Challenging the Status Quo in Chronic Disease Care: Seven Case Studies

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Challenging the Status Quo in Chronic Disease Care: Seven Case Studies

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About the Foundation

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Contents

4 Executive Summary

10 I. Introduction

12 II. Chronic Care Management Approaches: Attributes and Drawbacks

17 III. Methodology

19 IV. Case Studies
   Sutter Health Sacramento Sierra Region
   Park Nicollet Health Services
   Integrated Resources for the Middlesex Area, LLC
   Billings Clinic
   Care Level Management
   Washington Hospital Center Medical House Call Program
   MDxL

35 V. Findings

43 VI. Policy Implications

46 VII. Conclusion

47 Endnotes
Introduction

One of the most compelling challenges that Medicare and other payers face is the burden and associated cost of care for beneficiaries who have one or more chronic conditions, particularly those that interfere with daily functioning. About 78 percent of Medicare beneficiaries have at least one chronic condition and 63 percent have two or more. Such patients account for a highly disproportionate amount of Medicare spending. For example, patients with five or more chronic conditions account for about two-thirds of Medicare spending. Looked at another way, the most costly 5 percent of beneficiaries, most of whom are frail or have chronic conditions, account for 47 percent of total Medicare spending each year, while the most costly 20 percent of members account for 84 percent of costs.

Yet clinical research, practice guidelines, and physician education rarely consider the complexity of clinical, social, and financial interactions among multiple co-morbidities in this growing segment of the elderly and disabled population. Physicians have been largely on their own trying to care for these patients; their training has oriented them to focusing on the immediate condition within their expertise. The culture, structure, and financial incentives of medical practice often limit physicians’ ability to meet the complex needs of chronically ill patients.

Two prototypical strategies have been developed to try to fill the gaps in chronic care: third-party “disease management” and the medical group-based Chronic Care Model (CCM). The former is essentially a “bypass” strategy that assumes that physicians will not change their practice orientation to focus more on chronic care management. The latter, in contrast, requires a major restructuring of clinical practice that may not be feasible in many situations.

The author was primarily interested in exploring existing approaches that avoid the shortfalls of these two strategies. Alternative models to the CCM have emerged in fee-for-service settings as well as in cutting-edge provider organizations in capitated environments. The provider-based programs that are described in the case studies offer promise because they
neither bypass patients’ physicians nor demand a full commitment to the Chronic Care Model. In particular, the researchers wanted to learn about barriers to innovation in caring for chronically ill patients and how exemplary organizations were grappling with those impediments.

**Methods**

Case studies were developed through site visits to seven organizations that are doing something unique in caring for patients with chronic conditions. The sample was an opportunistic one and was not designed to be representative of the range of approaches being implemented across diverse health systems and health plans. A few of the organizations were included because their strategies are innovative. Others were selected because they are known to be innovative organizations generally. The organizations selected for case studies include:

1. Sutter Health Sacramento Sierra Region, a fully integrated delivery system with extensive experience with California-style professional and global capitation.
2. Park Nicollet Health Services, a Twin Cities, Minnesota, integrated delivery system in a fee-for-service (FFS) payment environment.
3. Integrated Services for the Middlesex Area, an entity similar to a physician-hospital organization (PHO) in suburban Connecticut supporting independent physicians in small community practices.
4. Billings Clinic, a multi-specialty group practice that includes rural practice sites.
5. Care Level Management, a privately held company with headquarters in Calabasas, California, that contracts with private Medicare Advantage plans in sites around the country to provide home visits to high-cost patients.
6. The Washington Hospital Center Medical House Call Program, based in the geriatrics department of the hospital, based in Washington, D.C.
7. MDxL, a privately held company with headquarters in Springfield, Virginia, that contracts with private health plans in the local area to provide specialty care in emergency departments to avert hospitalizations.

**Findings**

The case studies confirm the perception that health delivery systems generally fail to provide the care management needed by patients with chronic conditions. The care available to most of these patients—especially those who are frail or have multiple conditions—is suboptimal in quality and generates unnecessary spending, mostly as a result of avoidable hospitalizations.

The case study participants all describe perverse incentives within fee-for-service environments that influence provider behavior and can affect the willingness of organizations to initiate programs that complement regular delivery systems.

The case studies illustrate that there are practical alternatives to the Chronic Care Model and the third-party contract model that deserve much more attention in the literature and among legislative and policy decisionmakers.
The site visit interviews produced nine major findings:

1. Physicians and hospitals can do much more to manage patients who have chronic conditions. The various approaches studied either substitute physicians better able to take on particular challenges of managing chronically ill patients, provide a complementary team relying on nurses and other non-physician professionals, or provide additional physicians to serve as extensions of the principal physician’s practice. For a number of reasons these organizations do not think that health plan-sponsored disease and case management has been a satisfactory solution, partly because of the absence of active physician engagement in such programs.

2. There are viable models of chronic care management that fall between the Chronic Care Model and third-party programs. The provider-based approaches were shaped in important ways by site-specific historical, cultural, and organizational factors. The case studies suggest that—at least the Chronic Care Model may still be perceived as the standard-individual organizations can and do develop programs that omit one or more CCM elements. In particular, the case study sites do not attempt to redesign the traditional practice of frontline primary care physicians (PCPs).

On the other hand, the programs do not bypass the physician practices as many third-party approaches do. All of the programs promote closer links between providers and patients. They attempt in various ways to decrease the intrusion on traditional practice that many physicians object to in third-party programs.

3. Although third-party disease management remains the dominant framework for chronic care improvement, some health plans also support innovative approaches that more closely relate to patients’ regular source of care. Alternatives to third-party disease management have been adopted in the delegated, capitation model used widely in California, as well as in other parts of the country where fee-for-service dominates. Some health plans are attempting to more closely interact with patients and physicians, rather than relying solely on nurse-patient telephonic communication outside of the physician-patient relationship.

4. Provider-based programs carefully distinguish among patients based on their specific clinical conditions and other assessments. The case study interviewees emphasized that important clinical differences among patients necessitate different approaches to office, telephone, and home encounters, as well as different arrays of medical professionals. Programs differentiate among patients who are able to travel for office visits and communicate well from those with serious daily activity limitations, dementia, incontinence, or other geriatric problems. Patients may also be categorized by the complexity of their management needs. For example, programs targeting congestive heart failure (CHF) patients and those serving diabetes patients have important differences that are based on typical patient needs and capabilities.
5. Approaches to case management for medically complex patients vary more than do disease-management programs for patients who have one or more chronic conditions. The frail elderly exhibit a range of problems that do not easily lend themselves to telephone monitoring based on clinical practice guidelines by nurse clinicians. Rather, programs rely more on point-of-care decision making, usually face-to-face with patients by physicians and other skilled health professionals such as geriatric nurse practitioners.

6. Capitation is more compatible with chronic care programs and their patient populations than fee-for-service reimbursement. A positive attribute of capitation is the flexibility it affords the provider organization, which can allocate funds to support their particular programs rather than fitting into the specified codes that govern FFS reimbursement. More important, capitation enables organizations to benefit directly from the reduced expenditures that result from their programs. Rather than being simply cost centers, chronic care programs under capitation can become revenue centers. The shared savings approach Medicare is testing in the physician group practice demonstration may provide a practical alternative in some situations for altering the financial incentives inherent in FFS reimbursement.

7. Medicare payment rules greatly influence the configuration of chronic care programs. The site interviews confirmed that an important consideration in programs is the ability to have services reimbursed by Medicare; under different Medicare payment rules, the interventions would have been structured differently. Participants suggested that flexible payment arrangements, such as “per patient per month,” are more conducive to chronic care programs than is FFS reimbursement.

8. The negative business case for hospitals has a bright side. A common theme among interviewees is the negative return on investment (ROI) for hospitals that generate expenses—mostly for staff salaries—but no revenues for their involvement in chronic care programs. In a predominantly FFS environment in which hospital payments are made as case rates with Medicare or as per diems, case rates, or discounts off of charges with private insurers, hospitals lose revenue when patients receive ambulatory services that decrease the need for hospitalization. Further, it became clear that the negative ROI limited the robustness of the programs. However, a number of factors mitigate this generally negative business case. By reducing readmissions for medical patients with chronic conditions, hospitals near full capacity are able to free up beds for more profitable surgical patients. Patients who are readmitted often have a shorter and less intensive hospital stay, thereby keeping costs down. Finally, hospital-sponsored chronic care programs improve the hospital’s reputation and may draw patients from other hospital systems.
9. **Communications, monitoring, and data-sharing technologies enhance chronic care programs, but state-of-the art technologies are not essential.** Those organizations able to introduce integrated electronic medical records (EMRs) into a group practice environment found that it facilitated some chronic care management activities, particularly disease management tasks targeted to patients with specific chronic conditions. Information systems that permitted use of disease registries also promoted chronic care management activities. When embedded within an EMR, the disease registry can be coordinated with patient-specific disease management modules to provide point-of-care information to principal physicians to enhance the outcomes of office visits. At the same time, the disease-management programs visited did not rely heavily on telemonitoring devices and thought that most patients could satisfactorily monitor their own conditions, taking their own blood pressures and weights, and performing simple tests, such as assessing peak flow rates in asthma.

**Policy Implications**

Eighty-five percent of Medicare beneficiaries remain in the original FFS program. As emphasized by virtually all of the site visit respondents, payment codes exclude many of the specific activities that chronic care programs carry out; additionally payment rules limit program flexibility with regard to the professionals eligible for reimbursement. These policies combine to limit the robustness of chronic care programs.

There is an opportunity to carefully expand codes and to liberalize payment rules to support some worthwhile activities. For example, physicians might be reimbursed for the specific professional activities associated with providing a detailed referral to a disease-management or care coordination program. Team conferences with patients and families to discuss specific milestone events, such as palliative care options, might be coded and paid for. The various home visit approaches might be better supported with some additional allowance for travel time.

As important as such payment enhancements are, important program integrity concerns remain. The “soft” nature of the services, including telephone conversations with patients, makes them subject to overuse, especially in the absence of substantial patient cost-sharing requirements. Similarly, the documentation requirements that typically accompany FFS reimbursements could either become extremely burdensome or, alternatively, simply ignored. Under routine FFS rules and procedures, the services could be paid for without actually being provided. In any case, it is unlikely that the Chronic Care Model or the provider-based approaches examined in this report can be adequately supported with FFS payments for specific patient-professional interactions.

Rather, chronic care management would be better supported with per patient per month (PPPM) payments, permitting the recipient organization to allocate staff and other resources, determine the appropriate mix of office and home visits, devise patient education and self-management protocols, and configure telephonic and Web-based communications. The PPPM payment amounts could be adjusted for underlying health status.
The site visits confirmed that engaging the patient’s principal physician is crucial to the success of chronic care management programs. But in contrast to the Chronic Care Model standards, principal physicians do not need to be members of multidisciplinary teams or engage in practice redesign. Therefore payment configurations should support practices that complement usual care delivery for their chronically ill patients, as well as those that implement the full Chronic Care Model. PPPM payment amounts would vary depending on whether organizations were assuming risk for all health care, as envisioned in the Chronic Care Model, or only for conducting specific chronic care management activities. Potential recipient organizations should include physician group practices, independent practice associations (IPAs), PHOs, and management services organizations (MSOs). Smaller physician groups, such as geriatric practices, might be able to qualify, but small, generalist practices probably would not have a sufficient base of patients in need of chronic care management services. Health plan and freestanding vendor-based disease management programs might also qualify if they demonstrate the ability to engage practicing physicians. Clinician-dominated, freestanding vendor organizations would also be eligible.

Policymakers might consider changing the negative business case for those hospitals willing and able to make a major commitment to chronic care management for a significant subset of their patient populations. Under the modified approach, hospitals would be paid differently for patients with designated ambulatory care sensitive conditions. A hospital readmission, even on the same day, now generates a full diagnosis related group (DRG) payment under PPS. This policy should be changed.

The immediate policy challenge is to develop payment approaches in the context of fee-for-service reimbursement that would alter the negative business case for chronic care management that many providers face while ensuring the needed flexibility appropriate to the different delivery systems.
ONE OF THE MOST COMPELLING CHALLENGES for Medicare and other payers is the burden and associated cost of care for beneficiaries with chronic conditions. This is especially true when chronic illness interferes with daily functioning, requires multiple physicians and treatment regimens, and often leads to institutional stays. The problem is not small. Some 78 percent of Medicare beneficiaries have at least one chronic condition and 63 percent have two or more.¹

These beneficiaries account for a highly disproportionate amount of Medicare spending. For example, patients with five or more chronic conditions account for about two-thirds of Medicare spending.² Looked at another way, the most costly 5 percent of beneficiaries in each year account for 47 percent of total Medicare spending, while the most costly 20 percent account for 84 percent of spending.³ Further, a beneficiary ranked in the most expensive 5 percent of beneficiaries was five times more likely to die than the average beneficiary; one-fifth of the people in that group died by the end of that year.⁴

Most Medicare beneficiaries with a chronic condition also have other conditions. In fact, 80 percent of congestive heart failure (CHF) patients and 56 percent of diabetics have four or more chronic diseases in addition to their index disease.⁵ Yet clinical research, practice guidelines, and physician education rarely consider the complexity of clinical, social, and financial interactions among multiple co-morbidities in this growing segment of the elderly and disabled population.⁶ Physicians have been largely on their own trying to care for these patients; their training has oriented them to focusing on the immediate condition within their expertise. The culture and structure of medical practice often limit physicians’ ability to meet the complex needs of chronically ill patients.

Busy, frontline physicians are susceptible to the “tyranny of the urgent,” focusing their attention on patients with acute, often self-limited, problems, rather than engaging in the more time-consuming management of usually non-demanding patients with chronic problems.⁷ Physicians emphasize making diagnoses, ruling out serious disease, and recommending curative or symptom-relieving treatments, rather than painstakingly managing the less urgent, but predictable, needs of patients with chronic illness.
Further, physicians in traditional practice lack the time, information technology, and financial incentives to systematically improve the quality of care provided to these patients. In fact, Medicare payment policies do a better job compensating physicians for attending to their patients’ acute medical problems than the serious underlying conditions they may have. This is unfortunate because thoughtful intervention can change the trajectory of patients’ chronic illnesses and alter the nature and amount of care these patients will need.

The health care system is not oblivious to the reality of chronic conditions. Academic health centers in particular have traditionally provided discrete specialty clinics that target particular conditions such as CHF and diabetes. For the most part, these clinics, usually staffed by subspecialists, did not take into account the presence of important co-morbidities, relied on face-to-face contact in the clinic and were often oblivious to aspects of chronic care management that produce better outcomes than even expert subspecialty care can accomplish.

Alternative models of chronic care management built around primary care physicians have emerged. Generally the effective ones have been in limited settings such as multi-specialty group practices, where all of the pieces of a successful model are within the control of the organization. Chronic care management approaches are less frequent in other settings, where the vast majority of patient contacts occur and where the need for intervention is perhaps greater.

The specialty of geriatrics has evolved to address the problems of seniors whose chronic conditions interfere with activities of daily living and require complex care. Geriatricians address syndromes that often emerge in patients with multiple, long-standing chronic conditions, including cognitive impairment, falls and mobility disorders, and urinary incontinence. Yet, partly because of a payment system that is still oriented to acute medical events, there is a relative undersupply of geriatricians, many of whom practice in teaching settings that emphasize education rather than care delivery.

Two prototypical strategies have been developed to try to fill the gaps in chronic care: third-party “disease management” and the medical group-based “Chronic Care Model.” The former is essentially a “bypass” strategy that assumes physicians will not change their practice orientation to focus more on chronic care management. The latter, in contrast, requires a major restructuring of clinical practice that may not be feasible in many situations. Thus, we were primarily interested in exploring existing approaches that avoid the shortfalls of these two strategies. The alternative programs that are described in the case studies offer promise because they neither bypass patients’ physicians nor demand a full commitment to the Chronic Care Model.

We found that many organizations are engaged in practical approaches to support physicians caring for patients with chronic health conditions. For the most part, these intermediate approaches have not received much policy attention because emphasis has been placed on the “purer” models. By looking at the facilitators and barriers to implementation, we attempted to identify the kinds of policy changes that would permit a major expansion of these intermediate models, in the direction of the Chronic Care Model, which has become the standard for chronic care management, but of more practical value for many organizations.
II. Chronic Care Management Approaches: Attributes and Drawbacks

In the absence of a universal definition or terminology for the range of interventions designed to improve care for patients with chronic conditions, we have selected the term “chronic care management” for purposes of this research. The seven organizations visited displayed little consistency in the use of terms to describe different kinds of interventions for different kinds of patients. For example, a nurse with the title “case manager” in one setting and “disease manager” in another might be called a “care manager” in a third. Similarly, some refer to “disease management” as an approach that is performed by a third-party organization, usually vendors contracting with health plans; others describe their own activities as “disease management” also.

The terminology confusion extends to policy areas. For example, in the context of the programs described here, case management is typically performed by a nurse and implies focus on clinical, financial, and social issues for vulnerable or frail patients. Yet, some states support the Medicaid Primary Care Case Manager approach—the “medical home” framework that assumes primary care physicians and their staffs will coordinate all clinical care. Commercial managed care plans sometimes use “case manager” to refer to a physician’s role as the gatekeeper for all assigned patients’ access to health care services. Still others refer to case management as the role of social workers to address patients’ non-clinical issues.

It is not the goal of this study to resolve such terminology confusion. We describe three basic approaches, labeling them “disease management,” “case management,” and the “Chronic Care Model,” and then examine what the case study organizations are doing in relation to these standard approaches.

It must be noted that other complementary activities that organizations employ to improve care for chronically ill patients are not explored here. Such activities include processes for facilitating transitions across clinical settings, such as from hospital to skilled nursing facility or to home. Likewise, the organization and funding of palliative care or hospice activities are not specifically addressed in this research. However, it is important that any changes to Medicare and other payer policies to improve chronic care should address the current limitations in payment for end-of-life care.
Disease Management

Third-party disease management vendors typically focus on identifying chronically ill patients and communicating frequently with them (usually by phone) to help them self-manage their conditions and avert more serious problems that could result in unnecessary interventions and avoidable hospitalizations. Disease management companies and sophisticated health plans that offer disease management in-house use predictive modeling, decision-support software, and remote monitoring devices to complement the core nurse-patient communication approach.

Often targeting different interventions to various subsets of the chronically ill population, these organizations primarily serve a surveillance function—to ensure that the patient’s treatment plan is being adhered to and to detect any deterioration in clinical status. Some programs also engage patients in self-management education by phone. Although the term “disease management” has typically implied implementation through contracted vendors, similar approaches to engaging the patient can be adopted by other entities. These include hospitals, physician-hospital organizations (PHOs), and management services organizations (MSOs). Some of the case studies explore the exportation of disease management to organizations that are closely affiliated with practicing physicians.

Disease management has become a staple of most large insurance programs (both HMO and PPO types) and is used for commercial patients and for Medicare beneficiaries in Medicare Advantage plans. However, there is insufficient evidence to conclude that third-party disease management reduces health care costs in general, although it may be that the approach does save money for some patients under some circumstances. The problem with evaluation has mostly been methodological because there have been no randomized trials of the intervention.

Case Management

Case management has been used for many years by health plans to support care for a particular subset of patients who typically are the most complex. These patients—often categorized as “vulnerable” and “frail”—are at higher risk for being hospitalized and having adverse health outcomes due to a combination of health, functional, and social problems. Because these patients are defined less by their clinical diagnoses than by their functional limitations, case management sometimes involves an approach more customized to the individual needs of particular patients. (However, as we will describe, some of the case study organizations challenge this customization, believing that this vulnerable population is best served by physicians able to respond to the particular needs of each medically complex patient.)

Case management, like disease management, is mainly delivered by telephone. But case management focuses less on the condition and more on functional abilities (such as activities of daily living), social issues (such as caregiver burden and transportation needs), and emotional effects (such as depression and loneliness). It is not uncommon in health plan and vendor-based disease management programs to triage patients from disease management to case management as a patient’s condition worsens. Patients in case management usually are at higher risk for unanticipated hospitalizations and other costly care than are patients in disease management. Because of the heterogeneity of case management interventions tested and outcomes evaluated, it is difficult to analyze overall patient well-being and costs of this approach, despite its inherent logic.
The Chronic Care Model

Developed by Ed Wagner and colleagues at the MacColl Institute at Group Health Cooperative of Puget Sound, the Chronic Care Model (CCM) has been shown in a number of studies to improve processes and outcomes for patients with chronic conditions. As with third-party disease management programs, the CCM attempts to create informed, active patients with improved self-management skills for their chronic illnesses. But in addition to telephone interaction primarily between a nurse and the patient, the CCM promotes reorganization of the physician practice. Instead of working around the patient’s principal physician—the primary care physician or specialist who assumes responsibility for a patient’s particular health condition—the CCM tries to fully involve the physician in a new practice approach.

The fully implemented Chronic Care Model relies on multidisciplinary teams of professionals who collaboratively educate, counsel, and empower patients with self-care techniques to manage their chronic conditions. Individually tailored evidence-based treatment plans guide clinical decision making and the recommended frequency of patient visits. Patients are charged with undertaking lifestyle and behavioral changes to manage their conditions responsibly. Health information technology is a core component of practice redesign, which also includes the use of disease registries that permit outreach to all patients with a certain condition, not just those who present for care. The CCM also calls for greater involvement of non-physician professionals, and the team establishes links with community resources to help address the non-clinical needs that many patients with chronic conditions have.

The full implementation of the CCM with all its components has mostly been successful in multi-specialty group practices. Randomized, controlled trials demonstrate the ability to improve clinical outcomes, limit hospital and nursing home use, and reduce costs. Yet there are reasons why this model has not expanded beyond a relatively few delivery sites. First, the successful implementations have typically occurred in practices that have the requisite infrastructure to incorporate the patient’s principal physician as an integral part of a redefined health care team. Second, these successful programs have generally have been outside of standard fee-for-service (FFS) environments, either relying on capitated financing or on funding from the demonstration to support revenue shortfalls that occur when utilization is reduced in a FFS environment. Further, the successful implementations have been marked by dedicated leadership and commitment to the approach. Most care in Medicare continues to be provided by physicians in small practices lacking the requisite commitment and capacity to implement the full Chronic Care Model.

Implications for Medicare and Other Payers

Despite the CCM’s proven value in some instances, traditional Medicare has difficulty supporting the model because of Medicare’s reliance on FFS and its very specific rules about which providers are eligible to be paid and under what circumstances. Non-physicians (except nurse practitioners and physician assistants) are generally not eligible to be paid by Medicare unless the service is “incident to” a physician’s service, and, even then, payment is possible only under certain circumstances. Current payments for evaluation and management services assume that chronic care management activities are performed as part of pre- and post-service work associated with
standard office visits; however, because these activities are not specifically recognized for payment, busy physicians may not be provide such services, in their attempt to generate more reimbursable face-to-face visits.

As a result, the combination of restrictive payment policies and physician concerns about providing non-reimbursable services leads to inadequate patient education, patient group visits, communications with other professionals and community resources, and multidisciplinary group conferences. Explicit payments for these and related activities could only be made if there were explicit congressional authorization, as was the case with diabetes education.29,30 Private payers, such as health plans and self-funded employer plans, are not constrained by law as Medicare is, but they are rightly concerned that what apparently works in pilots might not be successful in organizations without sufficient structure or commitment to the Chronic Care Model. The range of new professionals and additional activities called for by the CCM raise financial risk concerns for all payers with a substantial population of chronically ill patients.

Rather than overhauling payment rules to support the Chronic Care Model or modified approaches, Congress decided to test the third-party disease management approach. Section 721 of the Medicare Modernization Act (MMA) established the Chronic Care Improvement Program, now called the Medicare Health Support pilot. Initiated in 2005, the pilot program sets up the first randomized trial of disease management. At eight sites, it aims to voluntarily enroll 160,000 individuals who have CHF, complex diabetes, or chronic obstructive pulmonary disease (COPD).

The Centers for Medicare and Medicaid Services (CMS) pays the contracting organizations a care management fee for each assigned beneficiary; but all or part of this fee must be paid back if the contractor fails to realize a 5 percent net savings in relation to matched control groups or fails to achieve certain quality improvement objectives. Importantly, the payment streams to these disease management contractors are completely separate from payments to providers.

In short, rather than attempting to compensate providers directly for implementing the Chronic Care Model in the traditional Medicare FFS program, Congress opted for the same bypass strategy that health plans have chosen: They contract with disease management vendors, who interact with patients rather than with physicians and their practices. The Centers for Medicare and Medicaid Services (CMS) has indicated that it wants the vendors to engage physicians more actively than many commercial disease management programs have done in the past. Some of the awardees are attempting to do so by identifying and compensating physicians, particularly for providing a summary of selected patients’ clinical information as well as advice to guide the program-patient interactions.31 But the physician engagement activities are limited and do not attempt to accomplish practice redesign, which, if successful, would make the vendors dispensable. Further, it is not clear that third-party, telephone-based disease management programs that target specific chronic diseases (even with attention to co-morbidities), will satisfactorily work for the highest risk patients. These are patients with multiple chronic conditions, cognitive impairments, limitations in activities of daily living, or a history of unanticipated hospitalizations.
Alternative Approaches
In addition to the CCM and the vendor-supplied options discussed above, there are a variety of hybrid initiatives also taking place throughout the country. Many of these other approaches offer promise.

The University of Pennsylvania, for example, implemented a model in which advanced practice nurses (nurses with master’s degrees) coordinated care for high-risk, older CHF patients throughout an episode of care by physicians, pharmacists, social workers, registered nurses and others. In a trial, hospitalized patients in this program experienced lower rates of readmission and a longer interval to death than patients undergoing routine care. Further, although the direct costs of providing the nurse intervention increased ambulatory care costs for these patients, the increase was more than offset by cost savings from fewer hospital readmissions.32

Objectives of the Case Studies
Our interest in conducting this research was to identify provider-based approaches to caring for patients with chronic conditions that are less demanding than the Chronic Care Model and that have realistic expectations of what physicians are willing and able to do to modify their own practices.

Alternative strategies to the CCM have emerged in fee-for-service settings as well as in cutting-edge provider organizations in capitated environments. We wanted to learn about barriers to innovation in caring for chronically ill patients and how exemplary organizations were grappling with those impediments.

Health plans, for their part, while promoting their third-party disease and case management approaches, have also adopted other approaches, usually to accomplish other objectives. We identified two such approaches to the problem of excessive spending associated with chronically ill patients; what they have in common is heavy reliance on physicians.

Overall, the purpose of this research is to help inform policy for those payers, particularly traditional Medicare and Medicare Advantage plans serving a broad spectrum of Medicare patients with chronic conditions.
III. Methodology

We conducted case studies through site visits to seven organizations that are doing something unique in caring for patients with chronic conditions. The sample was an opportunistic one and was not designed to be representative of the range of approaches being implemented across diverse health systems and health plans. A few of the organizations were included because their strategies are innovative. Others were selected because they are known to be innovative organizations.

In particular, the researchers focused on ways the programs affected the routine activities of the principal physician for patients with chronic conditions. At the same time, we looked at these patients’ hospitals, which potentially can become a major source of both funding and staffing for chronic care management programs. We over-weighted the case study sample with organizations that had an important hospital component in order to identify factors that influence hospitals’ willingness to support innovative approaches.

Finally, in the small case study sample, we attempted to balance geographic location (i.e., rural, urban, and suburban areas and regions of the country); types of practice affiliations (i.e., fully integrated delivery systems and loosely affiliated providers); and payment systems and managed care arrangements. Four of the organizations participate in original Medicare demonstrations in which their approaches to beneficiaries with chronic conditions are being tested. Six of the programs serve Medicare beneficiaries in one way or another, and one serves only employer-sponsored insurance patients. One of the programs cares mostly for low-income patients who are dual-eligible for Medicare and Medicaid.

The case studies were based primarily on site visit interviews with senior staff members responsible for administering the programs. Our objective was not to provide a critical review of the programs. Rather, the goal was to understand the program rationale, design, and facilitators and barriers to success from the perspective of those managing the programs. We found program innovators to be very candid about successes and limitations.
Each program’s business model was a focal point: how the approach could be sustained or expanded and what policy changes by Medicare and other payers might facilitate that. The report concludes with a summary analysis of important lessons and recommendations for policymakers and organizations attempting to introduce chronic care management approaches.

The organizations selected for case studies are:

1. Sutter Health Sacramento Sierra Region, a fully integrated delivery system with extensive experience with California-style professional and global capitation.

2. Park Nicollet Health Services, a Twin Cities, Minnesota, integrated delivery system in a FFS payment environment.

3. Integrated Services for the Middlesex Area, an PHO-like entity in suburban Connecticut supporting independent physicians in small community practices.

4. Billings Clinic, a multi-specialty group practice that includes rural practice sites.

5. Care Level Management, a privately held company with headquarters in Calabasas, California, that contracts with private Medicare Advantage plans in a number of sites around the country to provide home visits to high-cost patients.

6. The Washington Hospital Center Medical House Call Program, based in the geriatrics department of the hospital in Washington, D.C.

7. MDxL, a privately held company with headquarters in Springfield, Virginia, that contracts with private health plans in the area to provide specialty care in emergency departments to avert hospitalizations.

The author conducted the site visit interviews during the summer and fall of 2005. Interviewees had an opportunity to review and comment on the write-ups shortly before publication. However, some specific information may have changed from the times of the interviews. The author interviewed:

- Sutter Health: Cheryl Phillips, M.D., medical director, senior services and chronic care; and other senior staff members
- Park Nicollet Health Services: David Abelson, M.D., vice president of strategic improvement; and other senior staff members
- Integrated Resources for the Middlesex Area, LLC: Katherine Schneider, M.D., chief medical officer; Susan Menichetti, chief executive officer; and other senior staff members
- Billings Clinic: F. Douglas Carr, M.D., M.M.M., medical director, clinical operations; and other senior staff members
- Care Level Management: Joseph W. Spooner, M.D., M.B.A., senior vice president, outcomes, academic and government relations; and other senior staff members
- Washington Hospital Center: George Taler, M.D., director, long-term care; and other senior staff members
- MDxL: Arthur Rubin, M.D.; and Robert McCluskey, chief operating officer
Sutter Health Sacramento Sierra Region

Sutter Health Sacramento Sierra Region (Sutter Sac-Sierra) includes five hospital campuses and three large medical groups, or IPAs. It is one regional part of the Sutter Health System, which has 27 acute care hospitals and more than 3,400 physicians in seven physician medical foundations. The Sutter Sac-Sierra physicians, who serve a geographic area extending over three counties and a 100-mile service area, participate in one of two foundation-model medical groups—Sutter Medical Group and Sutter West Medical Group—or in an IPA called Sutter Independent Physicians. The system is vertically integrated and owns some skilled nursing facilities, home health, and hospice services.

A substantial portion of Sutter Sac-Sierra’s business is provided on a capitated, financial risk basis, sometimes involving full, global capitation in which the hospital is at risk with the medical groups. More often in recent years, the system has assumed financial risk for professional, but not hospital, services. Of its 200,000 capitated patients, more than 75 percent are under global capitation. About 15,000 of these are seniors with Medicare Advantage plans (PacifiCare’s Secure Horizons and Health Net), and the remaining 25 percent of commercial members are under professional capitation only.

The Programs

Since 1999, Sutter Sac-Sierra has used a disease management program that complements a “care coordination” program. Initially, CHF was a Pacific Care vendor disease management program that was brought “in house” as part of the broader chronic care model. 1999 the disease management component has expanded to include anticoagulation, asthma, diabetes, and depression in seniors. Disease management has a specific disease focus, whereas care coordination addresses higher-acuity patients without regard to diagnosis. An electronic medical record (EMR), the EPIC system, has been used in the two medical groups since 2003.
Care Coordination Program

The care coordination team is composed of registered nurses in the physician office setting and medical social workers and “health care coordinators” who each work with some 200 patients and their families, serving about 2,000 patients altogether. A clinical pharmacist is available to provide advice to the team and patients.

Patients select a primary care physician who—in a departure from the Chronic Care Model—is not part of the formal team; busy physicians are reluctant to attend team meetings. However, team members describe a “fluid dialog” between care coordination team members and primary care physicians (PCPs). The team includes a Medicare director, who provides guidance on complex clinical matters. The care coordination program interventions, which are not typically part of routine physician care, may include:

- Integrated care planning and interventions through home and telephone assessments;
- Emotional support for caregivers and assistance with obtaining respite and community resources;
- Monitoring of symptoms and early detection of acute exacerbations;
- Injury prevention through home safety evaluations;
- Education about the disease and symptom management for patients and caregivers;
- Coordination and referral to Sutter services; and
- Assistance with end-of-life issues, including advanced directives and hospice referral.

An individualized care plan is developed for each patient by a registered nurse or master of social work, after which implementation is transferred to a “health care coordinator,” who usually does not have advanced training beyond a bachelor’s degree. Most patients have an office visit and a home assessment, which includes a mini-mental status exam and a depression screen. The care coordination professionals are located in the actual practices, an arrangement that promotes physician referrals, the major source of patients in the program.

Disease Management Programs

Current disease management programs are oriented toward patients with congestive heart failure (CHF), asthma, and those on oral anticoagulants. They have received certifications from the Joint Commission on Accreditation of Healthcare Organizations (JCAHO). The Sutter Heart Failure Telemanagement program serves about 500 patients. Non-R.N.-trained “specialists” provide consultation, support, and information through regular telephone appointments—usually one per month. The specialists work with nurses who have expertise in cardiovascular diseases. The nurses rely on symptom-based protocols to adjust medications without having to obtain initial approval from the PCP. The CHF program’s specialists and nurses are located with about 25 primary care physicians in the various group practices. Patients are identified through physician referral and mining of administrative data. Even with predictive modeling software, RiskSmart, early identification remains a major challenge.
CHF disease manager services include:

- Scheduled telephone monitoring of patient signs and symptoms, and medication adjustment;
- Extensive teaching about CHF, diet, medication, symptom recognition, exercise and activity planning, risk factors, and chronic illness coping skills; and
- Coordination and referral to Sutter services.

Program measurement is disease-specific. CHF measures include: use of appropriate medication; visits to the PCP, specialist, and emergency department (ED) for heart failure; admissions for CHF; and patient quality of life based on a survey. Tracking data on CHF visits shows that program nurse interactions often substitute for physician visits.

A similar program for patients on oral anticoagulants serves about 1,800 patients. Compared to the CHF program, it relies more on registered nurses and less on other professionals. Sutter has also started an asthma disease management program for adults and children (with 75 patients), and an adult diabetes program (with 2,000 patients). Depression is likely to be an upcoming target for disease management.

Patients in one of the disease management programs are sometimes referred to care coordination when their condition worsens. Despite often having multiple chronic conditions, each patient is assigned one primary care coordinator, unless the patient is also in the anticoagulation program.

**Lessons Learned**

Sutter Sac-Sierra hospitals fund more than half of the disease management and care coordination programs, so the hospitals’ business case is important. Financial analysis suggested that under Medicare hospital prospective payment, medical patients are relative losers, and surgical patients are relative winners. Therefore, when Sutter’s hospitals had 85 percent to 90 percent occupancy in 2001-2002, it became important to keep beds for surgical admissions. The system lost money on “observation” patients who stayed less than 24 hours. Further, many of the medical admissions were high-intensity, often requiring ICU stays that Medicare diagnosis related group (DRG) payments did not cover. Therefore the care coordination and disease management programs, by avoiding some medical admissions for common chronic conditions, did support the hospitals’ business case—even under traditional, FFS Medicare. The Sutter shorthand became “lose DRG, gain space.”

The CHF and anticoagulation programs have saved money on capitated managed care patients by reducing visits to primary care physicians, ED visits, and hospital admissions, although there have been some increases in home health and skilled nursing facility costs. Attempts to reduce hospitalizations for diabetes have not shown an immediate payback. However, some perceive that a better infrastructure for chronic disease management leads to better inpatient management and, therefore, a less costly stay.
The return on investment (ROI) on FFS patients is more problematic, although not uniformly negative. Sutter wants to provide a single standard of care for all patients, but its chronic care programs do not have the capacity to do all it might for Medicare patients. About 42 percent of patients in the care coordination program are non-managed care, mostly traditional Medicare patients. In contrast, in the CHF program, only 30 percent are non-managed care, with most enrolled in Medicare Advantage plans.

Sutter Sac-Sierra’s internal chronic care programs duplicate attempts by health plans and their disease management vendors to intervene with the same patients. This “polymanagement syndrome” frustrates patients and physicians. Further, physicians are frustrated responding to outside personnel whom they consider extraneous, given Sutter’s commitment to chronic care management. The group practice physicians have become advocates, which has led to the program expansion to non-managed care patients. It follows that IPA physicians in their own practices create unique challenges, but most remain involved and supportive of the program.

**Park Nicollet Health Services**

Park Nicollet Health Services is a nonprofit integrated delivery system that includes two major entities. Methodist Hospital near Minneapolis has 426 licensed beds, 2,800 employees, and more than 960 physicians on staff. It is JCAHO-certified as a health care system. Some of its inpatient stays are contracted to other facilities. Park Nicollet is one of the largest multi-specialty clinics in the United States, with nearly 500 physicians and 300 clinical professionals on staff. There are 45 medical specialties represented at 25 clinics throughout the Twin Cities area. With a mission-driven culture, Park Nicollet is one of the most successful and highly regarded multi-specialty group practices in the country.

**The Programs**

Park Nicollet developed clinical practice guidelines (CPGs) for chronic conditions such as coronary artery disease, diabetes, and hypertension. A statewide focus on CPGs oriented to physicians provided a basis for Park Nicollet’s ability to respond to health plan-initiated pay-for-performance efforts emphasizing secondary prevention.

Park Nicollet created a Heart Failure Clinic, which gives intensive post-hospital attention to the sickest patients, including those with biventricular pacemakers or intra-cardiac defibrillators. Referral criteria include: patients with ejection fractions below 35; those in Classes III or IV; and those with multiple hospital admissions. In contrast to typical disease management approaches, the heart failure clinic often transfers primary care from a generalist to cardiologists. The specialists, in turn, rely on physician assistants (PAs), who can bill Medicare directly.

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Park Nicollet developed its own in-house disease management programs, contracting with an outside vendor, Pharos Innovations, LLC. A systemwide, integrated EMR embedded in a sophisticated information system enables the monitoring of a CHF disease registry. About a third of CHF patients in the system are monitored.

The Pharos Tel-Assurance technology platform permits patients to use either telephone or Web interface to report data relevant to their CHF (such as symptoms and weight) on a daily basis. Nurse “case managers” review patients’ responses via Pharos’s Web site each day and respond telephonically when there are significant, abnormal findings. This approach permits the case managers to work with variance lists of those patients who show evidence of early clinical deterioration and thus to monitor a larger number of CHF patients than possible if they were calling stable patients daily. They interact with clinicians as well. The program has four case managers for 600 patients but projects a larger patient base with reliance on the Tel-Assurance platform. Protocols give the nurse case managers limited authority to modify medications, something that third-party disease management nurses typically refrain from doing.

A disease management program for diabetes also relies on a disease registry of patients in the system. The registry is overseen by a nurse “population manager” who identifies patients who are overdue for tests or visits or who have not achieved agreed-upon clinical goals. The nurse sends letters to patients identifying deficiencies and schedules follow-up appointments electronically. The population manager acts as an intermediary between the patient’s principal physician and the patient, although it is oriented more to patients than physicians. The EMR permits physicians to identify clinical deficiencies in real time as they are seeing patients. The reliance on a population manager nurse to maintain the information within the diabetes registry limits reliance on physician “list management,” a chore that busy physicians seek to avoid.

Population managers may be located in clinical practice sites, permitting them to converse directly with physicians about patient-related issues. The system has initiated “point of care testing” for patients to improve their interaction with physicians in office visits. Diabetic patients needing laboratory tests are asked to come to the practice site 30 minutes early for blood testing performed on site-based, chemical auto-analyzers. The test results are available during the office visit, and physicians can treat and advise patients based on current lab tests, rather than having to engage in follow-up phone calls, letters, and office visits. Finally, as with other programs, Park Nicollet’s diabetes program relies on reimbursed diabetes educators, who work with patients to initiate insulin treatment and to educate them about glucose meters, nutrition, and other self-management approaches.

Park Nicollet is planning to expand its disease management programs to include coronary artery disease, hypertension, and preventive care. The system is also interested in working with frail elderly patients who are potentially high utilizers of inpatient and outpatient services. The senior care department, staffed by geriatricians, will focus on palliative care for patients with severe and worsening heart failure.
Lessons Learned
Park Nicollet’s approaches have been shaped by the incentives and rules that support FFS payment. The need to generate a revenue base to support chronic care activities has impeded the robustness of the programs.

Park Nicollet is one of ten multi-specialty group practices with at least 200 physicians selected for the Physician Group Practice (PGP) Demonstration Project initially mandated by Congress. Since April 2005, CMS has assigned beneficiaries to the practice. If actual Part A and B expenditures for the assigned population are less than expected and certain quality targets are met, the group practice shares in savings with Medicare; thus, there is an incentive to reduce expenses for patients with chronic conditions as well as to maintain quality that is consistent with pay-for-performance initiatives among private purchasers and health plans. Park Nicollet hopes that the incentives of the PGP demonstration can support the range of chronic care management programs the practice would like to introduce and maintain.

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Integrated Resources for the Middlesex Area, LLC
Integrated Resources for the Middlesex Area, LLC (IRMA), founded in 1996, is based in Middlesex County, Connecticut. IRMA provides clinical management services on behalf of Middlesex Hospital and the 260 physicians on its medical staff. Sixty of those physicians are directly employed by the 275-bed Middlesex Hospital, the county’s only acute care hospital. Each of the physicians signed individual “opt-ins” confirming their desire to participate in the CMS Physician Group Practice Demonstration Project, which was also endorsed by the local IPA, Middlesex Professional Services. The hospital runs the area’s largest home health agency and one of the oldest hospice programs in the country.

IRMA, a limited liability corporation subsidiary of the Middlesex Health System, is governed by a board of managers with eight physician members, the IRMA chief executive officer (CEO), and the CEO and chief financial officer (CFO) of Middlesex Hospital. The health system, a not-for-profit holding company, is the sole owner of IRMA. Given the physician majority on the board, the operating agreement requires that major issues are decided by a super-majority, thereby ensuring that hospital interests are always represented. As a matter of practice, the board has never moved forward on an issue without a consensus of physician and hospital opinions.

For the most part, IRMA functions as a PHO, joining the interests of a hospital system—including subsidiary home health, hospice care, and employed physicians—with those of physicians in private practices throughout the community. Virtually all reimbursement to components of the health system served by IRMA is fee-for-service. Almost all Medicare patients in the county remain in traditional Medicare.
The Programs

IRMA administers its own disease management programs for asthma (expanded to include children), smoking cessation, and diabetes, and has recently initiated a CHF program targeted to sicker patients who have experienced frequent hospitalizations. IRMA also manages reimbursable diabetes education programs, and an anticoagulation disease management program is under discussion. IRMA was the first provider-based organization to receive National Committee for Quality Assurance (NCQA) accreditation for disease management, in their case for asthma and diabetes. It has since been recertified for asthma and diabetes and has also received accreditation for smoking cessation.

In contrast to external disease management programs that typically mine administrative data to generate the list of potential enrollees, IRMA relies mostly on physician referrals. IRMA’s experience has been that, without positive physician encouragement, patients rarely agree to enroll in the free program. To ameliorate the initial resistance of physicians to the children’s asthma program, IRMA placed heavy emphasis on physician communication and the demonstration of program benefits. The early resistance turned into overt support; the pediatricians are now the largest referral source of patients.

The hospital’s certified family practice training program is another major referral source.

Rather than burdening physicians or their office staff, the chronic care programs are designed to play a complementary role, providing support that the physician’s office is not able to provide directly. Except for physicians practicing at the hospital, IRMA physicians do not participate in a group practice and do not share a common electronic health record. The hospital provides discharge summaries and hospital lab tests through a Web portal that physicians on its staff are able to access; however, most of the community physicians still use paper charts. Accordingly, the disease management program involves paper-based referrals and care summaries as well as face-to-face and telephone communication between nurses and physicians.

The program’s “care managers” typically are experienced registered nurses who conduct an initial face-to-face patient assessment on referred patients. They often access hospital records and may discuss the patient with the referring physician. After their initial assessment, the care managers send a semi-structured note back to the referring physician with recommendations about the support they can provide the patient. The emphasis is on assisting physician decision making, for example, by looking for underlying depression and medication compliance problems.

IRMA staff consider the nurse-physician communication a crucial part of the program, one that cannot be matched through third-party disease management. Another distinguishing feature is that in the asthma, diabetes, and smoking cessation programs, care manager-patient interaction is mostly face-to-face, rather than by phone.

Care managers sometimes accompany patients with complex or very serious problems to office visits with their principal physicians. Such individual attention makes this disease management approach similar to case management.

Community physicians are not members of a multi-disciplinary team; rather IRMA staff, including a medical director, carry out disease management activities and communicate with the physicians. Practicing physicians submit a formal referral. At times, the case managers may visit the physician personally to discuss a case, sometimes accompanying the patient on an office visit. Care managers do not have authority to
modify medications on their own; however, self-care instructions, which the physician must approve, may call for dosage modifications based on clinical status, as is common in asthma, diabetes, and CHF management. Care managers emphasize patient education and self-management of their condition, using formal assessment of patient self-management skills. They carry about 80 active cases per full-time worker.

**Lessons Learned**

IRMA has found that physician referral provides a way for physicians to become engaged in the disease management endeavor, not as an active member of the team but rather as an interested “customer” for the care managers.

IRMA cannot easily measure population-wide outcomes for their disease management programs, because it lacks the robust claims data for patient populations that are available to health plans and vendors conducting disease management.

Most primary care practices are too small to support the range of functions offered by a centralized disease management program. IRMA professional staff members see themselves as adjuncts to physicians and therefore can develop a natural relationship with the patient while maintaining the trust of the physicians. Similarly, patients view the IRMA disease management nurses as extensions of the physicians’ office. In an environment in which hospital and physicians remain partners rather than competitors, the hospital is in a position to subsidize some chronic care activities.

Financial support for the disease management programs is an ongoing challenge, despite an apparently positive ROI for the asthma and diabetes programs. The programs have become “part of the fabric” of the delivery system. Middlesex Hospital has been willing to invest in IRMA chronic care management activities as part of its community mission in conjunction with physician practices.

IRMA does not have programs targeting frail patients with daily activity limitations because of the lack of funding to defray the costs. The health system’s in-house home health agency supports some case management services. However, because Medicare reimbursable home health services require patients to be “home-bound,” the costs for services for many of the potential patients that case management targets cannot easily be recouped.

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**Billings Clinic**

Billings Clinic (formerly Deaconess Billings Clinic) is an integrated, community-owned, not-for-profit organization serving a metropolitan and surrounding rural area in eastern Montana. At its core is a multi-specialty group practice of more than 200 physicians (a quarter of whom are in primary care) and non-physician providers. The downtown Billings Clinic campus includes a 272-bed hospital, with a 14-suite Family Birth Center and a 15-bed Transitional Care Unit, and the region’s largest multi-specialty group practice. Branch clinics include Billings Clinic Heights, Billings Clinic West, the Wellness Center, and Aspen Meadows Retirement Community. Primary and specialty care clinics are located in Bozeman, Colstrip, Columbus, Forsyth, Miles City, and Red Lodge, Montana, as well as in Cody, Wyoming. All physicians (with the exception of anesthesiology) are employees of Billings Clinic. Billings Clinic manages seven critical access hospitals within the region as well. An integrated EMR joins the various system components and the new chronic care activities. With its fee-for-service environment and hospital at 85 percent average capacity, Billings Clinic can be ambitious in developing chronic care programs.

**The Programs**

Billings Clinic supports disease management programs for diabetes, CHF, COPD and asthma, and coronary artery disease, with the first two being the earliest and largest. Recent expansion of these programs has been facilitated by Billings Clinic’s participation in the PGP demonstration, which mitigates the negative business case for supporting personnel who do not generate revenue. Because Medicare reimburses for diabetes education, there is a separate program with certified educators for diabetes education. Of about 7,000 diabetics identified by a Cerner EMR, about 70 percent are in the greater Billings area. Although all are eligible for diabetes disease management, regardless of insurance, only a fraction of them are actually in the full multi-disciplinary management program because of administrative manageability and finances.

Champions within the Billings Clinic believe a face-to-face relationship is necessary for disease management to achieve its potential. A major focus of the diabetes program is supporting and improving the care provided by primary care physicians. Individual physicians are provided information about their performance on measures of diabetes care based on clinical practice guidelines provided by the American Diabetes Association.

A diabetes disease registry with about 4,000 patients is generated from the EMR and managed by nurse “care managers” who are co-located in the group medical practices. The goal is to have the EMR provide point of care “alerts” permitting physicians to easily identify and correct gaps in guideline-based care for diabetes and other chronic illnesses. The clinic also emphasizes enhanced education to physicians, other professionals, and patients on important aspects of diabetes care, such as eye complications.

For diabetes, the program relies mostly on face-to-face nurse visits with patients and telephonic follow-up. A Diabetes Patient Report Card for each patient in the program contains a side-by-side view of patient-specific data on important diabetes measures, as well as personalized goals. These are provided to patients at each visit.
To actively monitor CHF symptoms and avoid unnecessary hospitalizations, Billings Clinic recently bought Pharos Systems’s Tel-Assurance program. Because the region extends hundreds of miles, efficient telephone communication is a necessity. In the Billings Clinic application of the program, patients either call or log in each morning to a secure telephonic or Web site portal that collects data such as weight and symptoms. Patients receive a welcome message from the Billings Clinic that gives the platform a community-based feel. Patients also receive educational support messages and periodic screening questions for depression and sleep apnea. Each day, registered nurses identify patients with worsening conditions against established, patient specific protocols. The nurses are permitted to intervene directly with patients and may modify medications using established protocols. When necessary, a nurse contacts the physician.

The Tel-Assurance program permits nurses to manage more by exception; patients doing well do not need a call back. Accordingly, caseloads per nurse have risen to about 300. Each referred patient has personal contact with a Billings Clinic-based nurse before the Tel-Assurance program is begun. Education by the CHF clinic nurse is extensive and face-to-face, often in the hospital during an acute CHF admission. The nurses also become involved in end-of-life issues.

The program is moving toward greater reliance on certified nurse practitioners, rather than trained RNs, primarily because of Medicare reimbursement policy. Nurse practitioners working independent of a physician can be reimbursed at 85 percent of the physician rate for their office visits and, in addition, can alter a medication regimen based on evidence-based guidelines.

Some chronic care activities are conducted in more traditional specialized clinics with physicians and other health professional staffing. One of these is a Senior Assessment and Frail Elderly Clinic under the director of geriatricians. It is developing a Five Wishes/End of Life/Palliative Care program in conjunction with a local hospice. Billings Clinic also has a medication assistance program and an anticoagulation clinic.

**Lessons Learned**

As an integrated, multi-specialty medical group, Billings Clinic has some advantages in supporting small-town and rural physicians with chronic care programs. Often, nurse educators and case managers see patients in the same locations as the primary care practices. The FFS payment environment supports the chronic care programs well, but the absence of reimbursement for nurse-patient “telehealth” communication affects the size and scope of the programs, especially for rural practices and patients, who must rely on telephones.

The PGP demonstration payment approach provided an important impetus to expansion of chronic care management approaches. Good CHF disease management has reduced length of stay and freed beds for patients with other more lucrative diagnoses.

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Care Level Management

Care Level Management (CLM) was founded in 2000 by an internist/hospitalist and an owner-executive of a home infusion company. Although CLM is a vendor, it is a physician-centric model that could be adopted by provider organizations either staffing the activity directly or contracting it. Its markets include counties around Los Angeles, San Francisco, San Antonio, Tampa, Orlando, and Phoenix, where it subcontracts to managed care organizations, especially Medicare Advantage plans. Health plans that contract with CLM include United Health Care, Humana, and Aetna.

Financing does not depend on fee-for-service payments. Typically, health plans contract with CLM initially through a blend of per member per month (PMPM) payments for management services and FFS payments for actual patient home visits by “personal visiting physicians” (PVPs). Performance incentives are given to CLM (but not to individual PVPs) for results on measures such as reduction in inpatient days. Often the payment method is later altered to a straightforward PMPM payment for all services.

Recruitment and retention of physicians is a critical business function that permits CLM to rapidly expand to new sites. In 2005, CLM was selected by CMS as a demonstration program in the Care Management for High Cost Beneficiaries (CMHC) initiative.

The Program

CLM’s Personal Visiting Physicians Delivery System entails family physicians, internists, and geriatricians. The PVPs are trained at “CLM University” before starting work and are intensively mentored in the field for the first 90 days. They are continually “on call” for designated patients in their homes or facilities. Unlike most disease management programs, CLM relies on physicians to be the primary contact with patients, mostly through home visits. Between visits, patients have direct cell phone access to their PVPs and nurses, who work out of regional offices and maintain contact with traveling physicians through phone and an EMR. CLM has also started a similar intervention for nursing home residents. CLM is committed to the concept of “bi-directional access,” in which the physicians have as much motivation to seek access to patients as the patients typically have to seek access to their doctor. Many seniors typically don’t want to “bother” the doctor, so CLM “bothers” them to avert potential problems early.

Unlike most disease management models, the CLM approach focuses on patients with severe daily activity limitations who would have difficulty visiting a medical office and to a large extent can no longer be clinically characterized by their chronic diseases, such as CHF and diabetes. These frail patients represent—the top 3 to 5 percent of chronic health care utilizers. The PVP performs an initial assessment and determines the patient’s acuity level, which is continually updated. Patients who do not require intensive physician monitoring are continued in the program through non-physician telephone contact. In some cases, patients are discharged back to the health plan general population, although in the demonstration project they are placed in “passive-standby.”
Because of the intensity of the interaction with very sick patients, the panel size is limited to about 120 patients; PVPs average 1.5 visits per month to their patient panel. Thus, CLM’s basic approach to addressing recurrent hospitalizations and declining quality of life for these vulnerable patients is to provide them a more intense form of physician care through frequent home visits and constant availability by the same physician. CLM applies evidence-based guidelines where available but points to the lack of appropriate guidelines for its target population. Conditions that CLM physicians treat at home include uncomplicated pneumonia, cellulitis, dehydration, and urinary tract infections, as well as exacerbations of CHF and COPD.

Through the use of technology—cell phones, personal digital assistants (PDAs), and electronic medical records—CLM has made its home visit approach effective. The strong patient-physician bond typically persists throughout end-of-life care.

The PVPs are supported by “nurse care managers” based in a regional office. In addition to helping maintain medical records, scheduling patients, and triaging phone calls, the nurses also maintain regular phone contact with patients between PVP visits. As a rule, they do not make home visits.

PVPs do not alter the patients’ relationship with their primary doctor. They typically assess the patient’s “medicine cabinet” and recommend substitution, elimination, and consolidation of medications, working with the primary doctor.

Lessons Learned
The CLM model views the PVP as a specialist in home care services for frail elderly patients. Internal studies found a 60 percent or greater reduction in admissions, with about 70 percent of “avoided admissions” resulting from pre-crisis interventions by PVPs. CLM believes that the availability of 24-hour coverage by a PVP physician permits emergency room (ER) discharges to the home that otherwise would likely result in a hospitalization. Also, hospitalized patients can often be sent home earlier when a PVP is available to see the patient in the home shortly thereafter.

In some cases, CLM bills for actual home visits, a potential approach for payers who rely mostly on FFS physician payments.

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Washington Hospital Center Medical House Call Program

The Washington Hospital Center (WHC) is a 900-bed teaching hospital that is part of MedStar Health, an integrated health care system serving Baltimore, Maryland, and Washington, D.C. MedStar Home Health system is a Visiting Nurses Association (VNA) affiliate and operates in both metropolitan areas. WHC is located in an area that is predominantly low- and middle-income and African American. It established a Section of Geriatrics and Long Term Care in 1999 and launched a program targeted to frail elderly residents who are essentially homebound and typically have multiple, severe chronic conditions and geriatric syndromes.

The Program

WHC’s Medical House Call Program serves medically complex, functionally impaired elderly residents in eight Zip codes surrounding the hospital. The population served is 85 percent female and 85 percent African American with an average age of 82.

The house call program serves about 550 patients. About 25 percent have CHF, and 60 percent have some degree of dementia. Because of severe limitations of mobility, social isolation, and low income, it would be difficult for these patients to travel to doctors’ offices or outpatient clinics, even when transportation is available. Furthermore, the high prevalence of dementia and other geriatric problems makes these patients more difficult for generalist, primary care physician practices to care for. The target population is different from typical disease management program patients in that they have complex conditions requiring social, environmental, and financial aspects of care. Without a regular source of care, these patients are at high risk for ED visits and avoidable hospitalizations.

The practice is divided into teams, each consisting of two geriatrician physicians, two nurse practitioners, one medical social worker, and two care coordinators. The care coordinators handle large numbers of phone calls and oversee the electronic medical record that all team members use. The two teams call upon a clinical social work therapist, a community pharmacist, and staff from the VNA. The core group and the other professionals function as a non-hierarchical, multi-disciplinary team. At weekly meetings, they review the status of patients, dealing with clinical, social, or other problems that need attention.

Physicians and nurse practitioners are well-equipped. A typical medical bag contains: a portable weight scale, various sizes of blood pressure cuffs, pulse oximeter, phlebotomy kit, wound care kit, ear syringe, replacement endogastric feeding tubes, Doppler ultrasound to assess blood flow, an electrocardiograph machine, and many kinds of medications. Each physician has 150 to 175 patients.

In the WHC program, geriatricians take over the role of principal physician for patients who assent to transfer of their care, and the community physicians typically do not object. Most home visits are done by geriatric nurse practitioners. On average, the nurse practitioners make 30 to 35 house calls a week, whereas the physicians make 15 to 20. The geriatricians do see all patients periodically; they share night and weekend calls but do not routinely make after-hours home visits. The physicians average about one “urgent” house call per day.
Lessons Learned

More than 88 percent of enrollees are covered by Medicare, 40 percent of whom are dual-eligible for Medicaid. Financial support under a Medicaid Home and Community-Based Services Waiver for the dual-eligible beneficiaries provides important funding for the program.

Because there is virtually no capitation contracting in the Washington, D.C., area and, until recently, no Medicare Advantage plans, the WHC program grapples with fee-for-service reimbursement, mostly from Medicare and Medicaid. Philanthropy helped initially staff the program, and it also received a Home and Community-Based Services Waiver contract under Medicaid section 1915(c) and receives $1,800 per patient per year for applicable Medicaid patients to offset the social worker salaries.

The WHC program physicians and nurse practitioners, who are dependent on FFS reimbursement from Medicare and Medicaid, do not provide intensive care in the home as an alternative to hospitalization because Medicare does not reimburse for provision of parenteral antibiotics and other medications in the home, except for certain patients.

The program relies on nurse practitioners, rather than trained geriatric nurses, because Medicare reimburses nurse practitioners for home visits at 85 percent of the prevailing physician fee. Its geriatricians also provide inpatient consultations and round on their own hospitalized patients, thereby generating additional revenue under third-party payer fee schedules.

However, reimbursement for home visits is not sufficient to sustain the program. Current Medicare policy does not cover the costs of travel time, telephone time with families, or team meetings and care coordination for those not receiving home health care.

The hospital itself has provided core funding to the program and has seen some benefits. While the number of admissions has decreased as a result of the program, the length of stay is shorter, turning what had been unprofitable stays into profitable ones. The hospital has also benefited as word of mouth has caused patients to leave other physicians and hospital systems to select WHC-affiliated geriatricians. An important issue that would affect expansion of this approach is whether there are enough physicians who possess both the skills and the interest to serve this very challenging patient population through non-hierarchical teams of professionals.

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MDxL

MDxL is a physician-network management company with headquarters in Springfield, Virginia. Its physicians are on call to visit hospitals quickly when a covered patient is admitted through the emergency department. Their objective is to avert hospitalization in some cases and to take over responsibility for inpatient care in other cases to decrease length of stay and improve quality of care. MDxL contracts with four health plans serving the greater Washington, D.C., area, covering ED calls for ten hospitals.

The Program

Rather than targeting patients with chronic conditions, MDxL’s objective is to enhance ED care for patients presenting with problems that often result in hospitalization. The MDxL model could be adapted for Medicare beneficiaries and others with chronic conditions.

Under the MDxL program, the clinical details of any ED patient who is admitted as an inpatient must be referred to an MDxL triage nurse. The nurse contacts a network specialist who personally evaluates the patient in the ED within two hours and determines whether the patient can safely be managed as an outpatient.

For many diagnoses, there has been a high rate of averted admissions as patients receive alternative diagnoses or are safely redirected for an ambulatory evaluation. MDxL found that admitted patients have reduced lengths of stay because work-up and treatment are started promptly in the ED and the inpatient care is provided by the specialist.

The leading condition for a non-Medicare population for which MDxL physicians have been consulted has been chest pain (25 percent of the total), which commonly occurs in patients who are neither frail nor chronically ill. Exacerbations of a chronic disease such as CHF, asthma, sickle cell crisis, respiratory failure, COPD, transient ischemic attacks, diabetes, and diabetic ketoacidosis show up in the most common 30 diagnoses. (Presumably, the proportion of chronic illness exacerbations would be higher if the program served a Medicare population.)

MDxL’s overall rate for averting ED admissions is about 20 percent. For patients with chest pain, the deferral rate is more than 50 percent. For chronic conditions such as CHF, asthma, diabetes, and COPD, MDxL has found that the rate of hospitalizations averted is 6 to 12 percent.

MDxL uses nurse case managers located in the contracted hospitals to assist the attending physician achieve an expedited work-up and prompt discharge. Hospital-based care managers help facilitate discharges and transfers.

Continuity of care is promoted by having the same MDxL physician who sees the patient in the ED also care for him or her throughout the inpatient period and for the initial post-hospital care while also communicating with the patient’s regular physician. Most MDxL doctors maintain an active practice in the community.

MDxL is paid by the health plans in one of two ways: either standard FFS payments for the physician ED and inpatient visits or global payment for a projected number of days of visits, without regard to whether and for how long the patient was hospitalized. Physicians continue to bill the patient’s health plan for services other than the evaluation and management visits. MDxL pays the physicians an enhanced visit payment for the ED visit but reduced and declining payments for each day they see the patient in the hospital. These incentives better support thorough evaluation in the ED and expedited inpatient work-up.
Lessons Learned

The MDxL program addresses the situation in many health care markets in which the ED physicians and patients’ personal physicians, who may be consulted on the phone, agree to admit patients without thorough evaluations. This occurs especially in situations where a patient does not have a regular physician.

The MDxL model permits sorting of patients who have been in the hospital between those best followed by a principal physician specialist and those who are appropriately managed by a PCP. Also, if carefully selected, specialists are well qualified not only to assure that patients’ care meets applicable clinical practice guidelines but also to provide patient-specific guidance to primary care physicians who may assume responsibility for care after the acute event resolves.

In considering applying the MDxL model to Medicare and to patients with chronic conditions, the concern is that ongoing care would become more disaggregated as more specialists are brought in although acute care for the exacerbation or complication of the chronic condition might be handled more expertly than usual. Nevertheless, the MDxL includes hospital-based case managers to help facilitate successful discharges and transfers, one of which could be to a chronic care management program, such as those described.

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V. Findings

The case studies confirm the perception that health delivery systems generally fail to provide the care management that patients with chronic conditions need. The care available to most of these patients—especially those who are frail or have multiple conditions—is suboptimal in quality and generates unnecessary spending, mostly as a result of avoidable hospitalizations.

The case study participants all describe perverse incentives within fee-for-service environments that influence provider behavior and can affect the willingness of organizations to initiate programs that complement regular delivery systems.

The case studies illustrate that there are practical alternatives to the Chronic Care Model and the third-party contract model that deserve much more attention in the literature and among legislative and policy decision-makers.

The site visit interviews produced nine major findings:

1. Physicians and hospitals can do much more to manage patients with chronic conditions.

A common thread among the site visits is that patients’ principal physicians typically do not devote the attention these patients need, either for ongoing care coordination or for acute care during exacerbations. The case study organizations accommodated this by: (1) substituting physicians better able to take on part or all of this work (WHC Medical House Call and MDxL); (2) providing a complementary team of nurses and other non-physicians (Sutter, Park Nicollet, IRMA, and Billings Clinic); or (3) providing additional physicians to serve as extensions to the practice (Care Level Management). All of the approaches recognize the important role of the patient’s principal physician, and some models, especially the WHC Medical House Call program, modify the principal physician’s practice behaviors.
It must be noted that the case study programs were selected because they engage in complementing regular delivery systems, sometimes on the providers’ own initiative and sometimes spurred by health plan support. Nevertheless, many organizations see the need to adopt chronic care approaches that both improve quality and ensure the active physician engagement that is missing in most third-party disease management approaches.

The respondents identified potential advantages to bringing chronic care management inhouse, including:

- The ability to develop ongoing personal relationships with patients through a nurse or other professional affiliated with the patient’s principal physician.
- Physician familiarity and comfort with the programs, thereby promoting patient referrals.
- Facilitated communication with the principal physician about problems with compliance, exacerbations, or unrecognized co-morbidities.
- The opportunity to practice one style of care for all of the provider’s patients, regardless of payer source.
- Direct intervention by nurses or other professionals to alter patients’ treatment regimen under protocols developed and overseen by the provider organization.
- The possibility of face-to-face contact, when needed, because the provider organization and patient are in close physical proximity, in contrast to third-party disease management.

- Enhanced end-of-life care and support for patients and families based on well-established relationships with the provider organization and principal physician.

The providers also pointed to certain inherent advantages of health plans and their disease management vendors, including:

- Economies of scale that help defray the direct costs of specialized, mostly nursing, personnel involved in chronic care.
- More robust administrative, claims, and pharmacy data to mine in refining targeted approaches.
- A more straightforward business case than providers typically have for intervening to reduce costs, especially for certain conditions.

Certain case study providers, such as Sutter, do have data comparable to that of health plans, but others, such as IRMA, do not. However, in IRMA’s case the lack of data is substantially offset by the direct referrals from supportive physicians. As EMRs continue to develop the ability to share data entry and retrieval across provider sites (and possibly patients), the data advantage may shift to the provider organizations because third-party vendors must rely on administrative data rather than on clinical data from a shared medical record.
2. There are viable models of chronic care management that fall between the Chronic Care Model and third-party programs.

Each of the case study approaches was shaped by historical, cultural, and economic factors (see Appendix for details). For example, Sutter’s capitation environment helped produce its strong commitment to disease and case management. Park Nicollet and Billings Clinic participated in area-wide, cooperative programs to introduce clinical practice guidelines and to provide physicians real-time information about compliance with guidelines. IRMA developed practical approaches to working with small independent practices; its program was spurred by the Middlesex Hospital’s willingness to see its mission to care for the uninsured satisfied by this lower-cost approach. Finally, the WHC Medical House Call program was designed as a new approach to geriatric services; it must rely on supplemental funding through a Medicaid waiver and hospitals’ willingness to support the program.

These examples suggest that—although the Chronic Care Model may still be perceived as the standard—individual organizations can and do develop programs that omit one or more of the CCM elements. In particular, the case study sites do not attempt to redesign the traditional practice of frontline PCPs.

On the other hand, the programs do not bypass the physician practices as many third-party approaches do. All of the programs promote closer links between providers and patients. They attempt in various ways to decrease the intrusion on traditional practice that many physicians object to in third-party programs.

Ideally, according to interviewees, programs should not only monitor and educate patients but also engage their principal physicians and associated staff. Some organizations, including Sutter, Park Nicollet, IRMA, and Billings Clinic, rely on nurse communication with patients while involving the principal physician in targeted ways. The provider-based models emphasize various ways to obtain referrals and clinical information from physicians as well as ways to provide feedback to them on their performance relative to guidelines and to peers. Nurses in some programs, such as Billings Clinic and IRMA, occasionally accompany patients to their office visits with physicians to enhance communication. Most of the organizations encourage specific physician involvement in end-of-life issues.

All of the interviewees believe their programs have a positive impact on cost and quality. The provider organizations believe they are better positioned than outside vendors to influence care because of their affiliation with the patient’s principal physicians.

3. Some health plans support providers in performing disease management activities, and some support innovative vendor-based strategies.

One of the purported merits of the HMO-based, delegated, capitation model of health delivery found in California was to shift much of the responsibility for adding patient care programs to medical groups and IPAs. Some of the provider-based case study programs were started with support from health plans. The Sutter Sac-Sierra program, no longer dependent on such support, continues to expand its chronic care management programs within its delegated, capitation environment.
Some health plans are attempting to more closely interact with patients and physicians, rather than relying solely on nurse-patient telephonic communication outside of the physician-patient relationship. For example, the Care Level Management and MDxL programs use vendor contracting that relies on physicians to intervene directly with patients at clinical risk. Across the spectrum of potential interventions addressing the needs of patients with chronic conditions, health plans are exploring new approaches that rely more on direct intervention in how care is delivered by frontline physicians, rather than relying solely on nurse-patient telephone communication outside of the physician-patient relationship.

4. **Provider-based programs carefully distinguish among patients based on their specific clinical conditions and other assessments.**

The case study interviewees emphasized that important clinical differences among patients necessitate different approaches to office, telephone, and home encounters, as well as different arrays of medical professionals. Programs differentiate among patients who are able to travel for office visits and communicate well from those with serious daily activity limitations, dementia, incontinence, or other geriatric problems. Patients may also be categorized in terms of the complexity of their management needs.

The Care Level Management program and the Washington Hospital Center Medical House Call Program target patients who would have difficulty getting to an office visit but who do not qualify as homebound under Medicare definitions. Rather than focusing on disease management for specific chronic conditions, these programs support clinician-directed home visits targeted toward patient functional ability regardless of specific diagnosis.

Park Nicollet, Billings Clinic, IRMA, and MDxL all target patients with specific conditions and then attempt to address co-morbidities and functional disabilities in the context of their disease-specific intervention. Sutter’s “care coordination” program addresses medically complex patients while its various “disease management” programs target patients with specific chronic diagnoses.

Provider-based disease-specific programs vary their management approaches based on typical patient needs. For example, CHF programs monitor patients, usually by telephone, for early signs of acute exacerbation. These programs place relatively less emphasis on physician compliance with guidelines and patient self-management. Because CHF is often a severe condition, patients are usually followed by their principal physicians, so identifying these patients is generally not a challenge.

Diabetes programs, such as those at Park Nicollet and Billings Clinic, emphasize patient education and self-monitoring, as well as providing feedback to physicians about their performance against guidelines. In contrast to CHF, diabetes programs rely on patient registries and a population-based approach to ensure that relatively stable patients are not being missed.
Both vendor-based and provider-based programs note that chronically ill patients, particularly Medicare beneficiaries, often have co-morbidities, such as depression, that need attention despite the absence of disease management programs specific to those problems. However, the physician-centric models of Care Level Management, WHC Medical House Call, and MDxL are in a good position to address any condition because they rely more on professional judgment at the point of care than on nurses following evidence-based clinical guidelines that are typically condition-specific.

5. Approaches to case management for medically complex patients vary more than do disease management programs for patients with one or more chronic conditions.

For high-risk populations, the disease management programs typically assume continuation of the patient’s regular source of care and in different ways extend the physician’s office through nurse or physician interaction with patients. In one variation, Park Nicollet and Billings Clinic are converting basic nurse-patient phone calls to a communication platform in which patients, either by phone or email, provide information to a data retrieval repository that permits the nurses to monitor clinical status by exception. Nevertheless, the basic principal care physician-patient relationship is little affected.

In contrast, the WHC Medical House Call Program and the MDxL program provide alternative specialized physicians to assume responsibility for certain patients.

Three case study programs target patients with severe daily activity limitations who are at risk for high-cost hospitalizations and for death. The Sutter Sac-Sierra system targets this challenging population mainly through nurse-directed telephone communication, which they believe positions them to better integrate nursing and physician care and to become involved in end-of-life planning with patients and families.

In contrast, the Care Level Management program and the WHC Medical House Call Program care for these patients with physician-centric models. The Care Level Management approach uses 24-hour physician responsibility, relying on face-to-face home visits. The program’s Personal Visiting Physicians serve as geriatric specialist adjuncts to each patient’s regular care. In the WHC program, patients must agree to have their primary care provided by WHC-based teams headed by geriatricians and geriatric nurse practitioners, who make home visits and perform frequent telephone monitoring.

6. Capitation is more compatible with chronic care programs and their patient populations than fee-for-service reimbursement.

A positive attribute of capitation is the flexibility it affords the provider organization, which can allocate funds to support its particular programs rather than fitting into the specified codes that govern FFS reimbursement. More important, capitation enables organizations to benefit directly from the reduced expenditures that result from their programs. Rather than being simply cost centers, chronic care programs under capitation can become revenue centers. At-risk health plans, similarly, have financial incentives under capitation to contract with organizations such as Care Level Management and MDxL that target severely ill patients.
It follows that Sutter, with its strong base of capitation funding, has a more robust set of chronic care programs than the group practices that function in FFS environments. The PGP practice demonstration participants hope its pay-for-performance approach will serve as the functional equivalent of capitation for purposes of supporting chronic care management programs in large medical groups. An important and challenging issue for traditional Medicare and private health plans is how to provide a capitation-like environment for small physician practices, still the dominant form of clinical practice in most of the country.

The IRMA program addresses this problem in an innovative way. Its physicians remain in solo and small groups with separate tax ID numbers, but, supported by Middlesex Hospital, function as a large group practice for purposes of the demonstration project. This suggests that PHOs, IPAs, and other organizations that support physician practices can provide organizational structures for extending cost-containment incentives in the FFS Medicare program to a much larger share of physician practices.

7. Medicare payment rules greatly influence the configuration of chronic care programs.

The site interviews confirmed that an important consideration in programs is the ability to have services reimbursed by Medicare; under different Medicare payment rules, the interventions would have been structured differently. Participants suggested that flexible payment arrangements, such as “per patient per month,” are more conducive to chronic care programs than is FFS reimbursement.

The case studies produced examples of how programs are shaped around payment options. For instance, the Washington Hospital Center Medical House Call Program uses nurse practitioners, in part, because they are eligible for Medicare reimbursement for home visits, whereas specially trained RNs are not. Similarly, several programs emphasize stand-alone diabetes education provided by specified, certified diabetes educators, a reimbursable service under Medicare. A number of interviewees commented on the arbitrariness of the Medicare “homebound” rule that determines whether beneficiaries are eligible for home health benefits. Medicare and most other plans pay for face-to-face patient encounters by physicians, mid-level practitioners such as nurse practitioners and physician assistants, and nurses working under the direct supervision of a physician. The programs that perform interventions and communications outside this narrow framework are frustrated by the lack of FFS reimbursement for their activities.

8. The negative business case for hospitals has a bright side.

A common theme among interviewees is the negative return on investment for hospitals that generate expenses—mostly for staff salaries—but no revenue for their involvement in chronic care programs. In a predominantly FFS environment in which hospital payments are made as case rates with Medicare or as per diems, case rates, or discounts off of charges with private insurers, hospitals lose revenue when patients receive ambulatory services that decrease the need for hospitalization. Further, although some of the case study models were selected because the hospitals were program supporters, it became clear that the negative ROI limited the robustness of the programs.
However, the case study organizations identified factors that mitigate the negative business case for hospitals. Facilities at or near full capacity are able to free beds for more generously reimbursed surgical patients if admissions for chronic care patients are reduced. Further, chronic care program patients who do require admission tend to present with lower disease acuity than they otherwise would have; under case rates or per diems, lower acuity translates to lower expenses.

Other benefits to hospitals accrue in the form of enhanced community reputation, which may attract patients to their affiliated physicians and programs. For example, Washington Hospital Center has been willing to subsidize its house call program partly to gain market share for this complex and potentially profitable group of patients. Middlesex Hospital found that it could help meet its community benefit obligations with an asthma disease management program targeted to low-income patients, including the uninsured, thereby supporting its mission and finding a less expensive alternative to uncompensated hospitalization.

The potential role of hospitals in chronic care management programs is rarely mentioned in policy deliberations and is not part of the Chronic Care Model or typical third-party programs. Nevertheless, hospitals are key players in five of the chronic care programs visited. Hospitals have some inherent advantages; specifically, hospitals: (1) are broadly distributed throughout the country; (2) have longstanding relationships with physicians; (3) often have the financial and managerial resources to support chronic care management approaches; and (4) frequently serve as the locus of case-finding for patients who would benefit from chronic care programs. The study findings suggest that hospitals may strategically benefit by developing and supporting chronic care management programs in certain circumstances.

9. Communications, monitoring, and data-sharing technologies enhance chronic care programs, but state-of-the-art technologies are not essential.

The Care Level Management program is feasible because of communication technologies, including PDAs and cell phones, as well as a basic electronic health record into which physicians and other personnel can record and share their notes. Similarly, the WHC Medical House Call Program demonstrates that pulse oximeters, simple dopplers, and other equipment can now be taken on the road, making the long-neglected house call practical and efficient.

The group practices that have electronic medical records found that it facilitated chronic care management, particularly activities targeted to specific conditions. Sutter, Park Nicollet, and Billings Clinic were able to use population-based approaches by establishing disease registries. When embedded within an EMR, the disease registry can be coordinated with patient-specific disease management modules to provide point-of-care information to principal physicians to enhance office visits. Also, the EMR permits more robust profiling of physician performance compared to peers and to standards.
The disease management programs do not rely heavily on telemonitoring devices; most patients satisfactorily monitor their own conditions, take their blood pressure and weight, and assess peak flow rates in asthma. In fact, new telemonitoring devices, including those being implemented at Billings Clinic and Park Nicollet, serve mainly to prompt patients to check vital signs and report back to a computer by telephone or email, answering a set of personalized questions. Participants hope that the new telemonitoring approach will enhance efficiency, permitting nurses to manage more by exception than by engaging in frequent patient interactions to obtain basic data.

The IRMA staff expressed concern about its lack of an electronic health record tying the independent physician practices together and facilitating communication with the disease management support nurse. IRMA also lacks disease registry capacity that would facilitate population-level analysis.

New monitoring devices, including those that permit a visual inspection of patients, might aid monitoring for early evidence of clinical problems. However, the case studies suggest that technology needs are straightforward and readily obtainable if payment approaches support the basic chronic care management enterprise.
HEALTH PLANS HAVE A DIRECT FINANCIAL interest in investing in programs that reduce costs. Despite the lack of definitive evidence that plan- and vendor-based disease management activities reduce costs, this approach has been widely applied for privately insured and Medicare Advantage patients. It remains to be seen in randomized studies whether the approach improves care and reduces costs not only for non-Medicare patients with particular chronic conditions, including CHF and diabetes, but also for others with less common but similarly challenging chronic care problems, such as Parkinson’s Disease and rheumatoid arthritis and for Medicare beneficiaries who have multiple chronic conditions. The Care Level Management and MDxL case studies suggest that some health plans are adopting innovative approaches to complement classic disease management for certain subsets of patients.

The experience in the traditional Medicare program with approaches to improving the care of patients with chronic conditions is not as long as with private plans but is no less important, especially considering that 85 percent of Medicare beneficiaries remain in the original Medicare program. Although the case studies demonstrate that capitated plans may have some advantages in promoting programs targeted to patients with chronic conditions, the traditional Medicare program also has some ripe opportunities to advance chronic care management through improved payment policies that could be implemented even in a fee-for-service environment. Furthermore, because of traditional Medicare’s importance as the largest payer in the U.S. health care system, especially for patients with serious chronic conditions, policy innovation by Medicare can shape how physicians and hospitals organize care and also can have important “spill-over” effects on how other insurers pay for services. The case study findings provide suggestions for enhancing how traditional Medicare pays. (Note that MedPAC recently discussed opportunities for enhancing payment for chronic care management in a report to Congress.41)

Virtually all of the site visit respondents emphasized that payment codes exclude many of the activities performed within chronic care programs, and payment rules limit the professionals eligible for reimbursement. There is an opportunity to carefully expand codes and to liberalize payment rules to support
some worthwhile activities. For example, physicians might be reimbursed for providing a detailed referral to a chronic care program, just as they are now paid for certifying the medical necessity of home health care. Similarly, team conferences with patients and families to discuss specific milestone events, such as palliative care options, might be coded and paid for. In addition, the various home visit approaches could be better supported with some additional allowance for travel time.

As important as such payment enhancements are, important program integrity concerns remain. The “soft” nature of the services, including telephone conversations with patients, makes them subject to overuse, especially in the absence of substantial patient cost-sharing requirements. Similarly, the documentation requirements that typically accompany FFS reimbursements could either become extremely burdensome or, alternatively, simply ignored. Under routine FFS rules and procedures, the services could be paid for without actually being provided. In any case, it is unlikely that the Chronic Care Model or the provider-based approaches examined in this report can be adequately supported with FFS payments for specific patient-professional interactions.

Rather, chronic care management would be better supported with per-patient-per-month (PPPM) payments, permitting the recipient organization to allocate staff and other resources, determine the appropriate mix of office and home visits, and configure telephonic and Web-based communications. The PPPM payment amounts could be adjusted for underlying health status. The site visits confirmed that engaging the patient’s principal physician is crucial to the success of chronic care management programs. But in contrast to the Chronic Care Model standards, principal physicians do not need to be members of multi-disciplinary teams or engage in practice redesign. Therefore payment configurations should support practices that complement usual care delivery for their chronically ill patients, as well as those that implement the full Chronic Care Model. PMPM payment amounts would vary depending on whether organizations were assuming risk for all health care, as envisioned in the Chronic Care Model, or only for conducting specific chronic care management activities, as ancillary to the basic health care services. In addition, because effective program functions must be tailored to particular populations of chronically ill individuals, policymakers should take target populations into account in considering support for various approaches.

Potential recipient organizations should include physician group practices, IPAs, PHOs, and management services organizations (MSOs). Smaller physician groups, such as geriatric practices, might be able to qualify, but small, generalist practices probably would not have a sufficient base of patients in need of chronic care management services. Health plan and freestanding vendor-based disease management programs might also qualify if they demonstrate the ability to engage practicing physicians. Clinician-dominated, freestanding vendor organizations such as Care Level Management and MDxL would also be eligible.
The negative business case facing hospitals should be addressed. Under fee-for-service care, including Medicare’s Prospective Payment system, hospitals have a negative incentive for investing in programs that decrease hospitalizations for ambulatory-care-sensitive conditions (ACSCs), that is, clinical conditions for which timely and effective ambulatory care can help reduce the risks of hospitalization by either controlling the acute episode or by managing the chronic disease, such as CHF and asthma. Policymakers might change the equation for hospitals that are willing to make a major commitment to chronic care management, by paying more for patients with designated ACSCs.

Currently, a hospital readmission, even on the same day, generates a full DRG payment under PPS. That should be changed. A hospital might be paid a full DRG payment for an initial admission of a designated ACSC but would receive reduced payments—estimated to reimburse only marginal costs—for subsequent admissions for that diagnosis during a defined time period. If there are no subsequent admissions for the diagnosis within the defined time period to any hospital, the index hospital would receive a bonus payment. Such a modified payment approach could be payment-neutral in that reduced payments for readmissions would fund the bonus pool. Over time, the goal would be reduced overall hospitalizations—and savings—from the chronic care management activities.
VII. Conclusion

The health delivery system does not provide adequate care for frail and chronically ill patients. Payment systems that rely on fee-for-service reimbursements for physician services and hospitalizations create barriers to chronic care management services.

Several “intermediate” approaches to chronic care management deserve serious consideration by other organizations. These approaches carve an intermediate route between the rigorous requirements of the Chronic Care Model and the bypass aspects of third-party programs. They recognize the importance of involving patients’ regular physicians but at the same time accept the reality that most physicians will not participate in practice restructuring.

There are a range of organizations that might be able to provide the institutional base for chronic care support to the regular delivery system. Health plans and large multi-specialty group practices generally have been recognized as logical organizations with the requisite size, scope, and management structure.

Yet most Medicare beneficiaries are not in Medicare Advantage plans and do not receive care from multi-specialty group practices. Instead, they participate in traditional Medicare and receive their basic care from physicians in solo or small practices. Most of these practices lack the organizational ability to house chronic care management activities, even if Medicare’s reimbursement policies were modified to better support them. Therefore, organizations such as IPAs and PHOs that are positioned to directly interact with clinicians in small practices may be viable organizations to perform chronic care management as an extension of the physician’s office. Similarly, new physician-centered organizations working under contract with payers have the ability to focus on specific populations of vulnerable chronic care patients as an adjunct to regular care provided under traditional Medicare.

The immediate policy challenge is to develop payment approaches in the context of fee-for-service reimbursement that would alter the negative business case for chronic care management that many providers face while ensuring the needed flexibility appropriate to the different delivery systems.
Endnotes


2. Partnership for Solutions.


33. The program was shaped partly by an early study that found that most patients in the Sutter Heart Failure program had co-morbidities: 68 percent hypertension, 56 percent coronary artery disease, and 33 percent diabetes.
34. The negative business case is made even worse for the hospitals when the medical groups are capitated but the hospital is paid on some form of FFS; i.e., on DRGs, per diems, or discounts off of charges.

35. Although broadly committed to one style of care for Medicaid, Medicare, and various categories of managed care patients, the system feels it cannot apply its chronic care programs to uninsured patients largely because they have limited access to these patients on an ambulatory basis.

36. Because health plans contract with Sutter at the system level, it has been operationally difficult for the plans to defer to Sutter Sac-Sierra’s internal programs by delegating chronic care programs for particular patients served by Sutter Sac-Sierra.

37. Because of tertiary care centers in nearby New Haven and elsewhere in New England, CHF patients with devices are typically managed by specialists outside of Middlesex County.

38. When disease management patients experience a significant negative progression of their condition, their programs try to transfer them to case management if available. The focus of case management is on functional, social, and emotional issues as well as clinical ones; therefore the orientation of case management interventions is broader and more patient-specific than disease management. Sutter Sac-Sierra does have a nurse case manager/care coordination program addressing this population.


40. Although only some of the patients in the program technically qualify as “homebound” under Medicare definitions, thus making them eligible for home health services, the remaining patients cannot readily get to doctors’ offices or may simply choose not to go.