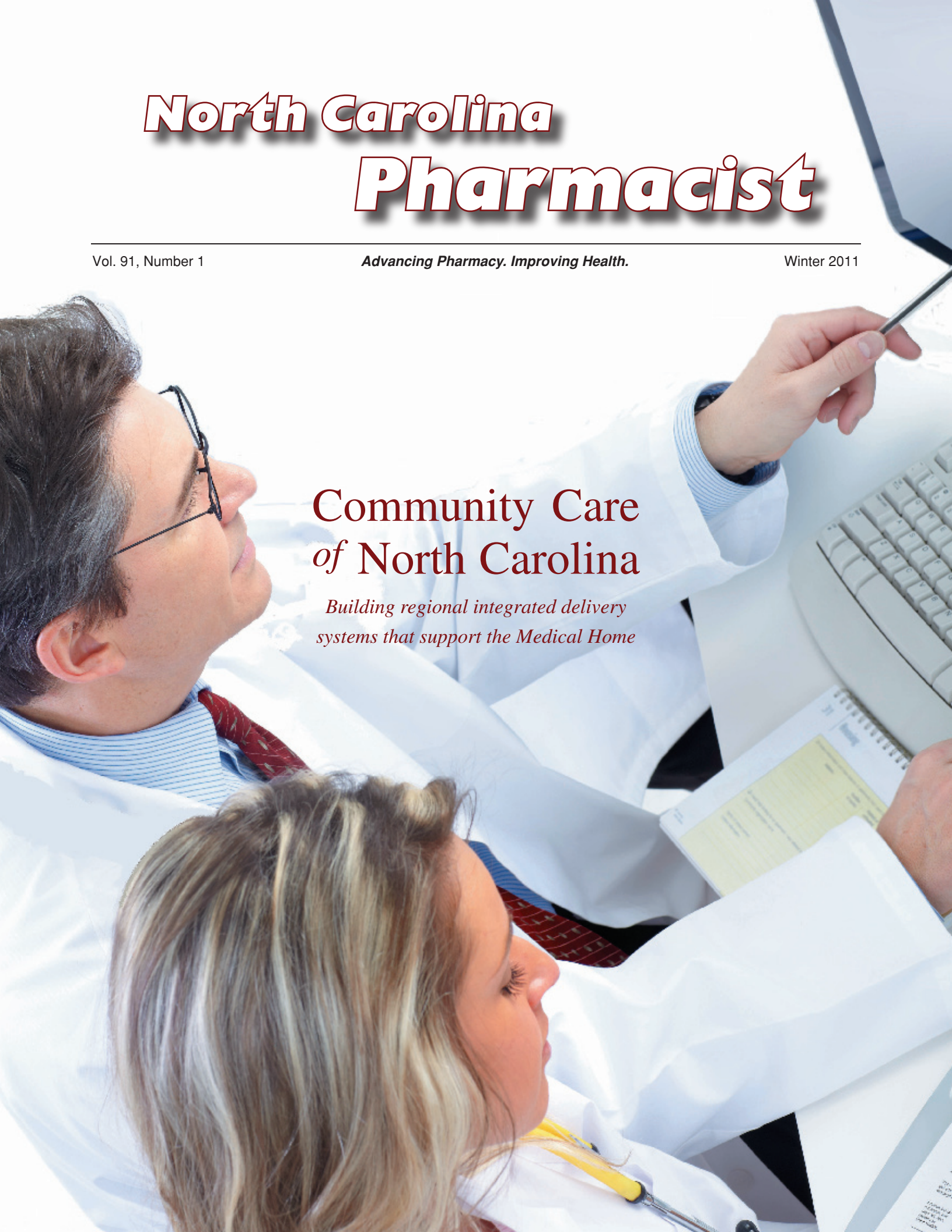

Community Care *of* North Carolina

Building regional integrated delivery systems that support the Medical Home

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The Pharmacist as a Medical Home Co-Enzyme

By Troy Trygstad PharmD, MBA, PhD
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Community Care of North Carolina (CCNC) is the shared services umbrella organization for 14 constituent CCNC Networks, each having its own member physician practices. CCNC's networks currently contract with over 1,300 practices to create a hybrid fee-for-service and per member per month (PMPM) model of reimbursement in exchange for provider participation in building Patient-Centered Medical Homes (PCMH). The net result is a balance in resource allocation between the clear and present need for traditional encounter-based care delivery and the strong desire of payors and patients alike for longitudinally-oriented, population-based care delivery focused on chronic conditions that are ultimately responsible for up to three-quarters of the total health care dollar. PMPM funding is shared between the regional Networks that provide wraparound support for its member practices and the practices themselves with the goal of creating a community-based integrated care delivery model.

Much has been made of PCMH within health policy circles of late, garnering high praise, promise and skepticism during the Health Reform discussion of 2009. And much like Medication Therapy Management, it has been subjected to many meanings by many stakeholders. At its core though, it is meant to convey the notion and need for a "general contractor" to coordinate one's healthcare, a need highlighted in stark relief by an excerpt from testimony given to Congress in 2007:

> *"Medicare beneficiaries with multiple chronic illnesses see an average of 13 different physicians, fill 50 different prescriptions per year, account for 76 percent of all hospital admissions, and are 100 times more likely to have a preventable hospitalization than those with no chronic conditions."* [1]

Medical Home's roots run deep in North Carolina, a state that has had a strong tradition of supporting, cultivating and advancing primary care, both in education and in practice. Excerpts from a 2004 review in the AAP's journal Pediatrics[2] reveals a remarkable level of forward thinking from the PCMH community over a quarter of a century ago:

American Academy of Pediatrics (1967)[3]

Standards of Child Health Care written by the AAP Council on Pediatric Practice by the AAP in 1967 emphasizes the importance of centralized medical records for children with chronic diseases or disabling conditions, stating that a, "lack of a complete record and a 'medical home' is a major deterrent to adequate health supervision."

North Carolina "Health Home" (1978)

"(The Health Home should provide) ….1) commitment to the individual, 2) primary services, 3) full-time accessibility, 4) service continuity, 5) comprehensive record-keeping, 6) competent medical management, and 7) cost-effective care."

In this century, PCMH has been further refined to reflect the economic reality of providing this level care and the need for an inter-professional team, led by physicians:

Joint Principles of the Patient-Centered Medical Home[4] **(February 2007)**
American Academy of Family Physicians (AAFP)
American Academy of Pediatrics (AAP)
American College of Physicians (ACP)
American Osteopathic Association (AOA)

- Personal physician
- Physician directed medical practice
- Whole person orientation
- Care is coordinated/integrated across all elements of system
- Quality and safety
- Enhanced access
- Payment (among other highlighted sub-bullets)
  - Payment appropriately recognizes the

added value
- Reflects the value of physician and non-physician staff patient-centered care management
- Should pay for services associated with coordination of care

Upon review of these principles and colored by my own eight year experience with CCNC, I see a striking similarity between primary care's efforts to evolve towards the PCMH model and the Pharmaceutical Care movement within our own profession. Both efforts have great promise to transform the current system of care and align with each other well, but are similarly challenged by "the status quo" and the "tyranny of now."

Yet "business as usual" is no longer an option. Focusing again on Medicare, consider that nearly one in five hospitalized Medicare beneficiaries will be re-hospitalized within 30 days, and greater than one in three within 90 days.[5] Additionally, one-half of those re-hospitalized within 30 days never had an outpatient visit for follow-up prior to the re-hospitalization.[4] Historically, Medicare has been a reliable barometer and harbinger of what is to come. It is entirely rational to conclude that as goes Medicare over the next two decades, so goes the entire health care system, leading to the most important statistic of them all:

Medicare has $34 trillion dollars in unfunded future obligations as of 2008.

Stated another way, Medicare needs to find either 1) 34 trillion in new tax revenue or 2) 34 trillion in cost-savings; with the latter coming ultimately from one of three sources; lower payments to providers, reduced benefits, or savings related to healthier recipients needing less services. Focusing on the latter, a more effective and efficient care delivery seems to be the only universally palatable choice and is thus the focus of much effort in modern health care reform. As a result, we will likely see much greater emphasis on "value" in the near future, a metric that balances both cost and benefits of a service, procedure or program. And though there are varying degrees of confidence that a quality-driven concept such as PCMH can provide the type of cost savings to fill the budget gap, there is growing evidence that it can have quite a positive effect on quality of care and patient outcomes, while simultaneously reducing costs.[7]

Coming full circle, CCNC and its efforts to facilitate multi-professional, multi-setting PCMH activities are meant to generate both cost and quality gains. There is great opportunity within the CCNC and the larger PCMH movement for pharmacists to play an active role as Medical Home "co-enzymes," greatly augmenting and enhancing the efficiency and effectiveness of the physician-led PCMH team.

The topics chosen for this issue of *North Carolina Pharmacist* are meant to illustrate the diversity of activity and opportunity to engage PCMH as a "co-enzyme," partnering with and working hand-in-hand with other Medical Home Extenders such as physicians' assistants, nurses, social workers and others with the goal of achieving "well care" at the expense of "sick care."

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The CCNC Clinical Pharmacist Partner Program: Early Experiences and Lessons Learned

By Tamika Robinson, PharmD, CCNC Network Pharmacist, Southern Piedmont Community Care Plan

Co-authored by Katina J. Rice, PharmD, Network Clinical Pharmacist, Partnership For Health Management

Community Care of North Carolina (CCNC), a Medicaid care management program, builds community health networks organized and operated by community physicians, hospitals, health departments, and departments of social services.

CCNC is comprised of 14 local networks with more than 3,000 physicians working with other community providers to better manage the 800,000 Medicaid and North Carolina Health Choice enrollees. These regional networks are established in an effort to achieve long-term quality, cost, access and utilization objectives in the management of care for Medicaid recipients.

Community Care of North Carolina implemented new pharmacy initiatives in 2007 to improve the management of patients taking multiple medications. This included the addition of at least one pharmacist to each local network. The primary responsibilities of the pharmacists included, but were not limited to: education, coordination, roll-out, and oversight of all the pharmacy benefits programs within the network.

In the spring of 2010, clinical pharmacists were added to provide extensive medication management services through collaborating in a multi-disciplinary approach to patient care.

Southern Piedmont Community Care Plan

Southern Piedmont Community Care Plan (SPCCP), A Beacon Community, was designed in collaboration with healthcare partners and community services to provide increased access to healthcare services for 45,000 Medicaid recipients in Cabarrus, Rowan, and Stanly counties.

SPCCP staffs a full-time network and clinical pharmacist, and has collaborated with our Network Health System Partners to contract their pharmacists. These pharmacists manage a highly complex patient population and focus on supporting our goals and measures to improve healthcare outcomes. The pharmacy-related activities include reviewing medication reconciliations completed by care managers and performing comprehensive reviews with a

goal of reducing preventable hospital readmissions and ED visits. Information is then communicated with the patient's PCP in an effort to improve the quality of care by providing cost-conscious, evidence-based recommendations.

To date, SPCCP has four contracted pharmacists dispersed throughout the three counties. The pharmacists' salaries are reimbursed based upon medication management services, which include patient education regarding safe and rational use of drugs, drug-drug interaction monitoring, cost efficacy management, and therapeutic optimization, just to name a few. This model was selected due to the pharmacists having established relationships with the providers in an effort to provide a sustainable patient management system.

Early Experiences and Lessons Learned:

- Contracting with pharmacists already established in clinics allows for a collaborative approach to patient management, since the pharmacist-provider relationship is already established.
- The ability to have access to the patient's record to make a more informed decision regarding patient care via EMR systems.
- The convenience of being on-sight and available for medication consults.
- Helping to facilitate the goals and measures set forth by Community Care of North Carolina.
- The autonomy of being able to tailor medication management services to fit each individual clinic that is unique with its own identity.
- Having multiple pharmacists allow for constant flow of innovative and creative strategies to improve overall quality of care.

Partnership for Health Management (P4)

Partnership for Health Management (P4) is the local CCNC Network for Guilford, Rockingham, and Randolph counties. P4 has an enrollment of about 63,000 patients and 43 medical practices. In July of 2007, P4 added one full-time Network Pharmacist who performed a variety of administrative and clinical tasks. As the clinical needs of the network increased, a part-time (15 hour per week) clinical pharmacist was added. Currently, the Network Pharmacist spends about 40% of her time completing clinical tasks and the part-time clinical pharmacist spends about 95% of her time completing clinical tasks.

The Network Pharmacist is an employee of the network and is based within the P4 "network office." The part-time clinical pharmacist is contracted from the local AHEC (Area Health Education Center) and completes her network tasks at the AHEC office. Communication with the part-time clinical pharmacist by network staff and care managers is usually done virtually. She has EMR (electronic medical record) access at the largest Medical Center and its associated practices within the network as well as access to the software that network care managers use.

The main focus of the clinical pharmacist's activities is medication management. Medication management includes reviewing medication reconciliations completed by the Transitional Care Nurses who see hospitalized patients, and completing in-depth medication reviews. Any clinically pertinent findings from medication management are communicated with the provider most commonly by fax or by telephone on all urgent matters.

The addition of the part-time clinical pharmacist has proven to be a positive experience for P4. Prior to adding the additional clinical staff, the Network Pharmacist was responsible for both clinical and administrative activities. With the change in the economy, the pharmacy administrative duties increased. Having another pharmacist to attend to medication management helped things run smoothly.

Early experiences and lessons learned:

- Virtual access to medical records is vital.
- The new clinical staff should attend the medical management meetings to meet the key network players (at least when they are first hired).
- The clinical pharmacist should be knowledgeable about some of the administrative pharmacy initiatives just in case they have to step in for the Network Pharmacist or if they are asked a question by a physician.
- The Network Pharmacist should be the "manager" of the pharmacy services for his/her network and have the clinical staff report to him/her.

Healthcare is constantly changing, thus forcing many states to clamp down on costs. To date, Medications are the highest expenditure for NC Medicaid and represent an important role in reducing preventable readmissions and ED visits. A multidisciplinary approach to health management that involves various disciplines across the healthcare continuum optimizes the quality of patient care. Having clinical and administrative pharmacists on staff is like having the best of both worlds. Allowing the administrative pharmacist to "manage" the pharmaceutical care taking place in their network yields a more streamlined approach to setting policies and circulating information. As the benefits of the pharmacist-physician relationships become more apparent, there will likely be an increase in this type of healthcare management model.

The Pharmacist-Care Manager Team: One Plus One Equals Three

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There are symbiotic advantages to having a team of individuals with varied skill sets and backgrounds working in a well-organized way to improve health outcomes related to medication taking. CCNC has employed this ideal in creating a medication reconciliation and review process to do just that. Our goal was to design a medication management program infrastructure that complements the roles and locations of nurse care managers and pharmacists. Each CCNC network includes clinical staff consisting of nurse care managers, social work care managers, a medical director, and pharmacists. They collaborate with primary care providers (PCPs) affiliated with the network as part of a patient-centered medical home.

Medication management activities are

performed by nurse care managers and pharmacists for both transitional care and chronic care patients. Transitional care medication management focuses namely on the identification of discrepancies through medication reconciliation after discharge from an acute care facility. Patients are identified or referred for chronic care medication management by: 1) their care manager, 2) their primary care provider, or 3) a pharmacist directly embedded in the PCP's practice. Regardless of the setting, the high volume of patients who require review of medication therapy makes the partnership of nurse care managers and pharmacists a key component to effectively managing as much of the population as possible.

Nurse care managers have an established relationship with the patient that provides an optimal opportunity to gather the patient-reported list of medications. Nurse care managers use pharmacy claims data or pharmacy fill history reports as a resource when they visit the patient's home or do a telephonic interview about the patient's current medication therapy. They compare the list of medications that the patient reports taking against other available medication lists, identifying discrepancies that either need to urgently be reported to the PCP or relayed to the pharmacist as part of a comprehensive medication review.

The pharmacist uses clinical information (including medication lists) obtained from the nurse care manager, primary care provider, and hospital history and physical or discharge summary to conduct a comprehensive medication review and perform medication reconciliation. For example, a comprehensive medication review includes activities such as evaluating efficacy of therapy, scanning for drug-drug or drug-disease interactions, evaluating potential adverse drug reactions, reviewing the patient's medication regimen against existing practice guidelines and medical literature, and looking for opportunities to maximize cost-effective therapies and use of generic medications. Except for settings where the pharmacist is embedded directly within a physician practice or a hospital, patient interaction is mostly limited to telephonic communication in order to clarify or obtain more information about medication discrepancies or deliver patient education related to specific medications.

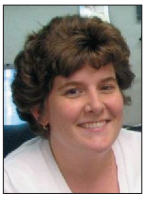
Because the nurse care managers are greater in number and spread out geographically across the network, they often have the best relationships with provider practices and thus are the primary means of communicating pharmacist recommendations to the primary care provider. They may also conduct relevant follow up with provider practices if a response to the pharmacist's recommendations is not received. The established relationship that nurse care managers have with practices allows them to best understand each practice's preferred means of communication.

The role that each member of the team plays may vary slightly within each network. Some medication management encounters are conducted solely by the nurse care manager or the pharmacist. A pharmacist comprehensive medication review is reserved for those patients who are relatively more complex, so some medication management activities (such as medication reconciliation) may be completed in entirety by the nurse care manager. Alternatively, there are some settings where a pharmacist is embedded within a provider practice, and medication reviews are conducted in conjunction with practice visits for patients who are not receiving case management.

In order for this type of medication management program to function well, there are several key components to the program's infrastructure that should be mentioned. First, all staff have received training about the process and, in some networks, have also completed competency exams. Second, each network has created specific tools to aid in gathering the medication lists and conducting reconciliation. Third, templates have been established for both nurse care managers and pharmacists to communicate relevant medication management findings back to the provider. It is critical to note that the tools, roles, and responsibilities mentioned have been designed around the scope of practice and training level of the staff.

In short, there are so many patients who could benefit from medication management services that both nurses and pharmacists need to function at the top of their license and do the things best suited to their education and training. It is quite advantageous to have diverse skill sets tackling complex medication regimens and the challenging drug therapy problems that come along with them.

From Soup to Nuts: The CCNC Model of Transitional Care



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As pharmacists, we are all aware of the many medication "issues" patients may experience in the community; everything from suboptimal adherence, side effects, interactions with other medications, OTC, or herbal supplements, cost barriers, etc. When patients move from one care setting to another, the chance for medication "issues" greatly increases.

Patient transitions across settings of care are a major cause of medication errors and Adverse Drug Events (ADEs). An important component of these transitions is the accurate and complete transfer of a patient's medication information.[1]

Transitional care has been defined as a set of actions designed to ensure the coordination and continuity of health care as patients transfer between different locations and different levels of care.[2] In 2009, CCNC implemented a model to assist with such transitions by embedding a transitional care pharmacist (TCP) into acute care settings. Although the care setting (large teaching hospital vs. small community hospital) and daily functions of the individual pharmacists vary, the role of the TCP is consistent throughout CCNC. The TCP serves as a "bridge" for the patient's medication regimen when transitioning from home to an inpatient setting and back to home. This "bridge" is customized for each patient and is built

on interdisciplinary relationships with both community and inpatient health care professionals. This medication "bridging" ideally leads to improved continuity of care and improved patient outcomes.

The best way to demonstrate the role of the CCNC TCP is to follow an actual CCNC patient case to demonstrate the continuity of care from admission, through inpatient stay, at discharge, to home and back to the primary care provider (PCP):

JD is a 43-year-old AAM admitted on 9/8/10 for substernal chest pain. His past medical history was significant for dyslipidemia, HTN, 'borderline' DM, questionable MI w/normal cath in 2003, depression, hypogonadism, and mild renal insufficiency (stable). He has no known drug allergies. His home medication list upon admission included the following:

1. Androgel 1% pump UD (last filled 7/2/10-*all last fill dates were obtained through Medicaid claims data updated through 8/21/10*)
2. Amlodipine 5mg 1 po daily (last filled 8/2/10)
3. Meformin 500mg 1 po daily (last filled 4/24/10)
4. Lisinopril 30mg 1 po daily (last filled 8/2/10)
5. Niaspan ER 750mg 1 po daily (last refills 7/2, 4/7, 2/6/10)
6. Crestor 10mg 1 po daily (last filled 4/7/10)

The TCP, reviewed JD's refill history, and conducted an inpatient interview, identifying several drug-related problems:

- JD was not taking his metformin due to GI side effects.
- JD was not taking his Niaspan ER as often as prescribed due to flushing.
- JD was not taking his Crestor due to muscle pains and weakness.

In an effort to resolve the medication related problems, the TCP provided the patient, hospitalist, and nursing staff with the following recommendations:

- JD was educated to take metformin after a meal to reduce GI side effects and was instructed to follow-up with his PCP if the side effects persisted.
- JD was educated on proper timing of his Niaspan and premedication with aspirin to reduce flushing. He was also provided with a low literacy Meducation® handout with pictograms to supplement the verbal education.
- JD was congratulated on his compliance with amlodipine and lisinopril.
- The hospitalist was contacted, by the TCP, and agreed to change Crestor to pravastatin 40mg daily in an effort to decrease JD's muscle aches and reduce the cost of therapy.
- The TCP requested JD's inpatient floor nurse reinforce medication education at discharge.

JD was discharged home on 9/10/10 after ruling-out for acute MI.

Soon after discharge, the TCP pharmacist and a CCNC RN Care Manager met with JD and his wife in his home to reconcile his home medications with the hospital discharge summary. The following issues were discovered during this process:

- JD was taking a number of OTC supplements, not previously identified in his medication lists, including fish oil, Green Tea Fat Burner and Whey Protein Anabolic Steroid.
- The most recent serum creatinine values obtained by the TCP from the PCPs office were 1.6 and 1.7mg/dl. He was still taking metformin.

In light of these new findings discovered after discharge, the following discussions took place between the TCP, PCP, the patient, and the care manager:

- The TCP cautioned JD regarding the creatine component from the Whey Protein supplement, noting that renal insufficiency was listed in the PMH.
- The TCP cautioned JD about multiple ingredients in the green tea product that may cause chest pain, tachycardia, palpitations, and increased blood pressure.
- The TCP and care manager informed the PCP of pertinent information from the hospital and home visits.
- The TCP alerted the PCP to JD's use of metformin and his recent creatinine values, as metformin use is contraindicated with SCr ≥ 1.5 in men. The PCP reported that he would have his office staff contact the patient to discontinue metformin and would reevaluate JD's blood sugars.
- The TCP informed the PCP of the use of the Whey Protein supplement and the green tea product; the PCP reported that he would reiterate the need to discontinue use of both, during the upcoming PCP office visit.

Due to the efforts of the TCP and other members of the healthcare team working together during the hospital to home "hand-off," it may be possible to prevent future admissions for cardiac complaints, assuming that JD's were secondary to OTC stimulant use. If he experiences fewer side effects from niacin and pravastatin, JD may have improved medication adherence and will be more likely to reach targeted cholesterol goals. Coaching JD regarding blood pressure control, reinforcing compliance with an ACE inhibitor, and limiting the use of OTC products with creatine may slow the progression of his chronic kidney disease. Discontinuation of metformin and close monitoring of JD's blood sugars may prevent complications of diabetes and adverse drug events such as metabolic acidosis.

This case demonstrates the level of complexity in truly 'bridging' a patient's medication use from home to an inpatient setting and back home again. Although CCNC transitional care pharmacists are primarily based in acute care settings, the TCP functions are actually community activities that coordinate patient care from admission to home and to the first outpatient visit. Transitional care pharmacist models will vary among care settings and geographical regions, as they should be developed to optimally meet the medication management needs of a particular community and the patient population it serves and should incorporate the use of existing resources in the area. The TCP model is not intended to replace a hospital's existing medication reconciliation process, but functions to enhance its current system and carry the process forward into the community.

From a recent article in *JAMA*, Darren DeWalt, MD referred to the hand-off of responsibility from the health care system to the patient as similar to the dismount in gymnastics. "Relatively few resources are spent on the transfer of care to the patient. . . all that work is meaningless without the dismount which . . . requires enabling the patient to understand and act in ways that maximize health outcomes. . . the most elegant and efficient medical therapies will fail if patients or caregivers cannot adequately and accurately administer the therapy. . . "[3] Expanding DeWalt's analogy by considering all transitions in care as a "dismount" then it is apparent that more focus should be placed on these transitions. The CCNC transitional care pharmacist model is striving to build better medication "bridges" and improve medication "dismounts" to improve continuity of care for our patients.

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Making Sure Patients Don't Fall Through the Healthcare Cracks

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Recognizing that patients often fall through the cracks of unfortunate silos in our healthcare system, our network of practice and hospital-embedded care managers and pharmacists frequently act as the bridge of coordination and communication between patients and health care providers. Perhaps this is best epitomized by the challenge of ensuring safe and appropriate medication use by patients. Medication errors occur 46% of the time during transitions: admission, transfer or discharge from a hospital.[1] Because these errors happen at multiple transition points, a multi-step medication reconciliation process is necessary to ensure all discrepancies are addressed. The following examples illustrate how this type of reconciliation process is beneficial for coordinated patient care.

Recently a patient was admitted for a heart failure exacerbation. Upon admission she diuresed almost two liters of fluid with administration of furosemide 100mg. Prescription claims revealed that furosemide had been filled over three months prior for only a thirty-day supply. When I visited her in the hospital the morning after admission, she reported feeling better and breathing much easier. When asked about furosemide, she conveyed that since no refills remained she thought her prescription was complete and she no longer required furosemide. Education on heart failure, including the importance of a maintenance diuretic regimen, was provided as well as follow-up with her primary care provider to ensure her discharge diuretic regimen was updated in her chart and prescriptions were available.

In reviewing another patient's list of fifteen monthly maintenance medications following a hospitalization for chest pain, I noticed that his hypertensive med regimen had changed three times in a three week span, first from his hospitalization and then through follow-up with his nephrologist and cardiologist, both unaware of the other specialist's recommendation. His primary care provider requested that I reconcile his medications, which resulted in a week-long investigation of his medication "story" and multiple phone calls to his specialists for coordination and agreement on his current regimen. Finally, in perhaps the most important step, I sat down with the patient at his follow-up primary care appointment to discuss with him the confusion, his included, surrounding his regimen and provide education. And afterwards, not withstanding a small feeling of victory, I reported back to his primary care physician that all meds had been reconciled and updated in the EMR.

Whether the medication story is a five or five thousand piece puzzle, patient information and specialist involvement must be connected to result in optimal patient outcomes. One patient may receive instruction from multiple health care providers. This, compounded with the patient's own lack of understanding regarding their med regimen, increases the risk for discrepancies and other adverse events.

Within our own community this year, our network was able to collaborate with a local Federally Qualified Health Center (FQHC) to provide care management and nursing support while addressing our goals of better coordinated care and reduced hospital readmission rates. Our own nurse care managers staff a post-hospital discharge clinic within the FQHC to address medication reconciliation and follow-up needs within two weeks of discharge and often much sooner. This ensures linkage with a primary care provider as well as identification of any needs, such as home health or lab monitoring, that have not been addressed, which could increase the risk of hospital readmission. In addition, same-day physician appointments are available if acute needs are identified. Many patients referred to this clinic were not linked with a primary care physician prior to hospitalization so this collaboration among the clinic, hospital, and our agency has created a seamless transition for patients who might have an even higher risk of falling through the cracks while attempting to navigate the health care system on their own.

The following case is a great example of this collaboration. A 56-year-old gentleman was admitted in August with jaw pain and shortness of breath. Past medical history included severe CAD with prior MI and stenting as well as cardiomyopathy, DM, HTN, hyperlipidemia, and depression. Repeat catheterization was completed with continued medical therapy recommended and thus several maintenance meds were altered and one new med added. Since our agency had no previous interaction with this patient, the embedded nurse care manager visited him while hospitalized to introduce our transitional care program. She requested the hospital discharge planner make a follow-up appointment for him with our post-discharge follow-up clinic so that date and time of appointment were included in his discharge instructions. During that clinic visit within a week of discharge, several med discrepancies were addressed and corrected that day, including Lisinopril dosing, which might have been problematic because his first primary care appointment was six weeks later. In addition, the patient voiced increased depressive symptoms and was referred to the behavioral health triage that day as well. His discharge plan had included follow-up with cardiology; however no appointment had been made and he did not understand to call the cardiology office for appointment, so our nurse called to have that appointment scheduled for him. Four months later, the patient is keeping all appointments with primary care, cardiology, and behavioral health, taking his maintenance medications, and has had no further hospitalizations.

Community Care of North Carolina's infrastructure of medical homes and "boots on the ground" care managers bridge patients through a complicated system of health care. Left to navigate this system on their own, patients are at increased risk of medical errors, including medication discrepancies. As our vision "healthy individuals, healthy communities" states, we hope this approach will

improve outcomes for our patients as well as contribute to a better system overall.

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Riding the Circuit in Rural North Carolina: The Pharmacist Perpective

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In 2007 I was working as a clinical pharmacist in a large metropolitan, multi-specialty medical practice. There were 11 physicians in the practice. Internal medicine, cardiology, endocrinology and rheumatology were some of the specialties within that practice. Our clinical pharmacy practice was in place for eight years at that time. We had a rich referral base and felt we established a sound reputation over the eight years. During our time there we were able to cultivate a strong relationship with the providers. There was a high level of trust by the providers in our decision making concerning drug therapy management. The result was a daily patient load of 20-30 patients for chronic disease management.

In the summer of 2007 Troy Trysgstad, Pharmacy Projects Director with Community Care of North Carolina, approached us with an idea for a practice-based clinical pharmacy services project in a rural area in mid-western North Carolina. We collaborated with Community Care of North Carolina (CCNC) on a project a few years earlier and therefore knew the organization well. CCNC also knew of our practice model and clinical experience and therefore thought we would be a good partner in this new project.

During the summer of 2007, prior to this project, CCNC was at work on creating a database of Medicaid prescription drug claims data. The database provided the user with fill dates for drug claims filed with Medicaid. This allowed the user to determine if prescriptions were filled in a timely manner and therefore assess potential adherence problems. It also allowed the user to make an *assumption* as to diagnoses based on the medications being used. This "Pharmacy Home" was very beneficial for pharmacists and care managers who were trying to improve the health of Medicaid recipients by addressing potential drug interactions, declining health from adherence issues, poly-pharmacy issues and drug cost issues just to name a few. The one element pharmacists often find missing when evaluating drug therapy is the patient chart. The progress notes, lab data, medical history and other information found in the chart is needed along with drug fill history to round out the drug use picture for any given patient. Gaining access to the claims data and putting a clinical pharmacist in the practice seemed to be an ideal mix. It was with this thought in mind that CCNC began approaching practices to gauge interest in a pilot program that would bring all of this together.

Three practices in the area expressed an interest in the project. One was the area Health Department. Two practices were small, rural primary care practices. One practice had two doctors. The other practice had one doctor, a nurse practitioner and a physician's assistant. Based on the practice size it was obvious that none of the practices had the volume to support a full-time pharmacist alone. My mind was drawn to old western movies (I am old enough to remember them) where a preacher or judge would ride a circuit in the frontier territories since there were no towns with populations large enough to support them full time. I began to picture myself on horseback going from practice to practice spreading the gospel of clinical pharmacy services and dispensing medication therapy justice! After proper plans and introductions, I embarked on the project in November 2007.

I felt there were two key ingredients for success in this endeavor: 1) helping the providers understand how I can help support them and their patients and 2) establishing trust. It is naïve to think that once a program like this begins the providers will hail your arrival and immediately begin to refer complex drug therapy problems to you and readily solicit and accept your advice. It takes time to accomplish the two tasks above. It is difficult, at best, when you are in the practice on a daily basis. The difficulty increases exponentially when you are in the practice for only half a day, one day a week.

After initial meetings and introductions with each practice we established the scheduled time for my visit each week. The overriding factor influencing the schedule was when there would be office space. Each practice had one day a week when a staff member was off work. This freed up office space for me. I would spend four hours at each practice site one day a week.

Given the fact that I would be in each office practice for only four hours one day a week, how could I provide any service of value? The Medicaid claims database seemed a good place to start.

My day began by accessing the Medicaid database for patients at a given practice and identifying those on eight or more medications, those with diabetes and those with congestive heart failure. Once I found a patient who met the criteria I reviewed their drug regimen and medical chart to look for opportunities to impact the patient's health. Discussing my findings and ideas face-to-face with the provider presented opportunities for feedback and a clearer understanding of the patient's particular needs, as well as the needs of the provider. I found that a written note to the provider was a poor substitute for direct discussion.

Another useful source of information to help direct or focus attention is a registry. If the office has a registry, or practice management software that can identify certain patient parameters, then the information obtained can help direct attention to those patients who may have the most urgent need for attention. In the absence of a database or registry, another option is to review the provider's upcoming schedule. I could look at the schedule that coincides with my next visit and preview the patient chart to see if there was an opportunity to contribute to his/her care.

There were ample opportunities to demonstrate how our services could be of benefit to the patients and the providers. One such example was the patient with COPD who was awaiting a lung transplant. A review of his chart indicated he was in the local emergency department monthly. The doctor prescribed the appropriate medications and maximized the doses to no avail. Interestingly, the Medicaid claims data showed that at least one of the medicines was not filled within the past six months. There were adherence issues with others. I brought this to the doctor's attention. The doctor addressed these findings with the patient at the next

office visit. The patient filled his prescriptions and began to take his medicine as directed. He did not have another ED visit for over six months! It did not take very many of these experiences before the doctors began to refer complex patients to me for ideas and suggestions.

I wish I could say that the rich relationship we now enjoy occurred over a two week period and that any pharmacist wishing to be involved in a similar setting could expect the same. The truth is that it took much longer. Each month the relationship progressed and deepened at all of the practices but there is really no substitute for time and successful interventions. It took almost three months before I began to receive the first unsolicited referrals. But remember, I was there only four hours a week.

Our practice has expanded as the doctors have asked for our involvement in other areas. For example, we now do medication reconciliation on all patients discharged from a local hospital and prepare an evaluation for the doctor. This medication evaluation is a key component of the patient's follow-up visit at the office. This is something we did not envision initially but it points to the importance of listening to the providers and meeting their needs.

The project continues three years later. We expanded our allotted time in one practice. Jenny McGuire, PharmD joined our team and has taken over my responsibilities at these practices. The transition has been smooth but there is no shortcut to building relationships and trust. It takes time. The time-line was shortened somewhat due to the fact that there was a foundation on which to build. Jenny has been able to further expand the program since joining and continues to do a remarkable job there.

CCNC is expanding this project and I am now working with other pharmacists and providers to establish similar programs in other areas of North Carolina. I think our experience with this project demonstrated that clinical pharmacy services coupled with medication use data are perceived as valuable by providers. Such services enable the provider to be more efficient, meet quality benchmarks and have meaningful drug information at the point of care. Patient satisfaction and health are enhanced as the clinical pharmacist is able to provide drug use education, enhance self-management skills, and lower drug costs through formulary adherence and consolidating complex medication regimens. Expanding these services has the potential to produce health care savings for payers as well. This is one of the reasons CCNC undertook this project. The fact that there is interest in expanding the project speaks for itself.

Ed Bujold, MD practices in Granite Falls and his practice was one of the initial project sites. He offers the following perpective on the program:

The Physician Perpective

By Ed Bujold, MD
Granite Falls Family Medical Care Center
Granite Falls, NC

I was approached by Neil's group a few years ago concerning embedding a PharmD in my medical practice to help us with the management of patients with complex medication regimens. Initially, we targeted several types of patients considered to be in what we will call a "high risk" category. This included patients with frequent visits to the emergency room and frequent inpatient admissions (we had designated these patients as "frequent flyers"). We also targeted patients taking six medications or more for their chronic diseases and patients who had become difficult management problems (uncontrolled hypertensive patients, diabetics with HgbA1C levels way over their target goals, etc.).

We are in the process of becoming certified as a level III Patient Centered Medical Home (PCMH). Ironically, when I was approached about this pilot project, our practice was thinking about how we could add more members to our "team" to enhance the care of our patient population. Being in a very small practice (one physician and two mid-level providers) it is very difficult to support more personnel on a full-time basis. This model was ideal for us. By partnering with the Medicaid CCNC program (that had been developing the patient centered medical home concept starting almost 15 years ago) Medication Management, LLC allowed us to further refine our own PCMH. CCNC had a presence in our practice with their community nurse. We already had a great relationship with our CCCN community nurse who worked closely with our practice in regards to chronic disease management. Having a PharmD help us with chronic disease management just makes my job easier.

In a PCMH concept, the doctor functions more like a CEO, but as medical care has become more sophisticated, successful physicians need to delegate more of their responsibilities to other team members. In talking with experts in PCMH development, it is the physician who frequently impedes the development of highly functional medical practices by micro managing their practices. Physicians need to be aware of all aspects of their patients care, but the care can be greatly improved by adding additional, highly qualified members to the care team. Qualities that allow physicians to survive and prosper in medical school and residency training don't always translate as well as the head of a PCMH. A different skill set must be developed and nurtured.

We are still learning how to use a PharmD in our practice. Based on some work I did with Troy Trygstad of CCNC and Medicaid inpatients, I realized medical reconciliation when patients moved from the hospital setting back to their PCMHs was very problematic. We are currently analyzing data which suggests one in every five patients discharged from the hospital had a medicine related error which potentially could lead to hospital readmission within one month of their current discharge. Based on this information, our practice has added another detail to our PharmD's job description – reconciling medications as patients move from the hospital setting to the home setting and then reintegrating with their PCMH. I have also utilized this valuable asset to explore treatment options in patients with rare diseases, particularly when they have been frustrated by treatment options from my subspecialty colleagues. A PharmD can spend two hours researching current literature and give me a synopsis of current and new treatments available which I can process in five minutes and use this information to help my patients.

I have a number of my diabetic patients on insulin pumps. There are very well qualified diabetic nurse managers who can teach my diabetic patients how to adapt to life with an insulin pump. I could do all of this teaching myself but it is really an inappropriate use of my

time. I need to concentrate on helping my diabetic patients meet their target goals in the chronic disease management model. I view the addition of a PharmD in similar fashion.

Financially, this team member costs pennies on the dollar and certainly could be reimbursed from a patient per member management fee much like CCNC does with Medicaid now. If we move away from our current method of payment and added patient per member per month management fees to Medicare and third party payers we would have no problem affording this addition to our PCMH team. Also, with the information provided by the PharmD in our practice we have been able to move a number of Evaluation and Management charges from 99213 to 99214 or 99215.

As we refine my own PCMH, I would like to add additional team members to my medical home using much the same "Circuit Riding" model. Sharing community health nurses and PharmD's with other practices makes me think we should use this same model to address the one other glaring deficiency in my medical home model, mental health care. Of all the innovations I have pursued and explored, these two additions have been more valuable than any other to my medical practice.

Behavioral Health Overview and Medicaid 2014: Meeting the Needs of the Most At-risk Patients

By Jerry McKee PharmD, MS, BCPP, Associate Director of Behavioral Health Pharmacy Programs, NC Community Care Networks
and

Michael Lancaster, MD, Director of Behavioral Health Programs, NC Community Care Networks

The Community Care Networks of North Carolina (CCNC) behavioral health initiative will focus on the need for building infrastructure for mental health and substance abuse services that are effective, well-coordinated, and have measurable outcomes within primary care practices. A reasonable question might be "Why are the North Carolina Division of Medical Assistance (DMA) and CCNC interested in behavioral health issues?" The answer is varied, but consider that there are currently over 1 million covered lives within the North Carolina Medicaid population. National Institute of Mental Health (NIMH) statistics point out that mental illness is common in the United States, and in a given year approximately one quarter of adults are diagnosable for one or more mental health disorders. NIMH conservatively estimated (2002 data) the total costs associated with serious mental illness, those disorders that are severely debilitating and affect about six percent of the adult population, to be in excess of $300 billion per year. From 2006 data, among all Americans, 36.2 million people paid for mental health services totaling $57.5 billion, with the average expenditure per person being $1,591. In the 10 year period between 1996 and 2006, a growing number of Americans paid for mental health services, with the costs of that care increasing by 87.6% and total expenditures on mental health services increased 63.4 %. Further, studies in the 1980s and early 1990s began to indicate that upwards of five to twelve percent of primary care patients met diagnostic criteria for major depression. These patients were also shown to have high numbers of medically unexplained symptoms as well as a greater degree of comorbid medical illness compared to non-depressed individuals, and up to two-fold higher rates of utilization of the healthcare system with associated increased costs. One actuarial firm projected that, without significant and sustained improvements in the United States healthcare system's ability to deal more effectively with the behavioral health disorders seen in primary care, an additional $130 to $350 billion will be spent annually for additional service use for this population.

Clearly this is a population that we can no longer afford to ignore. The one year prevalence rate for depression in the US is 6.7%, with a higher lifetime likelihood of occurrence in the 18 to 59-year-old population. This has significant implications for patients, families, employers, and payors. Individuals with depression and substance use issues often present to primary care providers with somatic complaints and medical illnesses which often accompany behavioral health matters. One study found that nearly 70% of all health care visits have a psychosocial component as part of the presentation. Studies have estimated that 67% of all psychopharmacologic medications are prescribed by primary care physicians, in part due to limited psychiatric service accessibility and attempts to meet a care need. North Carolina data demonstrates that over 40% of the aged, blind, and disabled population has at least one behavioral health diagnosis, in addition to multiple medical comorbidities. Individuals with behavioral health disorders have been demonstrated to consume disproportionate amounts of healthcare resources compared to age-matched control populations without such disorders. Further, primary care and psychiatry providers are present in inadequate numbers to effectively manage this population, and are poorly distributed geographically throughout the state. The intent of the Behavioral Health Integration program is to address these concerns as we move toward comprehensive health reform

Michael Lancaster, MD, a board certified adult and child/adolescent psychiatrist with a wealth of clinical and administrative healthcare experience, began the CCNC effort to plan, implement, and evaluate behavioral health initiative on behalf of DMA. He has assimilated a support team that includes network psychiatrists, behavioral health care coordinators, and a psychiatric pharmacist program facilitator. Jerry McKee, PharmD, MS, BCPP, a board certified psychiatric pharmacist, is the CCNC behavioral health pharmacy coordinator, with a leadership role for the direction and management of behavioral health pharmacy projects as well as creating and managing programs that address new policies as DMA implements them. He serves as a resource to network psychiatrists, pharmacists, and care managers on psychiatric and general drug information, as well as Medicaid pharmacy policy issues related to behavioral health. Further, educating and training, or coordinating the education and training of staff on behavioral health initiatives and support processes such as Medication Reconciliation are key aspects of his duties. Overarching objectives are to assure safe, effective, appropriate, and economical use of medications to improve continuity of behavioral healthcare and

associated desired outcomes.

Current core initiatives of the behavioral health team include promoting generic prescribing of antidepressants in treatment naïve patients or those not responding to current therapies, developing a safety monitoring process for antipsychotic agents used in children, and improving recognition and referral of patients with substance abuse disorders. In addition, ongoing efforts are in place to support a statewide initiative to more effectively and safely manage chronic pain and the use of narcotic medications.

The backdrop of 2014 is important as Medicaid coverage for many with behavioral health diagnoses will expand in 2014. It is projected that 400,000 to 600,000 additional covered lives will be added to the North Carolina Medicaid population at that time. Much of this increase will be in the adult demographic aged 21 to 64. The implications are that this population includes a significant number of individuals with substance abuse (alcohol, tobacco, and drugs) and depression that previously had no access to health coverage. There are a variety of pharmacotherapies to support abstinence in persons with substance abuse illnesses, and pharmacists have the opportunity to be actively involved in the recognition/referral of patients with these disorders, as well as educating towards treatment adherence.

Improving current behavioral health programs, as well as preparing for the changes of 2014 are the opportunity/challenge for pharmacists and primary care providers (e.g., establishing meaningful relationships with psychiatry, re-visiting their own therapeutic knowledge of MH drugs, etc.). The magnitude of coverage changes taking place for previously unsupported population in 2014 highlights the need for advance preparation and infrastructure building for behavioral health services that is both effective and well-coordinated. There is great opportunity here for partnering with all clinical service providers, including behavioral health specialists, as behavioral health disorders are similar to chronic medical illnesses such as diabetes in both the importance and difficulties of self-managing drug therapies. In addition, with the documented significant co-occurrance of behavioral health and medical issues in the primary care patient population, in order to effectively impact medical outcomes, the behavioral health aspect of care must be addressed. No treatment and/or ineffective treatment of behavioral health issues leads to poor outcomes for both aspects of care, negatively impacts quality of life, and increases physical health service use and costs. One of the challenges for pharmacists in particular is increasing their comfort level with behavioral health matters (more effectively interacting with this population, gaining a clearer understanding of psychopharmacology issues in order to provide effective medication management services, screening for and recognizing behavioral health related illnesses, and understanding their local behavioral health referral system). The position of pharmacists is similar to that of many primary care providers who have been thrust into the role of serving populations with behavioral health issues. It is the goal of the CCNC behavioral health team to provide practicing pharmacists with the tools and supports to enable this step to occur.

Technology's Role in Care Coordination and Population Management

By Cheryl A. Viracola, PharmD
Pharmacy Programs Coordinator, Community Care of Wake and Johnston Counties

The CCNC "Informatics Center" is an electronic data exchange infrastructure that contains health care claims data provided by Medicaid. Initially, information was accessed by the Community Care networks to identify patients in need of care coordination; to facilitate disease management, population management, and pharmacy management initiatives. In addition, information accessed via the Informatics Center has enabled communication of key health information across settings of care. This communication helps to; monitor cost and utilization outcomes; promote quality of care and provide performance feedback at the patient, practice, and network level. It has long been the vision of Community Care, even during the infancy of the Informatics Centers development, that utilization of this application could be made available to community providers to support quality improvement and continuity of care of their Medicaid patients. In 2010 following the Informatics Center launch of its newest "Provider Portal" application, Community Care of Wake and Johnston Counties developed a full scale operation to educate and provide access to the providers in their network. As of December 2010, more than 115 primary care providers at 30 of its participating practices have been granted Active User status.

The key applications of the Informatics Center are the Pharmacy Home Project (PH), the Informatics Center Report Site (IC) and the Provider Portal. The Pharmacy Home Project was created to support pharmacy management initiatives, and address the need for drug use information that could be easily translated by network pharmacist, care managers and primary care providers. The system is set up to provide patient level profiles and medication histories as well as population-based reports to identify patients who may benefit from Medication Therapy Management. The Pharmacy Home drug use information database is used prospectively for multiple purposes: for identification of care gaps and problem alerts; targeting of at-risk patients; development of the pharmaceutical care plan; and proactive intervention to assist providers and patients with therapeutic substitutions. Retrospective uses of the Pharmacy Home database are equally important, to enable efficient and timely analyses needed for continuous quality improvement and program evaluation.

The IC Reports Site was created to allow efficient and secure distribution of patient level reports to appropriate end users. Network administrators are capable of customizing access of these individual reports by practice or region. Reporting capacity of this application includes:

Population Needs Assessment: Identification of demographic, cost, utilization, and disease prevalence patterns by service area. Networks can readily obtain information about the demographic characteristics, prevalence of chronic medical and mental health conditions, spending by category of service, and rates of hospital, ED, and other service use within their county-level service areas. This aids in program planning and resource allocation; identification of outlier patterns (such as unusually high rates of personal care services); and tracking of local utilization

patterns over time.

Risk Stratification, Identification of High-Opportunity Patients, Patient-level Information. The size and complexity of the Medicaid population, in terms of physical health, mental health, and socio-economic needs, necessitates intelligent mechanisms for identifying patients most appropriate for care management interventions, particularly in the face of limited resources. The use of historical claims data to screen patients for care management intervention can greatly improve the efficiency of the care team. Within this database, patients can be flagged who meet specified criteria for further screening by a care manager, according to patterns of service use over the prior 12 months (such as multiple ED and inpatient visits, multiple medications, lack of PCP contact, target medical conditions, and high cost). Similar reports are generated for specific initiatives or pilot programs (for example: identification of patients with newly diagnosed asthma, heart failure, and diabetes; identification of patients receiving controlled substance prescriptions from multiple sources; identification of patients with poor adherence to their blood pressure medications).

Monitoring of ED and Inpatient Visits. A number of detailed utilization reports are generated automatically updating with every claims payment cycle. As an example, the user can readily access a listing of ED visits by their enrolled population. The report can be broken down by hospital, PCP, patient or visit characteristics; and can tally visit counts by patient or practice. A similar report is available for inpatient hospitalizations. These reports serve to answer a variety of questions (e.g., Are patients from my clinic having a high number of non-emergent ED visits during regular office hours? How many heart failure discharges were readmitted within 30 days, and did they bounce back to the same facility or a different location?) and for identifying impactible patients in a timely fashion (e.g., here is a list of all patients with an asthma-related ED visit, let's make sure they have a follow-up PCP visit scheduled).

Tracking of Care Quality Indicators. Reports include measures that can be viewed across practices, county, network and state level as it relates to diabetes, asthma, heart failure, cardiovascular disease, pediatric well visits and dental care, and adult breast, cervical, and colorectal cancer screening.

Program Evaluation and Tracking of Key Performance Indicators. The IC Reports Site also enables program performance tracking for monthly reporting to the state Medicaid agency and state legislature. Tracking of key metrics provides stakeholders with assurance that efforts are aligned toward the overarching goals of cost savings and quality improvement, and that all networks are held accountable for the overall performance of the program. Key indicators include both process measures (such as percent of targeted hospitalized patients receiving medication reconciliation) and outcome measures (such as hospitalization, ED, and readmission rates).

The Informatics Center Provider Portal released in August of 2010 was built with the treating provider in mind, offering elements of the Pharmacy Home, and the Informatics Centers Report Site, tailored to the target user. Treating providers in the primary care medical home, hospital, emergency room, or mental health system can access a Medicaid patients health record which includes patient information, care team contact information, visit history, pharmacy claims history, and clinical care alerts. Importantly, the use of Medicaid claims data provides key information typically unavailable within the provider chart or electronic health record. For example, providers are able to see encounter information (hospitalizations, ED visits, primary care and specialist visits, laboratory and imaging) that occurred outside of their local clinic or health system. Contact information for the patient's case manager, pharmacy, mental health therapy provider, durable medical equipment supplier, home health or personal care service provider is readily available. Providers can discern whether prior prescriptions were ever filled, and what medications have been prescribed for the patient by others. Built-in clinical alerts appear if the claims history indicates patient may be overdue for recommended care (e.g., diabetes eye exam, mammography).

The Provider Portal also contains key resources for assisting providers in the management of Medicaid patients, such as a compendium of low-literacy patient education materials, and practice tools for risk assessment and disease management. Through a seamless link into a licensed service maintained by an outside partner, providers can retrieve medication information for patients in multiple languages, in video or print format. Medical home providers may directly access population management reports and quality metrics for their own patient population through a seamless link into the Informatics Center Reports Site.

In the Community Care of Wake and Johnston Counties network one practice in particular, Wake County Human Services (WCHS) Child Health Clinic, has been utilizing the information available through the Informatics Center and Provider Portal to inform their quality initiatives. They have been focusing primarily on their asthma population and began using the reports initially available, including the report of Emergency Department visits and beta-agonist overuse.

Treating pediatric physicians Elizabeth Tilson, MD and Andrea Newman, MD have reviewed their practices reports in order to identify patients who are utilizing the Emergency Department for asthma exacerbations or who may be overutilizing their asthma rescue medicine (beta-agonist medicine). Both of these findings may indicate patients with poorly controlled asthma. Once they identify possible patients, they review the visit history to get a better understanding of all the sites of care for a patient, including visits to the primary care provider. They also review the pharmacy history via Pharmacy Home to assess for beta-agonist overuse and compliance with controller medications.

For example, one child they identified using these strategies had eight asthma-related emergency room visits, three asthma-related urgent care visits for asthma exacerbations, and no primary care visits in the past year. Review of his pharmacy history revealed six courses of oral steroid pulses and three instances of beta-agonist overutilization in the past year. The last fill of a controller medicine was one year in the past. Based on this history, the child was referred for nurse care management via Community Care of Wake and Johnston County. A nurse educator was able to complete a home visit and work closely with the mother and child on asthma management, including the importance of controller medications and close follow up with the primary care provider. The patient was also scheduled for a visit with the primary care physician who reinforced the importance of regular

asthma care and ensured the child had a ready supply and refills of their controller medication and a spacer. Since that time, the child has had no further emergency room visits for asthma.

A second child they found utilizing these strategies had no asthma-related emergency department visits, but had two primary care visits for exacerbations in the past year. A review of the pharmacy revealed the child had seven separate fill dates for a beta-agonist in the past year and only one fill date for a controller medication in the past year- ten months prior to the date of the review. The patient was also referred for nurse care management, the medication history was shared with the primary care provider, and the patient was restarted on a controller medicine.

When the more robust practice-level Clinical Alerts reports became available in 2010, they began to use the Asthma Care Alert reports. By doing so, they identified another 77 patients who have some indication of poorly controlled asthma and began work on addressing those patients' needs.

According to the eHealth Initiative's 2010 Annual Survey, Health Information Exchanges are leading the way in improving the safety, and efficiency of patient care. The primary goal is that consumers and health care providers will have ready access to timely, relevant, reliable and secure information and services through an interconnected, electronic health information infrastructure to support better health and healthcare. As the Informatics Center continues to evolve in 2010 with the incorporation of data resources such as Medicare claims and Surescripts pharmacy data for dual eligibles, Labcorps (laboratory results), and real-time hospital admission/discharge/transfer data from 48 large NC hospitals, it will undoubtedly become one of the most robust Health Information Exchanges in the state. ❖

Online Offerings: Pharmacist Refresher Course & QA/Law

NCAP has partnered with the Connecticut Pharmacy Association to offer The Pharmacist Refresher Course, an online course designed for pharmacists who wish to return to community pharmacy practice after an absence from practice for three or more years. The course consists of three modules, all of which have been approved for ACPE credits. The first two modules are online and composed of weekly study segments that allow course participants to work at their own pace, on their own time. The third module consists of a three-week, 90-hour live experience in a community pharmacy. Only those who participate in all three modules will earn a Pharmacist Refresher Course Certificate from Charter Oak State College. Those taking modules One and/or Two for personal enrichment will earn ACPE credits through CPA. This course will give home study law credit to any pharmacist wanting to learn about quality assurance strategies and North Carolina's pharmacy laws.

The QA/Law Course can be used to prepare for reciprocity into North Carolina, or for those who want an update on Pharmacy Law and Quality Assurance. Students must follow a two-week course schedule. Online discussion boards and instructor monitoring and interaction keep you on track throughout the course. The course is offered the first two full weeks of every month. This course is accredited by ACPE for 15 hours of home study law education. For more information visit www.ncpharmacists.org.