Redesigning Primary Care: A Strategic Vision To Improve Value By Organizing Around Patients’ Needs

ABSTRACT Primary care in the United States currently struggles to attract new physicians and to garner investments in infrastructure required to meet patients’ needs. We believe that the absence of a robust overall strategy for the entire spectrum of primary care is a fundamental cause of these struggles. To address the absence of an overall strategy and vision for primary care, we offer a framework based on value for patients to sustain and improve primary care practice. First, primary care should be organized around subgroups of patients with similar needs. Second, team-based services should be provided to each patient subgroup over its full care cycle. Third, each patient’s outcomes and true costs should be measured by subgroup as a routine part of care. Fourth, payment should be modified to bundle reimbursement for each subgroup and reward value improvement. Finally, primary care patient subgroup teams should be integrated with relevant specialty providers. We believe that redesigning primary care using this framework can improve the ability of primary care to play its essential role in the health care system.

Primary care is widely recognized as essential to any health care system, but the field remains beleaguered. Many primary care practitioners feel frustrated and underappreciated, and fewer than one in ten US medical school graduates enters primary care residency programs. Primary care practices are starved for investment. Meanwhile, patients have difficulty finding primary care physicians and are often disappointed with the ability of primary care practices to meet their needs. We believe that a fundamental cause of these problems is the absence of an organizational framework for primary care that is connected directly to any robust strategy beyond that of increasing the volume of services for reimbursement. As we have asserted elsewhere, we believe that the overarching strategy for health care should be to improve value for patients, where value is defined as patient outcomes achieved relative to the amount of money spent. Only through achieving better outcomes that matter to patients, reducing the costs required to deliver those outcomes, or both can we unite the interests of all key stakeholders. Unless primary care is organized to deliver and demonstrate measured value, it will never command the respect and investment it needs. It will remain the underappreciated stepchild, recognized as necessary but not rewarded.

As organized today, primary care is a mission impossible. Most primary care practices attempt to meet the disparate needs of heterogeneous patients with a single “one size fits all” organizational approach. This leads to frustration for...
both patients and the clinicians who attempt to serve them.\textsuperscript{5,6} 

Ironically, the only way to improve value in primary care is to recognize that primary care is the wrong unit of analysis. We must deconstruct primary care, which is not a single set of services but a group of services delivered to meet the different needs of multiple subgroups of patients.

Even if a practice serves many or all of these subgroups, primary care teams should be organized around serving distinct subgroups of patients with similar primary care needs. Success in serving these subgroups—or “customer segments,” as they are called in the management literature—will require new and better ways of measuring outcomes and costs, new mixes of skills, new ways of accessing patients, new payment models, and new approaches to integrating primary care with specialty care.

These proposed changes are not theoretical. In fact, many of the recommended steps are already being taken by leading primary care practices,\textsuperscript{7–11} including those where two of the authors practice primary care. However, we believe that most health care organizations currently operate without an overall strategy for improving primary care. Consequently, the hard work of clinicians is dissipated because of a lack of clarity about what they are trying to accomplish, and for whom.

Substantial barriers exist that would hinder a movement toward more value in primary care, particularly for practices of one or two physicians. However, the pressures for such practices to consolidate and reorganize are already evident and growing. The framework we offer here can help guide the transformation of primary care and potentially accelerate progress.

Defining ‘Value’ In Primary Care

Any useful organizational framework requires a clear goal, and the fundamental goal of primary care should be improving value for patients. This goal must transcend the traditional management focus on optimizing the financial performance of primary care practices under fee-for-service payments.

How does a value-based delivery model differ from care organized around performing reimbursed transactions such as office visits? In value-based delivery, care is organized around the patient and meeting a defined set of patient needs over the full care cycle. The aim is to improve health outcomes, and to do so with increasing efficiency.

To improve value, the measurement of both outcomes and costs is essential. Without these data, clinicians lack the information needed to validate choices, guide improvement, learn from others, and motivate collaboration and change. Value measurement is also needed to demonstrate the impact of innovations and justify additional investments.

For specific conditions such as heart failure or breast cancer, patients’ needs are often well defined, as are common complications. For such care, value is often improved by multidisciplinary teams of clinicians that act as integrated provider units and collaborate to meet the major needs of their patients over the full cycle of care, including dealing with common comorbidities—not just providing discrete services.\textsuperscript{12}

For example, integrated cancer teams increasingly include both palliative care specialists, to ensure that end-of-life care issues are addressed, and psychiatrists, to help diagnose and treat depression.\textsuperscript{13} Increasing numbers of such condition-focused delivery units are being opened at institutions such as Massachusetts General Hospital’s Institute for Heart, Vascular, and Stroke Care.\textsuperscript{14}

In primary care, however, there are few such units. The core problem is that primary care is, by definition, focused on the whole patient—and the patients who seek primary care are heterogeneous.\textsuperscript{15} The diversity of their needs creates the fundamental value conundrum in primary care and is the root cause of the difficulty in measuring that value. It is impractical to measure outcomes achieved relative to costs for a highly diverse set of patients, so the field defaults to performance metrics based on what physicians do and get paid for: volume of visits, panel size, and numbers of processes executed.

As a result, primary care practices have become “supply-based” organizations designed to maximize the production of services through the number of visits and fee-for-service reimbursement for discrete transactions. Clinicians work hard, but each patient is treated as a special case for whom “the wheel” must be reinvented.

Thinking about primary care as a single service not only undermines value but also creates a trap that makes value improvement difficult, if not impossible. We will never solve the problem by trying to “do primary care better.” Instead, primary care must be redefined, deconstructing the work that goes on within those practices and rethinking how it is performed.

The Agenda For Primary Care

We believe that the path for transforming primary care lies in a shift to value-based patient subgroup management. This management
approach consists of the five essential elements described next.

**Basing Primary Care on Patients’ Needs**
The first element, and the starting point for value-based primary care, is to identify groups of patients with similar needs, challenges, and ways to best access care. Then care teams and care delivery processes can be designed for each patient subgroup, outcomes can be measured, and the costs of providing the subgroup’s care can be understood. Tailored measures of outcomes and costs that reflect each subgroup’s needs and care cycle should replace current measures that focus on a provider’s volume of reimbursable services.

The exhibit in the online Appendix provides one simple framework for dividing adults into five subgroups that account for most adult primary care activity. For pediatric practices, children can be separated into analogous groups. The subgroups shown and the potential team members are illustrative and may differ to some extent by practice. For example, expectant mothers and mothers of young children may be an important subgroup in women’s health practices. And in some practices, sociodemographic factors such as a high prevalence of Spanish-speaking patients may make ethnicity an important variable.

There is no universal best approach to grouping patients. What is critical is that each practice agree on a framework that captures most or all of the differing needs of its particular array of patients and that can evolve over time as learning accumulates about team-based delivery models.

- **Using Subgroups to Meet Needs:** By grouping patients according to similarities in their needs, primary care practices can develop multiple “needs-based” delivery systems explicitly designed to measure and improve value. Dividing patients into subgroups not only enables providers to better meet the patients’ needs but also enables the increased anticipation of needs and the delivery of appropriate preventive care.

Within each subgroup, there will always be variation and the need to tailor care for individual patients, even if the majority of patients find that the majority of their needs are well met. For example, the subgroup of healthy adults will include people with slightly different risk factors and varying urgent care issues but who share the same basic requirements for maintaining optimal health—that is, screening and preventive care services and evaluation for acute issues.

Similarly, the subgroup of patients with multiple chronic conditions and frequent exacerbations will share a need for more frequent and intense interactions with the health care system, a wider set of services, and a broader team of clinicians and supporting staff—including the appropriate specialists, patient educators, and coordinated home health care services—to help manage their illnesses, in comparison to healthy patients.

“Needs” include not only types of services but also effective methods for patients to access care. For example, a generally healthy twenty-six-year-old woman with a urinary tract infection may not need to come into the office for a face-to-face appointment. In contrast, a forty-five-year-old woman with poorly controlled diabetes mellitus will benefit from frequent interactions with a diabetes educator, combining in-person visits with phone or Internet interactions focused on regular monitoring and behavioral change.

There is a widely held notion among clinicians that getting patients into the office for nearly any reason is inherently good because it offers opportunities to provide screening and preventive services. From a value perspective, that strategy is an expensive approach to screening patients; it is also likely to miss many of them.

Dividing patients into subgroups is not based on segmenting the population by discrete diseases such as diabetes, hypertension, and depression. Rather, the division is based on similarities in the types of care needed, which reflect patients’ conditions and the severity of those conditions. Disease-based subgroups are appropriate for specialty care. But although they are tempting for primary care, they are impractical in that field. There are so many serious medical conditions and possible “disease management” programs in most primary care practices that each one would cover only a small percentage of a practice’s patients. Such fragmentation makes the task of developing integrated teams by disease overwhelming, and most primary care practices simply give up before starting.

- **Implications for Primary Care Redesign:** To redesign primary care, the task is to divide the entire patient population served by a practice into a relatively small number of groups that capture the main differences in core needs and circumstances. The focus should be on those groupings that will translate into differences in care team composition and service delivery needs. A given patient may occasionally move among subgroups over time, but his or her care is best managed and measured at any given moment by the team that is focused on and equipped to meet the patient’s current needs.

A practice may choose not to serve all subgroups itself, referring some patients to other providers better equipped to meet particular needs. For example, patients with end-stage renal disease may be referred to a dialysis team that
provides primary as well as nephrology care. No system of dividing patients will ever capture all of their differences, but this approach is far superior to the status quo—which often involves no targeted efforts to meet patients’ needs other than addressing their acute complaints. Clinicians may believe that their job is to treat every patient as if he or she were special. In fact, patients’ needs would be better met if such a personalized approach were complemented by systematic efforts that addressed the common needs patients shared with others in their subgroup.

**INTEGRATING DELIVERY MODELS BY SUBGROUP**

Once primary care practices have defined patient subgroups, they can move to the second essential element: developing teams that are focused on care integration and improvement for each subgroup. For most primary care practices, the development of effective teams that are true drivers of care integration would be the greatest departure from the status quo.

The critical issues are the following: Who is on the team? How do members work as a team across the care cycle? In what kinds of facilities? At what locations, and using what tools to best access and interact with patients?

**WHO IS ON THE TEAM?**

Teams normally consist of primary care physicians together with other skilled staff who deliver the services needed by a particular patient subgroup. Physicians and other personnel play different roles on teams organized around the various subgroups. Tasks should be allocated among staff to use highly trained physicians and nurses where their skills are needed, and to use supporting personnel where appropriate.

For example, some organizations such as Geisinger Health System give front office staff responsibility for ensuring that preventive tests, such as eye examinations for patients with diabetes, are scheduled. Nonphysician clinical personnel—including medical assistants, nurses, and pharmacists—can track the management of common chronic conditions such as hypertension, diabetes, and lipid abnormalities.

Scheduling patients in a particular subgroup can be prioritized on defined days of the week. For example, patients with common chronic diseases can be preferentially scheduled on certain days to facilitate efficient visits and allow for group educational programs. Many practices have already implemented group visits for patients with certain common conditions, such as diabetes, heart failure, headache, and arthritis.18

When the scheduling of patients with various chronic conditions is concentrated, specialists most relevant to common comorbid conditions can join the team. For example, diabetes sessions can include endocrinologists, podiatrists, and nephrologists. Complex case sessions can include mental health specialists, palliative care consultants, and social workers. Timely consultations—both formal and informal—can occur readily if patients are scheduled according to needs instead of at random, and the types of clinicians most relevant to their needs are assembled at those times.

Such innovations seem radical departures from the norm, but this is only because of the absence of teams accountable for improving value for patient subgroups. When such teams are formed, these innovations become common sense. Within any given subgroup of patients, there will always be opportunities to improve. Even if outcomes are already excellent, teams can find ways to achieve them with greater efficiency.

In addition, practices may excel with one patient subgroup, but there will always be ways to improve in others. For example, a primary care practice might perform well in meeting the needs of patients with complex conditions but still have tremendous room for improvement in how it meets the needs of healthy or at-risk patients.

Organizing care delivery around the needs of patient subgroups challenges the notion that variety—for example, seeing a perfectly healthy patient followed by another who is catastrophically ill—should be a major source of satisfaction in practicing primary care. We think that physicians gain greater satisfaction from delivering excellent care, made possible by deep experience with a set of patients’ needs and the ability to work with a team of colleagues who are well equipped to address them. Learning from colleagues with special expertise is also facilitated through such team care.

**HOW SHOULD OFFICE LAYOUT CHANGE?**

Such a “needs-based” approach has implications for the physical layout, equipment, and on-site testing services of primary care practices. Practices tend to use outpatient space in ways that maximize the number of visits. Instead, space should be designed to facilitate the effectiveness of the teams.

For example, some primary care practices have been redesigned to put physicians and the personnel with whom they work in closer proximity, so they can collaborate more reliably. One approach is to have “flow stations,” in which the physician and medical assistant sit adjacent to each other and deal with paperwork together.

Many practices now include common workrooms for clinicians and support staff, so that clinicians can interact spontaneously with each other and with schedulers and other...
administrative personnel in between contact with patients in examination rooms. Mental health specialists or other types of clinicians—including palliative care consultants, pain specialists, and psychiatrists—may also work out of such shared space, potentially on designated days during the week.

Each subgroup team should develop its own patient access model. Although services will continue to be provided at traditional locations, teams should also access patients via the Internet and telephone; at home and in satellite locations, such as schools and workplaces; and using other nontraditional mechanisms.

For example, home visits are often more effective than office visits for frail elderly and disabled patients. The pharmacy is among the places with the most frequent patient contact for those with chronic conditions such as hypertension and diabetes, and it can be integrated into care models. For most types of patients, huge potential value improvement can be achieved through the adoption and use of patient portals into electronic health record systems, to permit two-way communication between patients and their clinicians.

**How should team members work together?** Providers must function in teams to be effective. Each team must have a recognized leader who is accountable to the organization’s leadership for improvement in value for its patient subgroup. The team should meet regularly to review performance on the specific metrics—for example, outcomes and costs—that define value for its patient subgroup. Team members should also have continuous informal interaction, which is why it is important to have common space where such interactions can occur.

Monthly one-hour practice meetings, with ten to fifteen minutes of each meeting focused on reviewing performance for a patient subgroup, might be a practical formal coordination model. Incentives, both financial and nonfinancial, should be used to reward teams for improvement in performance.

The team leader need not always be a primary care physician. In some new practice models, for example, nonphysicians have primary responsibility for preventive care for healthy patients or for the management of patients with stable chronic diseases. This preserves the time of physicians for what they are trained to do best, while increasing job satisfaction for nonphysician staff because they are integral to patient care and not just support providers.

**Measuring value for each patient subgroup** The third element of the agenda for primary care is to measure outcomes and costs for each patient, by subgroup. The ultimate measures of success are outcomes that matter to patients, not the process measures that now dominate “quality” measurement in primary care.

**Identify outcomes that matter to patients:** The relevant outcomes differ among subgroups, which confounds any effort to measure primary care outcomes as a whole. Furthermore, within any patient subgroup, no single outcome defines performance; instead, multiple outcome measures need to be collected on an ongoing basis. A fundamental goal of outcomes measurement is for teams to identify opportunities to learn from others, because no primary care practice is likely to be superb on all outcomes.

Exhibits 1 and 2 consist of samples of outcome scorecards for healthy adult patients and for adult patients with chronic illnesses. For subgroups involving chronic illnesses or complex conditions, outcomes will be a combination of general outcome measures, such as quality of life and timeliness of care, and specific measures for the particular chronic conditions or illnesses involved, such as diabetes. Considerable work lies ahead in developing measures and implementing measurement systems, but that should not prevent health care organizations from getting started by using what data are available.

**Measure total costs:** Measuring total costs, including those outside of primary care, for patients in each subgroup is also part of creating value scorecards. Existing costing systems fall far short of capturing actual costs per patient. Accurate costing begins with process mapping, or understanding all of the care processes involved in serving a patient subgroup over time, including common pathway variations such as the need for an interpreter’s services or reviewing radiographic images from outside providers. Then the resources involved in each process—for example, personnel, equipment, space, drugs, and supplies—can be identified and their costs ascertained and aggregated.

By comparing the outcomes achieved with the actual costs incurred, delivery organizations can measure the improvement of value for each patient subgroup. Subgroup teams and their leaders will be equipped to take on their most essential work—improving value—by improving one or more outcomes without compromising performance on others, or lowering the costs required to deliver those outcomes. Then delivery organizations will be able to justify and make thoughtful investments in staff, equipment, and facilities.

**Aligning payment with value** The fourth element of the agenda for primary care is to align payment with value. Progress in primary care
Payment reform has been paralyzed by the current fragmentation of health care delivery, which is a natural result of fee-for-service payment. Paying for each discrete service separately reinforces the idea that the work of primary care organizations should be driven by discrete services or supplies.

**Bundled Payments**: We believe that a payment system designed around time-based bundled payments, or payment for a total package of services for a defined primary care patient subgroup during a specified period of time, is the approach most aligned with value for patients.

For example, primary care practices could receive different monthly payments for the care of patients in different groups. The payments might be $5 per month for a healthy patient, $10 for one who is at risk, $25 for one with a chronic disease, and $100 for a patient with a...
complex condition. Additional fee-for-service payments could be available for addressing patients’ acute care needs, although payments for such visits would be less than under a pure fee-for-service model.

Using the proportions of subgroups of patients described in the online Appendix, such a payment structure would yield about $600,000 per year in payment for the primary care practice, based on per member per month funding for a typical physician panel of 2,500 patients. That amount would be sufficient to fund the additional nonphysician personnel needed for true “team care.” Risk adjustment and outlier provisions could help protect a practice from financial exposure resulting from high-risk patients with complex conditions.

**Primary Care Incentives:** Even when overall delivery organizations operate under global budgets for large patient populations—for example, under capitation, which pays a fixed sum per patient—episode-based financial incentives for specialty care or internal subgroup-based incentive systems for primary care will be needed to reinforce integrated care and improve value at the provider level. Clinicians have difficulty responding to the imperative to reduce spending in a fee-for-service system with anything besides arbitrary cuts and discontent. Bundled payments for the care of specific patient groups, in contrast, enable more thoughtful choices for primary care providers and reward improvement.

The fragmentation of services in most provider organizations has slowed the voluntary shift to bundled payments for episodes of care, but the mechanics of bundle implementation are increasingly being explored and understood. Given the growing imperative for value, provider organizations will face greater pressure to organize clinicians to support value improvement and embrace new approaches to reimbursement for specific patient subgroups. If bundled payment models for the patient subpopulations defined in the Appendix or others are put in place, we believe that primary care value improvement will accelerate.

**Integrating Subgroup Teams and Specialty Care** The final component of the strategic agenda for primary care is to integrate primary care patient subgroup teams with relevant specialty care teams. Just as patient subgroups differ in what they need from primary care practices, they also vary in what they need from secondary and tertiary care providers.

Healthy children or adults will have most of their health care needs met through primary care practices. Other patients, such as those with serious conditions that are treatable but not curable, will ideally receive much of their care from clinicians working in an integrated specialty care unit. Such patients will benefit from formal coordination and integration between the primary care and specialty teams.

Experiments are under way in which specialists are embedded in primary care practices and primary care providers are embedded in specialty practices. The ideal combination of primary and specialty care will vary by patients’ subgroup and medical condition, and even for individual patients across time. The ability to manage this variation requires that primary and specialty care providers function as members of a joint team, organized around meeting the needs of patients. Clinicians then have the shared goal of improving outcomes and efficiency for their common patient, rather than simply performing their particular jobs.

This collaboration requires systematic efforts to share protocols, define handoffs, and build personal relationships. Integration is most likely to succeed if all providers have access to the same clinical information system, and if consistent outcomes data are being routinely collected and shared. Of course, having bundled payment systems that reimburse primary care and specialty clinicians as a group for a given patient increases the likelihood that they will collaborate.

**Putting Value-Based Primary Care Into Practice**

Although we have described a strategic redesign of primary care, the concepts here are not radical. Many innovative primary care practices are already implementing some elements of a value-based model of primary care.

For example, “ambulatory intensive care units” focus on the sickest or most expensive patients, using teams to improve outcomes and lower overall costs. Organizations such as the Commonwealth Care Alliance and CareMore are providing high-value primary care to a subgroup of disabled and elderly patients using targeted delivery models involving home visits and comprehensive sets of supporting services. Intermountain Healthcare, the Department of Veterans Affairs, and Cherokee Health Systems have all implemented primary care models in which primary care staff and behavioral health specialists work in the same location and together serve patients who need both types of care.

The patient-centered medical home is an important step toward better-coordinated, team-based care that has the ability to improve outcomes and lower costs. However, the largest
investment required to become a patient-centered medical home (besides electronic health record systems) is employing nurse case managers who focus on improving the coordination of care for the high-risk patients who constitute only 3–5 percent of a typical practice’s patient population. This model does not explicitly address the organizational challenge posed by the heterogeneity among primary care patient subgroups and the differences in what constitutes excellent performance among them. For example, care management systems that follow elderly high-risk patients through telephone contacts and office visits with case managers have less success using the same approach with younger high-risk patients, who are often difficult to contact via telephone (Mark Mandell, Partners Community Healthcare, personal communication, September 30, 2012).

The patient-centered medical home is in many ways “necessary but not sufficient” to implementing a value-based primary care framework. In other words, it is unlikely to solve the fundamental value challenge on its own. At worst, patient-centered medical homes could become just an overlay, in which care coordinators manage dysfunction instead of changing the underlying delivery structure.

Practices that apply patient-centered medical home standards simply through adding a patient registry and more care coordination personnel are unlikely to improve the value of care delivered and may see costs rise. However, practices that use the implementation of patient-centered medical homes as an opportunity to divide patients into subgroups, build truly integrated teams to serve them, measure subgroup-specific outcomes and costs, and focus on process improvement may dramatically improve value in primary care.

The concept of organizing teams around patient subgroups may seem disruptive to the holistic approach and integrative nature of primary care practices. But it is actually likely to make the provision of holistic and integrative care more efficient. Health care often gets paralyzed by concerns about meeting the needs of exceptions, thereby losing the opportunity to implement systems that meet the majority of needs for the majority of patients, including patients with exceptional needs. Patients’ needs may shift, and some patients will never fit neatly into any specific subgroup. But our clinical experience in primary care suggests that there is not really any conflict between systems that meet the needs of patient subgroups and the delivery of personalized care to each individual.

Practice Size As A Barrier
An obvious and important factor affecting the adoption of a value-based primary care framework is practice size. Providers in small practices—those with just one or two physicians—are likely to believe that they do not have the scale to develop separate teams for distinct patient subgroups. Such practices are already struggling to manage the cases of high-risk patients and adopt electronic health records, along with other systems that have the potential to improve outcomes and efficiency.

We believe that the trend toward larger primary care practices will continue. Nonetheless, small practices will remain common for years to come, especially in rural settings, and such practices can collaborate in the adoption of this framework without giving up their business independence. For example, they can form networks with an umbrella structure that enables them to measure outcomes and costs, negotiates payments with appropriate incentives, and provides the human and information systems that can increase value. The imperative to improve the value of health care is likely to propel the development of such new relationships.

Conclusion
Conditions have never been more favorable for a fundamental redesign of primary care. We are now at a moment of discontinuity in health care delivery, when changes in the payment system and the culture of medicine are possible and indeed probable. New payment models such as accountable care organizations offer an impetus and opportunity for value-based patient management, as providers recognize the benefits of organizing themselves around particular subgroups of patients to better serve their needs. By pursuing the strategies described above, we can drive collaboration and true integration of care, thus meeting society’s imperative to substantially improve the value of primary care.
NOTES

16 To access the Appendix, click on the Appendix link in the box to the right of the article online.
In this month’s issue of *Health Affairs*, Michael Porter and coauthors describe a framework for deconstructing and reorganizing primary care practices around subgroups of patients with similar needs. Teams of providers would care for patients over full “care cycles,” patients’ outcomes and the true costs of care would be measured; and providers would be compensated through payment bundles that would stimulate them to improve value. The authors argue that such changes would amply reward primary care and cause it to “command the respect and investment it needs.”

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Lee serves on numerous committees, including the board of directors of Geisinger Health System and Geisinger Health Plan, the Panel of Health Advisers at the Congressional Budget Office, the Committee on Geographic Variation in Health Care Spending at the Institute of Medicine, and the Special Medical Advisory Group at the Department of Veterans Affairs. He is also an associate editor of the *New England Journal of Medicine*. Lee earned a master’s degree in epidemiology from Harvard University and a medical degree from Cornell University.