THE PROMISE OF CARE COORDINATION

Models that Decrease Hospitalizations and Improve Outcomes for Medicare Beneficiaries with Chronic Illnesses

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EXECUTIVE SUMMARY
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EXECUTIVE SUMMARY

Numerous studies have documented that the relatively small percent of Medicare beneficiaries with multiple chronic conditions account for the vast majority of Medicare spending, all too often due to inadequate care, poor communications, and weak adherence by patients. A decade of research and demonstrations has developed evidence regarding "care coordination" interventions that are effective in achieving both improved beneficiary outcomes and reduced Medicare expenditures. This experience has demonstrated that "the devil is in the details," that many apparently promising approaches have not proven to be effective, and that careful attention to implementation and targeting is essential if "care coordination" is to fulfill its potential for both Medicare beneficiaries and the Medicare program.

To promote better coordinated health and social services for older adults with multiple chronic conditions, the National Coalition on Care Coordination (N3C) was formed in 2008 by leading social, health care, family caregiver, and professional organizations. This paper was commissioned by N3C to synthesize the evidence on cost-effective interventions and their essential components, identify key issues that still must be resolved for ongoing research, and present recommendations for care coordination policies in health care reform that can be supported by the currently available evidence base. The paper draws heavily on Chad Boult's (2008) recent comprehensive survey of the literature, supplemented with findings from several recent Medicare demonstration evaluations, especially findings from the Medicare Coordinated Care Demonstration (Peikes et al. 2009).

"Effective Care Coordination": A Definition

"Care coordination" is not yet consistently defined by the various organizations and researchers that have addressed the topic. To provide a common framework, this paper has been based on the definition proposed by N3C:

> "Care coordination" is a client-centered, assessment-based interdisciplinary approach to integrating health care and social support services in which an individual's needs and preferences are assessed, a comprehensive care plan is developed, and services are managed and monitored by an identified care coordinator following evidence-based standards of care.

"Care coordination" encompasses both health care and social support interventions across the range of settings from the home to ambulatory care to the hospital and post-acute care. The specific interventions required by an older adult with chronic conditions depend upon that individual's health status and social environment, at a particular time and over time. Serving the whole population of Medicare beneficiaries with multiple chronic conditions requires the

availability of an array of capabilities along both medical care and social service dimensions that historically have divided into "acute care" and "long-term care" domains. Serving the frail elderly and beneficiaries with cognitive impairment is particularly challenging as their needs tend to fall into gaps that currently exist between these two domains. The emphasis of this paper is primarily on care coordination interventions within the acute care domain. Interventions that focus on meeting individuals' long-term care needs with the principal goal of enhancing their ability to remain in the community, rather than being placed in a nursing home, are beyond the scope of this paper.

"Effective" care coordination brings the essential dimension of cost into the definition. In this time of unsustainable increases in the costs of the Medicare program, an effective intervention must reduce total Medicare expenditures for the participating beneficiaries at least enough to cover intervention costs, while maintaining or improving beneficiary outcomes. Because the major contributor to expenditures is hospitalization, an "effective" intervention has been further defined for this synthesis to be one that reduces participants' hospitalizations (including re-hospitalizations).

Effective Interventions

Three types of interventions have been demonstrated to be effective in reducing hospitalizations for Medicare beneficiaries with multiple chronic conditions who in general are not cognitively impaired:

- **Transitional care interventions** in which patients are first engaged while in the hospital and then followed intensively over the 4 - 6 weeks after discharge to ensure they understand how to adhere to post-discharge instructions for medication and self-care, recognize symptoms that signify potential complications requiring immediate attention, and make and keep follow-up appointments with their primary care physicians. Naylor and colleagues (2004), using advanced practice nurses (APNs), and Coleman et al. (2006), using a Care Transitions Intervention (CTI) guided by an APN "transition coach," have demonstrated the effectiveness of this intervention using randomized control trials in a number of different hospitals.

- **Self-management education interventions** that engage patients for 4 -7 weeks in community-based programs designed to "activate" them in the management of their chronic conditions. Randomized controlled trials by Lorig and colleagues (1999, 2001) and by Wheeler (2003) have demonstrated that such interventions significantly reduced hospitalizations and costs over a period of 6 – 21 months. The interventions enable patients to self-manage symptoms/problems, engage in activities that maintain function and reduce health declines, participate in diagnostic and treatment choices, and collaborate with their providers. The necessary education is provided by a mix of medical and non-medical professionals.

- **Coordinated care interventions** that identify patients with chronic conditions at high risk of hospitalization in the coming year, conduct initial assessments and care planning, and provide ongoing monitoring of patients' symptoms and self-care working with the patient, primary care physician, and caregivers to improve the exchange of information.

The Medicare Coordinated Care Demonstration (MCCD) initiated in 2002 and, for selected programs, continuing today, is the major source of insights into the details of effective interventions and what distinguishes them from other interventions (Peikes et al. 2009).

Only 3 of the 15 programs in the MCCD were effective in reducing hospitalizations and costs over the first four years of operations. In-depth analysis of program details has revealed that six key components distinguished the successful MCCD programs from the ineffective ones:

- ***Targeting*:** patients at substantial risk of hospitalization in the coming year, but not necessarily those with great risk for repeated hospitalizations, are those most likely to be impacted by the intervention. The two most successful programs were those serving patients with average costs about twice the national average and who averaged about 1 hospitalization per year per participant. While individuals at high risk of multiple hospitalizations and extreme costs might be thought to provide the greatest opportunity for savings through care coordination, in some cases these individuals have diseases that have progressed so far that improving patient adherence or communications among providers will not reduce the likelihood of a hospitalization.

- ***In-person contact*:** successful interventions had substantial amounts of in-person contacts with their patients. While many of the contacts were by telephone, the successful MCCD programs averaged nearly one in-person contact per month during patients' first year in the program, far higher than most of the unsuccessful MCCD programs.

- ***Access to timely information on hospital and emergency room admissions*:** Learning about acute episodes very shortly after they occur is a critical factor. Patients are particularly vulnerable for readmissions after a hospitalization or emergency room visit, and the incident provides a heightened opportunity to explain how better adherence and self-care may prevent such occurrences.

- ***Close interaction between care coordinators and primary care physicians*:** two primary factors affect the strength of the relationship—the opportunity to interact face-to-face on occasion and having the same care coordinator working with all the program patients for a given primary care physician.

- ***Services provided*:** All of the successful programs focus their interventions on assessing, care planning, educating, monitoring, and coaching patients on self-management. Teaching patients how to take their medications properly was a particularly distinguishing factor of successful programs. In addition, some patients require social supports, such as assistance with daily living activities, transportation, or overcoming isolation. The successful MCCD programs emphasized the importance of having staff who could arrange such services for patients, when needed.

- ***Staffing*:** the MCCD care coordination interventions rely on registered nurses to deliver the bulk of their intervention, with each patient assigned to a particular nurse coordinator to create rapport and preserve continuity with both the patient and the primary care physician. For some patients, social workers provide valuable assistance with assessing

eligibility for and arranging services such as home delivered meals, transportation, emergency response systems, advanced care planning, and coordination with home health agencies.

Potentially Promising Models

No single program has yet combined all three types of interventions, but doing so should further reduce hospitalizations and costs. The reductions in hospitalizations and cost savings achieved by the successful MCCD programs were accomplished without the benefit of a structured transitional intervention; thus, the combination of these two interventions could be expected to generate larger savings than either alone. Adding the intensive self-management intervention when a patient is first enrolled in a coordinated care program would provide training in self-care similar to that in the transitional intervention and could potentially further reduce both hospitalizations and ongoing monitoring costs. While the self-management programs can achieve short-term cost savings, the MCCD evidence suggests that sustaining these savings over a longer period is likely to require ongoing coaching and support of patients as their health, environment, and goals change.

A number of other models with promising results from small pilot studies or with creative designs that incorporate many of the desirable features identified above are currently being tested. The Guided Care model developed by Chad Boult and colleagues (Sylvia, et al., 2008; Boyd et al., forthcoming) features a multi-disciplinary approach, including the primary care physician, the "Guided Care" nurse, social workers, nutritionists, therapists, and pharmacists, and offers support for family caregivers as well as patient-centered care management. The model has shown quite favorable results for hospitalizations and costs in a pilot test (though they are not statistically significant in the small samples available to date).

The model gaining the greatest momentum is the Patient-Centered Medical Home (PCMH), a concept developed under the joint auspices of the American College of Physicians, the American Academy of Family Practice, the American Academic of Pediatrics, and the American Osteopathic Association. Criteria have been developing by which primary care practices can qualify to be "medical homes," and a number of private insurers and Medicare are launching demonstrations to test the feasibility of the concept. The beneficiary eligibility criteria for the Medicare demonstration currently include 86 percent of all beneficiaries in fee-for-service Medicare. Evidence presented in this paper suggests that if "medical homes" participating in the Medicare demonstration are expected to generate savings that equal or exceed the monthly fees paid, they are unlikely to be successful because they will be serving too broad-based a population.

Large clinics, group practices, and academic medical centers may have the array of staff, services, and systems to meet the requirements to qualify as "medical homes" and "advanced medical homes." Small practices of one or two physicians, who represent 83 percent of all practices and 45 percent of all physicians, will not (Pham 2007). Community Care of North Carolina (Thorpe 2008) has created a model that links small physician practices with community health teams comprised of care coordinators, nurse practitioners, social and mental health workers, and community health and outreach workers to support effective care coordination.

Costs of Effective Care Coordination Programs and Approaches to Financing

How and at what level care coordination services should be reimbursed under Medicare are key considerations. Evidence to date from the MCCD (Peikes et al. 2008; Peikes et al. 2009) suggests that effective, ongoing care coordination programs were able to generate savings in total Medicare costs, before program fees, of about $120 per member per month over the 2002-2007 period, if properly targeted. This finding suggests that program fees paid for care coordination should not exceed that amount, on average. The savings estimate is roughly consistent with the 15 percent reduction in hospitalizations observed in these programs.

Under Medicare's current Inpatient Prospective Payment System, hospitals have no incentive to provide and support effective transitional interventions because such interventions would reduce readmissions for targeted patients (by 25 to 34 percent, if the findings from published randomized trials can be replicated) and therefore reduce hospitals' total Medicare revenues. Incentives for hospitals to improve transitional care and reduce readmissions are needed to spur such efforts.

Issues for Ongoing Research

While much has been learned since the earliest care coordination efforts and the components of effective interventions can now be specified with a substantial probability of success, much remains to be learned. The key issues for which greater clarity is required are:

- **How to identify the optimal target population:** using only data readily available to most clinics or programs, is there a simple way of identifying a mix of individuals who are at high enough risk to benefit from the intervention, but not so high risk that little can be done to help reduce their need for a hospitalization? While one of the successful MCCD programs risk-stratified very successfully, the assessment form used requires a substantial amount of data that can be obtained only by interviewing the patient. What targeting criteria provide the optimal tradeoff between identifying a group for which the likelihood of generating savings is high, while not limiting the target population so severely that the impact on total Medicare costs is small?

- **Episodic vs. continuous enrollment/eligibility for care coordination:** while the transitional care and self-management interventions engage patients for a limited duration of about 1 to 3 months, the successful MCCD programs kept patients enrolled for the life of the program (up to 6 years). The advantage of continuous enrollment is that the relationship between care coordinator and patient remains intact, and the intervention can change as the patient's needs change. On the other hand, continuous enrollment is expensive. Most programs that maintain continuous enrollment classify patients into specific risk tiers based on their assessed level of need for monitoring and coaching at any given time and move patients among tiers as their health and situation change. What is still undetermined is whether programs should be paid different rates for patients in different tiers or a single rate for all patients that on average will cover program costs.

- **How best to provide the transitional care intervention:** should all care coordinators be trained in the transitional care intervention or is this intervention more effective if it is

provided by limited set of nurses who would specialize in transitional care? Do these nurses need to be advanced practice nurses, as in the most successful transitional care models? Could social workers be included in the pool of health professionals who can provide effective transitional care interventions, as is currently being tested in the Enhanced Discharge Planning Program at Rush University Medical Center?

- **How to provide care coordination as efficiently as possible**: given the difficulty of generating large savings, this is a very important area for further investigation. A key issue is determining the optimal frequency and nature of ongoing contacts with participating patients and how this would vary with patients' characteristics and length of time in the program.

- **What mix of nurse-oriented interventions and social service supports is most effective:** as the baby boom generation ages into Medicare and life spans continue to grow, programs may need to adjust their service mix and staffing to meet the social support needs of frail individuals with chronic illnesses. The extent to which patients should be moved from care coordination programs to long term care-oriented programs versus extending the continuum of care to meet these needs is a key issue to address.

The Medicare Chronic Care Practice Research Network (MCCPRN), a group of 12 clinical practices across the country (8 from the original MCCD), is seeking funding to provide an ongoing "learning laboratory" that can systematically, rigorously, and quickly explore such issues; enhance the understanding of which interventions work best for various subsets of the population; and develop detailed operational protocols to enable faithful replication of the successful interventions in a range of settings. The Medicare Payment Advisory Commission (MedPAC) is currently evaluating whether to recommend the MCCPRN approach and will report to Congress in June 2009.

Policy Recommendations

The current evidence regarding effective care coordination supports the following recommendations for Medicare policy:

- For the Patient-Centered Medical Home, be very prescriptive about what services are provided and how they are provided in specifying the requirements for the Patient-Centered Medical Home Demonstration
- Offer vehicles for physicians in small practices to participate in an effective care coordination intervention
- Target both medical homes and care coordination interventions on beneficiaries who are at substantial risk of hospitalization in the coming year
- Create incentives for hospitals to participate in a transitional care intervention.

A practice that meets the qualifications to be a "patient-centered medical home" currently specified for the Medicare Demonstration would have several characteristics associated with effective care coordination: co-location of care coordinators with primary care physicians, having the same care coordinator for all of a physician's patients, access to timely information on hospitalizations, and opportunity for substantial in-person contact between the care coordinator

and the patient. Based on the evidence summarized here, other criteria should also be required: inclusion of a patient self-management component, inclusion of a transitional care intervention, and access to staff who can address isolation and community care needs. Without these prescriptive requirements, the medical home model could result in higher payments to participating practices and perhaps some improved patient outcomes, but may not generate sufficient reductions in hospitalizations to achieve cost savings that would offset additional payments.

It is also clear that *small* practices of one or two physicians will not be able to meet even the current requirements to be a medical home, let alone the additional ones recommended. Small practices should be encouraged to meet the criteria for a medical home by linking with a community health organization, an integrated delivery system, a local clinic, or a medical center that has assembled the staff and resources to provide effective care coordination.

In defining the Medicare beneficiaries eligible for inclusion in the medical home or in a care coordination program, the conditions and severity level shown to be responsive to care coordination interventions should be targeted. Recent unpublished work conducted by the author and colleagues suggests that this target population should include those who have high risk conditions (congestive heart failure, coronary artery disease, or chronic obstructive pulmonary disease) and have a hospitalization in the past year, plus beneficiaries with any chronic conditions who have multiple hospitalizations in the past 2 years.

Regarding hospital incentives, under Medicare's current Inpatient Prospective Payment System, hospitals have no incentive to provide effective transitional interventions because such interventions would reduce readmissions for targeted patients and therefore reduce hospitals' total Medicare revenues. Incentives for hospitals to improve transitional care could be created by paying a higher base rate for all Medicare admissions to hospitals that have below average 30-day readmission rates and lower base rates to hospitals that have higher readmission rates, with the rates appropriately risk-adjusted and set so that total Medicare payments to hospitals are equivalent to those that would have been achieved with a declining national readmission rate. Hospitals could either implement their own program that closely follows the tightly specified protocols developed by Naylor or Coleman, or could contract with an external provider that implements such models.

The policy implications for Medicare are likely to apply to Medicaid, private payors, and the Veterans' Administration as well. The chronic illnesses plaguing these populations differ somewhat from those for Medicare beneficiaries, but it remains true that the majority of costs are associated with those who have such illnesses. Better coordination of the care that these patients receive will continue to be one of the best opportunities for reducing costs and improving patient well being, through reduced need for hospital and institutional care.

Succeeding in these efforts to improve care coordination is critical to the health of Medicare beneficiaries and to the cost of health care in the United States. While better care coordination is not the sole solution to the entire health care problem, it is achievable now and can improve the quality of life for millions of Americans. It is important to move forward with what the best evidence suggests has the most promise, while continuing to improve and refine these interventions.

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