Forum

Care Management's Challenges and Opportunities to Reduce the Rapid Rehospitalization of Frail Community-Dwelling Older Adults

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Community-based frail older adults, burdened with complex medical and social needs, are at great risk for preventable rapid rehospitalizations. Although federal and state regulations are in place to address the care transitions between the hospital and nursing home, no such guidelines exist for the much larger population of community-dwelling frail older adults. Few studies have looked at interventions to prevent rehospitalizations in this large segment of the older adult population. Similarly, standardized disease management approaches that lower hospitalization rates in an independent adult population may not suffice for guiding the care of frail persons. Care management interventions currently face unique challenges in their attempt to improve the transitional care of community-dwelling older adults. However, impending national imperatives aimed at reducing potentially avoidable hospitalizations will soon demand and reward care management strategies that identify frail persons early in the discharge process and promote the sharing of critical information among patients, caregivers, and health care professionals. Opportunities to improve the quality and efficiency of care-related communications must focus on the effective blending of training and technology for improving communications vital to successful care transitions.

Key Words: Care coordination, Medicaid waiver, Homebound, Medicaid, Rehospitalization

Twenty percent of all Medicare hospitalizations are rapid readmissions (readmitted within 30 days after discharge; Jencks, Williams, & Coleman, 2009). The majority are potentially preventable and estimated to cost Medicare at least 12 billion dollars annually (Goldfield et al., 2008; Jiang,

Russo, & Barrett, 2009; Medicare Payment Advisory Commission [MEDPAC], 2008).

Preventable rehospitalizations may result in the functional decline of chronically ill older adults and may increase the need for institutional long-term care (Creditor, 1993; Wakefield & Holman, 2007). Such repeated hospitalizations expose vulnerable older adults to iatrogenic complications, such as adverse drug events, delirium, and nosocomial infections (Falangas & Karageorgopoulos, 2009; Inouye, 2006; Institute of Medicine [IOM], 1999).

Advanced age, the need for assistance with activities of daily living (ADL), and multiple active chronic illnesses characterize the "frail" older adult to be at greatest risk for these rapid rehospitalizations (Wolff, Starfield, & Anderson, 2002). Although federal and state regulations are in place to address the care transitions between the hospital and nursing home, no such guidelines exist for the much larger population of community-dwelling frail older adults (Golden et al., 2004; Kane, Ouslander, & Abrass, 2009).

The large size and accelerating growth of the community-dwelling dependent population together with growing expectations for patient-centered services create a need for the development of new approaches for managing the care of dependent older adults during the early postacute period. Such development must address the challenge of current revenue models that actually incentivize rehospitalizations and offer limited financial rewards for effective postacute care (Bodenheimer & Berry-Millett, 2009; Farber, Siu, & Bloom, 2007). Meeting this challenge has spawned legislative proposals that penalize hospitals with high readmission rates and incentivize postacute care quality, possibly through bundled Medicare payments (Office of Management and Budget, 2009; United States House of Representatives, 2009; United States Senate, 2009). This approach has already been shown in a Centers for Medicare & Medicaid Services (CMS, 2009) pilot project to reduce inappropriate rehospitalizations for nursing home residents (Abt Associates, 2006).

Current attempts to reduce rapid rehospitalizations in community-based dependent older adults are focused on care management. In April 2009, the CMS announced the Care Transitions Project, a pilot program involving the development of care transition teams in 14 communities around the nation. The program's goal was to use local "community-level knowledge" to organize care management strategies to reduce avoidable readmissions.

Table 1. Factors Associated with an Increased Risk of Rapid Rehospitalization

- Age greater than 80 years
- Five or more comorbidities
- Functional impairment
- Past or current diagnosis of depression
- Lack of documented education provided to the patient and/or family upon discharge
- Alcohol abuse
- Inadequate support system
- Residing in a low-income community

One key challenge is to discover the generalizable aspects of transitional care research models that can guide the local development and quality management of care management team processes. In this article, we identify challenges facing care managers, discuss the current limitations of care management, and specify opportunities to improve the effectiveness of transitional care.

Risks for Rapid Rehospitalization

Heart failure and pneumonia are the most common medical conditions associated with rapid readmissions (Jencks et al., 2009). Stroke, hip fracture, chronic obstructive lung disease (COPD), and "poorly controlled diabetes" also carry a high rate of rapid rehospitalization (Bravata, Ho, Meehan, Brass, & Concato, 2007; French, Bass, Bradham, Campbell, & Rubenstein, 2008; MEDPAC, 2006). These findings are not surprising, given the decreased physiological and immunological reserves associated with aging.

Poor hearing and vision, lack of transportation, cognitive impairment, and a non-English primary language may interfere with patient adherence to a posthospital care regimen. Specific factors associated with a high risk of rapid rehospitalization are listed in Table 1 (Goldfield et al., 2008; Jiang et al., 2009; Marcantonio et al., 1999; Naylor et al., 1999).

Despite extensive regulations and the development of transitional care processes, hospitalized frail patients discharged to a nursing home remain at high risk for rapid readmissions (Manyam, Reilly, Kapetanos, Reinherz, & Spencer, 2009). Contributors to avoidable hospitalization for such nursing home residents are listed in Table 2 (Buchanan et al., 2006; Manyam et al.; Ouslander, 2008).

Approaches to reduce rapid readmissions for community-dwelling older adults face many of the same challenges. The lack of adequate custodial

Table 2. Factors that Contribute to the Rehospitalization of Nursing Home Residents

- Lack of information, instruction, guidance, and emotional support to residents and families regarding end-of-life care and advance directives
- Unfamiliarity with residents by doctors and nurses covering nights and weekends
- Lack of financial incentives for avoiding hospitalizations
- Limited access to hospital and other medical records
- Risk management and fear of lawsuits
- Lack of rapid turnaround for laboratory and X-ray services
- Lack of adequate numbers of nurses prepared to handle subacute and acute conditions
- Lack of physicians and nurse practitioners with expertise in geriatric care and quality improvement

services, inadequate social support, and the lack of professional nursing oversight are further challenges facing community-dwelling older adults.

The Comparison Gap

Judging the value of care management models is confounded by differences with regard to the population served, outcomes measured, financial restraints, care processes, and degree of contact with patients and caregivers (Foote, 2009; Golden, Roos, Silverman, & Beers, 2009; Peikes, Chen, Schore, & Brown, 2009). Many care management programs are hospital or health system based, whereas others are managed through a community-based provider or agency. In addition, substantial changes have occurred in the health care system over time, thereby making unclear which components of older interventions would still apply.

Careful attention has been paid to the selection of patients based on specific chronic diseases and the professional discipline and training of the care manager. Some programs employ a nurse practitioner as the care manager, whereas others may use a social worker or even someone with less formal clinical training. However, the core competencies for care managers and other professionals involved in transitional care of frail older adults have yet to be determined (IOM, 2008).

Much of what we do know about transitions in care comes from studies that exclude many patients commonly encountered by care managers, such as patients with dementia, non-English speakers, and those who refuse to participate in a research study (Coleman, Parry, Chalmers, & Min, 2006; Counsell et al., 2007; Jack et al., 2009;

Naylor et al., 1999; Peikes et al., 2009). Dependent older adults may also suffer from depression or often live in remote or "shut-in" locations (Brown, Raue, Roos, Sheeran, & Bruce, 2010; Golden et al., 2004). Transitional care instruments, such as the Care Transitions Measure, cannot be applied to patients with communication and functional impairments (Parry, Mahoney, Chalmers, & Coleman, 2008). Thus, transitional care studies have tended to exclude "difficult" or problematic patients—the very people who are readmitted frequently and therefore mostly likely to benefit from care management interventions.

The Evidence Gap

In light of the difficulties assessing care management programs, it is not surprising that a review of care management studies that specifically focus on dependent older adults shows decreased readmission rates, emergency department visits, and health care expenditures in some but not all studies (Chiu & Newcomer, 2007; Ouwens, Wollersheim, Hermens, Hulscher, & Grol, 2005). Since the time these reviews were published, a geriatric care management intervention by a nurse practitioner and social worker of low-income seniors enrolled in a single health plan demonstrated improved quality of life and decreased emergency room visits compared with a control group who received usual care (Counsell et al., 2007). No differences were observed with regard to mortality, ADL function, or hospitalization.

An intervention of older adults with chronic illnesses involving nurse care managers supported by an electronic medical record and guideline-based disease management protocols was associated with a lower 1-year mortality and a higher utilization of emergency department services (Dorr, Wilcox, Brunker, Burdon, & Donnelly, 2008). There was no difference in 2-year mortality or in the rate of hospitalization between the older adults who received the intervention and the controls.

An analysis of 15 different Medicare care management models of patients with a variety of different chronic illnesses found that 13 showed no significant differences in hospitalizations, one showed a small decrease, and one showed a small increase (Peikes et al., 2009). Fourteen programs excluded patients with terminal illness, serious mental illness, dementia, or conditions that were complex to manage but unrelated to the target diagnoses. More recently, a prospective analysis of enrollees

in an Age and Disabled Waiver Program found that a greater volume of attendant care, homemaker services, and home-delivered meals was associated with a significantly lower risk of hospitalization (Xu et al., 2010)

Although clinical guidelines and disease management protocols have shown benefit in the general adult population, they are often not applicable to the frail older adult patient. Care management programs focused on congestive heart failure (CHF) and diabetes have decreased overall costs and hospital utilization (Naylor et al., 2004; Norris et al., 2002). The effective management of these diseases hinges on patient education and the achieved efficacy for specific self-care best practices (Bott, Kapp, Johnson, & Magno, 2009). Frail older patients not only have many comorbidities but also physical and cognitive impairments that impede their learning and adherence to disease management guidelines.

The Communications Gap

The lack of evidence is not the only challenge to providing high quality transitional care to homebound older adults (Table 3). A key determinant of quality care—communication—is constantly compromised by the growing fragmentation of the multidisciplinary, multivenue, and multilingual care environment.

Care management interventions are further complicated by the fact that patients can be admitted to one of a number of different hospitals and skilled nursing facilities. An analysis of inpatient hospital data from Florida found that 26% of potentially preventable hospitalizations were readmitted to a different hospital (Florida Hospital Association, 2009). Care management programs funded by a single integrated health care delivery system may lack the ability to track patient care and coordinate care in such cases (Crosson, 2009).

Most community-based care managers struggle for timely notification and involvement, often relying on the family or the medical facility to notify them when a member is hospitalized or discharged. Patients and their families may forget to notify care managers. Facility-based health care professionals may not be financially incentivized to contact a patient's community-based care manager. Care managers also face a Medicare system where there is a strong financial incentive for medical centers to discharge patients quickly and to readmit for the reoccurrence of an illness. Thus, the care managers

Table 3. Challenges Facing Care Management Efforts to Improve Transitional Care and Reduce Rapid Rehospitalizations

- High turnover rate among home health care staff may dilute the effectiveness of educational and competency initiatives directed at the care management team
- Many internal medicine physicians are limiting their practice to either a hospital-based or outpatient setting
- A trend by health care systems toward fragmentation and less integration of acute, subacute, and home-based services
- Potential financial risk and minimal financial return on the part of hospitals and physicians for posthospital care needs
- Differences in older adults' transitional care needs based on disparities in health literacy, race, and ethnicity
- Evidence-based disease management guidelines may not be applicable or practical in the care of the community-dwelling dependent older adult with multiple active problems

who often know about the patient's function, mood, mobility, and medication adherence better than anyone else are not included in the discharge process.

Quality Improvement Priorities

Care management initiatives to reduce readmissions will likely need to begin with identifying communication gaps and developing decision-sharing strategies of critical information among health care professionals (Table 4). Because medication mismanagement may cause as much as one half of the readmissions among older adults, one of the most promising available avenues for quality improvement (QI) is medication reconciliation (Vasquez, 2009). This process involves identifying the most accurate list of medications a patient is taking and providing that list to participating health care providers as the patient transitions through the health care system. Medication reconciliation is required by the Joint Commission on Accreditation of Healthcare Organizations (JCAHO, 2006) and is identified as an Assessing Care of Vulnerable Elders quality indicator (Wenger & Young, 2007).

However, many factors impede the reconciliation process, such as the inability of patients with serious illnesses or dementia to participate in the reconciliation process, the inability of hospital-based physicians to link to community pharmacy databases, and the fragmentation of physician responsibility across multiple providers (Cornish et al., 2005; JCAHO, 2006; Schnipper et al., 2009).

Table 4. Quality Improvement Opportunities for Care Management to Reduce Rapid Rehospitalizations

1. Development of best practices for the gathering, storage, and communication of patient information that includes
    a. Demographic and caregiver information
    b. Health care provider information, including physicians and home care agency
    c. Advanced directive status
    d. Medical history
    e. Medication reconciliation
    f. Recent test results, immunizations, and physician appointments
2. Additional care management and home health training to recognize "at risk" older adults possibly using online training
3. Technology for monitoring signs and symptoms for high-risk patients ("frequent-fliers") with congestive heart failure and poorly controlled chronic obstructive lung disease and diabetes mellitus
4. Addressing advance directives
5. Coordination of follow-up care with the primary care physician that involves
    a. Scheduling a follow-up appointment
    b. Copying the discharge summary
    c. Reconciling the medication list
    d. Performing scheduled follow-up during the post-acute care period

Moreover, data from a community pharmacy or Medicare Part D provider database may not include over-the-counter medications, excluded medications, such as benzodiazepines, and physician samples. Hospital-based reconciliation programs may be unaware of the Medicare Part D formulary restrictions and copayments that the patient will encounter upon discharge. Such restrictions and copayments can lower adherence with postacute treatment regimens (Wenger & Young, 2007).

Most research studies regarding medication reconciliation include a pharmacist or other professional who can link the prescribed drugs to medical diagnoses and management. Unlike the nursing home where a consultant pharmacist must regularly review the medications of all nursing home residents, no such requirement applies to the care management of community-dwelling older adults (Golden et al., 2004).

Even if the care manager does not have medication expertise, the critical role is to facilitate the medication information transfer between providers across transitions in care. By visiting the patient at home, the care manager has the opportunity to observe all the medications that a patient has access to and is taking (prescribed, over-the-counter, and physician samples). Conveying this informa-

tion to medical and nursing professionals across the various health care settings can be an important information gathering function.

Additional quality improvement opportunities exist for care management programs (Table 4). These opportunities include the incorporation of clinical tools and technologies that lead to an improvement in the collection, transmission, and exchange of information. "Just-in-time" clinical decision support technologies involving broadband access and online education offer advantages over manuals that may not be available or traditional "just-in-case" didactic lectures that may be long forgotten. The online format also facilitates an organization's ability to revise and notify all care managers of new information, care standards, changing regulations, new company processes, and evolving medical knowledge. Virtual reality training and evaluation programs may be used to simulate the multiple issues that care managers often face in the evaluation of clients (Huwendiek et al., 2009).

Technology interventions must be user-friendly as the educational experience and computer expertise among care managers may vary greatly. Unfortunately, studies to determine the ideal platform and content of decision support technology for care managers currently do not exist. Such studies will need to demonstrate the cost-effectiveness of the technology intervention.

Home telehealth technology can potentially increase care efficiency and efficacy. Inefficiencies due to factors such as non-English speaking and geographic remoteness can be overcome through such technology (Golden et al., 2004). Telemonitoring of signs and symptoms may allow the care managers to reinforce adherence to prescribed regimens and provide personalized education to high-risk patients. Telemonitoring can also provide for the early detection of patients who are clinically deteriorating (Coye, Haselkorn, & DeMello, 2009). The Veterans Affairs Health System, for example, has extensive experience blending home-based telehealth messaging devices with care management in the treatment of older adult patients with CHF, diabetes, COPD, and hypertension (Barnett et al., 2007; Dang, Ma, Nedd, Aguilar, & Roos, 2006) and for caregivers of patients with dementia (Dang et al., 2008).

Technology usability and utility will vary depending upon human factors, the care management structure, and prevailing information exchange processes. Because dependent older adults have a

high prevalence of cognitive, hearing, and vision impairment, assuring the usability of telehealth technology by the patients is critical. The costs, both fixed and reoccurring, and the lack of opportunities for revenue generation need to be accounted for when considering blending telehealth components into a care management program. In addition, physicians and other health care professionals may be resistant to using telehealth technology out of a perceived risk that failure to act on this information in a timely manner would increase their professional liability risk.

Addressing patient wishes regarding end-of-life issues and assuring the availability of an advance directive is a key quality indicator. A previous analysis of nursing home–eligible older adults enrolled in a home- and community-based Medicaid waiver program showed that approximately one third of members did not have an advance directive (Golden, Corvea, Dang, Llorente, & Silverman, 2009). Such lack of an advance directive increases the risk that older adults who, in theory, meet Medicare hospice criteria for severe dementia will continue to receive aggressive hospital-based care and be subject to rapid readmissions for control of pain, heart failure, or other severe symptoms (Mitchell et al., 2009).

Prompt follow-up for the management of the condition that prompted hospitalization is a key quality indicator for continuity and coordination of care in vulnerable elders (Wenger & Young, 2007). A prompt outpatient physician follow-up is likely to be important as 50% of Medicare beneficiaries readmitted within 30 days had no outpatient visit during that time period (Jencks et al., 2009). Identifying the physician with primary care responsibility and communicating with the entire care team are important. Many primary care physicians function mainly as outpatient providers and no longer follow their patients in the acute care or skilled nursing settings. Such physicians may not learn about the patient's acute care and subacute episodes until the patient returns to the office for a follow-up appointment, often at an interval too distant from the hospital discharge date to avoid the rapid readmission (Boling, 2009).

Conclusions

Because rapid rehospitalization is frequent, costly, and often harmful to frail older adults, there is an urgent need to develop care management approaches that address this problem. Despite the current lack of reimbursement for care management services, future funding will likely be based on performance measures that include 30-day readmission rates and physician follow-up appointment rates. Proposed federal legislation and policy changes to limit hospital and postacute care reimbursement for potentially inappropriate readmissions will prompt the development of innovative interdisciplinary care management initiatives.

The development of interdisciplinary transitional teams could bridge the care gaps in the days immediately following a hospital discharge before the primary care provider is able to resume responsibility. These teams will have experience recognizing the limitations and special needs of the dependent older adult and sharing critical information among health care professionals. Opportunities for reimbursement could come from the "transitionalist" geriatrician billing for home physician visits and from home health billing for skilled nursing services.

However, specific recommendations regarding care management organizational structure and processes are difficult to make at this time because large research gaps exist. To date, studies of transitional care have not included frail older patients with dementia and multiple health conditions. Research must identify evidence-based care management best practices and measure their effectiveness. Research is also needed to develop competency-based training for care managers as well as to introduce technology into the care management process.

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