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Primary Care, Everywhere:
Connecting the Dots Across the
Emerging Health Landscape

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Primary Care, Everywhere: Connecting the Dots Across the Emerging Health Landscape

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by

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About the Foundation

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I. The Primary Care Challenge

We can't look at health in isolation.

It's got to be where we live,

we work, we play, we pray.

— SURGEON GENERAL REGINA BENJAMIN¹

THE NEXT FEW YEARS OF HEALTH REFORM IN THE United States will witness the influx of millions of new patients seeking health care. Primary care providers (PCPs) are in the best position to deliver care to the millions of new patients entering the health system. However, not enough providers are in place in the United States to meet even existing demands for services.

At the same time, patients face barriers to access, particularly in rural and low-income communities. Every day, many consumers cannot get to a doctor at convenient times and locations, so they get care *where* they can access it and *when* they want it: from emergency rooms, retail clinics, or a growing array of options outside of the conventional doctor's office.

Health providers will not have the option of operating in the same ways as they have in the past if they hope to address these challenges. Providers may need to consider extending primary care services to locations far beyond traditional settings such as hospitals, doctors' offices, and bricks-and-mortar clinics. Providers may also need to consider using non-physician staff, team-based structures, and novel reimbursement models to improve patients' access to and experience of primary care.

Viewed in isolation, market trends such as the rise of retail and worksite clinics, the expansion of home-based care, and the proliferation of information and communication technologies can seem unrelated. However, when viewed holistically, these trends demonstrate that the landscape of primary care appears to be undergoing a significant transformation.

This report offers a guide to the major innovations happening across the evolving primary care landscape — in both existing health systems and in nontraditional locations outside of those systems. Part II of the report addresses the mismatch between primary care supply and demand. The innovations outlined in Part III may point the way forward as potential models for extending care. In Part IV, the report discusses the barriers to innovations that aim to deliver “primary care, everywhere.” Implications for the future are the subject of Part V.

Health systems in the future will likely need to operate differently if they hope to effectively extend care to more people. But it's unlikely that they can do this alone. Based on their growing role as health consumers, patients will continue to rely on outside settings such as retail clinics, pharmacies, and worksite clinics. They will still get care at home and increasingly will seek health information through Internet-connected computers and mobile devices. Each setting can play an important role. Working together, all the players can begin to address the challenge of the changing health system.

II. The Limits to Primary Care in the United States

THE NUMBER OF PRIMARY CARE PROVIDERS in the United States is rapidly declining. One in three physicians in the United States works in primary care. That number includes both medical doctors and doctors of osteopathy in the fields of pediatrics, family practice, geriatrics, and internal medicine. Of these primary care providers, one-fourth is age 56 or older.

The problem is that older doctors are retiring, but new doctors are not replacing them in sufficient numbers: Fewer than 20% of all US medical students are choosing primary care specialties.²

Partly as a result of this decline in the supply of providers, access to primary care physicians has fallen in the United States. Nearly three-quarters of all adults are not able to see their doctor quickly; if they need care after regular work hours, they most often must go to the emergency department.³

In addition, 65 million Americans live in officially designated primary care shortage areas, where residents have higher rates of death and disease and experience greater health disparities than in communities where primary care access is greater.^{4,5} When compared with chronically ill health citizens in other developed countries, patients managing chronic conditions in the United States report the lowest scores for access, according to a Commonwealth Fund survey.⁶ The burden of chronic disease has grown, along with the complexity of caring for people with multiple chronic conditions.

The relative inaccessibility of primary care has become particularly acute among poor and uninsured people, who are more likely to seek emergency room treatment than other populations.⁷ For example, 15% of Medicaid enrollees under age 65 had two or more

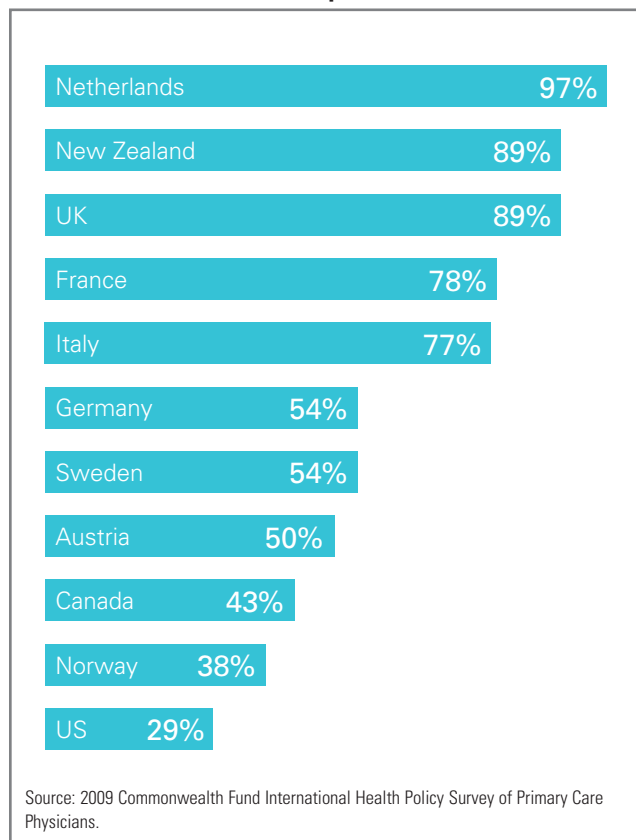
ER visits, compared with 5% of people with private insurance. In California, one-half of emergency room patients felt their problems could have been handled during a physician's office visit, if a primary care doctor had been available.⁸ Most emergency department physicians are seeing Medicaid patients who cannot find primary care doctors willing to accept their health insurance.⁹

Several factors are driving people to seek care outside of doctors' offices, including limited hours of operation, long wait times for appointments, difficulty in making an appointment, and transportation problems. Fewer than 30% of physician practices in the United States have arrangements for patients to see doctors or nurses after hours, the lowest rank among 10 other industrialized countries.¹⁰ (See Figure 1 on page 5.)

In the face of these formidable challenges will come a surge in demand for primary care and a resulting rise in health care spending. The Affordable Care Act (ACA) will add 32 million people to the ranks of the insured, most of whom at one point or another will seek a source for primary care. The costs of their health services will likely spike in the short term because the newly insured initially tend to be high users of health services and because low-income uninsured people have up to this point lacked access to basic preventive care.¹¹

The ACA will likely also change how work gets done in many health care settings, bringing with it an expansion in the role of non-physician members of the primary care workforce, which includes nurse practitioners (NPs), physician assistants (PAs), and certified nurse midwives (CNMs). The legislation

Figure 1. Physician Practices with After-Hours Care, International Comparisons



includes several provisions to increase the supply of these professionals.

The concept of interdisciplinary teams in health care is not new. What is changing is that, for some pioneering health providers, the team model is shifting from the physician at the center of the team coordinating care, to the patient at the center of the team with the physician playing a leadership role.¹² (Table 1 on page 6 shows how the traditional modes of primary care contrast with new models.)

Nurse practitioners, physician assistants, nurses, health educators, social workers, psychologists, and nutritionists collaborate with physicians to ensure continuity of care. So, too, do other non-physician providers, such as patient navigators, health educators, and “promotores” — health workers who

are connected to the community and who provide relevant patient education and support.

As of 2009, already nearly one-half of physicians were in practices that included NPs, PAs, or CNMs. The presence of these professionals increases with the scale of primary care practice: 38% of physicians in practice with one other physician worked with an NP, PA, or CNM, as compared with 80% of those practices with at least 11 physicians.¹³ Physicians in multispecialty group practices were most likely to team with NPs, PAs, or CNMs, as were physicians with higher revenue from Medicaid.

The key difference between the traditional and the emerging worlds of primary care will be in patient-centeredness. Putting patients in the center of

The Facts About Primary Care

ONE-FOURTH: Proportion of US primary care providers age 56 and older. **FEWER THAN ONE-FIFTH:** Proportion of US medical students choosing primary care specialties.¹⁴

ONE IN 10: Number of US primary care visits that take place in emergency rooms.¹⁵ **ONE IN EIGHT:** Estimated number of visits that could have been treated elsewhere in the health system. **ONE IN FOUR:** Estimated number of visits that could have taken place by phone with a nurse.¹⁶

#2: Rank of Walgreens as a provider of flu shots in the United States. **#1:** Rank of the federal government.¹⁷

ONE IN THREE: Number of Americans relying on home remedies or over-the-counter drugs instead of going to see a doctor because of cost.¹⁸

\$4.4 BILLION: Annual cost savings estimated from diverting inappropriate ER care to retail and urgent care clinics in the United States.^{19–21}

MORE THAN HALF: School absences estimated to have been cut through the Health-e-Access school-based telehealth service. **ONE-FIFTH:** Estimated number of children’s visits to emergency departments cut because of the program.²²

Table 1. Traditional vs. New Models of Primary Care

TRADITIONAL	NEW MODELS
Principles	
<ul style="list-style-type: none"> • Reactive and episodic care • Full range of services 	<ul style="list-style-type: none"> • Outreach • Bundled care • Coordination/navigation • Education/empowerment
Organization	
<ul style="list-style-type: none"> • Single care platform • Physician centered • Autonomous • Single payment method 	<ul style="list-style-type: none"> • Multiple, coexisting care platforms • Team centered • Potentially contracted to multiple providers • Multiple payment models for different aspects of care
Tactics	
<ul style="list-style-type: none"> • Most needs met during visit with individual doctor 	<ul style="list-style-type: none"> • Group meetings • Self-help tools • Outbound phone calling • Referral management • Electronic health record
Management	
<ul style="list-style-type: none"> • Few staff, mostly doctors and nurses • Practice management focuses mostly on payroll, billing, and collections • Low-cost structure (small office, paper record) 	<ul style="list-style-type: none"> • Increased staff numbers and professional diversity • Larger capital investments • Greater focus on aggregate data collection and analysis • Multiple processes

Source: "Managing the New Primary Care: The New Skills That Will Be Needed," RMJ Bohmer, *Health Affairs*, May 2010.

health care will mean reaching out and empowering them, helping them navigate the system, providing self-help tools and electronic access to personal health information, and managing transitions from one care setting to another.

Amid this changing world is a growing complement of alternative health services, including new models of care, new settings like workplaces and retail locations, home-based and self-care, and technologies that increase efficiency of care and expand access. It remains to be seen whether the supply and demand of primary care providers, coupled with these new ways of working and

delivering care, will be sufficient to serve existing and future patients in the United States over the next decade.

This paper will address the innovative ways that health providers are extending primary care to patients, and what newer platforms emerging across the health care landscape can do to supplement — and perhaps even integrate with — primary care providers, and ultimately, the emerging accessible, accountable, coordinated, and patient-centered “medical home.”

III. The New Primary Care, Everywhere

PATIENTS MADE 1.2 BILLION VISITS TO traditional primary care settings such as physician offices and hospital emergency and outpatient departments in the United States during 2007, the most recent year for available data.²³ About one-half of ambulatory care visits were made to primary care physicians in office-based practices, with the remaining visits happening in medical specialty practices (18%), surgical specialty practices (16%), hospital emergency departments (10%), and outpatient departments at hospitals (7%).

One statistic stands out: one in ten primary care visits took place in emergency rooms. While the first contact in the US health care system has traditionally been a primary care practitioner, the hospital emergency department and other settings outside doctor's offices are seeing a significant — and growing — share of primary care patients.²⁴ In comparison, the percentage of Americans who visited emergency departments with conditions that could have been treated by PCPs is more than three times that of Germany and the Netherlands.²⁵

Besides the emergency room, a significant number of people are seeking primary care in nontraditional places — such as retail clinics, pharmacies, and worksite clinics — that the statistics above do not yet measure. Health consumers are also treating themselves at home with self-help remedies and diagnostics, and receiving primary care advice from providers over the phone and via the Internet.

Several trends are behind a fundamental reshaping of the primary care landscape:

- A lack of health insurance that covers payments to physicians, driving some patients

to seek care outside of traditional providers

- Adoption of broadband and wireless communications technologies that enable the movement of clinical data, images, and video
- Growing consumer demand for convenience and expanded access
- Patients' embrace of self-care

As currently organized, financed, and delivered, primary care meets neither current nor future demand for services, particularly once millions of newly insured citizens seek care following the rollout of elements of health care reform. Health consumers are supplementing — and in some cases replacing — traditional primary care with alternatives, seeking out more convenient, accessible health services that fit into their busy lives. Some patients who already rely on mobile and Internet technologies are beginning to manage their health virtually.

In an effort to meet health consumers where they are and where they are increasingly going, health providers, physicians, and hospitals have begun to extend their services outside the walls of their institutions. At the same time, some alternative settings are seeing the need to better connect and integrate care with traditional settings.

This section explores the innovations happening across the expanding continuum of primary care in terms of the following settings and approaches:

- Health systems
- Worksite clinics
- Pharmacies

- Retail clinics
- The home
- Telehealth and mobile care

Health Systems

A handful of forward-thinking health systems have begun to think about and deliver primary care more broadly across their communities. These systems are using technology to broaden access to health information and care outside traditional office hours; reorganizing teams to deliver care inside and outside traditional settings; and reimagining what belongs under the umbrella of primary care.

Developing a comprehensive model for primary care. The Eisenhower Medical Center (EMC) is addressing several of these elements at once. The 542-bed hospital in Rancho Mirage, California, is creating small patient panels, making greater use of clinical teams, and encouraging doctor-patient emailing.

The hospital made major investments in specialty care over its first 30 years. By the early 2000s, hospital leadership identified a gap in primary care in the Coachella Valley service area. Joseph Scherger, a family physician and medical school professor, was asked to serve on the advisory committee to reimagine how EMC delivered primary care.

“Primary care should not be running on a hamster wheel, seeing 20-plus patients a day,” says Scherger.

He advocated that EMC adopt the GreenField Health Model, which emphasizes access to doctors via e-mail and phone, easy access to appointments, and online availability of health results.²⁶ EMC leadership approved the prototype and Scherger worked with the hospital team to adapt the model to meet local patient needs.

Eisenhower Primary Care 365 program (EPC 365) is a collaborative care model coupled with an online communications platform. “The new front door, the first tier of health care communication, is online,” Scherger says. Through the program’s RelayHealth communications platform, patients have access to their physicians seven days a week via the Web, and doctors commit to respond to emails the same day they are received.

Each primary care physician has a small panel of 600 to 900 patients, with a “neighborhood” of team members who provide services. Medical assistants, registered nurses, or licensed vocational nurses are in co-practice with physicians and act as patient care coordinators. They work directly with doctors in a “teamlet” model that incorporates patient education and disease management programs.

Nearly three-quarters of EPC 365 patients are over age 55; one-half are seniors; populations that often require more time to address multiple health issues. “The complexity of primary care no longer fits a 10 minute office visit,” says Scherger. Each physician now sees 10 to 12 patients a day, in addition to handling four to five phone calls per day and three times as many online communications with patients as before. Patient and provider satisfaction scores remain high.

The new platform demanded a new way of working for physicians. Scherger says: “You explain to doctors that there’s a quid pro quo of reducing by half the number of patient visits in a day. The exchange is that you have to be online, available to your patients.” Weekend workloads for physicians run no more than 30 minutes in a day, and each patient response might take one to three minutes.

On a recent visit to China, Scherger responded to eight patients a day from a boat on the Yangtze River: “Patients got a kick out of this. We promise patients

90% continuity with their doctor. They think of it as low-cost concierge care.”

The model also has the potential to save a lot of money, he says: “We are lowering health care costs because of the intense availability we have. We keep people out of ERs all the time.”

Since the launch of the hospital’s Eisenhower Primary Care 365 program, the system has 3,600 patients participating in its primary care practice, and it expects to expand to 5,000 in new markets by the end of 2011.

Teamwork and technology in the medical home. At the Geisinger Health System, technology — coupled with a medical home model and a team of nurse case managers — is also part of the recipe for innovating primary care. Geisinger is the largest rural health facility in the United States, with 50 sites serving central and northeastern Pennsylvania.

Using information technology across a large geographic area, Geisinger has been consistently recognized as one of the “most wired” health systems in the nation.²⁷ An electronic health record (EHR) system is used throughout the network for inpatient and ambulatory care, as well as by case managers and the system’s 3 million unique patients. The EHR tracks chronic conditions, reminds patients of preventative and chronic disease care, manages prescriptions electronically, and connects providers and patients. Additionally, more than 105,000 patients use the personalized “MyGeisinger” website to manage their care.

In 2006, Geisinger introduced the ProvenHealth Navigator (PHN), a medical home model used in 11 primary care practices in the Medicare Advantage program. PHN is a partnership between the system’s primary care practices and the Geisinger Health Plan (GHP). A multidisciplinary team of nurse case managers plays a central role in PHN, studying electronic utilization and predictive modeling reports

as well as following up with patients discharged from the hospital to the home. PHN case managers contact patients within 48 hours of discharge, deploy social supports to the home, and reinforce medication adherence. An interdisciplinary team of case managers, primary care providers, and GHP staff meet to discuss patient care and workflow and continue to refine the program. Shared savings incentives motivate providers to work as a team in the interest of patients.

Boosting accountability and results. In the case of WellMed, a primary care-based accountable care organization (ACO) located in San Antonio, Texas, the medical home model described above is coupled with an emphasis on small patient panels and health coaches.

WellMed’s primary care network covers Medicare Advantage patients across 21 practices. A set payment per enrollee finances care, regardless of the intensity of health services the system provides. The network specializes in senior health and works closely with Medicare plans, community hospitals, and referring organizations.

Each WellMed patient has a primary care provider who coordinates care. Clinics are staffed with a case manager and health coaches, who work as a team with PCPs. Health coaches call patients the day after a clinic visit; they also meet with patients in the clinic, at home, or over the phone to encourage behavior changes, assess patients’ mental health, and reinforce care plans. In addition, WellMed provides dental and vision care, hearing aid benefits, and wellness programs, while also operating on-site pharmacies in many of its clinics.

WellMed physicians are responsible for fewer patients than other practices: On average, a doctor manages about 500 patients, compared with US averages of 2,000 or more. This allows WellMed’s providers to spend more time with each person.

Physicians work with multidisciplinary disease-management teams and programs covering congestive heart failure, chronic obstructive pulmonary disease/asthma, diabetes, and ischemic heart disease.

WellMed's patient outcomes are superior to those of the average Medicare enrollee in Texas, including significantly lower ER, hospitalization, re-hospitalization, and mortality rates. This is true even though more than one-half of WellMed's Medicare Advantage patients in San Antonio experienced at least one chronic condition, such as heart disease, diabetes, and chronic emphysema. On the prevention side, WellMed substantially increased the use of preventive services among the same population, including screenings for cholesterol, colon cancer, and mammography.

WellMed also sees evidence building that its return on investment is high in other ways, with more funding for primary care leading to lower overall costs. The practice sums up its model like this: "more" (family medicine, bigger teams, small panels) equals "less" (costs).

Integrating care with the community.

ACCESS Health Care Network, the largest Federally Qualified Health Center (FQHC) in the United States, focuses on extending care through its relationships with community organizations and its education and technology programs. ACCESS operates more than 50 centers around metro Chicago. The word "network" in ACCESS's full name embodies the organization's approach to marshaling a full range of resources in Chicago, including hospitals, community agencies, schools, and other organizations. For example, ACCESS extends the range of preventive services by working with community health resources, including those in houses of worship. Its Pin-A-Sister breast cancer awareness program trains community members

and church volunteers to educate others about the disparities in cancer rates.

"With health, it's important to look beyond the doors of the health center," says Donna Thompson, CEO of ACCESS. "It's not enough to say what you need to do. You also have to understand the assets available in the community."

For example, providers try to learn where patients do their grocery shopping, especially if they live in a "food desert" neighborhood that lacks fresh, healthy food.

"As we're working to address health disparities, we have to put in place plans that are based in reality for our patients, and to recognize that there is no place for the patient to go to get exercise or to obtain healthy food," Thompson adds.

To combat obesity and poor nutritional habits among its patients and in the wider community, the organization hired a nutritionist who grounds patient education in the everyday lives of patients. The nutritionist educates people about such practical strategies as how to count carbohydrates, portion meal sizes, and read dietary labels. Also, the organization has transformed a storeroom into a food pantry to make available the same products as local food stores.

ACCESS differentiates itself from other health clinics by offering a menu of specialist services. The organization has developed partnerships that channel patients to the most appropriate settings for their care. Specifically, ACCESS has partnered with academic systems like the University of Chicago, which deploys a variety of trained specialists who attend to patients at ACCESS centers.

The system's scale has enabled ACCESS to invest in information technology, facilities, and a diverse team that manages an efficient business under tight financial constraints. For instance, ACCESS has implemented an electronic health record system,

currently deployed in 29 sites, that features real-time lab results as well as a patient portal where ACCESS can connect patients to their own health data. Many centers are accessible to working patients from 6:30 AM until 9 PM at night. The strategy appears to be paying off.

“We have clear metrics for success that we have created,” Thompson says. “And we ask ourselves: Are we making a positive health impact on our communities as we coordinate our services, together?”

Worksite Clinics

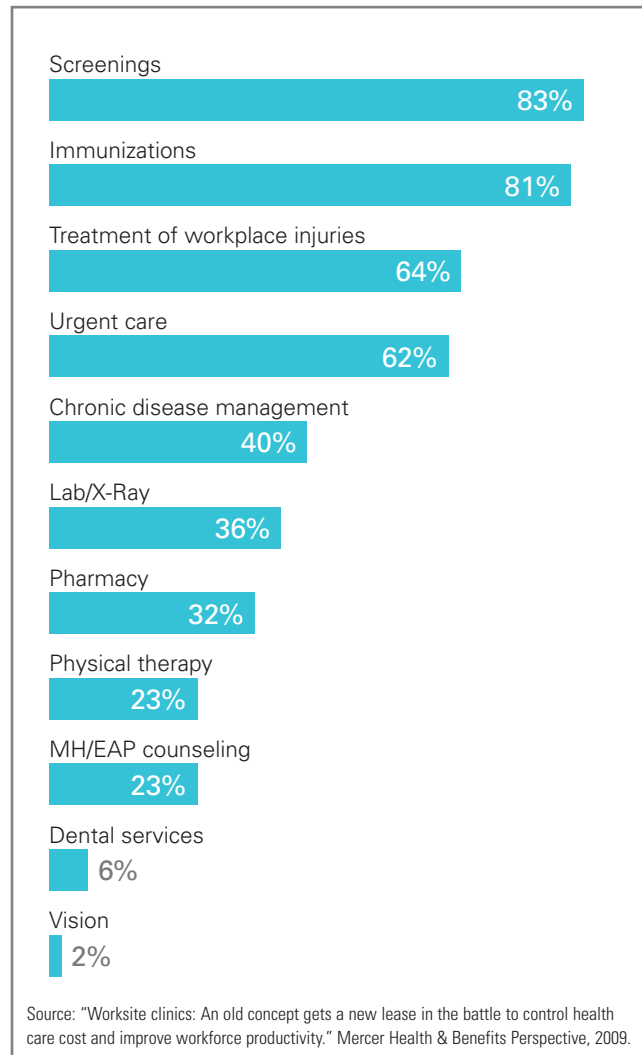
By the 1970s, the decline of the manufacturing sector, coupled with improved safety in the workplace, led to the widespread demise of on-site company health clinics. Today, the workplace clinic phenomenon is reviving as employers look to reduce rising health care costs through disease prevention and health promotion. At the same time, evidence is emerging from workplace clinics demonstrating that they enable improved worker productivity, as well as encourage reduced absenteeism, disability days, and workplace injuries.²⁸ “Employers are seeing the health centers as a way to get more for their money,” according to Helen Darling, president of the National Business Group on Health, which calculates that companies with on-site health clinics realize a return on investment within one or two years.

Expanding clinics in the workplace. About a quarter to a third of large employers (those with at least 1,000 workers) have on-site clinics at or nearby the workplace.^{29,30} Worksite clinics are poised to grow with the inclusion of language in the Affordable Care Act encouraging employers to provide wellness and prevention programs for employees. In 2012, another 12% of large companies are expected to open clinics for employees.³¹

Employers generate hard-dollar savings when they enable employees to lower the unnecessary use of prescriptions, tests and procedures, specialist referrals, and emergency department visits. Clinics in the workplace can also help spur earlier diagnoses that prevent complications and their increased costs.

Worksite clinics offer a range of services, depending on a company’s objectives. (See Figure 2.) Most clinics offer health screenings and immunizations, treat workplace injuries, and perform urgent care. Chronic disease management represents

Figure 2. Services Offered at Worksite Clinics



a growing focus. The new breed of workplace clinics also use evidence-based guidelines and EHRs.

Finding new ways to organize workplace clinics. In 1990, Quad/Graphics, the largest printing company in the United States, started what is now one of the oldest worksite clinics in America. Beginning with a small clinic staffed by a single nurse and physician in Pewaukee, Wisconsin, the company then formed its QuadMed subsidiary to expand worksite clinic capacity nationwide for 9,000 employees who work in 10 printing plants in six states. Clinics also care for employees' family members and company retirees. Quad/Graphics spends more on primary care per patient than the average employer, but it saves in lower costs for emergency room visits and hospital admissions. Between 2006 and 2010, the company's health care costs rose annually on average 6% per year, much lower than average premium increases for managed care plans during the same period.³²

Employers have three options for organizing worksite clinics: engaging third-party vendors that operate onsite clinics; directly employing clinic staff and management; or contracting with community health providers to manage and staff the clinic. In the current environment, most employers have opted for vendors to manage their clinics. Among the vendors are health providers (such as Geisinger Health System, which offers Careworks), pharmacy chains, and health insurance plans, including CIGNA and Humana, which acquired the Concentra chain of more than 300 worksite clinics and urgent care centers.

Some policymakers and physicians are concerned that the growth of workplace clinics could affect the supply and demand of primary care in communities. If a greater proportion of insured patients go to worksite clinics, primary care providers in the community could be left with a less financially

attractive mix of Medicaid, uninsured, and other self-pay patients.³³

Pharmacies

Retail pharmacies have played a vital role in Americans' lives since the first storefront hung out its shingle in Fredericksburg, Virginia, serving George Washington as one of its customers. What was once an innovation in health care has become ubiquitous. Today, most people in the United States live within five miles of a pharmacy. While chain drugstores are most frequently used to fill prescriptions, pharmacies in grocery stores and other retail locations are now commonplace.

Playing the role of advisor, coach, and provider. The primary role of pharmacists is to help consumers optimize their use of prescription drugs so that they recover and stay healthy. Pharmacists can also help address a major challenge in the United States: patients who take prescribed medications incorrectly. Poor medication adherence currently represents 13% of total healthcare expenditures, or \$290 billion per year.³⁴ Since only 15% to 20% of prescriptions are refilled as prescribed, pharmacists can play a strategic role in helping patients increase medication adherence.³⁵ After all, pharmacists garner high marks for trust among consumers, coming in as the third most-trusted profession after nurses and military officers for the past eight years.³⁶

Pharmacists have further expanded their role in primary care by administering flu vaccines, as regulations governing their use have been relaxed. In 1999, 22 states allowed pharmacists to administer flu vaccines to adults. By June 2009, all 50 states allowed such vaccinations to adults with some kind of a prescription. Today, more than 100,000 pharmacists nationwide are qualified to administer flu shots. While the doctor's office was the most common place for people to receive vaccinations

during the 2010–2011 flu season, representing 40% of vaccinations, supermarkets and drug stores (18%) and workplaces (17%) were the next most common sites for flu shots.³⁷

By the flu season ending in 2010, Walgreens and its more than 3,000 stores had become the second-largest provider of flu shots outside of the federal government. The pharmacy chain has found that more than one-third of its flu shots were administered in areas that the Department of Health and Human Services has designated as shortage areas for health care professionals.

In effect, retail pharmacy chains are positioning themselves as convenient community-based hubs for health services, often working in cooperation with local health systems. Walgreens is one of several chain pharmacies that have struck alliances with health providers like the Joslin Diabetes Center. Joslin and Walgreens are working together to develop health services for people with diabetes outside of Joslin's Boston clinics. CVS, too, has allied with Indiana University, the Henry Ford Health System, Cleveland Clinic Florida, Inova Health System, and Advocate Health Care, among others, to expand into various aspects of primary care and other health services.

The rise of diagnostic tests. Pharmacies have also become an important sales channel for the \$7 billion over-the-counter (OTC) diagnostic test market. Technology is making tests typically done by professionals easy and simple enough to perform at home, expanding the range of testing available to consumers. Consumer diagnostics marketers promote the convenience, confidentiality, and cost savings of home testing.³⁸ Diagnostic tests can be divided into three groups: behavior modification, in which consumers test conditions that can be managed through lifestyle changes; disease management, for conditions like diabetes that require testing and monitoring over time; and genetic screening,

for consumers to discover their risks for genetic or inherited diseases before they show symptoms.

Blood glucose monitors and pregnancy tests are the most popular diagnostic tests sold in retail settings. Critical to the success of these products is a manufacturer's ability to bundle a complete package along with the test, including educational and clinical information and advice, peer-to-peer information through social networks, and tools for taking action so that a consumer can get the full value out of a test after it is taken.

One innovative retail diagnostic test is the Smart Start Healthy Heart Kit. Three-quarters of women surveyed know that blood pressure and cholesterol are risk factors for heart disease, yet few know their levels. Kellogg Company partnered with BIOSAFE Laboratories and Omron Healthcare to create a kit that combines a cholesterol test and a \$10 rebate for an Omron blood pressure monitor. Consumers of Kellogg's Smart Start cereal could obtain the kit for free by sending in proof-of-purchase seals from cereal boxes, or pick up a kit from Kellogg's retail partners. The test results require separate payment. Tests like these help consumers connect the dots between a health condition (heart disease), tools (a blood pressure monitor and a list of useful websites), and lifestyle factors (food choices).

One in three Americans relies on home remedies or OTC drugs instead of going to see a doctor because of cost, according to an August 2011 Kaiser Family Foundation Health Tracking Poll.³⁹ For these consumers, the economics alone could motivate them to buy an OTC diagnostic test that would be cheaper than a visit to the physician's office — particularly for consumers who are uninsured or underinsured, or who lack a regular medical home.

Retail Clinics

Retail clinics first emerged in the United States in 2000 and have grown to more than 1,200 sites.⁴⁰ Also known as “convenient care clinics,” retail clinics often offer longer hours of operation than physician offices, shorter wait times, walk-in access, and posted prices. Nurse practitioners, who often work under guideline-based protocols, provide clinical care at the vast majority of retail clinics.

The landscape of retail clinics. About one-third of the urban US population lives within a 10-minute drive of a retail clinic.⁴¹ Retail clinics are more likely to be located in regions of metropolitan areas that have lower poverty rates and higher median incomes. No evidence is available to suggest retail clinics have improved access for people living in medically underserved areas.⁴²

Drug stores — in particular, CVS and Walgreens through their clinic brands MinuteClinic and TakeCare, respectively — dominate the market, with about 67% of retail clinics between them. In addition, clinics are also located in “big box” retailers like Walmart (with an 11% share) and Target (3%), as well as in grocery stores like Kroger and Publix, with 6% of retail clinic sites.^{43,44} (The top 10 retail clinic operators are shown in Table 2.)

By the end of 2011, Walmart will have its name on about 167 retail clinics. The growth in Walmart clinics has come through partnerships with local health systems that operate the clinics under a lease agreement. (For more information about Walmart, see the sidebar “The Growing Role of Walmart in U.S. Health Care.”)

The support of employers and health plans has been important to the growth of retail clinics. By 2010, 46% of employers covered services delivered in retail clinics, up from 31% in 2008.⁴⁵ For health plans, establishing retail clinics has been less about generating new sources of revenue and more about

controlling health care spending among enrollees. Health plans that have expanded their role as retail clinic sponsors include:

- CIGNA, which operates CareToday clinics in retail shopping centers and grocery stores
- HealthSpring, which launched Bravo Health clinics in Baltimore and Philadelphia
- UnitedHealth Group’s OptumHealth division, which acquired two HMOs from WellMed along with 38 clinics in Texas and Florida that provide care to seniors.

The limited research on quality outcomes at protocol-driven retail sites has been positive. Preliminary evidence indicates that retail clinics can cost-effectively manage the common health complaints like sinusitis and routine immunizations

Table 2. Top 10 Retail Clinics, by Operator, August 2011

CLINIC OPERATOR	NUMBER
MinuteClinic (CVS)	495
TakeCare (Walgreens)	351
Walmart	145
The Little Clinic (Kroger, Publix)	81
Target Clinic (Target)	40
FastCare	32
RediClinic (HEB)	27
Care Today (CIGNA)	11
DR Walk-In Medical Clinics (Duane Reade)	11
Aurora Quick Care	10
Other Clinics	62
Total Number of Retail Clinics	1,265

Sources: Merchant Medicine, “Retail Clinics in Grocery Stores: Another Look,” *The ConvUrgent Care Report*, Vol. 4, No. 8, August 1, 2011. The Clinics at Walmart, www.walmart.com.

that make up 90% of retail clinic visits, 30% of pediatric primary-doctor visits, and 13% of emergency department visits. The cost of care at retail clinics is substantially lower than visits to emergency departments, physician offices, and urgent care centers. (Figure 3 explains these outcomes in more detail.) RAND researchers identified \$4.4 billion in annual savings from diverting these common complaints from the ER to retail and urgent care clinics.^{46–48}

Self-service kiosks as a supplement to care.

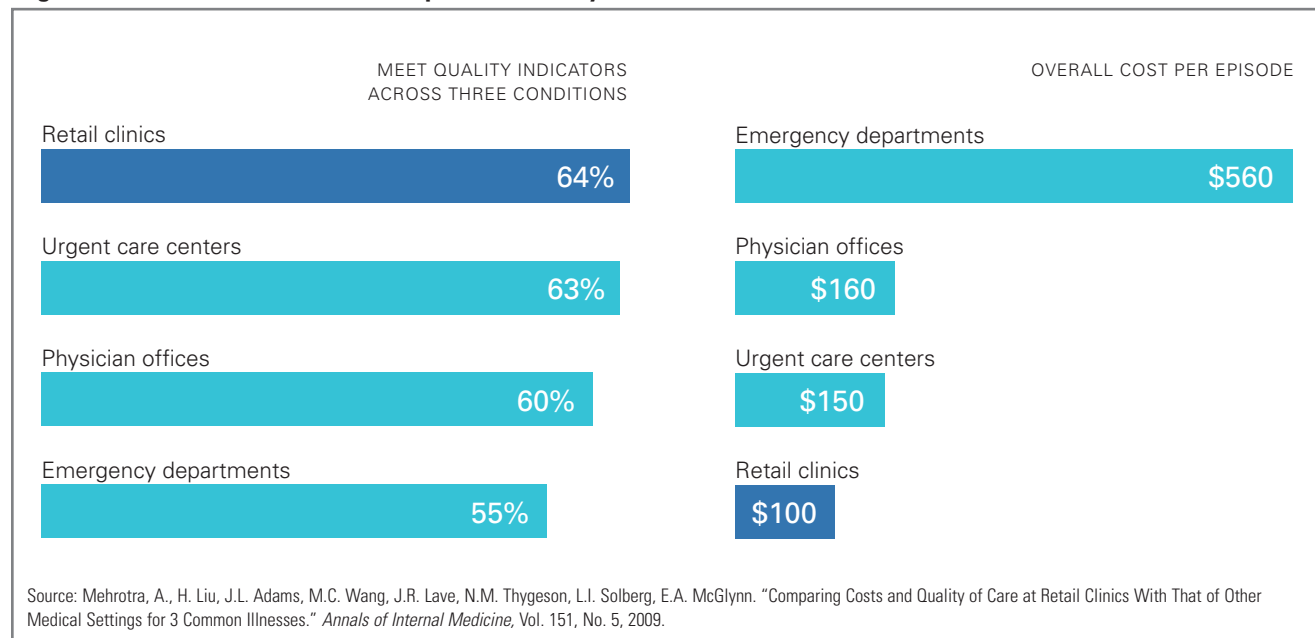
A common fixture in retail health is the self-service kiosk. These have traditionally taken the form of a blood pressure station, but today’s health kiosks are incorporating new technologies that advance their capabilities well beyond monitoring hypertension. One new breed of health kiosks comes from SoloHealth. Its device measures blood pressure and body mass index, performs vision screening, and does a health risk assessment. The SoloHealth kiosk also offers information about local health providers with whom the consumer can choose to follow up.

Technology-driven health kiosks are appearing in shopping malls across the United States as well. For example, the Create Your Own Mayo Clinic Health Experience opened in August 2011 at the Mall of America, the nation’s largest shopping mall, located in Bloomington, Minnesota.

Why associate the prestigious Mayo Clinic brand with a mall? “We know health care in the future will not be limited to hospitals and doctors’ offices,” says David Hayes, a Mayo cardiologist who leads the project.

Mayo’s kiosks at the Mall of America, which are free of charge to use, feature five health themes: discover, eat well, move, relax, and sleep. Another type of kiosk offers a symptom checker for assessing health issues, along with an augmented reality kiosk that educates users on heart health using 3-D animation. The store also offers health-oriented retail products, including self-tracking technologies and books. Mayo Clinic is opening another storefront that will function as a retail clinic, offering clinical

Figure 3. Retail Clinics Provide Comparable Quality at Lower Costs



services like skin cancer and genetic screenings, vaccinations, and back-to-school checkups.

Mayo Clinic represents one of a growing number of health providers opening storefronts at shopping malls. Other examples include Stanford Hospital, which operates a health library at the Stanford Shopping Center in Palo Alto, California, as well as the University of Texas Medical Branch, which operates both a multispecialty center and the Stark Diabetes Clinic at Victory Lakes Town Center in Galveston, Texas.

Challenges and responses. Some physician professional societies have critiqued retail clinics for contributing to the increase in fragmented health care, threatening the continuity of care, and increasing the costs of health care.^{49,50} In 2006, the American Academy of Pediatrics (AAP) published principles for retail clinics, recognizing the “shifting economic and organizational dynamics of the current health care system” that would foster the growth of such retail health settings. The AAP recommended that retail clinics support the medical home model by referring patients to a PCP for future care, communicating to the provider within 24 hours of a patient’s visit, and using evidence-based guidelines for treatment.⁵¹

The potential for fragmented and episodic care can be addressed if the health care provider owns and operates the retail clinic, or if it enters into a hybrid, co-branded collaboration. MinuteClinic’s relationship with Cleveland Clinic represents the latter model. Challenges remain, however, with a third, independent model of retail health clinics, which lacks a shared electronic health record and two-way communication between the clinic and the provider. In addition to potential patient safety issues that could emerge, such as a lack of access to patient’s allergies or current medications, visits to retail clinics could also divert revenue away from providers.

Home as the New Medical Home

A growing array of health services are turning the home into a locus for health care, beyond the traditional “home care” that visiting nurses deliver to patients with chronic conditions and disabilities.

Self-care at home. As consumers take on more clinical and financial responsibility for their health, they are increasingly engaging in self-care. Many people already take vitamins, minerals, and supplements; seek health information online; and rely on home remedies and over-the-counter drugs for self-care. Self-care is the medical home at home.

One-fourth of Internet users, or 20% of adults, has tracked weight, diet, exercise routine, or some other health indicators or symptoms online.⁵² Carol Torgan, a health science strategist, points out that anyone who makes note of their blood pressure, weight, or menstrual cycle could be termed a “self-tracker.” If an individual stores this information digitally, he or she could include it as part of an electronic health record, personal health record, or social health application.

As physicians adopt electronic health records and other ways to engage electronically with patients, platforms will emerge for patients to share their observations of daily living and self-tracking health data with providers. This meshing of personal health data with clinical health data could provide insights that better inform providers’ diagnoses and advice, and could also motivate and empower patients.

Making house calls in-person and virtually. The new house call professional is increasingly armed with an iPad, a global positioning system in the car, a supply of generic drugs, and a customer service approach more typical of retail or banking than of traditional health care. House calls can also be done virtually via Internet-based videoconferencing.

Both local and national house call companies are launching throughout the United States. The firms

The Growing Role of Walmart in US Health Care

Walmart, the world's largest retailer, operates 2,933 supercenters in the United States. Most have on-site pharmacies, vision centers, and blood pressure kiosks. A growing number of Walmart stores offer onsite clinics. As such, Walmart has been in the business of primary care for years, finding opportunity in underserved health care niches, particularly in the rural areas it frequently serves.

When Walmart launched its first clinics in 2006, they mainly dealt with simple maladies like strep. But in talking with clinic staff, the company learned that patients were coming to its clinics with more challenging issues — especially chronic care conditions like diabetes. Unlike most of the retail clinics of the big pharmacy chains, each Walmart clinic is operated by a local health provider, hospital, or managed care organization. Among the goals is to allow the clinics to serve patients who are sicker than those using competing retail health clinics and to keep more people out of the emergency room.

As an example of the scale of the challenge, and the opportunity, when the company studied claims data for a total of 3 million of US employees at Walmart and six other large companies, it found that more than 85% of emergency department visits could have been treated elsewhere in the health system — in particular, in urgent and primary care settings. Some 25% could have taken place by phone with a nurse.⁵³

An opportunity also exists to reimagine Walmart's pharmacies. Patients interact much more frequently with pharmacists than with physicians — on average 10 times more frequently, according to Walmart's figures. As a result, Walmart is looking at how its pharmacists can act as part of the "frontline troops" in battling chronic disease.

"How can pharmacists play more of that role, not just putting pills in a bottle in a bag, but leveraging clinical professional skills to provide clinical support to patients?" asks Marcus Osborne, senior director of Healthcare Savings Programs at Walmart.

Typically, Walmart shoppers drop off a prescription and take a blood pressure test while they're in the pharmacy area of the store. "This is a missed opportunity to provide support," Osborne says. The company is testing the concept of a lab service center to provide cholesterol testing in which the pharmacist would provide counseling on the test results and suggest behavioral and nutritional steps to take.

Walmart has also consulted with national health providers about the possibility of delivering health services through a multichannel approach — in person and through the Web, mobile devices, and telephones. "We're trying to allow the patient to be served in the way they want to be served," says Osborne. With the multichannel strategy, opportunities exist to segment the market — charging one price for a call with a nurse, another to consult with a pharmacist in person, a third for service in the retail clinic, and yet another for a self-service experience via a health kiosk.

"We are not in a position to dictate what the consumer should do," says Osborne. "We want to enable the menu of solutions and allow the consumer to choose."

are targeting two constituents: employers who want to expand access to health care while managing cost, as well as un- and underinsured consumers.

Medicare paid for more than 2.3 million house calls in 2009, up from 1.5 million visits in 1995, according to the American Academy of Home Care Physicians. Home visits are expected to increase

in response to the Affordable Care Act (ACA). Accountable care organizations will have incentives from the ACA to provide care in lower-cost settings, including the home. The Independence at Home program in the ACA finances primary care teams to provide house calls. Finally, Section 3205 of the ACA provides incentives for hospitals to prevent avoidable

readmissions, which will encourage providers to keep patients healthy at home.

Employee benefit analysts at companies like Microsoft noticed the uptick in workers attending to acute care problems in emergency rooms and responded by embracing house calls. Microsoft contracted with Carena, a Seattle-based house call company, to visit 40,000 employees and 58,000 dependents in the greater Puget Sound area in person, as well as via webcam and phone.

WhiteGlove House Call is carving out a niche as a primary care provider that visits member patients in the convenience of their home or at their workplace. WhiteGlove's membership reached 500,000 in 2011, with provider networks in Arizona, Massachusetts, New Hampshire, Tennessee, and Texas. WhiteGlove markets to companies, insurance plans, and individuals, offering two membership levels.

WhiteGlove's staff — nurse practitioners (NPs) for in-person visits and physicians for phone call consultations — are available 365 days a year from 8 AM to 8 PM. In addition to an annual fee that ranges from \$300 per member for an employer or insurer to \$420 for individuals, visits cost a flat \$35, whether in-person with NPs or via phone for a physician. Generic medications are included in the fee. Members' health information can be accessed through an online health portal.

During the patient visit, a nurse practitioner comes armed with an iPad that is preloaded with the patient's medical history. Once the visit is completed, the NP leaves behind a "well-kit" that includes chicken soup, crackers, ginger ale, cough drops, OTC pain relievers, and tissues. Prescription drugs are available through its formulary.

The in-person house call has already been transformed through the growing use of the Internet for virtual consultations. Online "e-visits" between providers and patients are emerging in many states.

Physicians are embracing the Internet as a platform for securely messaging patients in the same way that they have traditionally called patients via the telephone.

E-visit companies that serve this market include American Well, MDLiveCare, NowClinic (operated by OptumHealth/UnitedHealth Group, which uses American Well's platform), Online Care Anywhere (Blue Cross Blue Shield Minnesota), RingADoc, TelaDoc, Telethrive, and Virtuwel. Fees per visit range from \$25 to \$40. NowClinic announced in September 2011 that it was testing "face-to-face" Internet consultations with nurses and physicians at kiosks located in Rite Aid stores, starting in the Detroit area.⁵⁴ The system captures a record of the conversation and can transmit it to the person's primary care provider for greater continuity of care.

Many e-visit companies offer their services to employers and health plans. For example, NowClinic has a contract with Delta Airlines to cover employees in Minnesota. Several of the services offer videoconferencing between providers and patients, using a webcam to allow for a virtual face-to-face visit. Other services provide a secure email option. Physicians and nurse practitioners provide care.

The American Association of Family Practice endorses e-visits, but only when convened between patients and their personal provider. Most state medical boards permit doctors to diagnose and treat electronically only those patients whom they have seen at least once in person.

Telehealth and Mobile Care

Health care online. Telehealth encompasses a broad array of health encounters powered by the Internet and broadband connectivity, including phone, email, remote patient monitoring, and other ways to deliver care digitally for chronic conditions. Datamonitor defines telehealth as the use of a digital network to provide automated monitoring and treatment to a patient in a different physical location from the medical expert, and included in the definition are emails sent between patients and providers, videoconferencing, and home monitoring.⁵⁵ In 2010, the global market for telehealth tools was \$163 million, and InMedica forecasts the market will grow to nearly \$1 billion by 2015, as the population ages and as acceptance for telehealth grows among consumers, providers, and payers.⁵⁶

Research into telehealth consultations has found high levels of patient satisfaction, owing primarily to the convenience and immediacy of visits. In comparison, patients express low levels of satisfaction with traditional forms of health care delivery, citing the inconvenience in scheduling and getting to appointments.⁵⁷ Telemedicine can also improve satisfaction for patients in remote areas by reducing time-to-diagnosis and improving access to care.⁵⁸

In addition, telehealth can help people manage chronic conditions outside of the doctor's office. Ronald Dixon, director of the Virtual Practice Project at Massachusetts General Hospital, has demonstrated that asynchronous communication between patients and providers, based on Internet-based technologies like email, can help patients effectively manage conditions.⁵⁹ Secure email messaging, videoconferencing, and remote patient monitoring can provide information that improves the patient-provider relationship and the quality of health care.

Many research studies on telehealth focus on type 2 diabetes. Management of diabetes can be a

challenge because of a lack of continuity between visits to the doctor. Infrequent interactions with a health provider can compromise the sustained lifestyle changes needed to treat diabetes and can put patients at high risk for complications.

Researchers at Geisinger developed the Technologies in Diabetes Education (TIDE) program to engage and motivate patients at risk for diabetes. Patients establish health goals with nurses and diabetes educators, then personalize the TIDE website based on their goals, such as decreasing HbA1c levels or reducing food portion sizes. The website engages patients through online educational tools and games, and patients receive email tips on cooking and daily living. Patients enrolled in TIDE improved their self-care behaviors and experienced greater decreases in HbA1c, a molecule in the blood used to measure glucose levels, than those in the control group. The telehealth program was particularly useful in Geisinger's target market, which includes rural areas.⁶⁰

Telehealth has come to schools as well. School-based health centers (SBHCs) virtually connect students with health providers, in the process removing barriers for young people who may lack health care. For many working parents, taking time off from work to take sick children to the doctor's office is difficult. Transportation time and cost are particularly high in rural areas, where a child's school and the doctor's office may be a long distance from the parent's workplace.

In response to these issues, since May 2001 the Health-e-Access Web portal in Rochester, New York, has connected young people in schools and centers with local pediatricians at the Golisano Children's Hospital and the University of Rochester Medical Center. In April 2011, it reached its 10,000th telemedicine visit. Health-e-Access covers every Rochester city school and also provides after-hours

and weekend care to sick children. The program uses telemedicine to connect health providers to more than 100 child care centers, schools, programs, and neighborhood sites, with the goal of avoiding unnecessary emergency room visits. In 80% of visits, a student's personal provider virtually sees the sick child.⁶¹ Health-e-Access estimates that it has cut school absences by more than half and reduced children's visits to emergency departments by 22%.⁶²

Ford Motor Company is pioneering an emerging form of telehealth in the 2011 pilot phase of its plans to develop "the car that cares." The auto manufacturer has partnered with Medtronic, WellDoc, and SDI to develop automobile-based health applications that are integrated with its Sync in-car technology and that monitor health issues such as allergies and diabetes. WellDoc, a remote health monitoring developer, will also help Ford explore diabetes monitoring. Medtronic is working with Ford to develop a Bluetooth-enabled device that continuously monitors glucose levels and could alert the driver to low glucose levels of anyone in the car. SDI's Pollen.com website is creating a mobile phone app that provides allergy alerts and air quality reports based on a car's GPS location.

Health on the go. Mobile health apps are emerging that enable consumers to manage chronic conditions, track health and wellness, check symptoms, and assess whether to seek medical care. iTriage offers both Web-based and mobile apps, developed by emergency physicians, that help users to "self-triage" after they answer questions about their symptoms. The apps can recommend a treatment path, identify providers based on the user's desired location, and provide turn-by-turn directions to the chosen facility. Hospital ER wait times are also available on the app. (For more information about the role of mobile health applications, see "How Smartphones Are Changing Health Care for Consumers and Providers," [www.chcf.org] published by California HealthCare Foundation in April 2010.)

IV. Barriers to Innovation

PRIMARY CARE PROVIDERS AND SETTINGS play an integral part in the larger health ecosystem. At the same time, they face the same challenges as the rest of the players in the overall landscape. The primary care sector will need to address mounting issues involving health care financing, technology, the labor force, public policy, regulations, and consumer preferences. This section identifies the major barriers hindering innovation — and disruption of the status quo — in primary care.

Inefficiencies in the primary care labor market.

Discussions about the primary care shortage generally focus on the number of primary care physicians forecast in the United States. While often referred to as a “shortage,” the situation might more aptly be described as a poor distribution of resources. Team approaches to health care like Geisinger ProvenHealth Navigator or the Eisenhower teamlet model expand the definition of the primary care workforce beyond physicians to include nurse practitioners, physician assistants, nutritionists, and other workers.

While evidence suggests that nurse practitioners provide high-quality primary care that can be comparable to that of physicians for similar services, non-physician providers are prevented from performing a wide range of primary care services in many states.^{63,64} The situation is most prevalent in the South, where some of the most challenging primary-care access problems remain.⁶⁵

The Institute of Medicine recommends that state and federal policymakers adopt standard practice acts that better match the competence of NPs and other providers who complement PCPs.⁶⁶

Inadequate patient-centered medical education. Expanded forms of teamwork and community-centered care may be disruptive concepts for many doctors.

“Preparing physicians for both teamwork and a focus on community-centered care requires new approaches at every level of education,” writes J. Lloyd Michener, chairman of the Department of Family Medicine at Duke University, which represents one of only a handful of medical schools exposing residents to this environment. Michener calls on schools to expose medical students to expanded teamwork during their medical training so they can bring that group ethos into a community once they begin to practice medicine.⁶⁷

Once out of medical school, young doctors are likely to encounter patients looking for greater transparency, engagement, and participation in their health care. If they become primary-care doctors, they will increasingly manage complex chronic illnesses in which patient engagement and self-care are expected.⁶⁸

Insufficient health care access in rural areas.

Fifty million people live in rural America, where access to health services can be limited. The Affordable Care Act supports training, development, and placement in rural areas for more than 16,000 new primary care providers, including doctors, NPs, and PAs. The ACA will also expand the National Health Service Corps, which provides incentives for medical students to work in rural areas. Neither of these well-intended policies, however, will quickly move sufficient primary care workers into medically underserved areas. As a result, many medical schools have reinvigorated efforts to recruit more students

from rural America, since they are four times more likely to return to rural areas to practice than are urban-born students.⁶⁹

While newly minted PCPs, NPs, and PAs are in training, public-private partnerships and commercial ventures can fill the gap between the demand for and the supply of primary care. Currently, 88% of retail clinics are in urban areas. But retail health providers can expand their services to consumers lacking adequate primary care in less populated regions where they already operate stores. For example, Walmart is expanding retail clinic operations in its many rural stores located in medically underserved areas. Pharmacies, too, could expand their menu of primary care offerings in these areas, working with state licensing boards to make the case for expanding their services. For instance, one-third of the immunizations Walgreens pharmacists administered in the 2009–2010 flu season were given in medically underserved communities.

Uneven payments for primary care across the continuum of care. The United States health care system ties reimbursement to direct contact between a doctor and a patient, an arrangement that does not reward teamwork in delivering care. The new primary care model, in which a team coordinates and manages patient care across primary care settings, makes unworkable a system of reimbursement based on a physician’s “laying on of the hands.” As an example, people who perform follow-up visits, whether done in-person by a physician assistant or via Skype with a diabetes educator, would not be compensated for their work under the current system.

Bundled or outcomes-based payment models overcome this challenge by funding a single payment for a condition or episode of care — for example, a heart attack or chronic heart failure. Paying for health care in this way provides an incentive for hospitals,

physicians, and home care agencies to work together as a team and better coordinate care for the patient.

Channeling patients to the right locations, settings, and clinical team members at the right time can boost quality and efficiency. Schools, drugstores, grocery stores, retail clinics, workplaces, fitness clubs, religious institutions, and shopping malls may serve as more convenient sites for some patients between clinical visits.

Low levels of consumer and patient engagement. People make decisions every day regarding their personal health: whether to fill a prescription and take their medication as prescribed; what and how much to eat; whether to exercise or not; and other daily choices.⁷⁰ Only a fraction of patients fully engage in supporting their health, but when they do, research shows they use health services more efficiently and have better health outcomes.^{71,72}

Health engagement can be bolstered through the use of technologies such as remote health monitoring, mobile health applications, and text messaging. In particular, applications that connect providers and patients can promote continuity of care and support positive daily choices, including medication adherence.

However, not all patients will be quick to engage with these devices and services, or to connect with providers through digital means. Individuals often need “nudges” to become more involved in their health. Employers and health plan sponsors are helping push along the process with value-based benefit plans incorporating incentives that motivate patients to engage in healthier behaviors. Research findings are accumulating that can help employers and insurers create more skillful plan designs and customize incentives based on consumer preferences and beliefs.

Substandard patient-record coordination.

The HITECH Act, part of the American Recovery and Reinvestment Act of 2009 (ARRA, commonly referred to as the “Stimulus Package”), provides a financial incentive to physicians who adopt and fully implement electronic health records (EHRs). Among other benefits, the use of fully functional EHRs can have a positive impact by improving the speed of access to information, the quality of communications, and the delivery of chronic illness care across different providers.^{73,74} However, existing EHRs do not yet support effective care coordination. When primary care spreads across different sites and organizations, the challenge becomes even more complex.

The move to team-based care will require tools that help members of the team document patients’ progress and agree on goals and actions.⁷⁵ In the short term, effective information technology systems allow separate locations within the same system to exchange data through the use of common standards, interfaces, and tools. Over the longer run, improved data linkages will help PCPs coordinate high-quality care with health providers outside of their own systems. This should include nontraditional locations across the emerging landscape of primary care, as it has been more broadly defined in this report.

Patients without a true medical home. It’s apparent that few people in the United States are currently finding a patient-centered medical home that provides a full range of accessible, coordinated, and comprehensive care for physical, mental health, prevention, wellness, acute, and chronic issues. Such a medical home would feature a team of providers that might include physicians, physician assistants, nurses, pharmacists, nutritionists, social workers, educators, and care coordinators.

In its definition of a medical home, the Agency for Healthcare Research and Quality (AHRQ) says:

“Although some medical home practices may bring together large and diverse teams of care providers to meet the needs of their patients, many others, including smaller practices, will build virtual teams linking themselves and their patients to providers and services in their communities.” These virtual teams might be located in retail and worksite clinics, at schools, in pharmacies, and via the “cloud” through telehealth services.

Without an EHR dedicated to the patient, where will all the data go that has been gathered from a diverse set of providers? The proliferation of sites and settings could exacerbate the fragmentation of care, absent the underpinning of an EHR for every patient. While over the long term, a patient’s personally controlled personal health records (PHR) might serve this purpose, in the short term the current generation of PHRs has not proven capable of playing this strategically important role.

V. Prospects for the Future

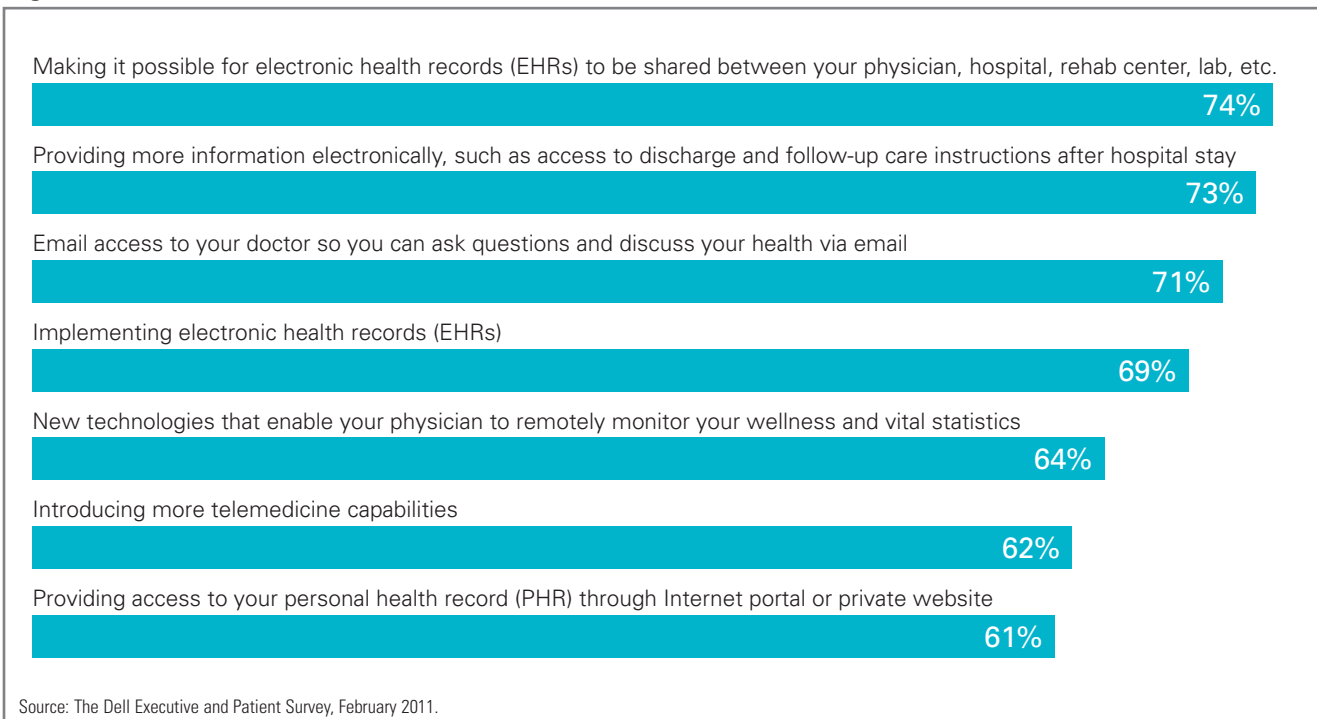
THREE-QUARTERS OF HEALTH SPENDING in the United States — over \$2.2 trillion — goes to services that address chronic conditions like diabetes, heart disease, cancer, and respiratory disease. Many of these diseases are largely addressable through lifestyle and behavior modifications that range from quitting smoking to monitoring blood pressure.

Since peoples' daily choices are made largely outside of the doctor's office — in communities, workplaces, schools, stores, homes, and the virtual world — the emerging system of primary care will necessarily be distributed throughout those same locations and staffed with a diverse, multidisciplinary professional team. Innovation will need to happen at all levels for the health care system to tackle the demands of the next decade.

Consumers are looking for accessibility and convenience from the services they use, and this mindset is translating to their lives as patients as well. The most commonly cited consumer request related to health information is for personal medical records to follow them around wherever they get care. Added to this, more than two-thirds of American adults surveyed would like to have email access to their doctor to discuss their health or to see their electronic health records. Nearly the same number of people in the United States would like to use technologies that enable their physicians to remotely monitor statistics related to their wellness and vital signs.⁷⁶ One in three health consumers also said they would likely use a retail health clinic to save money on their health care.⁷⁷ (See Figure 4 for more information.)

Figure 4. What Patients Want

PERCENTAGE OF US ADULTS WHO AGREE



Innovative health providers, such as ACCESS Community Health Network, Eisenhower Medical Center, Geisinger Health System, Mayo Clinic, and WellMed, are already responding to consumers' demands for more accessible, patient-centered care. Forward-thinking primary care providers are thinking outside of the doctor's office. They are expanding concepts of a medical home to include community-based sites located near where people "live, work, play, and pray," to quote Surgeon General Regina Benjamin, not to mention where they shop, go online, and drive.

As health providers link together to serve patients through accountable care organizations and patient-centered medical homes, they could consider building care networks that serve people 24 hours a day, seven days a week outside of the doctor's office. Existing PCPs and health systems cannot provide all of these services on their own.

Once these providers are organizationally linked, the second strategic challenge is linking patient data to an electronic health record. If the diverse care sites in a medical home or ACO cannot electronically share patient data, then further health care fragmentation will result, driving up health costs, lowering quality levels, and eroding patient outcomes. The development of regional health information exchanges could address this issue over time. In the short run, though, the disconnection between health records and data sharing appears to be an obstacle to realizing the full promise of distributed primary care.

Changing payment models in the United States health system can also help foster innovation in primary care. Bundled payments, value-based health plans, patient-centered medical homes, and accountable care will incorporate incentives for health providers to address prevention and wellness, prevent hospital readmissions, and engage patients in

more self-care. As health providers adopt these new payment arrangements, they will also organize to provide more cost-effective care through team-based models that serve a patient at the right time and the right place. Those locations could increasingly include the novel care sites discussed in Part III of this report.

Similarly, it is incumbent upon those innovative sites — including retail and worksite clinics, house call providers, remote health monitoring services, and diagnostic testing companies — to prove their value as team members to the medical home and accountable care community. Working as a coordinated unit rather than separately, primary care providers across the landscape will begin to see the real possibilities of primary care, everywhere.

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