

Care Coordination for Patients With Complex Health Profiles in Inpatient and Outpatient Settings

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Abstract

Patients with the most complex health profiles consume a disproportionate percentage of health care expenditures, yet often receive fragmented, suboptimal care. Since 2003, Wisconsin-based Gundersen Health has improved the quality of life and reduced the cost burden of patients with complex health profiles with an integrated care coordination program. Those results are consistent with data from the most successful care coordination demonstration projects funded by the Centers for Medicare and Medicaid Services. Specifically, Gundersen's program has been associated with reduced hospital stays, lower costs for inpatients, less use of inpatient services, and increased patient satisfaction. Gundersen's success is rooted in its team-based approach to coordinated care. Teams, led by a subspecialty-trained nurse, have regular, face-to-face contact with patients and their physicians in both inpatient and outpatient settings; involve patients deeply in care-related decisions; access a system-wide electronic medical record database that tracks patients' care; and take a macrolevel view of care-related factors and costs. Gundersen's model offers specific take-home lessons for institutions interested in coordinated care as they design programs aimed at improving quality and lowering costs. This institutional case study provides a window into well-executed care coordination at a large health care system in an era when major changes in health care provision and reimbursement mechanisms are on the horizon.

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The US health care system is fragmented and challenging to negotiate, especially for patients with complex illnesses who consume disproportionately more financial and personnel resources than other patients do. Indeed, approximately 10% of the US population accounts for more than three-fifths of US health care expenditures, largely tied to 7 chronic conditions, including heart disease, cancer, and diabetes.^{1,2} Atul Gawande calls such patients "hot spotters."³ They are in and out of the hospital or emergency department, see multiple physicians, fill many prescriptions, have trouble adhering to their prescribed regimens, and may face nonmedical challenges, such as lack of social support, a compromised emotional state, and limited access to transportation.

Nearly 3 in 4 people 65 years or older have multiple chronic conditions, a status called *multimorbidity*.⁴ Patients with multimorbidity

account for 93% of prescriptions and nearly 80% of physician visits and hospital stays.⁵ Caring more effectively and efficiently for these high-cost patients represents a clear opportunity to implement the triple aim of improving patients' care experience, enhancing population health, and reducing per capita health care costs.^{6,7} Yet, these patients often receive suboptimal care from the health care system in part because of a lack of communication and coordination among health care practitioners, coupled with patients' and family members' inability to navigate the complex landscape of multimorbidity.

Poor care coordination of patients with multimorbidity contributes to test duplication, needless hospitalizations, medical complications, patient nonadherence to care plans, decline in functional status, and increased dependency.^{8,9} One estimate of the cost of waste associated with poor care coordination was \$25 billion to \$45

billion for 2011.⁸ An analysis of records from more than 9 million Medicaid and dual Medicare/Medicaid claims concluded that, on average, costs for patients with uncoordinated care were 75% higher than for matched patients with coordinated care.¹⁰ To meet the clinical reality of multimorbidity, health care needs to evolve from a single-disease focus to a patient-goal focus across a continuum that addresses the unique needs, preferences, and constraints of individual patients.⁴

In 2002 the Centers for Medicare and Medicaid Services (CMS) funded 15 care coordination demonstration projects at disease management companies, hospitals, and a hospice. The more than 18,000 patients involved were far sicker than Medicare beneficiaries in general and 3 times more costly. An independent evaluation found disappointing results. Patient adherence to medication regimens did not improve, and none of the 15 programs lowered net Medicare expenses when program fees were factored in. Of the 12 largest programs in the 4-year study, only 1 program markedly reduced hospitalizations.¹¹ For 11 of the programs, the study was extended for 2 years to assess whether the overall results hid effects for high-risk subgroups of patients. During the cumulative 6-year period, 4 of the 11 programs markedly reduced the number of hospitalizations among high-risk subgroups while covering Medicare care management fees.¹²

The CMS demonstration projects have lessons. Medicare savings were most likely to come from the highest-severity patients prone to hospitalization, a finding consistent with other research on coordinated care.¹³⁻¹⁵ Most of the CMS programs were telephone based; the more successful ones included personal, face-to-face contact between care coordinators and patients and also emphasized coordinator-physician collaboration, patient education, medication management, and patient transitions among care settings.¹² One of the initial participants in a CMS care coordination demonstration project, the Washington University School of Medicine in St. Louis, Missouri, redesigned its program in 2006 using these elements. The redesign allowed the institution to achieve net Medicare savings, even after accounting for patient care management fees.¹⁶

The pertinent issue in implementing a care coordination program is execution. In this

article, we add to the growing but still early literature on care coordination with an analysis of how a maturing care coordination program is being executed at Gundersen Health System in La Crosse, Wisconsin. Specifically, we outline the program's evolution, design, implementation, and results, as well as useful take-home lessons for other institutions that may develop their own care coordination programs. Although our collection and analysis of data from Gundersen's experience were extensive, our efforts do not reflect a formal experimental research design with prespecified hypotheses. As such, our work has the aim of *hypothesis generation* in a subfield of medicine and health policy that shows great promise for improving care and controlling costs for patients with complex illnesses. The details about implementation that we present come, in effect, from a single-institution case study at Gundersen, not from a conclusive research investigation to define best practices. The successful Gundersen care coordination model is still evolving, and some elements will require further refinement, particularly as patient demographic characteristics and nationwide health care provision and reimbursement mechanisms change.

THE CONTEXT FOR CARE COORDINATION AT GUNDERSEN

Gundersen Health is an independent, integrated health system based in La Crosse, Wisconsin. It employs approximately 475 physicians, supported by approximately 5000 staff employees, and operates a 325-bed hospital, a level II trauma center, and 35 outpatient clinics in 19 counties in a 150-mile radius in 3 states. Gundersen's care coordination program spans the continuum of inpatient and outpatient settings. Nurse and social worker teams proactively collaborate with multiple practitioners to provide care to the most complex 1% to 2% of patients.

Care coordination, piloted at Gundersen in 2003, was encouraged by the chief executive officer, who saw an opportunity to provide higher-quality, more cost-effective care to patients with complex health profiles while enhancing their quality of life. The institution developed specific criteria for identifying the patients who would benefit most from coordinated care, as well as a job description for care coordination nursing staff. Implementing this type of program at an integrated health care

system came with an array of challenges, including a paucity of similar programs to evaluate. The first care coordinator interacted with practitioners within and outside Gunderson to alleviate anxiety about the program and demonstrate its value.

In 2004 the program began to expand to include more nurses and social workers, who could address patients' financial and social concerns. As the program evolved, Gunderson recognized the further benefit of hiring nurses with experience in subspecialty areas, such as behavioral health, pediatrics, high-risk obstetrics, palliative care, hematology-oncology, and medical-surgical care. The in-depth knowledge, patient education, and clinician support offered by the subspecialty nurses have proven to be invaluable, exceeding what a generalist nurse typically can accomplish.

Gunderson's care coordination staff currently includes the full-time equivalent of 19 care coordinators (all nurses), 3 social workers, and 1 administrative support person. Each care coordinator manages 50 to 75 patients, and each social worker is responsible for approximately 100 patients. Patients have face-to-face contact with their assigned care coordination team members during clinic appointments and hospital stays, as well as telephone and e-mail communication. Care coordination staff at times will accompany patients and their families to care conferences at schools or meetings with county agencies; in rare instances, they go to a patient's home to assess that environment. Care coordinators do not follow up long-term nursing home residents or hospice patients but may follow up patients with short nursing home stays or palliative care needs.

Most of Gunderson's care coordinators work at the main campus in La Crosse, but some are strategically stationed throughout the service area. At times, regional care coordinators travel to the La Crosse campus with assigned patients, but for situations in which travel is not feasible, on-site peers may attend a main campus appointment and plan care in partnership with the regional care coordinator. Today Gunderson serves 1500 to 1700 care coordination patients (more than 15,000 cumulatively since the program's inception in 2003).

The intent of Gunderson's program is to enhance communication between clinicians

and patients, to fully engage patients as partners in decision making about their care, and to assist patients in reaching the best possible health in the most appropriate health care setting. The program is voluntary and offered at no extra cost to Gunderson's patients; it differs from traditional case management, which is characterized by large patient panels, remote communication, and a cost-reduction focus.¹⁷ Reducing costs is an important concern for Gunderson, but patients are not admitted to the program primarily on the basis of their insurance coverage or ability to pay.

REFERRAL AND ENROLLMENT

Originally, referrals to the care coordination program were made by telephone or requested by clinicians or staff in person. Today Gunderson has a single, system-wide electronic medical record (EMR) database. Any Gunderson staff member can make EMR-based referrals. External agencies, as well as patients and their families, can still make referrals by telephone. Reasons for referrals vary; they include multiple diseases, use of multiple health care professionals, medication management issues, multiple inpatient admissions, multiple urgent care/emergency department visits, lack of social support, financial limitations, and cognitive deficits.

Referrals and care coordination evaluation are completed within 1 business day for hospitalized patients and within 2 weeks for outpatients. Hospitalized patients often have immediate care-planning needs, and cost-saving opportunities for the patient and the organization can be substantial when early intervention occurs. Referrals to care coordination are automatically triggered when patients are hospitalized for 14 days, patients are rehospitalized within 30 days of a first admission, or hospital charges surpass \$100,000.

For hospitalized patients, a care coordinator works with the inpatient care team in the following domains to enhance efficiency and transitions of care:

1. Early and comprehensive assistance in planning for patient discharge and follow-up care.
2. Individualized inpatient and outpatient plans of care. Care coordinators assess change readiness and motivation (in part by interviewing patients) to create an optimal plan of

care aimed at achieving a successful transition to the outpatient setting.

3. Timely conferences between hospital staff and the patients and their families.
4. Seamless and safe transition from hospital discharge to other settings, with a focus on medication management and timely follow-up with the primary care physician. Care coordinators accompany patients on their first outpatient visit(s) to brief physicians and thereby ensure consistent, uninterrupted care.
5. Billing and reimbursement issues, addressed with patient business services before discharge.

Gundersen has developed a stringent process for assessing the appropriateness of referrals for care coordination services. At the inception of the program, although a common screening tool was used for all referrals, care coordinators would often “weight” certain aspects of complexity differently. To address the potential variability in assessment, the program now uses a point-based “tiering tool” that includes 2 sections: one on medical complexity and another on psychosocial factors (Table 1).

The point system for medical complexity is modeled after the validated Johns Hopkins Care Coordination Tier Assignment Tool, Version 1.0 Health Care.¹⁸ One point is given for each chronic and severe medical condition that requires management by a care team. Candidates accumulate points by meeting referral criteria listed in the tiering tool.

The psychosocial component of the tool was included because a lack of social support and resources, as well as mental health and substance abuse, affects both patient use of health care services and adherence to prescribed care.^{19,20} Gundersen’s psychosocial assessment was derived from the National Committee for Quality Assurance guidelines,²¹ as well as input from the care coordination staff. One point is assigned for each identified (patient or family) variable related to lack of resources, social support, or ability to navigate and manage health care needs. Several individual criteria in this section automatically trigger involvement of a social worker to assist the care coordinator with patient care planning.

A referred patient’s point total determines eligibility for admission into the care coordination program (see the 3-tier system in

Table 1). Patients in tier 1 (those with the lowest scores) are not enrolled, and those in tier 3 are automatically admitted. Patients with scores in tier 2 are reviewed further by care coordinators, who use their clinical judgment to determine who should be enrolled. Tier 2 patients who do not meet established guidelines and are covered by the system’s health plan are referred to the health plan for monitoring by telephone. Enrolled patients are assigned to a specific care coordinator on the basis of nurse availability, workload balance, and specialty expertise.

Once a patient is enrolled, care coordinators use the EMR and personal interview(s) to assess the patient’s current support system, ability to manage his or her health care needs, and the complexity of the care currently being received. Then the patient is assigned to 1 of 2 levels: *active* status indicates that a patient requires frequent interactions and considerable care planning; *monitoring* status indicates less interaction is needed. Hospitalized patients with anticipated coordinated care needs after discharge are assigned to active status.

HOLISTIC SERVICE ACROSS THE CONTINUUM OF CARE

Acting as a partner and advocate, a care coordinator helps the patient understand his or her medical conditions, follow physician instructions, and receive appropriate levels of care. Patients’ EMRs are tagged so that the coordinator is alerted to scheduled and unscheduled interventions. The scheduling tool in the EMR allows care coordinators to simultaneously view their patients’ clinic appointments, hospital admissions, and urgent care and emergency department visits in one place. The EMR is also formatted to enable a patient’s various health care practitioners to view the care coordinator’s notes in a single tab, thereby aiding the practitioners in comprehending the patient’s “whole” story efficiently.

Care coordinators work holistically with patients for months or years. The quality of these relationships is so intimate and meaningful that care coordinators are often the first to identify subtle changes in a patient’s condition. They alert clinicians to changes, brief emergency department physicians, counsel the

TABLE 1. Care Coordination Tiering Assessment

Rubric	
1. Will patient have primary or follow-up care at Gundersen Health? Yes/No	
2. Is referral primarily: pediatric/behavioral health/obstetrics/medical-surgical/regional?	
3. Choose each condition that meets severe and chronic as defined below.	
a. Allergy/asthma	l. Infections
b. Cardiovascular	m. Malignancies
c. Dental	n. Mental health
d. Otorhinolaryngologic	o. Musculoskeletal
e. Endocrine	p. Neurologic
f. Eye	q. Nutrition
g. Female reproductive	r. Renal
h. Gastrointestinal/ hepatic	s. Respiratory (chronic obstructive pulmonary disease)
i. Genetic	t. Rheumatologic
j. Genitourinary	u. Skin
k. Hematologic	v. Toxic effects
4. Choose each issue that applies to the patient:	
a. Advanced age, with frailty	
b. Cognitive impairment	
c. Concerns with caregiver's ability to meet patient's needs	
d. Difficulty with prescribed treatment plan/medications	
e. Frequent hospitalizations, 2 or more in the past year	
f. Frequent visits to urgent care and/or emergency department, 2 or more visits in the past 6 months	
g. High level of resource use, medications, visits, treatment, other cost measures	
h. Inadequate social support	
i. Interpreter needed	
j. Prematurity with medical complications	
k. Teen/high-risk pregnancy	
The score and the tier are determined by the number of items selected in questions 3 and 4	

Action taken after rubric based assessment

Tier	Sum (score)	Action
0	0	No action
1	1-3	The patient does not qualify for services. A note of nonqualification is sent to the referring personnel
2	4-6	Care coordination nurses evaluate the patient's appropriateness for enrollment
3	7+	Patients are automatically enrolled in the program

patient on whether symptoms require immediate attention, show patients how to follow a clinician's instructions (including medication use), teach family members about home care, and monitor transitions (eg, from hospital to short-term nursing home stay). Social workers partner with the care coordination nurses when patients have nonmedical needs that undermine their health goals and may require community resources that they can help the patient obtain. Social workers or care coordinators may also play a "mediator" role—for

example, when family members disagree on a patient's care plan.

PROGRAM OUTCOMES

The extended (6-year) CMS care coordination demonstration projects, involving 11 programs, found that the successful programs generated notable reductions in hospital charges using specific interventions that targeted high-risk patients.¹² Gundersen's program outcomes are consistent with those findings.

An internal Gundersen review conducted from 2007 to 2009 revealed the benefits of ongoing, focused care coordination efforts for patients whose hospital stays were longest and whose costs were highest. Buoyed by initial successes in shortening hospital stays and lowering per patient costs, care coordinators enhanced and modified practices to ensure the consistency of interventions across patients. For example, the criteria for assigning patients to active vs monitoring status were streamlined, and minimum parameters for interaction with care team personnel were specified. It was possible to make these adjustments because, rather than engaging in ad hoc accommodation of unplanned activities (an inherently inefficient process²²), care coordinators can anticipate patients' multiple transitions, foster multidisciplinary relationships and lateral integration, and think about resource use at a macro level.

After the program refinements, the results were even more substantial. Figure 1, which presents data from 2009 to 2011, shows declines in unplanned charges from emergency department and inpatient hospitalizations among 373 care coordination patients who were enrolled in the program for at least 2 years. Unplanned charges (ie, those arising from unscheduled hospital admissions or emergency department interventions) decreased by 51% at 12 months and a cumulative 64% by 24 months. Figure 2 shows the decreases in total charges for the same sample of patients: a 39% decrease by 12 months and a cumulative 60% decrease by 24 months. Hospitalizations in this group decreased by more than half at 24 months; when hospitalizations occurred, the length of stay decreased, on average, by 39% at 12 months and 46% at 24 months (Figure 3).

Our study is limited by its single-institution focus and an inability to attribute causation to

the program, given lack of adjustment for potentially confounding variables. Our intent was simply to follow up the patients with the most complex needs with multimorbidity through their care coordination experience during a 2-year period. We deliberately excluded 25 patients of the initial 398 enrolled: 18 who died within the 2-year time frame plus 7 who incurred charges greater than \$500,000 during the study (resource consumption at that level typically reflects a catastrophic event rather than the cost of care for chronic, complex conditions). Although we cannot attribute the savings reported for the remaining 373 patients entirely to the care coordination program, we are confident that it played a meaningful role.

DIRECT AND INDIRECT INTERVENTION COSTS

Until the fee-for-service payment structure evolves to more of a population-health approach, proactive care coordination programs such as Gundersen's will struggle. Thus, balancing the institution's interventional costs with savings for payers is vital. The CMS demonstration projects revealed that successful programs generally incurred interventional costs in the range of \$125 to \$150 per patient per month.¹² Gundersen's intervention costs fall within that range: approximately \$141 per patient per month.

In addition to reducing direct expenses for patients with the most complex needs, care coordination can also contribute indirectly by saving practitioners time and enabling them to see additional patients. A 2012 Gundersen survey asked physicians whether care coordination saved them time and, if so, to estimate how many minutes were saved per patient per month. In all, 138 physicians (nearly 40% of respondents) indicated that care coordination saved them at least 30 minutes per patient per month—the highest estimated time-saving option listed in the survey. In retrospect, the estimated time savings are probably understated because the possible answers were capped at 30 minutes. The survey also solicited open-ended feedback, such as this representative comment that a physician made about a care coordination nurse:

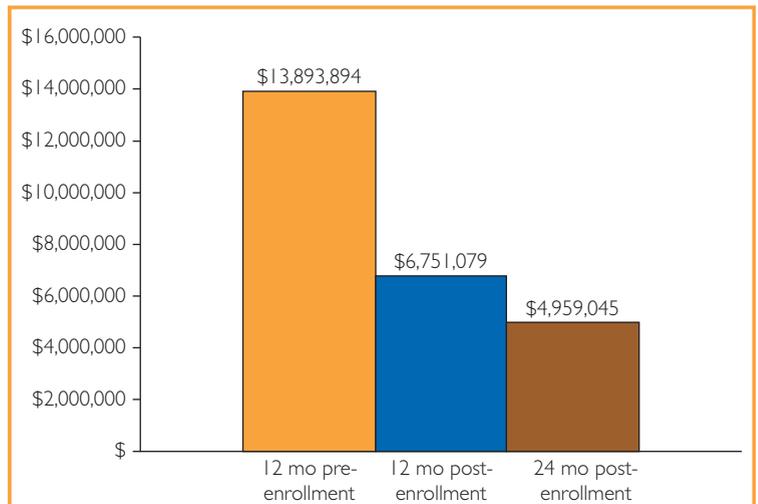


FIGURE 1. Decline in unplanned charges for care coordination patients, 2009-2011. Among 373 patients enrolled in Gundersen's care coordination program for at least 2 years, unplanned charges (from the emergency department and inpatient hospitalizations) decreased by 51% within 12 months and a cumulative 64% within 24 months.

Linda is a treasure trove of information about various resources, other departments, and referrals. She gives patients information in just minutes of her time, which I do not have the knowledge of. Patients really trust her and respect her expertise. She is amazing at follow-through with the patients and calls them, goes to appointments, and alerts me to concerns the patients have. She also saves many unnecessary visits to the clinic and makes me way more efficient.

IMPLICATIONS FOR THE CARE EXPERIENCE

Internist Allan Detsky identifies what patients want most from health care when they are sick (which may differ from when they are well): restoration of health; timely care that emphasizes kindness, hope, and certainty; and a care system that offers continuity, choice, and coordination.²³ Gundersen's care coordination program is well designed to meet these wants. In an internal survey of patient satisfaction conducted during a 15-month period from 2005 to 2006, care coordination patients consistently indicated high satisfaction with their ability to better manage their own health

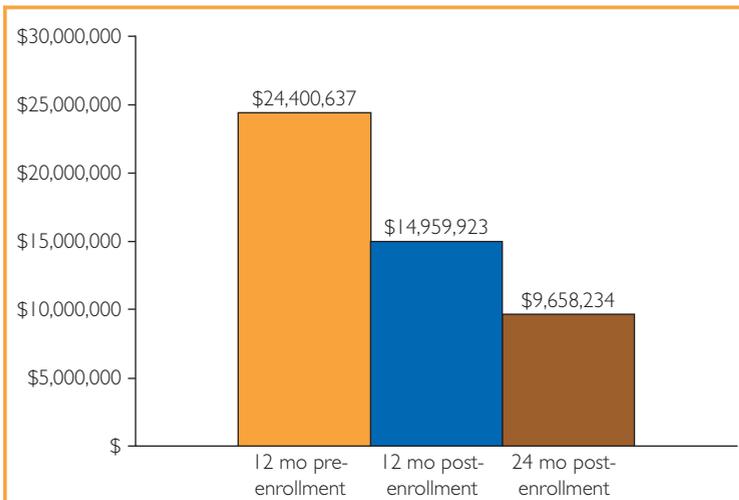


FIGURE 2. Decline in total charges for care coordination patients, 2009-2011. Among 373 patients enrolled in Gundersen's care coordination program for at least 2 years, total charges decreased by 39% within 12 months and a cumulative 60% within 24 months.

care, improvement in the quality of their lives, and having their health care needs met.²⁴ These results align with those of a 2010 multinational study indicating that patients who had a care coordinator were more satisfied with multiple dimensions of their care experience than were patients who did not have a care coordinator.²⁵

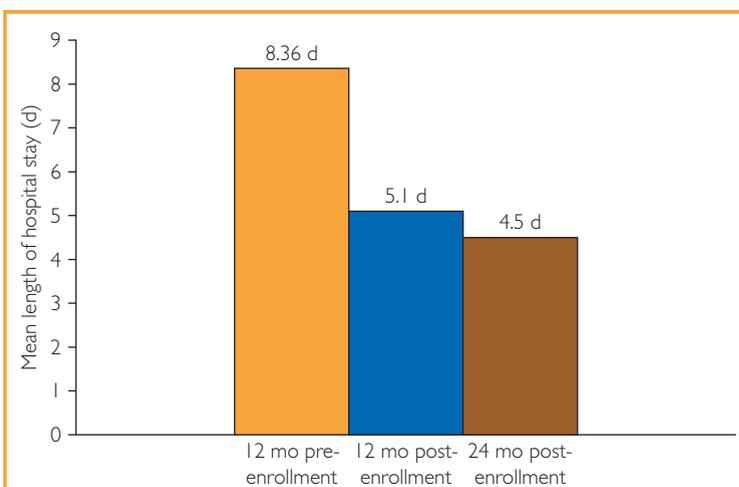


FIGURE 3. Decline in length of hospital stay for care coordination patients, 2009-2011. Among 373 patients enrolled in Gundersen's care coordination program for at least 2 years, the mean length of a hospital stay decreased by 39% at 12 months and 46% at 24 months.

GUNDERSEN AS A MODEL

Gundersen's program can be a model for other care coordination programs, in terms of both its internal design and its broader implications for cost-efficient, high-quality care. Let's look at both dimensions.

Internal Design

Six program design features have been especially important to Gundersen's care coordination program. First, the rigorous tiering protocol selects appropriate candidates for the program: patients with the most complex health profiles, with multiple health conditions, nonmedical problems that impede care, and high use of health services. Going beyond strictly medical issues to include psychosocial factors for program admission is vital. Research underscores the importance of including psychosocial criteria in defining patient complexity.²⁶ In one study, for example, primary care physicians were asked to review their patient panels to identify their patients with the most complex, challenging problems. Social and behavioral factors, such as poor adherence to medications, substance abuse and other mental health issues, patients' inability to afford prescribed medications, and lack of at-home support, were pertinent to defining patient complexity.²⁰

Second, creating teams that include both care coordination nurses and social workers enables these professionals to capitalize on their specific training while pooling their skills and knowledge as they collaborate with the patient and family. Care coordination social workers have the background and the community network of contacts to help a patient whose electricity is about to be turned off, to assist a patient who needs dentures, to help a patient find a nursing home, and to assist a patient in obtaining unaffordable medications or transportation to medical appointments. Interventions of this sort help not only patients but also the physicians and nurses who care for them.²⁷

Third, ongoing face-to-face relationships between care coordinators and patients are more likely to facilitate understanding of the patient's history, goals, strengths, fears, and nonmedical challenges. The presence of care coordinators at patients' medical appointments and during hospitalizations is deemed critical to

the program's success. Communication by telephone and e-mail is likely to be most effective only when trust has already been established. Relationships between patients and their coordinators are often profound. Care coordinators have been recognized in obituaries, honored publicly at funerals, and invited to family events. That kind of effect is hard to quantify, but the literature includes some hard evidence. For example, in a reanalysis of data from 10 randomized clinical trials of heart failure care management programs, researchers found that patients enrolled in programs using face-to-face communication had markedly fewer hospital readmissions and readmission days than patients in programs that emphasized telephone communication.²⁸ The CMS coordinated care demonstration projects also point to the greater effectiveness of in-person contact.^{11,12,29}

Fourth, care coordinators strengthen patient-physician relationships when they promote medication adherence, minimize mistakes due to missing information, enhance care planning, encourage effective self-management, and facilitate efficiency. Gundersen's integrated EMR system fosters timely communication among practitioners, care coordinators, and patients. For care coordination to flourish, clinicians must view the coordinators' service as complementary, not competitive. Some Gundersen physicians initially perceived the program as "interference" but quickly embraced it. Literature is consistent in noting the importance of a close link between a patient's care coordination team and his or her primary sources of medical care.^{19,26,30-32}

Fifth, careful selection of experienced staff is necessary to earning the trust of patients, clinicians and colleagues. The care coordination role is not for newer nurses, given the complexity of patients' needs. Gundersen's care coordinators average 27 years of nursing experience. Working effectively with patients with complex needs requires maturity; a sense of humor; critical thinking, communication, and interpersonal skills; a nonjudgmental temperament; and, as these interview excerpts show, an affinity for teamwork.

Nurse: As care coordinators we come together and are able to help each other out when some things are really right there in front of your nose, but you can't find it.

Social Worker: We can take really good care of patients because we take good care of each other.

Sixth, benefit to the surrounding community should be a focal goal. Keeping patients out of the hospital yields financial advantages for employers, insurers, and patients but not necessarily the hospital. Historically, for example, Gundersen's care coordination program has reduced third-party payer charges by approximately \$3 for every \$1 invested. The program positively affects net revenue to Gundersen for patients in a capitated payment plan; many other patients are served at a loss. An institutional commitment to creating "social profit" (ie, bettering the quality of life in the community) is necessary, given the financial investment required to benefit patients and the uncertainty of net revenue generation to the provider institution.³³

These 6 design features, along with the recommended steps for developing and implementing a care coordination program that appear in [Table 2](#), offer guidance for other institutions.

Broader Cost and Systemic Implications

Achieving optimal results for patients with the most complex needs, cost-effectively and in a patient-centered manner, is one of the most challenging system-wide dilemmas in clinical care. It is a particularly daunting task as the costs of chronic disease increase, along with the demand for accountability in patient outcomes. Nevertheless, this endeavor of reform can offer important benefits to all stakeholders.

Clinicians, clinics, and hospitals will need to rely less on fee for service. Payment mechanisms, such as capitation, shared savings, or patient management fees, can reward well-executed care coordination programs. The US health care system is not well designed for high-use patients who see multiple practitioners because of multimorbidity.³ Despite the predominance of multimorbidity in the older population, reimbursement typically links to discrete *International Classification of Diseases* diagnostic codes.⁴ Redesign is taking the form of accountable care organizations, patient-centered medical homes, and care coordination programs. All have a common goal of more efficiently and effectively integrating and coordinating patient care, and all lend themselves to

TABLE 2. Recommended Steps for Development and Implementation

Steps	Rationale
Tailor the model to the locale	Care resources and the ways patients access them differ between rural and urban settings. For example, rural patients who see multiple practitioners may find travel distances and costs to be prohibitive. However, some urban residents may find the affordable transportation that is available to be difficult to use, despite geographic proximity to the care site
Distinguish between patients who see multiple practitioners and those who require frequent attention from a single practitioner	Patients who require more of a single practitioner's time may have trouble scheduling appointments. Patients who interact with multiple practitioners will require greater coordination of practitioners and services
Design program activities to improve transitional care	Focusing on efficient, seamless handoffs in the context of the continuum of care diminishes risks. It also increases quality and patient satisfaction
Align information technology with the purposes of care coordination	Using electronic medical records (EMRs) enables caregivers to quickly capture the essence and details of a patient's medical history and treatments. Dynamic EMRs that alert team members when a patient receives services within the system are especially efficient
Encourage patient- and family-centeredness in care planning	Patients are more likely to thrive when they are respected as experts on their own health and health care needs. Care planning should solicit input from the patient and family as the entire team works toward achieving agreed-on goals
Keep the office locations and the last names of staff members confidential	Unannounced and unplanned visits to staff can create inefficiencies and foster excessive dependence on a single caregiver
Centralize office space	A centralized location offers a collaborative environment for caregivers and facilitates workload balance
Educate physicians, health care teams, patients, families, and the community about the scope and mission of the care coordination program on an ongoing basis	Clarifying the scope, the objectives, and the roles and responsibilities of care coordination personnel helps to avoid confusion, allay concerns, and increase enthusiasm for the team-based effort
Partner with information technology staff to incorporate quality, financial, and satisfaction metrics in the system—before implementing the care coordination program	Patient complexity, varied levels of intervention, and the volume of patients that enter and exit the program create challenges in accurate data collection. It is vital, from the start, to have comprehensive repositories for storing, tracking, and retrieving data that are displayed in user-friendly formats

alternative payment mechanisms. Adopting those mechanisms will encourage more institutions to become involved in coordinated care in one way or another. As more organizations gain experience with coordinated care and with other alternatives, performance and costs should be carefully evaluated so that everyone can learn what works, for whom, and under what circumstances.

Further implementation of the Patient Protection and Affordable Care Act will potentially add 32 million currently uninsured Americans to an already burdened primary care system. This system finds itself in uncertain times as fewer medical school graduates seek careers in primary care.³⁴ Medical practices and health systems will need to find new approaches to managing patients with complex health profiles with fewer primary care physicians on the front lines. Patients with more than one chronic disease will have to be better equipped to manage their own illnesses.

Physicians who treat episodic care will need to focus more on managing chronic diseases. In this context, coordinated care is a proactive approach that will assist physicians, patients, and health care systems alike.^{20,26}

THE FUTURE OF COORDINATED CARE

Before the most recent economic downturn, Gundersen offered its care coordination services solely on the basis of patient need, not payment method. Approximately 31% of patients currently in care coordination are covered in a capitated structure. Gundersen will increase the number of patients under a capitated system to improve the program's financial performance. Gundersen is also in discussion with payers to receive reimbursement for care coordination services.

Gundersen's care coordination program continues to evolve. Existing processes are predicated on recent use and current information about complexity. Investigative activities

have recently been initiated to develop and apply enhanced predictive modeling, thereby encouraging even more proactive care provision. It is one level of challenge to mitigate or minimize charges; it is another level to avert use altogether whenever possible.

Gundersen's current program focuses on the 1% to 2% of patients with the most complex health profiles, but the next phases of the program will concentrate on patients in the top 3% to 7% of complexity. Appropriate interventions balancing cost and outcomes will need to be established for this somewhat less complex population. This phase is likely to involve technology-intensive activities, such as preprogrammed and automatic e-mail or telephone messages, individually designed to encourage adherence to established goals and regimens, coupled with group interventions and greater connections to community resources as appropriate.

The EMR system will feature enhanced individualized care plans, written in clear language, that span both inpatient and outpatient settings and aid in care transitions. Future work also will emphasize more clearly understanding the readiness and motivation of patients to care for themselves, while setting goals on the basis of what outcomes patients consider most relevant to their health care. However, the program is already paying dividends of the most important kind—those that affect patients and their families in profound ways. A recent incident is a case in point.

A care coordinator brought to light that a patient named Kate with heart and kidney disease, was unexpectedly deteriorating rapidly, yet end-of-life choices had not yet been discussed with her physician. Thanks to the care coordinator, the physician changed his schedule to meet with Kate and her family, and a do-not-resuscitate order was obtained. The result was that Kate avoided a costly inpatient admission that would have been contrary to her wishes, received only the interventions that she favored, and ultimately died with dignity.

Cases like Kate's illustrate that care coordination is not merely a set of processes that achieve outcomes that look impressive in a medical record, on a cost chart, or in an academic journal. It makes practical, powerful

differences in how individual patients actively manage their own health care with the aid of a team of professionals who collaborate effectively and focus on the big picture.

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Abbreviations and Acronyms: CMS = Centers for Medicare and Medicaid Services; EMR = electronic medical record

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