

A Series of Well-Coordinated Dismounts

Troy Trygstad

In November of 2010, Dr. Darren DeWalt [1] wrote an editorial in the *Journal of the American Medical Association* likening a dismount in a gymnastics routine to completing patient encounters by ensuring that patients can self manage their medications. Without a proper dismount, the routine's effectiveness is lost. The underlying premise of the piece was that even if the health care system perfects patient evaluation and treatment within its own setting/s, the encounter frequently ends in failure without a well-developed medication use plan in which the patient is willing and able to engage. It was an apt analogy that has broad application across many of our systems of care. In this edition of the *North Carolina Medical Journal*, Dubard and colleagues [2] describe Community Care of North Carolina's (CCNC) Transitions of Care Program, which emphasizes the need to extend patient support activities outside of the hospital and into the community. In this model, transitional care encompasses a series of well-coordinated dismounts involving numerous providers, extenders, and surrogates that reach far beyond the walls of the hospital.

The conventional implementation of Medication Reconciliation (Med Rec) at hospital discharge involves a cursory review of drug regimens (medication lists) for duplications and discrepancies. This occurs either within a single medication list or against another reference list, sometimes with an assessment of need for individual medications based on known diagnoses. Rare is the implementation of more comprehensive and patient-centered activities that involve educating patients at discharge and supporting medication use following discharge in a manner coordinated with the rest of the care team. Beginning

in late 2009, CCNC began implementing a Med Rec Plus program for high-risk Medicaid recipients having a hospitalization. The "Plus" denotes an additional set of activities that are added to the conventional deployment of Med Rec.

The majority of CCNC Med Rec Plus deployments involve multiple types of professionals and paraprofessionals (social workers, nurses, pharmacists, pharmacist assistants, and others) gathering information about both actual and intended medication use from multiple settings following discharge. It is common for a hospital-embedded CCNC care manager to meet and interview a patient about his or her medication use at the bedside, then hand off care to a pharmacist who reconciles the discharge medication list against the prescription fill history from the pharmacy. At that point, the pharmacist may hand off care to a yet another care manager doing a home visit to observe actual use of medications in the home, and then receive back the findings and compare those findings against the active medication list in outpatient provider's records prior to the first scheduled encounter post-discharge. This process involves a series of encounters that puts the patient at the center of the effort to harmonize and execute his or her individual medication use plan.

The Plus version of Medication Reconciliation has yielded some instructive findings. A convenience sample of 6,927 patient discharges subjected to the Med Rec Plus process reveals 2 general themes across 19,022 identified drug therapy problems/discrepancies. About one-third of identified problems/discrepancies were of the types that are typically associated with Med Rec (discrepancies in medication dose/frequency/duration (20.7%);

rehospitalization rates. Such interventions had typically been tested in small cohorts in a single health system setting, often emphasizing the role of the hospital to implement better discharge planning processes. CCNC's challenge was to rapidly adapt promising models and to "take to scale" best transitional care practices for the statewide Medicaid population, which would mean the creation of a transitional care system that could effectively connect more than 120 hospitals, more than 1,500 primary care medical homes, and countless specialist and ancillary service providers across the state.

Core Components of the CCNC Transitions Program

The CCNC approach to transitional care incorporates elements from the work of Eric Coleman, Mary Naylor, Guided Care, Project RED, Project BOOST, and others [4-8], while adding greater emphasis on closing the loop with the primary care medical home. Local processes are tailored to local circumstances, but each network's approach includes the following core components.

Face-to-face patient encounters. All CCNC networks have embedded care managers in large-volume hospitals to interact with the hospital team (including hospitalists, nursing and discharge planning staff, pharmacy, and palliative care teams), to begin planning for discharge as early as possible during the hospital stay. Care managers visit patients at the bedside when possible, to begin engagement with the patient and the family and to ensure that discharge instructions and medications are available. Patients at high risk for a failed transition because of medical complexity, frailty, or social circumstances receive a home visit within 3 days of discharge. Additional visits with the patient and the family—in the home, in the community, or in conjunction with a primary care visit—are often needed to facilitate optimal care management.

Timely outpatient follow-up. Care managers ensure that patients have a follow-up appointment with the primary care provider (PCP) medical home and/or specialist quickly after discharge, they assess for potential barriers to the patient's ability to attend the appointment, and they assist with

therapeutic duplications (5.9%); contraindications and interactions (4.6%); transcription errors (2.0%); and allergies-adverse events-side effects (1.5%)). The remaining two-thirds of problems were associated with patient self-management and/or lack of a coordinated medication use plan (poor adherence prior to and following the hospitalization (22.8%); failure to take a discharge medication following the hospitalization (new initiation) (22.8%); medication discontinuations by the patient without confirmation to stop (15.4%); and failure to stop taking a medication discontinued at discharge (2.7%)). The takeaway is clear: without continuing Med Rec activities and associated patient supports that extend into the community following discharge, fully two-thirds of drug therapy related problems and discrepancies related to the hospitalization go either unidentified or unaddressed.

The Plus version is also meant to address both acute and chronic problems/discrepancies that are likely to affect patient outcomes over a longer period of time. Rather than focusing solely on those problems/discrepancies that are more problematic in the 30 days following discharge, Plus requires plans of action for all identified problems, including lack of patient understanding and non-adherence. Among the sample of 6,927 patient discharges undergoing Med Rec Plus, chronic and non-urgent problems were far more prevalent than acute and urgent problems. Urgent problems, defined as "creating a high likelihood of imminent re-hospitalization" by the reconciler, comprised only 6% of all problems/discrepancies and were represented in roughly one-sixth of patient discharges. The remaining 94% of problems/discrepancies varied greatly in severity and type, but were nonetheless important to the patients' likelihood of positive outcomes over a longer time horizon.

The finding by DuBard and colleagues of increased survival to next admission for CCNC enrollees is encouraging, especially since greater curve separation seems

to occur after the first month following hospitalization. Certainly, urgent problems and discrepancies such as mistranslated insulin doses or grossly duplicative anticoagulants need immediate resolution upon discharge, but non-urgent problems and discrepancies such as failure of hospital staff to continue a statin, patient non-adherence to a beta-blocker, or lack of a well-instructed and coordinated titration of an anti-depressant are also key barriers to improved patient outcomes that go beyond the 30 day period following discharge. The latter problems are best addressed by a system of transitional care that places emphasis on longitudinal patient outcomes and involves multi-provider, multi-setting coordination with particular emphasis on patient self-management of medications. In short, a series of well-coordinated dismounts. **NCMJ**

Troy Trygstad, PharmD, MBA, PhD director, Network Pharmacist Program and Pharmacy Projects, NC Community Care Networks, Raleigh, North Carolina, and adjunct professor, University of North Carolina-Chapel Hill, Chapel Hill, North Carolina.

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Reference

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Address correspondence to Dr. Troy Trygstad, Network Pharmacist Program and Pharmacy Projects, NC Community Care Networks, 2300 Rexwoods Dr, Ste 200, Raleigh, NC 27607 (troy@t2email.com). **N C Med J**. 2012;73(1):35-36. ©2012 by the North Carolina Institute of Medicine and The Duke Endowment. All rights reserved. 0029-2559/2012/73107.

scheduling or transportation as needed to facilitate completion of the appointment. Care managers also provide timely information to the PCP about the hospitalization, social, and environmental concerns and about the involvement of other services and providers (such as durable medical equipment or personal care, home health, and mental health services). In addition, care managers help patients prepare for their follow-up appointments by coaching them to develop a list of questions in advance, to gather all medications, and to bring their personal health record, to facilitate an optimal encounter between provider and patient.

Medication management. Medication management for patients receiving CCNC transitional care management services goes far beyond the traditional concept of simply documenting a comprehensive list of medications. Serious medication discrepancies are extremely prevalent for the high-risk Medicaid population after hospital discharge, as discussed in the sidebar to this article. Transitional care managers work closely with network clinical pharmacy

staff to identify discrepancies between the admission and discharge medication lists in the hospital record, the medications listed in the PCP record, the fill history available through Medicaid pharmacy claims data, the "brown bag review," and the patient/family interview during the home visit. Network staff are able to summarize for the PCP the gathered information and identified issues, to facilitate resolution of the discrepancies, and to circulate back to the patient and other providers a consolidated and cohesive medication plan.

Patient and family education. Patients and their caregivers often receive an overwhelming amount of complex information at the time of hospital discharge, and they may not be able to fully comprehend or prioritize crucial information. CCNC care managers are able to distill the information and guide the patient's focus to the most immediate items to know. Care managers identify red flags for patients and families, which are signs, symptoms, or circumstances that could indicate a complication or exacerbation. This educa-