American Medical Home Runs

Four real-life examples of primary care practices that show a better way to substantial savings.

by Arnold Milstein and Elizabeth Gilbertson

ABSTRACT: Four primary care sites in the United States constitute "medical home runs" because their patients incur 15–20 percent less (risk-adjusted) total health care spending per year than patients treated by regional peers, without evidence of reduced quality. The sites achieved this result in a U.S. payment environment that usually penalizes physicians who invest to prevent costly near-term health crises. If the ingredients and accomplishments of these four sites spread, under- and uninsured lower-income Americans could be fully covered in the foreseeable future without increased health spending or lower quality of care. In exchange, sponsors of health benefits would gladly support additional primary care physician payment. [Health Aff (Millwood). 2009;28(5):1317–26; 10.1377/hlthaff.28.5.1317]

Americans want health insurance to be more affordable. The quest for such insurance is critically important for workers in service industries, where wages tend to be low. For these and other non-affluent workers, wage suppression by rapid cost growth for health benefit plans perpetuates life at the edge of poverty. In 2007, average health care spending (by both employer and worker) for a family of four grew to 58 percent of a U.S. hotel cleaning and maintenance worker's average annual earnings.[1, 2]

Lowering the cost of health insurance requires lowering the production cost of health care. Doing so in the United States without compromising quality is a reasonable goal. After the effect of per capita gross domestic product (GDP) on per capita health spending is adjusted for, citizens of other industrialized countries pay about one-third less per capita than Americans do and enjoy health and health care that scores as well or better on most comparative performance measures. The goal's reasonableness is reinforced by the convergence of two independent estimates of "waste" by the Congressional Budget Office (CBO)[3] and a prior Institute of Medicine (IOM) report.[4] Both estimate that 30–40 percent of U.S. health spending is "waste." Waste estimates primarily encompass services of no discernable value (the CBO's focus) and the inefficient production of valuable services (the IOM's focus).

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DOI 10.1377/hlthaff.28.5.1317

The United States has failed to build a care delivery vehicle that eliminates this baseline waste and then annually improves health industry productivity enough to align growth in health spending with growth in national income. Challenges include (1) resistance from clinicians because "one man's waste is another man's livelihood," (2) clinicians' lack of training in, and enthusiasm for, clinical efficiency improvement, (3) payment methods that reward service volume and provider oligopolies, and (4) the predictable limits of consumerism at the point of care among the sickest one-fifth of the nonelderly population, who incur 80 percent of health spending.

Enter stage right U.S. primary care physicians (PCPs) and physician organizations. They have developed or co-developed a variety of improved primary care models such as the Chronic Care Model, the Physician Practice Connections model, and several derivative models, increasingly encompassed by the term "medical home." Their primary design objectives are improved effectiveness, safety, timeliness, and patients' experience of care. Although they charge higher fees than for conventional primary care, many speculate that medical homes will reduce near-to-intermediate-term total health spending by preventing costly emergency department (ED) and hospital use. Well-controlled tests of this hypothesis are under way; thus far, none has been published in peer-reviewed health services research journals.

Unfortunately, findings from the few rigorously evaluated private and public payer–sponsored explorations of the general "downstream savings" rationale for improved chronic care are not encouraging. Results from Medicare's Physician Group Practice Demonstration Project[5] for chronically ill patients, the Group Health Cooperative's chronic care system,[6] and nationally celebrated chronic care "Breakthrough Series" participants such as Care South Carolina[7] suggest that near-term net savings are either undetectable or a tiny fraction of the IOM and CBO estimates of potentially recoverable "waste."

Because most medical-home models were not explicitly designed to minimize total per capita health spending, and because underuse of evidence-based services is more frequent than overuse, this result is not surprising. Nonetheless, failure of substantial near-term net savings to materialize will depress payers' willingness to pay for higher proposed medical-home fees—especially employer-sponsored benefit plans in low-wage or low-margin industries. Most customers of health plans already feel stressed by health care costs, so their willingness to pay more hinges on whether improved primary care medical homes also greatly reduce near-term downstream per capita spending. Do such "medical home runs" exist?

Scouting For Medical Home Runs

To scout for medical home runs, we contacted health plans and risk-bearing independent practice associations (IPAs) that evaluated primary care offices and physician groups on measures of quality and total annual risk-adjusted health care

spending per patient. We also were linked to them by national primary care leaders. We qualified physician offices as medical home runs if at least one of their large payers confirmed that compared to regional peers, (1) average annual per capita combined payer and patient out-of-pocket spending for all covered health care services was at least 15 percent lower, after adjusting for health spending risk factors such as age and diagnosis; and (2) scores on available publicly released or payer-collected measures of quality and patient experience generally equaled or exceeded average regional scores.

We then went to the four sites to observe practice operations and to solicit the views of practice leaders and staff on what specific features accounted for their distinguished results. Based on these observations, we reflected on features shared by all four sites.

We identified four medical home runs. Undoubtedly there are many others, but because few payers compare primary care practices on the average total annual risk-adjusted spending incurred by their patients, identifying such practices proved difficult. We were not able to determine with confidence the amount by which the spending reduction was reduced by bonus payments from payers; however, one of the sites (CareMore Medical Group) estimated it to be 25 percent, lowering savings for payers and beneficiaries from 20 percent to 15 percent of total annual per capita health care spending (Exhibit 1).

Because CareMore's results were only available for a period two years prior, we asked the group's former leader to supply identifying information and reflect on pivotal features. Practice leaders' synopses of ingredients that they consider pivotal to their distinguished results demonstrate substantial diversity of care design. Our synopsis of common features teased out broader patterns that accommodated this diversity.[8] Creating a scientifically robust evidence base of "pivotal features" that distinguish medical home runs will require more effort. Such an effort is better suited to rigorous testing of hypotheses by health services researchers than to observation by purchaser scouts. Subject to these caveats, we identified three common pivotal features: (1) an exceptional form of individualized caring tailored to preventing ED use and unplanned hospitalization for chronic illness; (2) efficient service provision; and (3) careful selection of, and coordination with, medical specialists.

Common Pivotal Feature 1: Exceptional Individualized Caring For Chronic Illness

Although the specific methods of preventing expensive health crises among chronically ill patients varied, each office used a common psychological lever that greatly boosted the motivation of patients, their at-home caregivers, and the clinical team itself: a primary care team so committed to their patients that they would go to extraordinary means to protect them from preventable health crises. This commitment implicitly embedded several or all of the following "exceptional car-

EXHIBIT 1
Identifying Information And Current Status For Four "Medical Home Run" Primary Care Sites

Identifying information	Urban Medical Group	Leon Medical Centers	CareMore Medical Group	Redlands Family Practice
Practice setting	6.4 FTE salaried physicians, 17 NPs, 1 PA practice in a metro Boston working-class area; nursing home–eligible patients account for two-thirds of visits and almost all NP activity; estimated average patient panel size across all 24.4 practitioners is 40 nursing home–certifiable, 110 other chronic, and 110 other patients; approximately 10% of elderly patients are enrolled in HMOs, which offer bundled or shared-risk payments	55 FTE salaried PCPs practice in a metro Miami working-class area; exclusively serving patients enrolled in an affiliated Medicare HMO offering primary care capitation, specialty care capitation, and shared risk payments; average PCP panel size is 600–700 seniors; provides wide range of ancillary services	Approx. 40 FTE mostly internist multisite practice in LA basin working-class area; 40 divide their time between hospitalist work and leading one specialized ambulatory care team serving 200–500 of the 40% frailest patients in an affiliated Medicare HMO that pays a primary care capitation plus a results-dependent bonus; provides wide range of ancillary services	3 FTE physician family practice in a lower-middle-class California small town; Approx. half of patients enrolled in multiple unaffiliated HMOs offering actual or approximated global capitation payment intermediated by an IPA; 3 FPs, 1 PA, 1 RN, and 5 office staff manage approx. 11,000 patients mostly ages 50–70
Lead practice founder	Robert Master (internist)	Benjamin Leon Jr. (health care entrepreneur)	Sheldon Zinberg (internist)	Alex Terrazas (family practitioner)
Estimated percentage by which payer's risk-adjusted total per capita health spending is below regional average, excluding shared savings payments made to the primary care sites	Approx. 20% based on claims experience of a health plan serving nursing home–eligible patients	Approx. 20% based on claims experience of a Medicare HMO relying exclusively on the practice for primary care and specialist management	Approx. 15% based on payer claims experience of a Medicare HMO relying exclusively on the practice for primary care and specialist management for the 40% frailest patients	Approx. 15% payer claims experience of a risk-bearing IPA serving Medicare and commercial HMO patients
Current status of practice	Merged into a larger group, partly due to financial losses from payers' declining willingness to share savings	Medicare Advantage plan spawned by the practice acquired by private equity investors; the practice exclusively serves this plan	Medicare Advantage plan spawned by the practice acquired by private equity investors; the practice exclusively serves this plan	IPA that manages practice's relationship with HMOs is now attempting to spread the practice's key features to other primary care practices

SOURCE: Compiled by authors and reviewed by each practice founder.

NOTES: FTE is full-time equivalent. NP is nurse practitioner. PA is physician assistant. HMO is health maintenance organization. PCP is primary care physician. RN is registered nurse. FP is family practitioner. IPA is independent practice association.

ing promises": (1) we will take enough time during office visits to fully understand your illness and self-management capability and fine-tune your treatment plan; (2) between office visits, we will directly provide or mobilize the help you need to succeed in implementing your self-management plan, with special emphasis on medication management; (3) we will respond promptly 24/7 when you ask for urgent help between visits; (4) we will link you with a small group of carefully selected specialists with whom we actively coordinate; and (5) we care personally about protecting you from health crises. Why did exceptional caring appear to be

effective at preventing health crises?

■ **Psychological power of exceptional caring.** Exceptional caring by one or more team members draws on two social psychological mechanisms: reciprocation and social proof. Patients are likely to reciprocate exceptional caring with better adherence to prescribed medications and other elements of self-care requested of them by their care team; and when a care team proves through its own behavior that preventing near-term health crises is both important and achievable, patients are more likely to believe it and behave as if it were so.[9]

■ **Value of careful physiologic monitoring.** Beyond its psychological benefits, exceptional individualized care encompasses careful monitoring of physiologic risk factors, such as blood pressure in cardiovascular disease, glycosylated red blood cells in diabetes, and weight change in congestive heart failure (CHF). This, in turn, enables more finely tuned and more frequently adjusted care plans. As demonstrated by the Chronic Care Model[6] and Medicare's Doctor's Office Quality project,[10] such proactive monitoring is associated with fewer unplanned hospitalizations.

■ **"Ambulatory ICU" chronic care platforms.** The primary care delivery method by which chronic care plans were set, reassessed, and refined was itself fundamentally redesigned to constitute an "ambulatory ICU" for chronic care. This is illustrated by Urban Medical Group's regular clinician visits to patients' homes or nursing homes and active relationship building with in-home caregivers. It is illustrated also by Leon Medical Centers' extensive door-to-door patient transportation service for all aspects of senior care, including medication delivery and specialist visits, and on-premises urgent care observation bays used to assess shortness of breath and other common worrisome acute symptoms common in senior populations. It reflects the evolution of care platforms tailored to common patient needs.[11] Enabled by its scale, CareMore evolved more than fifteen needs-based intensified care platforms. These platforms are customized to serve both diagnosis-specific and non-diagnosis-specific needs, such as wound healing, risk of falling, behavioral disorders, destructive home environments, anticoagulation, elevated blood sugar, elevated blood pressure, and presurgical stabilization.

■ **Expanded view of near-term health risk.** Second, patient monitoring extended beyond physiological assessment to encompass assessment of behavioral and environmental risks. This wider assessment was accomplished by adding behavioral health specialists, social workers, and culturally savvy medical assistants to the care team, sometimes via referral to health maintenance organization (HMO) care management staff. It was also accomplished by increasing contact with unstable patients both per visit and per month (at all four sites) and building close relationships with day-to-day care-givers (at three of the four sites).

Common Pivotal Feature 2: Efficient Service Provision

Leaders at each of the four sites realized that without attention to efficiency of service delivery, exceptional caring would be cost-prohibitive, even if payers gen-

erously shared the downstream savings. Improved efficiency was facilitated at all four sites by an exclusive or predominant focus on chronic care for older patients. This focus increased the commonality of patients' needs, thereby allowing greater standardization of care processes. Standardization, in turn, enabled the practices to replace physicians with nurse practitioners (NPs), NPs with registered nurses (RNs), RNs with licensed vocational nurses (LVNs), LVNs with medical assistants (MAs), and/or MAs with unlicensed staff. For example, Urban Medical Group relies on geriatric NPs for evaluation and management of its nursing home–certified chronic illness patients, and the nurses, in turn, rely on lay coordinators for communication with key partners in chronic care such as labs, social service agencies, pharmacy benefit managers (PBMs), payers, and other physician offices. After chronic care plans are set by CareMore's hospitalist-led teams, the critical tasks of patient self-management support are often delivered by RNs, LVNs, and nutritionists, whose competency; humanity; and cultural, linguistic, and social-class concordance with patients was impressive. Three male physicians of Redlands Family Practice relied on a female PA for gender-related women's health care, dedicated an RN to assuring compliance with chronic care guidelines and postvisit reinforcement of critical aspects of patient self-management, and used continuously refined standardization of the roles of office clerical staff to transfer administrative burden from all five clinicians. In two of the practices, a focus on chronic care also provided the scale needed to bring specialty services associated with wide variation in utilization practices and fees, such as physical therapy, urgent care, and some skilled home health care, into their office site where they could better assure their appropriateness and efficient provision.

All four sites believe that their efficiency in lowering total per capita health spending is likely to be improved by greater use of health information technology (IT). All were moving to electronic health records (EHRs), and one was testing daily remote patient monitoring of weight among CHF patients, blood pressure among hypertensive patients, and blood sugar among diabetic patients. However, all four sites had achieved their distinguished results without the benefit of such IT. This suggests that recovering the first 15 percent of the 35 percent estimated waste in U.S. health care spending may not hinge on use of health IT or the larger organizational scale required for nuanced, IT-enabled continuous reengineering of clinical processes.

Common Pivotal Feature 3: Careful Selection Of Specialists

Current methods of comparing specialists on quality and total spending per episode of acute illness care and per year of chronic illness care are imperfect, and payers rarely make specialists' performance scores available to PCPs. Nonetheless, each of the four primary care medical home runs used prior referral experience, community reputation, and any available payer comparisons of specialists' performance to concentrate specialist referrals with one well-performing specialist or

specialist group per specialty. In two of the offices, conservative resource use by these specialists was reinforced by capitation payment by managed care payers.

■ **Relationship between specialist spending and quality.** An estimate of potential reduction in health spending associated with preferential use of such highly ranked specialists in Seattle—a low-spending *Dartmouth Atlas of Health Care* region—was prepared by Mark Rattray and colleagues.[12] They found no relationship between low spending and quality of care delivered by most non–primary care specialties. When they modeled savings from preferential referral to low-spending specialists with above-average quality scores, they found that the opportunity for savings constituted approximately 15 percent of total payer spending influenced by specialists. The savings opportunity is likely greater in higher-spending *Dartmouth Atlas* regions.

■ **Concentrating physician referrals.** Concentration of referrals also enabled more effective care via greater standardization of treatment protocols among physicians treating the same patient, more reliable transfers of patient information between primary and specialist care, and greater clarity regarding the division of responsibility among multiple physicians involved in a patient's ongoing management. One of the large offices used such concentration to extend its "white glove" customer-service model to specialists' offices by reserving one or more half-day blocks in specialists' weekly schedules.

Successful Innovation In An Unsupportive Environment

Why were these four offices able to overcome formidable barriers to improved primary care, innovate in their care delivery methods, and reduce total per capita health care spending without jeopardizing quality? Although their methods appear transferable to other primary care offices, the discovery of these methods may require leaders with rare personality features. In our interviews, we discerned several unique personal traits: persistence, tolerance for risk, instinct for leverage on clinical and financial outcomes, and a strong sense of personal accountability for preventable crises in patient health.

■ **Persistence.** In an environment in which most PCPs are understandably discouraged by payers that fail to reward higher quality or success in controlling downstream spending, these leaders persisted in finding avenues to global capitation and other forms of shared savings by payers that enabled them to benefit from less hospitalization and "flat-of-the-curve" specialist care—the point at which additional services provide no additional value.[13] Indeed, three of the four practices persisted to the extreme of spawning viable regional health insurance companies specializing in chronically ill patients, and two shared savings with the physicians who produce them.

■ **Risk tolerance.** Beyond the considerable risk of tapping their personal assets or borrowing from third parties to fund the start-up of regional health insurance companies, these leaders demonstrated remarkable risk tolerance. Risks included

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(1) termination of their participation in physician networks by insurers with which their affiliated health insurance company newly competed; (2) delegation of tasks to nonphysician staff when the state's regulations on scope of medical practice regulations were unclear; and (3) personal attacks by specialists whom they had excluded from a narrow, performance-based referral roster.

■ **Instinct for leverage on clinical and financial outcomes.** These leaders also selected the same two primary targets in their quest to lower health care spending without jeopardizing quality of care or patient experience. All had concluded that preventing ED visits and subsequent unplanned hospitalizations among the highest-risk chronically ill and selecting well-respected resource-conserving specialists were by far the biggest opportunities to reduce near-term health care spending without jeopardizing quality of care.

■ **Personal accountability.** Finally, beyond their instinct for primary care's unique points of leverage on health care spending, they regarded emergency hospitalization and ED use as personal failures. This pivotal attitude resonated with their colleagues and in turn stimulated continued testing of new refinements in care methods. These dynamics created self-propelled, small-scale learning organizations.

Policy Implications

As policymakers, purchasers, payers, and non-affluent households intensify their search for a more affordable path to better health, there is likely no health care industry segment offering higher near-term potential for reduced total health care spending and improved clinical outcomes than primary care of patients with severe chronic illness. To those who have grown pessimistic about search results or who would settle for higher quality at current or higher total spending levels, these four physician practices have shown that even in today's value-insensitive payer environment, where there is an iron will to deliver higher-value primary care, there is a way.

■ **Signal to payers.** The signal of these four physician practices to public and private payers seeking responsible near-term spending reduction is to focus initial payment reform on better rewarding PCPs and primary care–led medical groups that take accountability for lowering total annual spending in severe chronic illness while improving quality and patients' care experience. How much of the savings must be converted into higher primary care spending or individual compensation of PCPs rather than to more affordable health care is a critical unknown, especially in efforts to extend these exemplary care delivery methods to less-well-led physician practices. Urban Medical Group reported that for its nursing home–certifiable patients, several hundred dollars in monthly per capita payments for primary care

were required to sustain their intensive primary care model that, in turn, enabled approximately 15 percent lower total per capita payer and patient spending net of payer bonus payments. Although all of these practices required that a greater share of total per capita health spending be allocated to primary care, it is noteworthy that in two of these practices, above-market individual compensation of PCPs was not required. They felt adequately rewarded by a less frenetic clinical pace and by their belief that they were practicing better medicine. However, two others used some of their shared-savings payments to raise PCPs' compensation.

■ **Signal to fellow clinicians.** The signal to fellow clinicians is that success in preventing costly health crises among chronically ill patients is partly attributable to technical aspects of the redesign of care models to meet the unique needs of the chronically ill, but that much is also attributable to the profound effects on patients, patients' families, and clinicians themselves of persuasively demonstrating to patients that they care deeply that their patients succeed in avoiding expensive and dangerous health crises. Beyond its evidence-based psychological benefit, such caring nurtures patients' hope—a potent ingredient in any therapeutic undertaking.

■ **Signal to clinician educators.** The four PCP practices' signal to clinician educators is that faculty role models and trainee selection criteria need reconsideration to reflect the personality features not only of biomedical innovators and master clinicians, but also of care delivery innovators. Educational content must also change to emphasize that a major share of health crises in chronic illness—with their high societal cost in health insurance unaffordability and disruption of patients' lives—are preventable. Clinician educators, not purchaser scouts, should be leading national efforts to identify and disseminate clinical innovations that lower per capita health spending without jeopardizing the quality of care.

■ **Signal to public policymakers.** The signal to public policymakers is that to attain more health with less health care spending, health plan enrollment must be tilted toward those plans that vigorously reward PCPs and physician groups that excel in low total annual per capita health care spending and clinical outcomes. Such reward can occur via tiered- or narrow-network plans that lower cost sharing especially for chronically ill patients when they select efficient, high-quality physicians. It can also occur via shared savings with physicians in the form of substantial fee-for-service bonuses or bundled payment methods, although exclusive reliance on this approach will likely yield less net savings to consumers and purchasers than combining it with tiered or narrowed provider networks. If augmented by coaching of physician offices by benchmark peers, more effective mobilization by physician leaders of physician responsibility for health care resource stewardship, and providing PCPs with comparisons of specialists' performance based on Medicare's ample database, these incentives are likely to spread the remarkable success of these four American medical home runs.

This report was supported by the Robert Wood Johnson Foundation and the California HealthCare Foundation.

NOTES

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