CASE STUDY

CARE MODELS FOR HIGH-NEED, HIGH-COST PATIENTS

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This case study is one in an ongoing series examining programs that aim to improve outcomes and reduce costs of care for patients with complex needs, who account for a large share of U.S. health care spending.

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Guided Care: A Structured Approach to Providing Comprehensive Primary Care for Complex Patients

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PROGRAM AT A GLANCE

KEY FEATURE Specially trained nurses create care plans, educate and support patients and their caregivers, and coordinate care among providers, using formal assessment and planning tools to set priorities for stabilizing health and achieving patients' goals.

TARGET POPULATION Adults at risk of complications from multiple chronic conditions.

WHY IT'S IMPORTANT Medicare beneficiaries with multiple chronic conditions account for the majority of program spending; many feel overwhelmed by their treatment regimens and suffer when their care is not well coordinated.

BENEFITS Promotes patients' ability to manage their conditions and helps them navigate the health care system. Lahey Health in Massachusetts credits Guided Care with helping it achieve a 22 percent reduction in hospital admissions per thousand, leading to shared savings in an accountable care contract with Medicare.

LESSONS In chronic care management programs such as this, it is difficult to determine what level of support (and therefore what program investment) is most effective; different patients may need different levels of support.

INTRODUCTION

An 88-year-old woman turned up in a Lahey Health emergency department every other month, struggling with the symptoms of depression, chronic pain, insomnia, and macular degeneration. The frequency of visits brought her to the attention of care managers, who reached out to enroll her in the Burlington, Mass.–based health system's Guided Care program.

Created by Johns Hopkins University researchers in 2001 and licensed to health care systems, the Guided Care model aims to improve health outcomes and reduce spending by better managing care for the growing number of aging Americans with multiple chronic conditions. Some 37 percent of Medicare fee-for-service beneficiaries had four or more chronic conditions in 2010, and together they accounted for nearly three-quarters of total program spending.[1] In many cases, they see multiple specialists and have trouble following treatment recommendations, especially as they grow frailer, leading to complications, hospitalizations, and emergency department visits that drive up costs.

The creators of Guided Care sought to strike a balance between telephone-based care management programs, which are relatively inexpensive but ineffective for high-need patients, and operationally complex programs that rely on interdisciplinary care teams.[2] In contrast, "The Guided Care model is relatively simple and systematized," says Chad Boult, M.D., who helped develop it while serving as director of Johns Hopkins' Lipitz Center for Integrated Health Care. The model creates a structured process for registered nurses to assess these patients' needs, create care plans, and teach patients and their caregivers to manage health conditions. Nurses take a Web-based training course to become Guided Care–certified, then work with patients identified in primary care practices. They monitor how patients are doing over time, orchestrate transitions among care settings, and provide referrals to community resources.[3]

As described below, the results of a 2006–09 randomized controlled trial of the Guided Care model were mixed. But with more health systems taking on financial responsibility for patients' outcomes, the model has recently attracted interest as a way to more effectively manage care for high-cost patients.

This profile describes the experiences and results of two of the 18 U.S. health care delivery systems that have implemented Guided Care to proactively manage high-need patients in outpatient settings and prepare for value-based payment. The systems are different in both size and structure and have adapted the model to meet their needs and resources. Lahey Health implemented the program in 2013 after it enrolled 40,000 elders in an accountable care organization (ACO) contract with Medicare, which rewards the health system for improving their health outcomes and lowering utilization. Holy Family Memorial, a small health system serving residents of rural Manitowoc County, Wisconsin, including nearly 8,000 Medicare beneficiaries, adopted Guided Care in 2015 as part of its efforts to better care for its many aging patients and prepare for value-based contracts.

Guided Care nurse Patti Bertsche, R.N., listens to the heart rate of her patient, Tekla Johnson.

TARGET POPULATION

Because they have more patients with multiple chronic conditions than can be served by their Guided Care teams, both Lahey Health and Holy Family Memorial are targeting a subset of patients who appear to be at greatest risk for complications.

Lahey's program targets the highest-risk 5 percent of patients, which the health system's 15 Guided Care–trained nurses identify by tracking hospital visits and diagnoses; they also accept physician referrals. Most, but not all, of the enrolled patients are cared for under the health system's ACO; many are well over age 65. The nurses each serve between 125 and 150 patients—much more than the maximum of 50 to 60 recommended by Guided Care's creators—with 1,500 patients served thus far. Leslie Sebba, M.D., chief medical officer, explains that the nurses are able to take on more patients because Lahey uses three pharmacists, three health coaches, and four social workers to handle some functions. Still, even with this scaled-back version of an interdisciplinary team, the system has only been able to take on the top 3 percent of patients in need.

At Holy Family, the one Guided Care nurse, Patti Bertsche, R.N., uses a risk stratification tool to identify patients that takes into account diagnoses, medication, and utilization data as well as any available information about patients' social supports (e.g., whether they live alone or need help getting to appointments) and apparent need for care coordination (e.g., missed visits). In the internal medicine clinic where Bertsche is embedded, 85 of the clinic's 5,270 patients were deemed eligible. Because of the complexity of their needs, she has only been able to enroll 30 patients since 2015, having begun with "the sickest of the sick," many with chronic obstructive pulmonary disease or heart failure as well as diabetes and other comorbidities.

KEY PROGRAM FEATURES

Part of Guided Care's appeal—cited by leaders at both Lahey and Holy Family—is that it's a relatively inexpensive and simple approach. The training for registered nurses is offered through a six-week online course that reviews disease processes for conditions that are common among older adults and offers strategies, such as motivational interviewing, to engage them in health improvement efforts. The program license comes with tools that can be adapted to meet the needs of different organizations, including:

- an assessment form and health history questionnaire
- guides for creating patient-friendly action plans and detailed care plans for providers
- a caregiver interview form, focusing on how caregivers take care of themselves and manage their time and resources, and
- survey instruments for patients and clinicians to assess the program's effectiveness.

Holy Family Memorial and Lahey Health's Guided Care Programs

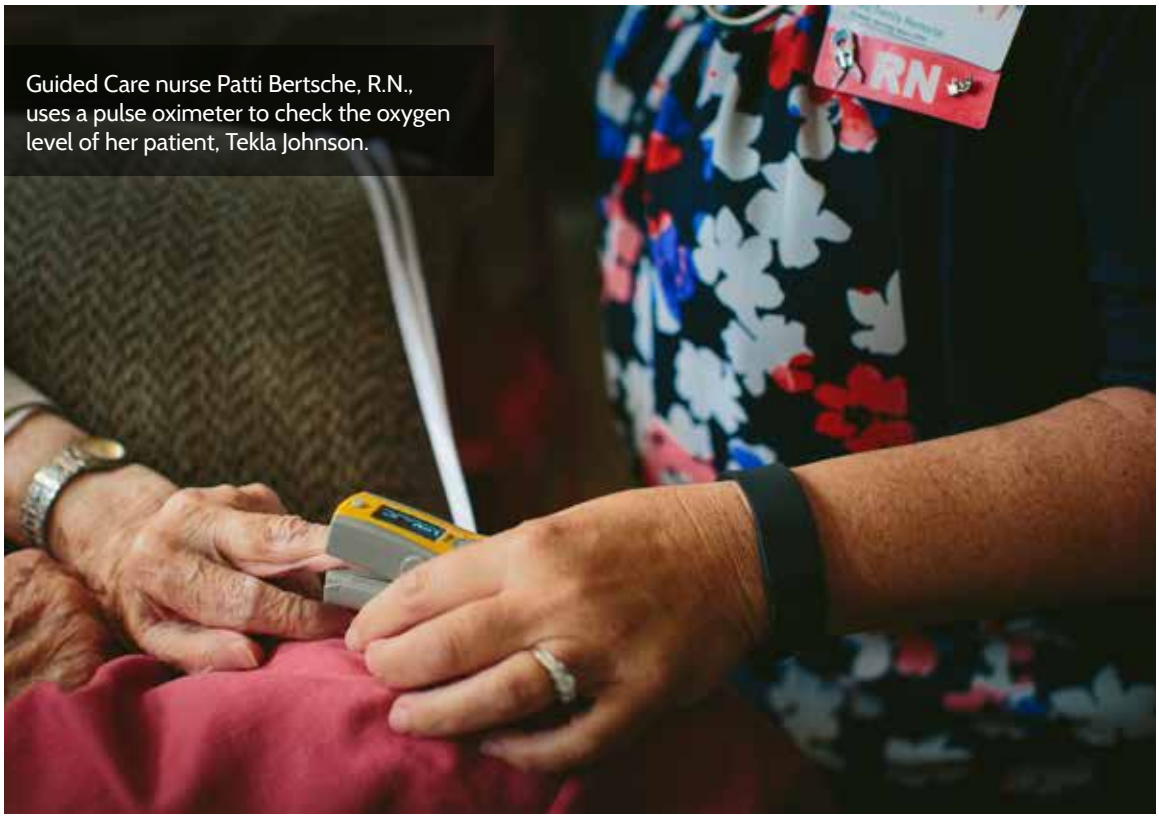
	Holy Family Memorial	Lahey Health
Patients served	30	1,500
Time frame	Open-ended	~90 days
Guided Care teams	1 nurse	15 nurses, 3 pharmacists, 4 social workers, 3 health coaches
Operational cost	~$74,000/year	$2.5 million/year

Needs Assessment and Care Planning

At both systems, primary care providers or hospital care managers try to introduce the Guided Care nurses to patients in person to help gain patients' trust. "Patients and families have gotten a little bit overwhelmed and confused by the number of people who are trying to coordinate their care," Sebba says.

The Guided Care nurse begins the intake process by conducting a thorough needs assessment to elicit patients' concerns, assess their functioning, and develop a detailed care plan. The assessment includes: a review of all diagnoses and check of relevant lab values; medication reconciliation; depression screening; mental exam (to check for signs of memory loss/dementia); and review of patients' home environment to identify safety hazards and to see how well elders are able to perform tasks like cooking and cleaning. Patients and their caregivers receive a plain-language version of the care plan, which provides contact information for all medical providers and reminds patients about goals for improving their health, such as "avoid sugary foods" or "walk three times a day to the kitchen and back."

After addressing immediate concerns, which are often related to pain management and household safety, the Guided Care nurses focus on longer-term issues, such as reducing disease symptoms, ensuring good nutrition, and finding disease management groups or other social supports. Sebba notes this structured process helps keep everyone focused on the end goals. "Although care managers are obviously very dedicated to their patients, before Guided Care it was easy for them to become bogged down with one issue—let's say depression—and spend all their time on that," he says. Care planning also includes discussion of patients' preferences for end-of-life care and creation of advance directives.



Guided Care nurse Patti Bertsche, R.N., uses a pulse oximeter to check the oxygen level of her patient, Tekla Johnson.

Improving Communication and Coordinating Care

Both programs monitor patients over an extended period. At Holy Family, Guided Care is designed as an open-ended intervention, with patients receiving support as long as they need it. Bertsche attends specialty care appointments with some patients to help explain recommendations and provide updates to their primary care providers. This approach worked for a patient who said he'd "given up" on his health after hearing conflicting advice from different doctors. In other cases, Bertsche monitors patients' health mainly through regular phone calls. She also checks the daily census for Holy Family's hospital and emergency department to see if her patients have been there.

Lahey's Guided Care nurses typically enroll patients for 90 days. Nurses lead the team and meet regularly to review cases and work through problems, social workers handle issues such as housing and caregiver support, coaches make efforts to engage patients and motivate them to improve their health, and pharmacists carefully review medications. For the 88-year-old woman cycling in and out of the emergency department, the Guided Care team gave her an automated medication system to control her pain, referred her to weekly counseling sessions to manage her depression, and helped find her a place in an assisted living facility, where she has enjoyed socializing with peers. After these changes, she had no emergency department visits or hospital admissions during the following six months.

> *"I went to a patient's home to listen to his frustrations. He said, 'One physician tells you one thing, another is telling you something else. I give up, why should I do this?' I told him about Patti and Guided Care and he was very receptive. He called me after meeting with her and said, 'She's a godsend. You know, this is what we needed.'*
>
> **Marcia Donlon, R.N.**
> **Administrative director for primary care at Holy Family Memorial**

At both Lahey and Holy Family, Guided Care nurses are embedded in particular clinics, enabling them to build personal relationships with physicians that facilitate care coordination. "Over time," Sebba says, "physicians learn to appreciate the support they get from the nurses. We've moved away from the old days when we had 10 different health plans and 10 different care managers constantly shifting around."

Guided Care teams also liaise with hospital-based care managers and other clinicians. When one of Bertsche's patients—an 89-year-old man with multiple comorbidities—ended up in the intensive care unit, she visited him daily, offered background to his clinicians, and arranged and attended a conference with his clinicians and family members when it was clear he would not recover. According to Bertsche, the conference was key to ensuring the patient received his preferred end-of-life care.

Promoting Independence Through Social Supports

Visiting patients in their homes and building relationships over time enables the Guided Care teams to identify personal or financial problems that may impede their patients' health. They can then connect patients to sources of support, whether that means helping them apply for benefits or teaching them how to ride the bus so they can be more independent.

Bertsche says she's been surprised by how many patients don't have a family member or friend to advocate for their needs. Social isolation itself can be a risk factor for poor health—with

people suffering out of view and in some cases concealing their problems from their providers.[4] For example, Lahey's Guided Care team helped a 65-year-old woman living alone with a degenerative disease that robbed her of coordination and left her clinging to furniture or crawling to get around. The team enrolled her in Massachusetts' Medicaid frail elderly waiver program, enabling her to receive services such as physical therapy and transportation assistance. She also attended a mobility clinic and received new eyeglasses—vastly improving her independence.

FINANCING

Guided Care is offered through Johns Hopkins as a licensed program. If 10 or fewer nurses follow the program at one site, the license is $3,000 for three years. Sites with 10 to 49 Guided Care nurses pay about $10,000 for three years, and those with more than 50 Guided Care nurses pay about $50,000 for three years.

Both Lahey and Holy Family have invested in the program because they believe it will help them reduce acute care costs and therefore achieve savings under current or future contracts that hold them accountable for the total costs of care. While most of the services of Guided Care staff are not reimbursable, the health systems are able to bill Medicare for its new Chronic Care Management services. The annual cost to Holy Family to cover the salary of one Guided Care nurse plus gas and other incidentals is around $74,000. The annual cost of Lahey's much larger program is about $2.5 million.

RESULTS

Randomized Controlled Trial

Guided Care was tested from 2006 to 2009 in a randomized controlled trial with 904 patients at eight primary care practices in the Baltimore–Washington, D.C., area. While the participating patients and providers reported that the approach improved the quality of care and researchers found it reduced use of home health care, it did not reduce use of other high-cost services. Yet a subset of the patients (365) who were insured by and received primary care through Kaiser Permanente had significant reductions in admissions (47.2%) to skilled nursing facilities and days spent there (51.6%).[5] The researchers suggested this may be the result of the integrated delivery system's culture of promoting team care, preventive care, and early intervention.

According to Bernadette Loftus, M.D., associate executive director of Kaiser's Mid-Atlantic Permanente Group, the health system's involvement in the Guided Care trial helped to catalyze improvement in the region, including by offering training to its nurses. In the years since, the health system has built on its experience with Guided Care to create a more extensive care management program for the 5 percent of its members at highest risk—identified through utilization data and physician referral. It involves use of lay practice management assistants to help patients navigate the system and dedicated complex care physicians to work with small panels of high-risk patients in both hospitals and clinics.

Lahey Health

Lahey Health attributes its recent success in reducing hospital admissions and emergency department visits in part to Guided Care. It was "our biggest single intervention, and I do believe it was a major

factor in the turnaround," Sebba says. From 2013, the year it implemented the program, to 2014, the health system's Medicare ACO beneficiaries had a 22 percent reduction in admission rates, and a 7 percent reduction in emergency department visits. In 2015, even though the ACO patient cohort was much sicker than in the previous year, utilization did not return to 2013 levels.

Change in Utilization Among Lahey ACO Enrollees, 2013 to 2015

	2013	2014	2015
Hospitalizations per 1,000 person-years	360	281	311
Emergency department visits per 1,000 person-years	676	627	634

Note: Data not risk-adjusted.
Source: Lahey Health.

The ACO achieved nearly $12 million in savings in 2014 and nearly $9.8 million in 2015, receiving just under half those amounts as shared savings.

Holy Family Memorial

Holy Family does not yet have formal results of the program after little over a year of experience. However, Bertsche is tracking the number of times she has contact with her patients as a way of gauging the program's reach. With an average active census of 18 patients from July 2015 to June 2016, she had an average of 40 touches across all patients each month.

INSIGHTS AND LESSONS LEARNED

One of the hardest parts of designing care management programs is figuring out the right "dose" for different patients. In allocating resources, health system leaders struggle to understand how much support to provide and for how long. Some very complex patients may need help over the long term, while others may benefit from more limited interventions. "Is 90 days the perfect number?" asks Sebba. "Does the contact need to be weekly, or monthly, and how do you make the team as efficient as possible?"

The potential of the Guided Care model may not be realized if health systems are unable to adequately scale the approach to reach all who may benefit. Lahey Health's use of pharmacists, social workers, and health coaches to offload some tasks from nurses and address nonmedical issues among patients illustrates how the model can be adapted to make effective use of local resources and to control costs, since nurses typically earn more than nonclinical staff such as social workers or health coaches. But Sebba notes, expanding the team in this way makes it harder to evaluate which types of interventions are having the greatest impact, since more team members and interventions are involved.

Well-structured care models such as Guided Care offer a pathway for organizations to train staff, build infrastructure, and test a "packaged" approach to care management. One of the model's strengths is that it offers an "on-ramp" to organizations just beginning to identify high-need patients and develop new approaches to serve them. Health systems can then adapt and expand the model to meet their own needs, as Kaiser Permanente did in its Mid-Atlantic region.

While some efforts to manage chronic conditions have improved patients' experiences and the quality of care, literature reviews have found that they have not generally led to cost savings.[6] In a commentary on Guided Care, Jill Bernstein of the Center for Studying Health System Change calls for research to delve more deeply into understanding what works, under what circumstances, and why. "More research is needed, but it should focus on integrating what has been learned from randomized controlled studies into pilot studies, demonstrations, evaluations, and research syntheses that can guide systemwide improvements in chronic care management," she says.[7] In particular, greater understanding of how programs are implemented and adapted to meet local needs may help identify success factors and lay the groundwork for next-generation models.

NEXT STEPS

The principles and lessons learned from Guided Care and similar models may be of interest to small physician practices that are seeking to participate in new payment arrangements, such as the Centers for Medicare and Medicaid Services' Comprehensive Primary Care Plus Demonstration, which will offer aligned financial incentives from Medicare, Medicaid, and private payers for practices to create "advanced" primary care medical homes.

Features of the Guided Care Program at Holy Family Memorial and Lahey Health

Targeting the population most likely to benefit	Older adults with multiple chronic conditions who have difficulty following treatment recommendations and coordinating care among specialists, often resulting in complications, hospitalizations, and emergency department visits.
Assessing patients' health-related risks and needs	The Guided Care process begins with a structured needs assessment, conducted by a specially trained nurse–either in patients' homes if they are frail or at a clinic–to elicit patient and caregiver concerns, update patients' health histories, and identify barriers to health including lack of social support and financial problems.
Developing patient-centered care plans	The nurses develop care plans that typically address pain management and longer-term issues such as reducing disease symptoms, ensuring good nutrition, and finding disease management groups or other social supports for patients.
Engaging patients and family in managing care	The nurses provide a plain-language version of the care plan to patients and their caregivers and work with both to help patients manage their conditions. At Holy Family Memorial, the Guided Care nurse may accompany patients to their specialty care appointments to explain treatment recommendations. At Lahey Health, health coaches working alongside Guided Care nurses make efforts to engage patients and motivate them to improve their health. As part of the Guided Care model, nurses also assess how caregivers take care of themselves and manage their time and resources.
Transitioning patients following hospital discharge	Guided Care nurses receive training on how to smooth transitions among care settings and partner with care managers based in hospitals and skilled nursing facilities.
Coordinating care and facilitating communication among providers	The Guided Care program trains nurses to coordinate the services patients receive from hospitals, specialists, skilled nursing facilities, and social service agencies, among others. The Guided Care nurse at Holy Family Memorial updates primary care physicians on the care patients receive, while Lahey Health relies on multidisciplinary teams that include the Guided Care nurses, social workers, health coaches, and pharmacists to coordinate care.
Integrating physical/behavioral health care	At Lahey Health, half of the clinics have embedded social workers to provide counseling and help address concerns related to dementia and other common issues. At Holy Family Memorial, Guided Care patients are often "fast-tracked" for appointments at the system's behavioral health clinic or given appointments at the local community mental health clinic.
Integrating health and social services	At Lahey Health, social workers working with Guided Care nurses handle issues related to housing, caregiver support, and other social services. Holy Family Memorial's Guided Care nurse also works to identify social services that reduce patients' social isolation and help them maintain their independence and mobility.
Making care or services more accessible	Guided Care nurses help patients with complex needs navigate the health care system, sometimes accompanying them to visits.
Monitoring patients' progress	At Holy Family Memorial, the Guided Care nurse monitors patients' health through regular phone calls and also checks the daily census of the hospital and emergency department. Lahey Health's Guided Care nurses typically follow patients for 90 days and assess progress through team meetings.

Note: This exhibit describes common features of effective care models for high-need, high-cost patients; see: D. McCarthy, J. Ryan, and S. Klein, *Models of Care for High-Need, High-Cost Patients: An Evidence Synthesis* (The Commonwealth Fund, Oct. 2015).

NOTES

[1] Centers for Medicare and Medicaid Services, *Chronic Conditions Among Medicare Beneficiaries: Chartbook, 2012 Edition* (CMS, 2012).

[2] For a review of the evidence on care management programs, see: D. McCarthy, J. Ryan, and S. Klein, *Models of Care for High-Need, High-Cost Patients: An Evidence Synthesis* (The Commonwealth Fund, Oct. 2015).

[3] C. Boult, L. Karm, and C. Groves, "Improving Chronic Care: The 'Guided Care' Model," *Permanente Journal*, Winter 2008 12(1):50–54.

[4] C. M. Perissinotto, I. Stijacic Cenzer, and K. E. Covinsky, "Loneliness in Older Persons: A Predictor of Functional Decline and Death," *Archives of Internal Medicine,* July 23, 2012 172(14):1078–84.

[5] See Guided Care published studies, collected on its program page at http://guidedcare.org/program-history-results.asp. The researchers note that this subgroup's reductions in hospital admissions (15.0%), 30-day readmissions (48.7%), hospital days (20.7%), and emergency department visits (17.4%) were clinically significant because these services are so expensive, but they did not attain traditional levels of statistical significance.

[6] J. Bernstein, "The Elusive Benefits of Chronic Care Management," *Archives of Internal Medicine,* March 14, 2011 171(5):466–67.

[7] Ibid.

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The aim of Commonwealth Fund–sponsored case studies of this type is to identify institutions that have achieved results indicating high performance in a particular area of interest, have undertaken innovations designed to reach higher performance, or exemplify attributes that can foster high performance. The studies are intended to enable other institutions to draw lessons from the studied institutions' experience that will be helpful in their own efforts to become high performers. It is important to note, however, that even the best-performing organizations may fall short in some areas; doing well in one dimension of performance does not necessarily mean that the same level of performance will be achieved in other dimensions. Similarly, performance may vary from one year to the next. Thus, it is critical to adopt systematic approaches for improving performance and preventing harm to patients and staff.

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