

**A Comparative Analysis of Health Care Delivery System Models and Payment Methods
with Policy Recommendations for a Better United States System**

**Megan Yarbrough
Professor Jacobs
General University Honors**

TABLE OF CONTENTS

Introduction.....	3
Why Does America Need Health Care Delivery System Reform?.....	3
Why Does America Need Coordinated Care and Payment Method Reform?.....	9
Payment Methods.....	14
The Current System: Fee-for-Service.....	14
Modified Fee-for-Service.....	16
Episode-of-Care Payment.....	25
Capitation.....	28
Salary.....	31
Health Care Delivery System Models.....	32
Attributes of an Effective Health Care Delivery System.....	32
Integrated Delivery Systems.....	34
Kaiser Permanente.....	35
Mayo Clinic Health System.....	39
The United Kingdom.....	41
Consumer-Driven Health Care Model.....	44
Consumer-Driven Health Care Model: Focused Factories.....	47
Medical Home Model.....	52
Recommendations.....	62

Introduction

Why Does America Need Delivery System Reform?

On March 23, 2010, President Obama signed the Patient Protection and Affordable Care Act into law. The law primarily focuses on extending health care coverage in America. To do so, the law—among other things—makes health insurance coverage mandatory; provides tax credits to those who could otherwise not afford health insurance; and prohibits health plans from denying coverage or discriminating on the basis of pre-existing conditions or health status. These measures undoubtedly will expand coverage. Since coverage expansion ended up the primary goal of this round of health care reform, more work remains to reduce costs and improve the quality of care in America. However, the bill included several directives for the Secretary of Health and Human Services to experiment with new patient care models to reduce cost and improve quality, including Medicare pilot programs for new payment methods and delivery models, which could lead to a more organized way to deliver health care in America.

Coverage expansion does not directly address the fact that the United States spends more on health care than any other industrialized country. In 2006, the United States' expenditure on health care as a percentage of GDP stood at 15.3 percent, well above Switzerland's 11.3 percent and the United Kingdom's 8.4 percent.¹ According to the Organisation for Economic Co-operation and Development (OECD), Americans spent over \$6,100 on medical care in 2004, more than double the industrial world's average.² While countries with wealthier citizens, on average, spend more on health care, America's GDP per capita does not explain the amount the United States spends on health care.³ In fact, according to the Congressional Research Service,

¹ WHO Statistical Information System (WHOSIS) <<http://www.who.int/whosis/en/index.html>>

² Tom Daschle, Critical: What We Can Do About the Health Care Crisis (New York: St. Martin's Press, 2008).

³ Gerard Anderson, Peter Sotir Hussey, "Comparing health system performance in OECD countries," *Health Affairs* 20.3 (May/June 2001): 219-232.

which calculated predicted U.S. health spending for 2004, U.S. health spending stands at 60 percent greater than GDP predicts.⁴ In other words, although GDP per capita generally can predict how much a country will spend on health care, the United States spends approximately \$2288.25 more per person than its GDP explains.

Despite spending more on health care than any other developed country, the United States has not realized a level of health outcomes proportional to its extra spending. In 2000, the World Health Organization (WHO) ranked the United States health system 37th out of 191 countries, behind Singapore, Greece, the United Kingdom, Switzerland, Saudi Arabia, the United Arab Emirates and Costa Rica.⁵ However, the WHO rankings have not escaped controversy. For instance, the data used to generate the rankings do not include any data collected directly from patients, representing one potential concern surrounding the WHO rankings. Another concern relates to the measures used to generate the ranking. Some argue that many of the measures are highly subjective, such as “fairness” and “fairness in financial contribution.”⁶ According to the WHO, a health system must respond “equally well to everyone, without discrimination or differences in how people are treated” and the “burden of total health payment for each household” must be the same in order for a health system to meet the fairness and fairness in financial contribution measures.^{7,8} Not everyone feels that the WHO measures themselves judge health systems fairly. For instance, the “WHO penalizes the United States for not having a sufficiently progressive tax system” and for having health savings accounts “because, according

⁴ Chris L. Peterson and Rachel Burton, “U.S. Health Care Spending: Comparison with Other OECD Countries,” *Congressional Research Service* (September 17, 2007).

⁵ World Health Organization, The World Health Report 2000: Health Systems: Improving Performance (Geneva: 2000): 200

⁶ Michael Tanner, “The Grass Is Not Always Greener: A Look at National Health Care Systems Around the World,” *Cato Institute*, Policy Analysis 613 (March 2008): 1-48.

⁷ World Health Organization, “Fairness in financial contribution,” (2001) <http://www.who.int/health-systems-performance/current_work/cw_fairfin.htm>.

⁸ World Health Organization, The World Health Report 2000: Health Systems: Improving Performance (Geneva: 2000): 26

to WHO, patients pay too much out of pocket.”⁹ Others feel that some factors used in the WHO rankings have nothing to do with health care, such as tobacco control.¹⁰ With issues such as tobacco control, however, the WHO feels that health systems must address avoidable factors like tobacco use, which contribute to preventable death and illness. “Such judgments,” critics say, “clearly reflect a particular point of view, rather than a neutral measure of health care quality.”¹¹ However, despite criticisms of the 2000 WHO rankings, it still provides great insight into the United States health system’s performance as compared to other countries.

Numerous other studies suggest that the United States health system does not experience better health outcomes despite exponentially higher spending. In 2006, the United States had an infant mortality rate of seven per 1,000 live births, whereas Japan, Sweden, Norway, Italy and others had an infant mortality rate of three per 1,000 live births.^{12,13} Cross-country comparisons of life expectancy and infant mortality often receive criticism due to the influence of non-health related differences. For instance, a country’s crime rate, culture, and poverty level play a role in determining its life expectancy and infant mortality rates.¹⁴ Yet cultural differences aside, studies have shown that the United States does not fare as well as other countries with respect to mortality directly attributable to health care, also known as amenable mortality. One international comparison of amenable mortality looked at deaths of individuals under the age of 75 in 19 countries from conditions generally considered treatable or preventable, such as “bacterial infections, treatable cancers, diabetes, cardiovascular and cerebrovascular disease, and complications of common surgical procedures,” during two time periods: 1997-1998 and 2002-

⁹ Michael Tanner, “The Grass Is Not Always Greener,” 3

¹⁰ Michael Tanner, “The Grass Is Not Always Greener: A Look at National Health Care Systems Around the World,” *Cato Institute*, Policy Analysis 613 (March 2008): 1-48

¹¹ Michael Tanner, “The Grass Is Not Always Greener.”

¹² WHOIS

¹³ Ezekiel J. Emanuel, *Healthcare, Guaranteed: A Simple, Secure Solution for America* (New York: PublicAffairs, 2008)

¹⁴ Michael Tanner, “The Grass Is Not Always Greener.”

2003.¹⁵ The study showed that amenable mortality accounted for, on average, 23 percent of deaths in males and 32 percent of deaths in females.¹⁶ Interestingly, between the two time periods, worldwide amenable mortality declined an average of 17 percent, but the U.S. decline stood well below that average, at just 7 percent. As a result of this minimal decrease, the U.S. rate fell to 123.26 amenable deaths per 100,000 individuals, while the UK rate decreased to 116.62.¹⁷ The United States ranked last among the nineteen countries examined. Additionally, according to the OECD, 5,120 people per 100,000 die each year in the United States from preventable causes, versus 3,888 in the United Kingdom and 3,400 in Switzerland.¹⁸ While many of the diseases, such as cancer, diabetes, cardiovascular and cerebrovascular disease, stem from lifestyle factors such as poor diet or obesity, these factors can be reduced or eliminated through an effective health care delivery system. Thus, despite higher spending, the United States experiences a higher occurrence of deaths from conditions considered treatable or preventable.

Medical officials also largely agree that the United States health care system requires reform. In a comparison of Australia, Canada, New Zealand, the United Kingdom and the United States, based on the Commonwealth Fund's 2000 International Health Policy Survey of Physicians, half of the 528 United States physicians surveyed reported that they "were very concerned that the quality of patient care will decline in the future" and United States physicians were less likely than their international counterparts "to see their current system as working well and more likely to think it needed complete rebuilding."¹⁹ Similarly, in a 2003 survey of hospital executives in Australia, Canada, New Zealand, the United Kingdom and the United States, 50

¹⁵ Ellen Nolte, C Martin McKee, "Measuring The Health Of Nations: Updating An Earlier Analysis," *Health Affairs* 27.1 (Jan/Feb 2008): 58-71.

¹⁶ Ellen Nolte, C Martin McKee, "Measuring The Health Of Nations," 60.

¹⁷ Ellen Nolte, C Martin McKee, "Measuring The Health Of Nations," 60.

¹⁸ Cathy Schoen, et al., "Taking The Pulse Of Health Care Systems: Experiences Of Patients With Health Problems in Six Countries," *Health Affairs* 24 (Jul-Dec 2005): 509-525.

¹⁹ Robert J. Blendon, et al., "Physicians' Views On Quality of Care: A Five-Country Comparison," *Health Affairs*, 20.3 (May/June 2001): 233-243.

percent of United States hospital administrators reported being somewhat or very “dissatisfied” with the “the country’s health care system overall,” whereas less than 12 percent of executives in the other countries felt dissatisfied.²⁰

The United States’ health system also struggles in other areas. The 2009 edition of OECD’s *Health at a Glance* reported “the United States does not do well in preventing costly hospital admissions for chronic conditions, such as asthma or complications from diabetes, which should normally be managed through proper primary care.”²¹ According to the study, the United States ranked second highest for asthma hospital admission rates out of seventeen countries, with 119.9 admissions per 100,000 people. Switzerland experienced significantly lower asthma admissions rates, with only 31.5 admissions per 100,000 people; Italy boasted only 16.7 per 100,000.²² Furthermore, asthma deaths in the United States ranked fifth out of twenty-five countries.²³ Likewise, the management of diabetes, a condition afflicting approximately 23.6 million Americans, also demands improvement.²⁴ In a study conducted by the Center for Disease Control and Prevention’s National Center for Chronic Disease Prevention and Health Promotion, which utilized a national population-based survey for the 1990s, 58 percent of diabetics surveyed had poor lipid control and between 36 and 45 percent of diabetics did not receive the necessary annual examinations recommended for diabetic patients.²⁵ That the United States health care system has room for improvement stands without question.

²⁰ Robert J. Blendon, et al, “Confronting Competing Demands To Improve Quality: A Five-Country Hospital Survey,” *Health Affairs*, 23.3 (2004): 119-135

²¹ OECD, “Health at a Glance 2009,” 8 Dec. 2009 <<http://www.oecd.org/health/healthataglance>>

²² OECD, Health Care Quality Indicators 2009 <<http://www.oecd.org/health/hcqi>>

²³ OECD, Health Care Quality Indicators 2009

²⁴ National Institute of Diabetes and Digestive and Kidney Diseases, “National Diabetes Statistics, 2007 fact sheet,” (Bethesda, MD: U.S. Department of Health and Human Services, National Institutes of Health, 2008) <<http://diabetes.niddk.nih.gov/DM/PUBS/statistics/>>

²⁵ Jinan B. Saaddine, et al., “A Diabetes Report Card for the United States: Quality of Care in the 1990s,” *Annals of Internal Medicine* 136.8 (April 2001): 565-574.

However, the United States out performs other countries in certain areas. For instance, the United States tends to see better health outcomes with respect to cancer. In an international comparison of cancer survival rates conducted by doctors at the National Cancer Institute, the Finnish Cancer Registry, the London School of Hygiene and Tropical Medicine, the Italian Superior Health Institute, and the Italian National Institute for the Study and Treatment of Cancer, the United States was shown to have better survival rates for most cancers as compared to European countries. The study, published in *Cancer*—a peer-reviewed journal published by the American Cancer Society—looked at twelve different cancers in seventeen countries for patients diagnosed between 1985 and 1989, and found that cancer patients in Europe had “significantly lower survival rates than American patients for all cancer sites considered, except stomach cancer.”²⁶ The CONCORD study, which included 125 researchers and appeared in the August 2008 issue of *The Lancet Oncology*, looked at 1.9 million adults diagnosed with breast, colon, rectum, or prostate cancer from 1990 to 1994 and came to a similar conclusion, even after controlling for population differences such as life expectancy and age.²⁷ The study found that for breast cancer, the 5-year survival rate for all 24 participating European countries combined was 73.1 percent. The United Kingdom had an average survival rate of 69.7 percent, while Switzerland’s survival rate varied from 72 percent to 75 percent.²⁸ The United States survival rate, however, was 84 percent. For all rectum cancer, as well as colon cancer in women, the United States ranked third out of all participating countries. However, while the United States had a high average survival rate (84 percent), the study also revealed significant geographic and race-based disparities within the United States. For example, the five-year breast cancer survival

²⁶ G. Gatta, et al., “Towards a Comparison of Survival in American and European Cancer Patients,” *Cancer*, 89.4 (2000): 893-900.

²⁷ Michel P. Coleman, et al., “Cancer survival in five continents: a worldwide population-based study (CONCORD),” *Lancet Oncology* 9.8 (August 2008): 730-56.

²⁸ Michel P. Coleman, et al., “Cancer survival in five continents.”

rate for African Americans was 70.9 percent, while for whites it was 84.7 percent. Cancer has long been an area that the United States performs comparatively well in; unfortunately, the quality performance does not extend to many other health areas.

Why Does America Need Coordinated Care and Payment Method Reform?

Many problems that the United States health care system faces pertain to the delivery of health care. Critics of the American health care system often cite lack of care coordination and the over utilization of specialty services as key problems. Care coordination entails the “deliberate organization of patient care activities between two or more participants (including the patient) involved in a patient's care to facilitate the appropriate delivery of health care services” and “is often managed by the exchange of information among participants responsible for different aspects of care.”²⁹ Similarly, the National Coalition on Care Coordination (N3C) defines care coordination as “a person-centered, assessment-based interdisciplinary approach to integrating health care and social support services in which a care coordinator manages and monitors an individual’s needs, goals, and preferences based on a comprehensive plan.”³⁰ Effective care coordination exists as a critical component of a successful health care delivery system because it improves patient health by reducing medical errors, strengthening a patient’s self management of his or her condition, and decreasing the over-utilization of services, among other things.

Unfortunately, the health care delivery system within the United States lacks consistent, high-quality care coordination and, as a result, suffers from medical errors that harm both the health of the patients and the financial health of the United States. A 2005 survey conducted by

²⁹ Agency for Healthcare Research and Quality, U.S. Department of Health and Human Services, “Closing the Quality Gap: A Critical Analysis of Quality Improvement Strategies,” 7 (June 2007): <<http://www.ahrq.gov/clinic/tp/caregapt.htm>>

³⁰ Robert Berenson and Julianne Howell, “Structuring, Financing and Paying for Effective Chronic Care Coordination,” The National Coalition on Care Coordination (July 2009)

researchers at the Commonwealth Fund of adults in Australia, Canada, New Zealand, Germany, the United Kingdom and the United States who had recently been hospitalized, had surgery, or reported health problems found that United States' patients cited medication errors, lab errors, or medical mistakes the most often.³¹ In fact, one third of United States patients reported problems such as test results or records not being available at the time of their appointment or having to undergo duplicate tests, higher than any other country in the study. A similar 2007 Commonwealth Fund comparative study found that the United States performed poorly on almost all coordinated care indicators.³² On the other hand, the UK received a high ranking on chronic care, likely due to its widespread use of health information technology (HIT). According to the report, "U.K physicians are most likely to report it is easy to print out a list of all their patients risks and medications," and 53 percent of UK physicians reported receiving computer reminder alerts regarding patient care, whereas only 15 percent of physicians in the U.S. reported having such a system.³³ Evidence suggests that HIT systems such as the one utilized in the UK vastly help improve care coordination and reduce medical mistakes. Overall, the United States ranked last across all coordinated care categories in the 2005 and 2007 studies.

Additionally, patients report that the United States particularly struggles with providing after hours care. A patient's timely access to his or her regular source of care remains a crucial aspect of effective care coordination, helping to reduce both medical mistakes and information continuity issues. However, in an analysis of a 2005 survey of sicker adults in Australia, Canada, New Zealand, Germany, the United Kingdom, and the United States, the U.S. and Canada scored the lowest on "prompt accessibility of appointments with physicians," with wait times as long as

³¹ Cathy Schoen, et al., "Taking The Pulse Of Health Care Systems."

³² Karen Davis, et al., "Mirror, Mirror on the Wall: An International Update on the Comparative Performance of American Health Care," *The Commonwealth Fund* (May 2007).

³³ Ibid.

six or more days.³⁴ While more than half of UK patients felt that obtaining care after the traditional work hours, including the weekends, was easy, over half of United States patients surveyed reported that it was difficult to access care after hours and more than 25 percent of patients surveyed said they had gone to the emergency room for a health problem that could have been dealt with by their regular doctor if he/she had been available at the time.³⁵ Moreover, according to a 2007 Commonwealth Fund report, patients in the United States are less likely than those in New Zealand, Germany, Australia, the UK and Canada to report having a regular doctor, and only half of U.S. patients remain with the same doctor for five or more years, complicating issues of care coordination and care continuity.³⁶ An ideal health care delivery system would offer patients a regular source of readily accessible, quality care. Thus, restricted access to care and the lack of a long-term regular doctor stand in the way of effective coordinated care in the United States.

The chronically ill account for billions of dollars worth of health care spending and would likely benefit from care coordination the most. A 2005 international survey of adults with health problems in six countries found that “in each country, health spending is highly concentrated among patients with chronic care needs.”³⁷ In fact, health care costs from chronic disease patients make up approximately 75 percent of total health care spending. In Medicare alone, “the top 25 percent of beneficiaries in terms of their care costs accounted for 85 percent of annual expenditures in 2001.”³⁸ The chronically ill not only account for the bulk of health care spending within the United States, but also represent a significant portion of the United States population. Data from the Centers for Medicare and Medicaid Services shows that 82 percent of

³⁴ Cathy Schoen, et al., “Taking The Pulse Of Health Care Systems.”

³⁵ Ibid.

³⁶ Karen Davis, et al, “Mirror, Mirror on the Wall.”

³⁷ Cathy Schoen, et al., “Taking The Pulse Of Health Care Systems.”

³⁸ Hofmarcher, M. M., H. Oxley and E. Rusticelli, “Improved Health System Performance through better Care Coordination,” OECD Health Working Papers, No. 30 (2007): 16.

beneficiaries have at least one chronic condition, and 65 percent have more than one chronic condition.³⁹ In 2005, the CDC estimated that “133 million Americans --- almost 1 out of every 2 adults – had at least one chronic condition.”⁴⁰ Although not all chronically ill patients have excessively high spending, research has shown that patients with more than one chronic condition cost approximately seven times more than patients with just one chronic condition and even those with only one chronic condition require twice as much health spending as those without chronic conditions.⁴¹ Therefore, implementing a delivery system that can effectively manage chronic illness could significantly impact the American health care system and reduce costs.

The problems within the health care delivery system, particularly with respect to care coordination factors, cost the United States billions of dollars. Many patients, especially those with chronic illnesses, see multiple physicians for a variety of illnesses, such as a primary care physician and multiple specialists; however, little-to-no communication and information continuity exists between them. Diabetics, for instance, “require a team of health care professionals to help them manage this complex, insidious disease – endocrinologists, cardiologists, nephrologists, dermatologists, podiatrists, and behavioral support specialists.”⁴² The resulting fragmentation of information results in the assignment of incorrect and unnecessary treatments and procedures. Some researchers, for instance, argue that a third of more of procedures and treatments are unnecessary and, indeed, a third of United States patients report problems such as test results or records not being available at the time of their

³⁹ Hofmarcher, M. M., H. Oxley and E. Rusticelli, "Improved Health System Performance through better Care Coordination," 16.

⁴⁰ Cynthia L. Ogden, Margaret D. Carroll, Margaret A. McDowell, and Katherine M. Flegal, “Obesity Among Adults in the United States—No Statistically Significant Change Since 2003-2004,” *NCHS data brief no 1*. Hyattsville, MD: National Center for Health Statistics; 2007. <<http://www.cdc.gov/nchs/data/databriefs/db01.pdf>>.

⁴¹ Mark W. Stanton, “The High Concentration of U.S. Health Care Expenditures,” Agency for Healthcare Research and Quality, Research in Action 19 (Rockville, MD: June 2006) <<http://www.ahrq.gov/research/ria19/expendria.htm>>.

⁴² “Health Care Productivity,” *Consumer-Driven Health Care*, ed. Regina Herzlinger (San Francisco, CA, 2004): 106.

appointment and therefore having to undergo duplicate tests.⁴³ Medical errors, often the outcome of poor care coordination, result in an estimated 44,000 to 90,000 deaths per year, according to the Institute of Medicine (IOM).⁴⁴ Even something as simple as prescribing antibiotics for a viral infection—which cannot be cured with antibiotics—costs the United States around \$550 million per year.⁴⁵ Moreover, “estimates of noncompliance rates with prescribed medical regimens” range from 30 to 60 percent,” despite the fact that “such adherence is critical to preventing disabling complications.”⁴⁶ Such mistakes could be minimized with proper communication and information sharing through advanced care coordination.

Many believe that the fragmented organization of hospitals and doctors’ offices causes higher spending. However, any reorganization of health care delivery will require an analysis, and likely reform, of payment methods. Those in favor of reform often argue that the current fee-for-service system contributes to the problems our health care delivery system currently faces. The Center for American Progress, for example, argues “when it is more lucrative to order an expensive CT scan for a patient with a headache than to take time to ask him or her about what may be causing the symptoms, it is clear the reimbursement system is broken.”⁴⁷ This paper seeks to outline a variety of options available to improve the American health care delivery system through care coordination and payment method reform.

⁴³ Cathy Schoen, Robin Osborn, Phuong Trang Huynh, Michelle Doty, et al., “Taking The Pulse Of Health Care Systems.”

⁴⁴ Michael Tanner, “The Grass is Not Always Greener.”

⁴⁵ Ellen-Marie Whelan and Sonia Sekhar, “Costly and Dangerous Treatments Weigh Down Health Care,” 3.

⁴⁶ Jessie C. Gruman and Cynthia M. Gibson, “A Disease Management Approach to Chronic Illness,” *Consumer-Driven Health Care*, ed. Regina Herzlinger (San Francisco, CA, 2004): 563.

⁴⁷ Ellen-Marie Whelan and Sonia Sekhar, “Costly and Dangerous Treatments Weigh Down Health Care,” 6.

Payment Methods

The Current System: Fee-for-Service

The majority of providers within the United States utilize a fee-for-service (FFS) payment method, in which the patient—or the insurance company—pays a fee for each procedure or service provided. The FFS payment method commonly receives criticism for leading to the over-utilization of services. Critics of fee-for-service claim that “current payment systems encourage volume-driven, rather than value-driven, care. Physicians, hospitals and other providers gain increased revenues and profits by delivering more services to more people.”⁴⁸ Those against fee-for-service claim physicians provide more services in part to increase their profits, resulting in rising health care costs. In some instances, the services provided include unnecessary and/or invasive procedures, which come with a high risk of complications. Essentially, “a physician is paid for each procedure that he/she renders with few, if any, mechanisms to encourage primary care, coordination of care, or objective measures of quality and efficiency of care.”⁴⁹ Thus, FFS drives spending by doing nothing to restrain the number of services rendered, and arguably encouraging the over utilization of procedures.

In addition to giving doctors incentives to perform more, and more expensive, procedures, fee-for-service poses a serious roadblock to care coordination. First, “providers are not generally rewarded for taking the time to conduct comprehensive assessments” because payment measures focus on procedures, not encounters such as follow-up telephone calls, coordination with other doctors or staff persons, or emails. Thus, although follow-up telephone communications and coordination with other staff persons represent an essential aspect of effective care coordination, current payment methods discourage doctors from partaking in these

⁴⁸ Harold D. Miller, “From Volume to Value: Better Ways To Pay For Health Care,” *Health Affairs* 28.5 (Sept/Oct. 2009): 1418.

⁴⁹ Louis Hoch, “Cross-Border Healthcare— The U.S. and U.K. Healthcare Systems,” *American Health Lawyers Association* (February 2010) <<http://www.blankrome.com/index.cfm?contentID=37&itemID=2148>>.

activities. In essence, the current reimbursement system favors procedures, discouraging primary care physicians from thoroughly evaluating patients.⁵⁰ Insurance “will pay for the amputation of a limb for diabetes-related gangrene but not for the sustained diabetes self-management and monitoring that can lessen the probability of needing more costly interventions later,” illustrating a serious flaw with the United States health care system. Since evaluation, follow-up and self-management instruction do not receive the same payment as a costly procedure, physicians face a disincentive to perform such services.

In a nationally representative, random sample survey of family physicians, doctors illustrated their resource-intensive behavior under a fee-for-service scenario. The survey asked doctors to indicate the action they would take under a variety of scenarios involving fee-for-service versus other payment methods. If a patient requested a more expensive diagnostic test than the doctor felt necessary, the doctor was more likely to prescribe it in a fee-for-service setting. However, the survey found no difference in treatment methods for patients in need of a heart transplant, signifying that the differences in decision-making under fee-for-service did not extend to life saving care.⁵¹ This reassuringly suggests that physicians will perform a procedure necessary to save the life of the patient, regardless of the payment scenario.

Second, because the fee-for-service system pays each provider independently, it provides very little incentive for providers to coordinate their services. If each provider benefits financially for the services he provides on his own, little reason exists to work with the other providers involved in the care of the patient. To provide a simple example, consider the case of a primary care physician at a practice and a radiologist at an imaging lab. A patient schedules a

⁵⁰ Melinda K. Abrams, Karen Davis, Christine Haran, “Can Patient-Centered Medical Homes Transform Health Care Delivery,” *The Commonwealth Fund* (27 March 2009) <<http://www.commonwealthfund.org/Content/From-the-President/2009/Can-Patient-Centered-Medical-Homes-Transform-Health-Care-Delivery.aspx>>.

⁵¹ Joannie Shen, Ronald Andersen, Robert Brook, Gerald Kominski, Paul S. Albert and Neil Wenger, “The Effects of Payment Method on Clinical Decision-Making: Physician Responses to Clinical Scenarios,” *Medical Care*, 42.3 (March 2004): 297-302

visit with a primary care physician and the physician decides the patient needs an x-ray. However, the day before, the patient visited an urgent care clinic, which gave them a referral to the imaging lab for an x-ray. The primary care physician does not have the x-ray taken the day before, so he tells the patient to visit a different imaging center, and to return the next day with the x-ray to discuss the results. In this example, the physician gets paid for two visits and each imaging lab gets paid for an x-ray. If better care coordination occurred, the original x-ray would have been transferred to the patient's primary care physician and thus the physician would have had it on-hand for the patient's initial visit. However, the current payment structure offers no incentive for such coordination since each person involved in the scenario received payment for his or her services. The same applies to specialists. If a patient sees a specialist in addition to his primary care physician, both receive full payment for the services provided, eliminating any incentive for the two providers to work together to reduce the number of procedures and services rendered. While health information technology (HIT), which would allow the radiologist to upload the results electronically, would help solve the x-ray dilemma, it provides no incentive for the radiologist to participate in the HIT system. With the specialist, even if a HIT system existed, there would be no financial motive to coordinate care.

Modified Fee-For-Service

One recommendation to fixing the current payment method consists of modifying, rather than abolishing, fee-for-service. Raising the baseline payment for services related to care coordination, such as follow-up phone calls and e-mails, team meetings with other doctors who care for the patient, a review of hospital discharge summaries, and a more thorough evaluation that would include the development of a self-management plan, would lead practices to put the additional money towards enhancing care coordination. Some physicians support this method

because the additional money would allow them to see fewer patients, thereby creating more time for coordination activities. However, critics argue that increased reimbursements for care coordination tasks would provide only a small incentive, because billing for tasks such as phone calls, emails and arranging follow-up visits would likely cost more time than the service merits.⁵²

An increasing number of insurers have also adopted care coordination reimbursement. In Vermont, insurers must provide “enhanced reimbursements on top of negotiated rates” to providers that partake in care coordination services.⁵³ Blue Cross and Blue Shield of Illinois provides increased payments to providers that maintain electronic health records and offer twenty-four-hour patient access.⁵⁴ Furthermore, in Vermont, the state provides a two percent bonus to practices that utilize electronic prescriptions, a system shown to reduce prescribing errors among patients; after 2012, practices without electronic prescribing will face a penalty.⁵⁵ Such incentives, while likely to be unpopular among physicians if they include a penalty, would help drive care coordination if the penalty or bonus was high enough to effect practice behavior.

Another option would keep fee-for-service, but provide practices that offer certain care coordination services a flat monthly payment on top of FFS. This method eliminates the need to apply for reimbursement and therefore better addresses the concern that care coordination would not be worth the physician’s time. However, since the flat monthly fee would be based solely on the provider offering certain services, and not on performance or quality, this method of payment would not necessarily provide incentives to perform high-quality services.

⁵² Robert Berenson and Julianne Howell, “Structuring, Financing and Paying for Effective Chronic Care Coordination.”

⁵³ Greg Moody and Sharon Silow-Carrol, “Aiming Higher for Health System Performance,” *The Commonwealth Fund* (October 2009): 8.

⁵⁴ Bruce Japsen, “Blue Cross of Illinois Pushing Medical Homes,” *Chicago Tribune* (1 October 2009), <<http://www.chicagotribune.com/business/chi-thu-notebook-blue-cross- oct01,0,4843184.story>>.

⁵⁵ Mass High Tech Staff, “Vermont e-prescriptions fueled by federal grant,” *Mass High Tech* (16 October 2009) <<http://www.masshightech.com/stories/2009/10/12/daily51-Vermont-e-prescriptions-fueled-by-federal-grant.html>>.

Another possibility would allow FFS to prevail, but subject the private industry to tighter regulation. For instance, Switzerland operates under a fee-for-service system, but with a few exceptions. First, the government imposes price ceilings for services and procedures. However, in the United States, government-imposed price ceilings in the private sector would face political opposition and likely would not succeed in being implemented. Additionally, Switzerland “requires patients to share some costs ... so they have an incentive to avoid unnecessary treatments.”⁵⁶ However, Switzerland faces the same problems with respect to the over utilization of services as the United States and in fact uses more resources—such as MRIs—per capita than the United States.⁵⁷ Some proponents of payment reform within Switzerland argue against a separate payment system for outpatient care and believe that “payment for the team across the full cycle of a medical condition would improve incentives and reward prevention of disease progression.”⁵⁸ While tighter regulation of FFS might reduce expenses, the level of government control required does not seem politically feasible and, based on Switzerland’s experience, such control likely would not end the over-utilization of services.

Pay-for-Performance

Pay-for-performance (P4P) offers another alternative to FFS. As the name suggests, P4P bases payment on how well the provider performs. By no means new to the health care scene, P4P currently exists in a variety of forms. Some P4P models use benchmarks to determine payment. A few are based on the cost of care provided, and others measure actual improvement. In theory, the performance information also exists as a mechanism to drive improvement in quality by making data publicly available so that other doctors, as well as patients, can view the

⁵⁶ Nelson D. Schwartz, “Swiss Health Care Thrives Without Public Option,” *New York Times* (1 October 2009) <<http://www.nytimes.com/2009/10/01/health/policy/01swiss.html>>.

⁵⁷ Uwe E. Reinhardt, “The Swiss Health System: Regulated Competition without Managed Care,” *JAMA*, 292.10 (2004):1227-1231.

⁵⁸ Elizabeth Teisberg and The Institute for Strategy and Competitiveness, “Opportunities for Value-Based Health Care Delivery in Switzerland,” (10 July 2008): 7.

performance measurements, fostering competition among doctors and allowing patients to choose the best physician for the money.

P4P programs that rely on meeting benchmarks for payment have achieved mixed success. Many health plans began collecting performance data nearly thirty years ago using the Health Plan Employer Information Set, now known as the Healthcare Effectiveness Data and Information Set (HEDIS), which compares the delivery of evidence-based medicine to regional benchmarks. Some health plans use HEDIS to provide additional payments to providers that meet or exceed the benchmarks.⁵⁹ However, a 2005 study reported in the *Journal of the American Medical Association* failed to find significant increases in performance in three of the collected HEDIS measures.⁶⁰ Physicians performing at or above the benchmarks at the beginning of the program showed the least improvement, but received most of the bonus payments.⁶¹ To prevent an unfair distribution of bonus payments, future P4P programs should focus on improvement of care, rather than targeting benchmark numbers.

The United Kingdom employs a similar target-based P4P method, which has seen success in some areas. In 2004, the National Health Service (NHS) introduced a comprehensive new P4P program featuring over 136 indicators focused around ten chronic conditions.^{62,63} 99.6 percent of practices participate in the P4P program and the incentive payments constitute approximately 20 to 25 percent of physician income for those practices participating in the program.⁶⁴ Six of the ten chronic conditions include smoking as an indicator.⁶⁵ A study of smoking cessation among

⁵⁹ Alliance for Health Reform, "Pay for Performance: a Promising Start," (February 2006): <http://www.allhealth.org/Publications/pub_4.pdf>.

⁶⁰ Ibid.

⁶¹ Ibid.

⁶² Christopher Millett, et al., "Impact of a pay-for-performance incentive on support for smoking cessation and on smoking prevalence among people with diabetes," *Canadian Medical Association Journal* 176.12 (June 5, 2007): 1705-1710.

⁶³ Stephen M. Campbell, et al., "Effects of Pay for Performance on the Quality of Primary Care in England," *The New England Journal of Medicine* 361.4 (July 23, 2009): 368-78.

⁶⁴ Ibid.

⁶⁵ Christopher Millett, et al., "Impact of a pay-for-performance incentive on support for smoking cessation."

patients with diabetes in the Wadsworth Primary Care Trust showed that 83.5 percent of patients received smoking cessation advice after the introduction of the program, versus 48 percent in 2003.⁶⁶ Furthermore, the study reported a decline in smoking among patients with diabetes from 20 percent to 16.2 percent.⁶⁷ However, results from other areas of the UK's P4P program have not been as positive. Several studies of the P4P program found that the program only saw improvement between 2003 and 2005 and that very little change occurred since then.⁶⁸ A study analyzing quality of care for asthma, diabetes, and coronary heart disease in 42 family practices from 1998 to 2007 found that although significant improvement occurred for asthma and diabetes between 2003 and 2005, with most practices reaching target levels required for the bonus payment, very little change occurred in the quality of care between 2003 and 2005 once the target level had been achieved.⁶⁹ In other words, once the physicians had met the level required to receive payment, the P4P program provided very little incentive for them to continue improving.

Since all of the physicians in the P4P program received some, if not all, of the bonus money available, the NHS likely set the benchmarks too low, which resulted in a leveling off of improvement after 2005. Such a standstill in increased performance exists as a significant disadvantage to utilizing specific benchmark points over measuring overall improvement. Some evidence also suggests that the UK's P4P program suffered from the unintended consequence of decreasing quality of care in areas not tied to an incentive.⁷⁰ Overall, the research suggests that the introduction of P4P in the United Kingdom initially caused an increase in the quality of care,

⁶⁶ Christopher Millett, et al., "Impact of a pay-for-performance incentive on support for smoking cessation."

⁶⁷ Ibid.

⁶⁸ Stephen M. Campbell, et al., "Effects of Pay for Performance on the Quality of Primary Care in England."

⁶⁹ Ibid.

⁷⁰ Ibid.

but most indicators leveled off after no additional payment remained available for additional improvement, and many aspects of care not linked to an incentive declined.

While quality of care represents the key goal in most P4P programs, cost sometimes exists as a primary objective as well. For example, the Aetna Aexcel program, available for Aetna's PPO, "uses episode treatment groups to identify efficient providers, and a variety of effectiveness measures for the quality part of the program."⁷¹ Using the data Aetna collects, Aetna determines which physicians perform best in terms of high quality at a low cost and then makes that data available to employers.⁷² Employers can then implement incentives for their employees to see the doctors identified by the Aetna Aexcel program.⁷³ The Aetna Aexcel program creates an incentive for doctors to keep costs low, while delivering quality care, in order to receive more patients.

The Bridges to Excellence (BTE) program also incorporates cost of care as a core component of its P4P program. Primarily sponsored by a number of prominent employers, the BTE program began as pilot programs in Cincinnati, Louisville, Boston and Albany, and has since expanded to other areas of the country.⁷⁴ The program adopted the National Committee on Quality Assurance (NCQA) recognition programs for diabetes care, cardiac care, and health information technology (HIT). Physicians can participate if they serve as the primary physician for patients with diabetes or cardiac illness. If the physicians pass the recognition test and meet certain benchmarks, they can receive fixed annual bonus payments for patients who are enrolled, either through their health plan or their employer, in the BTE program. According to BTE, the savings derived from higher quality of care and worker productivity increases fund the bonus

⁷¹ Thomas P. Miller, Troyen A. Brennan, and Arnold Milstein, "How Can We Make More Progress in Measuring Physicians' Performance to Improve the Value of Care?" *Health Affairs* 28.5 (Sept/Oct. 2009): 1432.

⁷² Ibid.

⁷³ Ibid.

⁷⁴ Bridges to Excellence, Inc., <<http://www.bridgestoexcellence.org>>.

payments.⁷⁵ The payments vary from \$80 to \$200 per patient per year for cardiac and diabetes care, depending on the level of care being delivered, and from \$15 to \$30 per patient for the successful implementation of health information technology.⁷⁶ Physicians in the BTE program who are recognized by the NCQA provide diabetes care at 15 to 20 percent less cost than non-recognized physicians.⁷⁷

Critics of P4P believe that it would lead to decreases in quality of care for measures not tied to a bonus payment, similar to the United Kingdom. For example, Lawrence Casalino, a physician at Stanford Coastside Medical Clinic, warns that “rewarding a limited number of activities may lead to less effort – and lower quality – in areas of care that are equally or more important” that do not receive financial benefits.⁷⁸ James H. Glauber, MD, also argues that mandated quality reporting and incentives to improve quality of care can have an adverse effect. He believes that “such measures ... may lead to overlooking important dimensions of quality not captured by these performance measures” and cites the HEDIS 2000 asthma quality measure as an example.⁷⁹ HEDIS defines appropriate care for asthma patients as the dispensing of asthma medication. Thus, the percentage of persistent asthma patients that are dispensed at least one controller medication per year determines the quality of care being delivered. However, asthma control, Glauber argues, is “multifactorial, reflecting patient education, medical adherence, inhaler technique, environmental exposures” and more.⁸⁰ So, while the prescription of a controller might benefit the patient, it might not be the only appropriate treatment. Moreover, the prescription of a controller might not be necessary if an environmental factor, such as the

⁷⁵ Bridges to Excellence, Inc., <<http://www.bridgestoexcellence.org>>.

⁷⁶ Ibid.

⁷⁷ Alliance for Health Reform, “Pay for Performance: a Promising Start.”

⁷⁸ Casalino, Lawrence P. “The Unintended Consequences of Measuring Quality on the Quality of Medical Care.” *The New England Journal of Medicine* 341.15 (1999): 1147-1151.

⁷⁹ Glauber, James H. “Does the HEDIS Asthma Measure Go Far Enough?” *The American Journal of Managed Care* 7.6 (2001): 575

⁸⁰ Ibid., 576.

presence of a cat, triggers the asthma.⁸¹ Therefore, critics such as Glauber and Casalino feel that providing incentives for providing specific types of care, such as asthma controllers, might lead to an overall decrease in the true quality of care instead.

P4P would need to overcome a number of other serious obstacles, including physician opposition to performance measurement. Many physicians criticize the “inconsistent approaches by different plans in the same market; efficiency scores that are susceptible to infrequent events outside a physician’s control” as well as a “lack of any assurance that money saved by a particular physician’s decisions will necessarily be directed toward improving care quality or the affordability of health services elsewhere.”⁸² Additionally, risk-adjustment poses a problem, because some practice populations might be healthier than others, leading to higher spending. If the end performance data does not contain an adjustment for the population, it would favor physicians who had a healthier patient population to start with. Physician opposition also stems from the belief that P4P “can lead to a level of micromanagement of providers that is inefficient and can deter innovation.”⁸³ Some feel “pay for performance has nothing to do with quality and is actually about paying for conformance.”⁸⁴ Thus, instituting the widespread collection and utilization of performance data stands to meet opposition on the provider side.

The lack of a single, comprehensive, all-inclusive data collection method does create significant inconsistencies and fragmentation, both for the physician as well as the patient. Therefore, the physician opposition has merit. An unknown number of non-profits, government agencies, health plans and associations collect performance data, each for a different segment of the health care market and each using different indicators. For example, Aetna collects

⁸¹ Ibid., 576.

⁸² Thomas P. Miller, Troyen A. Brennan, and Arnold Milstein, “How Can We Make More Progress,” 1431.

⁸³ Harold D. Miller, “From Volume to Value,” 1419.

⁸⁴ Regina Herzlinger, Who Killed Health Care.

performance data for its Aexcel program, as does BTE and the NCQA. Likewise, CMS collects data for Medicare. In previous years, the federal government announced an effort “through the Quality Alliance Steering Committee (QASC), to combine these Medicare [performance] data with other data from multiple private health plans” to create a more comprehensive set of data. However, the “actual results thus far have been limited to a relatively small set of nationally recognized quality process measures.”⁸⁵ This fragmentation makes it incredibly difficult to obtain access to comprehensive performance data, let alone data that can be understood by the average health care consumer. The lack of access means that physicians are unlikely to know how other physicians perform, a factor that might help drive competition for quality amongst them. Lack of access to understandable, comprehensive performance data also means patients could not choose physicians based on performance if they wanted to.

However, present knowledge suggests that consumers are not eager to utilize performance measurement data, posing another roadblock to effective P4P programs. Consumers, i.e. patients, have not pushed to make such data available and “changing this will mean overcoming initial barriers for consumers, such as their weak belief that the quality of care is variable and stronger belief that their own source of care is excellent.”⁸⁶ Many proponents of P4P believe the data from P4P programs should be made available so that patients would have access to comprehensive, easy to understand data on the quality and performance of physicians, allowing them to choose what they perceive to be the best quality for the price.

Finally, “robust performance measurement is also hampered by patterns of care that disperse patients across multiple physicians and make attribution of performance for episodes to

⁸⁵ Thomas P. Miller, Troyen A. Brennan, and Arnold Milstein, “How Can We Make More Progress,” 1432.

⁸⁶ *Ibid.*, 1431.

a particular primary physician more challenging.”⁸⁷ For example, providing lower payment for hospital readmissions that occur within a designated time period (often thirty days) for reasons attributable to a hospital error or transitional care mistake exists as one possible way to reduce readmissions.⁸⁸ However, as critics of this method have pointed out, hospitals have little-to-no control over a patient’s behavior after discharge, which poses a problem to making hospitals accountable for readmissions, particularly thirty days after release.⁸⁹ Essentially, P4P by itself will not drive care coordination, but rather must exist concurrently with care coordination and additional payment method reform.

Episode-of-Care Payment

Episode-of-care payment, which involves a single payment for all services required for a single instance of care, presents itself as a third alternative payment method.⁹⁰ Episode-of-care payment can involve a single provider or multiple providers. Bundling refers to instances when an episode-of-care utilizes more than one provider’s services and all of the providers share a single payment.

Episode-of-care payment “gives the provider responsibility for one additional factor in the health cost equation: the number and types of services within an episode.”⁹¹ Since a flat payment covers all of the procedures and services required for that patient’s episode of care, an incentive exists to maximize efficiency and only perform the tasks necessary. Supporters of bundling, or episode-of-care payment in general, believe “the flexibility for providers to decide which services should be provided within the episode” as well as the incentive to eliminate unnecessary services represent two key advantages. Furthermore, supporters argue that bundling

⁸⁷ Ibid., 1433.

⁸⁸ Robert Berenson and Julianne Howell, “Structuring, Financing and Paying for Effective Chronic Care Coordination.”

⁸⁹ Ellen-Marie Whelan and Judy Feder, “Payment Reform to Improve Health Care.”

⁹⁰ Harold D. Miller, “From Volume to Value.”

⁹¹ Ibid., 1419.

creates “an incentive for those providers to coordinate their services” because it will help decrease costs, thereby increasing their profits.⁹² For instance, in 1984, the Texas Heart Institute began “charging a single, bundled payment for [Coronary Artery Bypass Graft] CABG surgery” and a study three years later found that the price for CABG surgery had dropped by \$192 million, 13 percent lower than the approximately \$1.4 billion Medicare paid for CABG surgery.^{93,94} In a Texas Heart Institute analysis, performed in 1995, the Institute found that the bundling method “lowers costs, increases patient access, allows payers to forecast their expenses, and streamlines the billing process, while maintaining a high quality of care and enabling patients to choose their own providers.”⁹⁵ As demonstrated by the Texas Heart Institute, episode-of-care payment not only constrains the number and types of services in an episode, but also decreases the administrative costs involved and makes it easier for a patient to compare cost options.

Other projects using bundling have also experienced success. During Medicare’s Participating Heart Bypass Center Demonstration, four hospitals paid a “single amount covering both hospital and physician services for CABG surgery” and a follow-up study showed “Medicare paid 10-37% less, physicians identified ways to reduce length-of-stay and unnecessary hospital costs, and patients preferred the single copayment.”⁹⁶ The Mayo Clinic also supports bundling because it has set up its infrastructure to encourage bundling, and in a proposal to Congress it recommended bundled Medicare payments for high-cost episodes of care, such as

⁹² Ibid., 1420.

⁹³ Harold D. Miller, “From Volume to Value,” 1425.

⁹⁴ Charles Edmonds and Grady L. Hallman, “Cardiovascular Care Providers: A Pioneer in Bundled Services, Shared Risk, and Single Payment,” *Texas Heart Institute Journal* 22.1 (1995): 72-76.

⁹⁵ Ibid.

⁹⁶ Harold D. Miller, “From Volume to Value,” 1425.

treatment for heart attacks, lumbar disc herniation, or knee replacement.⁹⁷ Its recommendation specified that the costs associated with hospitalization as well as physician services and post-operation care should all be included in the bundled payment.⁹⁸ The more comprehensive coverage included in the Mayo Clinic's recommendation makes all of the providers involved with the patient for that episode-of-care—not just the hospital—a stakeholder in reducing cost, while maintaining quality.

However, episode-of-care payment faces challenges as well. First, while it controls the number of services and types of services performed, it does nothing to restrain the number of episodes. In other words, for a single heart surgery, episode-of-care payment affects only the services performed for that heart surgery. It does not rein in additional episodes of care, such as a different surgery or unrelated set of procedures down the line. Furthermore, most practices do not currently have an infrastructure set up to handle frequent bundled payments. Since a single payment must cover all the patient's needs, the physician would be responsible for his own costs, plus paying claims to other providers for that patient as needed, such as hospitalization. As a result, practices would need their own claims system and an organizational structure “that can accept a bundled payment and divide it in a way that the individual providers find acceptable.”⁹⁹ It would also require hospitals and physicians to work closely together, something that might prove difficult due to a general distrust between hospitals and physicians. They would have to agree on how to divide up the payment, and trust each other to work to keep costs low, while not sacrificing the quality of care. Section 3023 of the health care reform bill recently signed into law directs the Secretary of HHS to “establish a [Medicare] pilot program for integrated care

⁹⁷ Mayo Clinic, “A Foundation for Health Care Reform Legislation,” www.mayoclinic.org/healthpolicycenter/pdfs/viewpoint4.pdf.

⁹⁸ Ibid.

⁹⁹ Harold D. Miller, “From Volume to Value,” 1422.

[involving payment bundling] during an episode of care provided ... around a hospitalization in order to improve the coordination, quality, and efficiency of health care services,” which means more information will soon exist on the success of, or problems faced, by episode-of-care payment.¹⁰⁰

Capitation

Unlike episode-of-care payment, capitation controls “the number of episodes of care as well as the cost of individual episodes.” With capitation, one or more providers receive a single payment to cover “all of the services their patients need during a specific period of time, regardless of how many or few episodes of care the patients experience.”¹⁰¹

Much concern surrounds capitation, primarily because HMOs in the 1980s and 1990s sought to reduce costs by reducing doctor reimbursements and many HMOs “paid doctors a set amount per patient, often without regard to how sick the patient was.”¹⁰² Possibly as a result, many capitation-based systems failed, as doctors could not afford to treat their patients under the HMO’s reimbursement system.¹⁰³ Granting providers the same payment regardless of the health of the patient represented a common problem with capitation. However, having learned from the past, future capitation arrangements could be risk-adjusted.¹⁰⁴

Several variations of risk-adjusted capitation exist. A simple method of risk-adjustment adjusts for the health of the patient, while a more thorough method—called “comprehensive care payment”—adjusts for other factors that would affect service, such as language barriers.¹⁰⁵ The National Committee on Quality Assurance guidelines suggest a risk adjusted, per member fee

¹⁰⁰ Patient Protection and Affordable Care Act of 2010, Public Law 111-148, 111th Cong., 2nd sess., (23 March 2010), 739-740.

¹⁰¹ Harold D. Miller, “From Volume to Value,” 1420.

¹⁰² Lisa Wangsness, “Medical home approach brings back managed care; Lower costs, good planning are the goals,” *The Boston Globe* (8 April 2009)

<http://www.boston.com/news/nation/articles/2009/04/08/medical_home_approach_brings_back_managed_care/>.

¹⁰³ “Health Care Productivity,” *Consumer-Driven Health Care*, ed. Regina Herzlinger (San Francisco: Jossey-Bass, 2004): 102-126.

¹⁰⁴ Harold D. Miller, “From Volume to Value,” 1420.

¹⁰⁵ Ibid.

paid on a monthly basis. Regina Herzlinger, an economist and consumer-driven health care model expert, supports a long-term contract using capitation because she argues that an annual or multi-year contract will provide incentives for physicians to keep patients healthy. However, she also believes that the fee should be risk-adjusted to eliminate the risk of providers discriminating against less healthy patients.¹⁰⁶ Any savings seen under the capitation model could either be kept entirely by the provider, split between the provider and the insurer, or split between the provider, insurer, and patient.¹⁰⁷ However, critics argue that replacing FFS with a flat payment structure only provides doctors with an incentive to supply less care and not necessarily better care. Implementing a blend of capitation and pay-for-performance could address this concern. Pay-for-performance could be added to a capitation model by placing a portion of the monthly, or annual, fee at risk based on performance.¹⁰⁸ Blending the two methods might help drive quality, at least in the areas subject to incentive.

On the other hand, supporters of the capitated payment structure argue it motivates physicians to keep their patients healthy and to improve the quality, not quantity, of care by rewarding “doctors for keeping patients healthy, for solving their problems in economical ways, and for avoiding errors.”¹⁰⁹ With Medicare, the Prospective Payment System pays hospitals a set price for each patient, based on the average cost of treating patients with “similar diagnoses.”¹¹⁰ In a 1982 report to Congress, Richard Schweiker, serving as the Secretary of Health and Human Services, said, “from the hospital’s point of view, prospective rates represent a set of prices with similar characteristics to the prices it would face in a more conventional market ... Thus, like

¹⁰⁶ Regina Herzlinger, *Who Killed Health Care* (New York: McGraw-Hill, 2007).

¹⁰⁷ Robert Berenson and Julianne Howell, “Structuring, Financing and Paying for Effective Chronic Care Coordination.”

¹⁰⁸ Ibid.

¹⁰⁹ Alain C. Enthoven and Laura A. Tollen, “Competition in Health Care: It Takes Systems,” *Health Affairs* 10.1377 (7 Sept. 2005): 421.

¹¹⁰ Michael Shwartz and Melanie L. Lenard, “Improving economic incentives in hospital prospective systems through equilibrium pricing,” *Management Science* 40.6 (Jun 1994): 774-787.

firms in other markets, the hospital bears the risk that the prospective payment rate will not cover its cost per unit of care.”¹¹¹ Essentially, capitation provides incentive through risk, much like a company operates; providers must operate within their budget. The key, however, exists in striking a balance between encouraging economical decisions and compromising quality.

Capitation faces many of the same challenges as bundling regarding the administrative burden providers would face to change the payment structure within their respective practices. In addition to the administrative burden, some opponents of capitation argue that diagnoses are subject to manipulation and that providers, in order to receive a higher payment for a patient, might manipulate patient’s health status.¹¹² The key to preventing manipulation lies in carefully selecting the risk adjustment factors. Ideally, risk adjustment would only use “characteristics that are universally recorded ..., consistent, verifiable, free from perverse incentives (e.g., cream skinning or gaming), not vulnerable to manipulation, consistent with confidentiality requirements, and plausibly determinative of service needs.”¹¹³ Additional research will help select the empirical model most resistant to manipulation. Despite the obstacles, capitation does more to constrain costs and the number of services provided to a patient across time than episode-of-care payment, since it controls the number of episodes and not just the services rendered within a single episode. Furthermore, “a single price for an entire episode of care or for an entire year of care” would make it easier for consumers to compare the value of different providers.¹¹⁴ Thus, in addition to doing more to constrain the number of procedures performed without compromising quality, capitation likely would make it easier for consumers to compare prices of providers.

¹¹¹ Ibid.

¹¹² Kenneth G. Manton, H. Dennis Tolley, James C. Vertrees, “Controlling Risk in Capitation Payment: Multivariate Definitions of Risk Groups,” *Medical Care* 27.3 9 (March 1989): 259-272.

¹¹³ Nigel Rice and Peter C. Smith, “Capitation and Risk Adjustment in Health Care Financing: An International Progress Report,” *The Milbank Quarterly* 79.1 (2001): 105.

¹¹⁴ Harold D. Miller, “From Volume to Value,” 1424.

Salary

Salaries represent an entirely different approach to payment. Unlike capitation, pay-for-performance, or episode-of-care payment, salaries generally do not change based on the health of the patient population. However, several variations for the salary method exist, and health care systems around the world utilize salaries.

In the United Kingdom, doctors within the NHS receive salaries directly from the government, making them government employees. However, the NHS bases general practitioners' salaries on their patient caseload, with the average number of patients resting around 1,800.¹¹⁵ Additionally, NHS doctors do receive bonus payments, representing approximately a quarter of the salary of the doctors in the program, for certain quality measures as discussed above. However, critics of the UK's salary system contend that "professionals are not incentivized to the same extent that they are in the United States, and as a result, productivity among professionals tends to be lower."¹¹⁶

The Mayo Clinic also employs staff on a salaried basis. With a staff hovering above 55,000, the Mayo Clinic serves over 520,000 patients per year. According to the Mayo Clinic, employing doctors on a salary basis helps reduce fighting among disciplines and "fosters team-oriented patient-care and peer accountability."¹¹⁷ However, while salaries may help increase care coordination, studies show that it does not do much to decrease the over utilization of care, and in fact might increase the amount of care required. One study conducted in 2000 and published in *The Cochrane Library* did not find a statistically significant difference between FFS and

¹¹⁵ Louis Hoch, "Cross-Border Healthcare."

¹¹⁶ Louis Hoch, "Cross-Border Healthcare."

¹¹⁷ Douglas McCarthy, Kimberly Mueller, and Jennifer Wrenn Issues Research, Inc., "Mayo Clinic: Multidisciplinary Teamwork, Physician-Led Governance, and Patient-Centered Culture Drive World-Class Health Care," *The Commonwealth Fund* (August 2009): 13.

salaried physicians with respect to the number of patient visits.¹¹⁸ However, the number of patient visits to the emergency room was 83.3 percent higher for patients of salaried physicians.¹¹⁹ An effective payment method would decrease emergency trips by encouraging the physician to provide quality care.

Health Care Delivery System Models

Attributes of an Effective Health Care Delivery System Model

While numerous different definitions of an ideal health care delivery system exist, a surprising amount of overlap occurs between them. According to the Mayo Clinic, a health care delivery system should contain “information continuity; care coordination and transitions; system accountability; peer review and teamwork for high-value care; continuous innovation; and easy access to appropriate care.”¹²⁰ One study, which also claims six components must exist for a successful health care system, lists:

- 1) targeting of at-risk populations
- 2) monthly in-person contact
- 3) timely access hospital and emergency room admissions information
- 4) close contact between the primary care physician and the care coordinators
- 5) assessment, care planning and education services
- 6) adequate support staff.¹²¹

The Group Health Cooperative of Puget Sound claims effective programs require “explicit plans and protocols, ready access to necessary expertise, supportive information systems, systematic

¹¹⁸ T. Gosden, “Capitation, salary, fee-for-service and mixed systems of payment: effects on the behaviour of primary care physicians,” *The Cochrane Library* 3 (2006).

¹¹⁹ Ibid.

¹²⁰ A. Shih, K. Davis, S. Schoenbaum, A. Gauthier, R. Nuzum, and D. McCarthy, “Organizing the U.S. Health Care Delivery System for High Performance,” *The Commonwealth Fund* (August 2008).

¹²¹ Robert Berenson and Julianne Howell, “Structuring, Financing and Paying for Effective Chronic Care Coordination.”

attention to the information and behavior change needs of patients,” and must reorganize the practice to meet the needs of patients who require more time and resources.¹²² Furthermore, in a “disease management approach to chronic illness,” experts say practices must provide a definition of the problem, goal setting, self-management training, and regular follow-up.¹²³ Similarly, the Center for American Progress says a quality health care system must encourage primary care by having patients meet with their PCP first about health concerns, fostering a long term relationship between the patient and the doctor, offering comprehensive care for concerns not requiring a specialist and care coordination for issues that do require a specialist.¹²⁴

Although the attributes vary, many commonalities exist, such as care coordination, access to readily available and up-to-date information, patient access, and an emphasis on self-management. These commonalities create the cornerstone for the effective delivery of care. Unfortunately, as previously illustrated, these key components do not consistently exist within America’s current health care delivery system. Under the current American health care system, most office systems are “geared to react to acute illness and urgent care. Most practice teams have neither the time nor the inclination to meet with each other, and thus have not organized themselves for care that requires some degree of planning.”¹²⁵ As the system currently exists, practices generally revolve around a patient scheduling a visit once a health problem arises; the physician meeting with the patient to check the symptoms, perform tests and prescribe a solution to the fix those symptoms, which may or may not involve a referral to a specialist; and little-to-no follow up unless initiated by the patient. Thus, the care often centers on eliminating the symptoms, not eliminating the underlying cause of those symptoms. The patient does not have a

¹²² Edward H. Wagner, Brian T. Austin, and Michael Von Korff, “Organizing Care for Patients with Chronic Illness,” *The Milbank Quarterly* 74.4 (1996): 511-544.

¹²³ Jessie C. Gruman and Cynthia M. Gibson, “A Disease Management Approach to Chronic Illness.”

¹²⁴ CAP, “Payment reform to improve health.”

¹²⁵ Edward H. Wagner, Brian T. Austin, and Michael Von Korff, “Organizing Care for Patients with Chronic Illness.”

care team that review the patient's records before the visit, so as to develop an action plan to get the patient's health under control. However, few practices follow up with the patient to ensure that important self-management tasks, such as medication adherence, occur.

The importance of self-management, and the need to improve upon it, represents a key component of effective care. Patients need to be able to monitor their own status and make appropriate care decisions because they do not have a PCP with them at all times.¹²⁶ Well-developed self-management skills will help patients get healthy, stay healthy and keep any conditions they might have under control. Currently, the "emphasis is on diagnosis, ruling out serious disease and curative or symptom-relieving treatments." Therefore, many physicians do not differentiate their approach for patients who need to actively manage a chronic illness or control a specific aspect of their health. Instead of helping patients develop self-management plans and conducting follow-up checks to ensure patient compliance, practices rely "on patient initiated visits, [and] relief of symptoms."¹²⁷ Consequently, the noncompliance rate for "prescribed medical regimens" ranges "from 30 to 60 percent" even though "such adherence is critical to prevent disabling complications."¹²⁸ Self management programs encourage patients to take an active role in controlling their condition and studies show it improves outcomes in several chronic conditions, including diabetes, hypertension, arthritis, and heart disease.¹²⁹ A successful health care delivery system must include a strong emphasis on self-management.

Integrated Delivery Systems

Integrated delivery systems are "umbrella organizations that manage the whole spectrum of services and levels of care" by integrating any mix of health care entities, such as physician

¹²⁶ Ibid.

¹²⁷ Edward H. Wagner, Brian T. Austin, and Michael Von Korff, "Organizing Care for Patients with Chronic Illness."

¹²⁸ Jessie C. Gruman and Cynthia M. Gibson, "A Disease Management Approach to Chronic Illness," 563.

¹²⁹ Edward H. Wagner, Brian T. Austin, and Michael Von Korff, "Organizing Care for Patients with Chronic Illness."

practices, hospitals, and nursing homes.¹³⁰ In economics, vertical integration means “owning the sources of your customers and your supplier.”¹³¹ In health care, vertically integrated delivery systems employ all care elements within the same system—group practices, doctors, hospitals and sometimes nursing homes.

Kaiser Permanente

Kaiser Permanente, one of the largest integrated delivery systems within the United States, offers a look at the operation of an integrated delivery system. For organizational purposes, entities within the Kaiser Permanente system are separated into the Kaiser Foundation Health Plan, Kaiser Foundation Hospitals, and the Permanente Medical Group. Founded in 1945, Kaiser now contains 37 hospitals and 431 clinics in nine states, and employs 153,000 people and 13,000 physicians who care for 8.6 million Kaiser patients.¹³² In addition, Kaiser patients receive health insurance through Kaiser based on prepayment. Kaiser chose to eliminate FFS, claiming that FFS increases the number of visits with very sick patients and decreases visits with healthy and “early sick” patients because no one wants to pay for unnecessary medical services.¹³³

Supporters of Kaiser argue that the “most distinctive feature of the Kaiser model is the way in which it integrates care” and that the integrated delivery system model creates “an interest in minimizing hospital stays because they [the medical groups] share responsibility for the success of the programme.” Moreover, Kaiser itself argues that the “ever present threat of members leaving the health plan means that Kaiser must be responsive to its membership.”¹³⁴ In California, where more than six million patients belong to Kaiser, Permanente employed 22

¹³⁰ Federico Lega, “Organisational design for health integrated delivery systems: Theory and practice,” *Health Policy* 81 (2007): 259.

¹³¹ Robert Berenson and Julianne Howell, “Structuring, Financing and Paying for Effective Chronic Care Coordination.”

¹³² Kaiser Permanente Ventures, <<http://www.kpventures.com/public/about-us/index.htm>>.

¹³³ Sidney R. Garfield, “The Delivery of Medical Care,” *The Permanente Journal* 10.2 (Summer 2006): 46-55.

¹³⁴ Chris Ham, Nick York, Steve Sutch, Rob Shaw, “Hospital bed Utilisation in the NHS, Kaiser Permanente, and the US Medicare Programme.”

percent of PCPs from 2001 to 2002; whereas 16 percent of PCPs belonged to medium-to-large sized group practices and 44 percent belonged to non-Permanente small group practices of one to ten doctors. In other words, patients have plenty of options should they choose to leave the Kaiser network.

In 1999, Kaiser started a new care management program, focusing on diabetes, coronary artery disease, hyperlipidemia, asthma, and congestive heart failure.¹³⁵ The program divides members with one or more of these chronic conditions into risk categories to ensure that patients with the worst chronic conditions receive the most care coordination. Since effective care of serious chronic conditions requires a team of doctors, possibly multiple medications and a detailed treatment plan, it necessitates more care coordination than caring for patients with less severe, or no, chronic conditions. Patients that have their condition under control receive care from their primary care team, made up of nurses, health educators, pharmacists and dietitians, and receive a level one classification.¹³⁶ Patients struggling to control their condition receive a level two classification, a primary team with specialists, and a referral to a management program for their specific condition.¹³⁷ Finally, level three classification goes to patients at the highest risk for hospitalization and with the least controlled conditions. Such patients receive a registered nurse case manager, who arranges self-management trainings for the patient and helps the patient set and meet condition management and lifestyle goals.¹³⁸ By dividing patients into risk categories, Kaiser can effectively manage their resources to provide more care coordination for those who need it.

¹³⁵ Martin Sipkoff, "Health Plans Begin to Address Chronic Care Management," *Managed Care* (December 2003) <<http://www.managedcaremag.com/archives/0312/0312.kaiserchronic.html>>.

¹³⁶ *Ibid.*

¹³⁷ *Ibid.*

¹³⁸ *Ibid.*

Kaiser's chronic care management program arose out of concerns to control cost. Before the chronic care management program, it cost Kaiser \$4,000 more a year to treat a patient with diabetes than the average patient. After the program's implementation, that figure leveled off, remaining stagnant despite a consistent rise in the cost of other treatment overall.¹³⁹ From 1998 to 2001, after the introduction of the chronic care management program, emergency room visits for Kaiser's North California area fell from sixteen to four visits per 100 asthma patients, and from twelve to eight visits for the entire program population.¹⁴⁰ In Southern California, emergency room use for asthma patients in the chronic care management program decreased from 9 percent to 3 percent between 1999 and 2000.¹⁴¹ Kaiser's experience supports the conclusion that care coordination, particularly for chronically ill patients, helps decrease spending by preventing complications that often arise from chronic conditions.

Kaiser's Diabetes Management Program in Southern California, which enrolls 120,000 patients, experienced relatively significant success from 1994 to 2000. Retinal eye exams jumped from 47 percent to 65 percent, urine microalbumin screening increased from 38.7 percent to 71 percent and lipid screening rose from 65.1 percent to 77 percent. During the same time period, myocardial infarctions decreased from 14 to 11 per 1,000 diabetic patients and limb amputation decreased from 5.1 to 2.9 per 1,000 diabetic patients.¹⁴² Since diabetics have a high risk of long-term complications, performing regular screenings allows the physician to identify problems early and keep the patient's diabetes under control, thereby reducing the complications such as myocardial infarctions and the need for limb amputation.

¹³⁹ Ibid.

¹⁴⁰ Ibid.

¹⁴¹ An Innovative Approach to Population Health – Kaiser

¹⁴² Les Zendle, "An Innovative Approach to Population Health," Consumer-Driven Health Care, ed. Regina Herzlinger (San Francisco, CA, 2004): 661

On the other hand, Kaiser has experienced significant problems with its integrated delivery system. In 2004, Kaiser decided to open its own kidney transplant center in California and perform all kidney transplant surgeries within the Kaiser system.¹⁴³ At that time, over 1,500 Kaiser patients waiting for a transplant at a hospital outside of the Kaiser system were informed that their transplant would not be covered unless they transferred to the new Kaiser kidney transplant center. In 2005, 112 of Kaiser's HMO kidney transplant candidates died waiting for a transplant, while Kaiser performed only 56 kidney transplants that year. Among other carriers in California, more than twice as many people received transplants than died waiting for a transplant.^{144,145}

The problem arose from a number of factors, which demonstrate the importance of care coordination and information continuity. First, Kaiser could not handle the number of patients in need of a transplant. The staff Kaiser hired had little-to-no experience with transplants and immediately after the launch of the program, Kaiser began experiencing critical staffing problems. In less than two years, the program went through two administrators and lost a high number of specialists.¹⁴⁶ Second, Kaiser did not handle the administrative side of the transfer efficiently. In many cases, it took up to a year to transfer the time patients had already spent waiting to the new list, so that they would not lose their spot. In May 2006, according to a Los Angeles Times investigation, at least 220 Kaiser patients still had not had their waiting list time properly transferred.¹⁴⁷ Additionally, Kaiser did not communicate or coordinate well with the transfer patients. Before the transfer, over 40 kidney transplant patients had signed up to receive a kidney from the high-risk pool, which consists of kidneys from the elderly or people not in

¹⁴³ Regina Herzlinger, Who Killed Health Care

¹⁴⁴ Charles Ornstein and Tracy Weber, "Kaiser Put Kidney Patients at Risk," *Los Angeles Times*, (3 May 2006): <<http://www.latimes.com/news/local/la-me-kaiser3may03,0,7436765,full.story>>.

¹⁴⁵ Regina Herzlinger, Who Killed Health Care

¹⁴⁶ Charles Ornstein and Tracy Weber, "Kaiser Put Kidney Patients at Risk."

¹⁴⁷ Ibid.

good health. However, due to an ineffective transfer of patient medical information, Kaiser's chief of surgery claimed that only one transfer patient sat on the list for a high-risk pool kidney after the transfer to Kaiser's new kidney transplant program. As a result, Kaiser accepted only 16.7% of the kidneys offered it, with only one from a high-risk donor, whereas other California hospitals accepted between 24 and 29.5 percent.¹⁴⁸ Poor information continuity resulted in incomplete medical records, lapses in care and blatant medical errors.

Mayo Clinic Health System

The Mayo Clinic Health System characterizes another version of an integrated delivery system, although it does not contain a health insurance component. A private, non-profit entity, the Mayo Clinic Health System started in 1992 and contains 800 salaried physicians and 13,000 staff members in over seventy communities. Additionally, the Mayo Health System owns seventeen hospitals and eight nursing homes.¹⁴⁹ The Mayo Clinic exists within the Mayo Health System and has a staff of over 55,000, four hospitals and three campuses, in Rochester, Minnesota; Scottsdale, Arizona; and Jacksonville, Florida.¹⁵⁰

The Mayo Clinic often receives praise for providing high quality care at a low cost. However, a number of studies have suggested that the Mayo Clinic does not necessarily always offer care at the lowest cost. In an analysis of publicly available price data of procedures offered in Minnesota, the Mayo Clinic had some of the highest prices.¹⁵¹ A study of sixty-nine procedures at the Mayo Clinic and fifty other large providers within Minnesota placed the Mayo Clinic as one of the five highest in cost for forty-eight procedures and as the most expensive for

¹⁴⁸ Ibid.

¹⁴⁹ Mayo Health System <<http://www.mayohealthsystem.org/mhs/live/page.cfm?pp=locations/MHSaboutus.cfm&orgid=MHS>>

¹⁵⁰ Douglas McCarthy, Kimberly Mueller, and Jennifer Wrenn Issues Research, Inc., "Mayo Clinic."

¹⁵¹ Peter J. Nelson, "Mayo Clinic: High Quality, yes, but low cost?"

eleven.¹⁵² According to the Clinic, however, the integrated approach it employs reduce the number of unnecessary procedures performed, thus reducing its costs overall.

The Mayo Clinic excels at information accessibility and care coordination. Its electronic health record (EHR) system houses all of the Mayo Clinic Health System records and operates “web-based cross-site linkages” so that physicians across the entire system can access the records online.¹⁵³ The EHR system sends prompts to physicians for test and care reminders, and highlights potential risks or errors in medication.¹⁵⁴ The system also links certain disease registries, such as the asthma registry, to the scheduling calendar in order to identify patients before the appointment and ensure they come prepared to the appointment.¹⁵⁵ Physicians can utilize the EHR system for virtual consultations with other physicians. Additionally, using the web portal, physicians that refer a patient to the Mayo system can upload the patient’s medical history to avoid unnecessary tests or duplicated procedures. After the patient’s appointment, the system transmits the results of the visit back to the patient’s primary physician.¹⁵⁶ The Mayo Clinic’s extensive EHR system sets it apart from many other health systems, as most practices do not currently utilize EHR. In 2005, only 25 percent of office visits in the United States documented patient information using EHR.¹⁵⁷ Yet EHR allow physicians to help physicians effectively coordinate and track patient care; give other doctors access to the patient’s medical history, when needed; and decrease medical errors by, among other things, allowing the computer to cross-reference medications and tests performed.

¹⁵² Peter J. Nelson, “Mayo Clinic: High Quality, yes, but low cost?”

¹⁵³ Douglas McCarthy, Kimberly Mueller, and Jennifer Wrenn Issues Research, Inc., “Mayo Clinic.”

¹⁵⁴ *Ibid.*

¹⁵⁵ *Ibid.*

¹⁵⁶ *Ibid.*

¹⁵⁷ Donald K. Cherry, David A. Woodwell and Elizabeth A. Rechtsteiner, “National Ambulatory Medical Care Survey 2005 Summary,” *CDC, Advance Data from Vital and Health Statistics* 387 (June 29, 2007).

The Mayo Clinic employs a number of specific care coordination techniques. First, throughout its entire system, the Mayo Clinic assigns every patient to a coordinating physician.¹⁵⁸ At Luther Midelfort, a Mayo division in Wisconsin, every patient receives a reference card containing five important goals that the patient must meet to fulfill their care requirement. For the patient's physician to receive credit as having met Mayo's care standard, the patient must meet all five of their goals. At regular department meetings, management shares the track record of each physician to encourage accountability.¹⁵⁹

In 2004, the Mayo Clinic's Saint Mary's Hospital, located in Rochester, opened a 24-hour cardiac catheterization lab to perform emergency angioplasty on heart attack patients.¹⁶⁰ The "fast-track" system the hospital developed treated 597 patients between May 2004 and December 2006.¹⁶¹ The "fast-track" system reduced the time between the patient's arrival and performance of the angioplasty by approximately 21 percent, from ninety minutes to seventy-one minutes. Once the "fast track" system proved a success, it was implemented in twelve other Mayo Health System hospitals with a few additional components, including a care coordination-centered strategy.¹⁶² A phone system allowing the "receiving cardiologist" to communicate directly with the patient's physician and the catheterization team became part of the program. Easy communication and collaboration between care team members, as seen in the "fast-track system," represents an essential component of effective care coordination.

United Kingdom

The United Kingdom, much like Kaiser, represents a thoroughly integrated delivery system. In the United Kingdom, the NHS provides insurance coverage, owns most of the health care

¹⁵⁸ Douglas McCarthy, Kimberly Mueller, and Jennifer Wrenn Issues Research, Inc., "Mayo Clinic."

¹⁵⁹ *Ibid.*

¹⁶⁰ Henry H. Ting, et al., "Regional Systems of Care to Optimize Timeliness of Reperfusion Therapy for ST-Elevation Myocardial Infarction: The Mayo Clinic STEMI Protocol," *Circulation* 116.7 (Aug 2007).

¹⁶¹ American Heart Association, "Coordinated care means faster treatment for rural heart attack patients."

¹⁶² *Ibid.*

facilities, and employs physicians and health care personnel on a salaried basis, although the general practitioners sometimes operate on a self-employed basis under a contract with the NHS. Every person has a primary care physician who coordinates that patient's care, and "access to hospitals and specialists is through the referral of the primary care doctor."¹⁶³ The referral system, which closely resembles the gatekeeper model of the traditional American HMO, often receives criticism for decreasing quality of care by increasing waiting times, rather than praise for increasing care coordination. Evidence on the exact wait times in the United Kingdom contains mixed results because wait times vary by primary care trust (PCT), but a general consensus exists that the wait times are, on average, higher than the wait times in the United States. Some argue "delays in receiving treatment are often so long that nearly 20 percent of colon cancer patients considered treatable when first diagnosed are incurable by the time treatment is finally offered" and that "overall, more than half of British patients wait more than 18 weeks for care."¹⁶⁴ On the other hand, the National Health Service asserts that more than 90 percent of patients complete their referral to treatment in less than eighteen weeks.¹⁶⁵

The United Kingdom has increasingly turned its attention to increasing care coordination and managing chronic illness. Recently, both practices as well as hospitals have started opening chronic disease "mini-clinics," or workshops, which devote time to patients with specific conditions and emphasize self-management skills. Several studies link the mini-clinic to enhanced blood sugar control, reduced hospitalization and improved follow-up with patients.¹⁶⁶

The practice that Dr. Dominic Faux, a general practitioner who works in a practice just outside of

¹⁶³ Louis Hoch, "Cross-Border Healthcare."

¹⁶⁴ Michael Tanner, "The Grass Is Not Always Greener."

¹⁶⁵ National Health Service Department of Health, "Statistical Press Notice NHS Referral to Treatment (RTT) Times Data," (January 2010) <<http://www.dh.gov.uk/data/18weeks>>.

¹⁶⁶ Edward H. Wagner, Brian T. Austin, Michael Von Korff, "Organizing Care for Patients with Chronic Illness," *The Milbank Quarterly* 74.4 (1996): 511-544.

London, works in has offered a mini-clinic for diabetes since 1981.¹⁶⁷ It initially took place once a month, but now happens twice a week. The mini-clinic offers full access to diagnostic equipment, and a specialist nurse, as well as three doctors who have additional training in diabetes, assist patients at the mini-clinic. According to Dr. Faux, the mini-clinic “is an effective way [of] managing the majority of chronic illnesses, keeps people managed in their locality and frees up our specialist colleagues to deal with the more complex problems.”¹⁶⁸ Moreover, many practices in Britain now offer care teams for patients with diabetes, and in a study of the effectiveness of the care teams, the “occurrence of regular care team meetings ... was a predictor of better outcomes.”¹⁶⁹ In addition, to increase access to care within the UK, physicians now can receive “extra pay for working out of their normal hours - of up to £2,250.”¹⁷⁰ The mini-clinics combined with increased access to after hours care greatly advances care coordination within the United Kingdom.

The design of the UK health system lends itself to care coordination. Whereas in the United States, only 50.4 percent of an estimated 963.6 million physician visits in 2005 took place with a patient’s primary care physician, almost every person in the United Kingdom registers with a general practitioner who maintains responsibility for that patient. Until 2004, every person in the United Kingdom registered with a GP, who held responsibility for that patient 365 days a year.¹⁷¹ However, in 2004, the NHS gave GPs the option to opt out of round-the-clock responsibility and contracted some after hours care to private entities.¹⁷² Nevertheless, primary care still remains the centerpiece of the UK’s health care delivery system. According to Dr.

¹⁶⁷ Dominic Faux, MMedSC, FRCGP, personal communication (April 17, 2010).

¹⁶⁸ *Ibid.*

¹⁶⁹ Edward H. Wagner, Brian T. Austin, and Michael Von Korff, “Organizing Care for Patients with Chronic Illness.”

¹⁷⁰ “How hospital doctors are paid,” *BBC News*, (18 Dec 2000); <<http://news.bbc.co.uk/2/hi/health/1072667.stm>>.

¹⁷¹ Donald K. Cherry, David A. Woodwell and Elizabeth A. Rechtsteiner, “National Ambulatory Medical Care Survey 2005 Summary,” 2.

¹⁷² Dominic Faux, MMedSC, FRCGP, personal communication (April 17, 2010).

Faux, “in the UK the Primary Care Doctor is much more pivotal [than in the United States], and generally acts as the gatekeeper to secondary and tertiary services.”¹⁷³ Despite a pejorative connotation of the phrase “gatekeeper” in the United States, in the UK Dr. Faux says this means “the role of the GP is to hold the complete medical record, and any intervention from any NHS source--therapists, consultants, hospital care etc—will send details for the GP to file in this central record.”¹⁷⁴ In the case of Dr. Faux’s practice, “all letters are scanned and saved digitally [and] have been so since 2003.”¹⁷⁵ Only a few practices in the UK utilize the manual method described by Dr. Faux.¹⁷⁶ A 2006 Commonwealth study found that 89 percent of practices in the UK have a fully electronic medical record system, which allows them to take notes electronically.¹⁷⁷ The same study found that 91 percent of practices receive computerized, not manual, prompts about drug interactions and 83 percent receive notifications regarding required follow-up care.¹⁷⁸ Essentially, the structure of the UK health system provides a much easier means for coordinating care and promoting information continuity.

Consumer-Driven Health Care Model

The consumer-driven health care model requires publicly available physician and hospital performance information; choice of provider; and—in one subset of the model—specialized treatment centers, called “focused factories.” Proponents of a consumer-driven health care system generally oppose manipulation of the health care market argue in favor of a free-market approach, or at least less regulation. They believe less manipulation of the health care industry, coupled with less third-party payment for medical services, will allow market competition to

¹⁷³ Dominic Faux, MMedSC, FRCGP, personal communication (April 17, 2010).

¹⁷⁴ *Ibid.*

¹⁷⁵ *Ibid.*

¹⁷⁶ Cathy Schoen, et al., “On The Front Lines Of Care: Primary Care Doctors’ Office Systems, Experiences, And Views In Seven Countries,” *Health Affairs* 25.6 (2006).

¹⁷⁷ *Ibid.*

¹⁷⁸ *Ibid.*

drive the necessary changes within the system.¹⁷⁹ John Goodman, president and CEO of the National Center for Policy Analysis, explains that the current system of imposing regulations on the medical care industry means “there are no financial rewards for institutions to become excellent” and instead, “in return for expending greater effort to improve performance, they receive the same (or even less) income.”¹⁸⁰ As the name consumer-driven suggests, consumer choice stands at the center of the consumer-driven health care model.

Quality and price information availability represent a key component of the consumer-driven health care model. According to the model’s supporters, knowing which hospitals or physicians produce more “effective and efficient care would help consumers make appropriate purchases and create incentive for improvement,” essentially driving change.¹⁸¹ However, the success of the model necessitates the gathering of quality information for all physicians, including individual physicians, not just large practices.¹⁸² Herzlinger believes the compilation of comprehensive cost and performance data would best be achieved by requiring providers to report price and outcome information and by making all of the data publicly available.¹⁸³ As previously mentioned, the lack of a single, comprehensive data collection method poses a problem to making information on quality and cost widely available to the public. Despite efforts to generate comprehensive information, the “actual results thus far have been limited to a relatively small set of nationally recognized quality process measures,” making it incredibly difficult for the average health care consumer to analyze information regarding the performance

¹⁷⁹ Haislmaier, Edmund F. “Health Care Reform: Design Principles for a Patient-Centered, Consumer-Based Market.” Heritage Foundation Executive Summary Backgrounder No. 2128. <http://www.heritage.org/Research/HealthCare/upload/bg_2128.pdf>.

¹⁸⁰ Goodman, John C. “The Demand-Side Approach to Changing what Doctors Do.” John Goodman’s Policy Blog. 16 November 2009. <<http://www.john-goodman-blog.com/the-demand-side-approach-to-changing-what-doctors-do/>>.

¹⁸¹ Thomas P. Miller, Troyen A. Brennan, and Arnold Milstein, “How Can We Make More Progress.”

¹⁸² Ibid.

¹⁸³ Regina Herzlinger, Who Killed Health Care.

of health care providers.¹⁸⁴ Furthermore, some argue, “consumers generally lack much curiosity or motivation to decipher more complex performance information, except when first selecting a health plan or personal physician.”¹⁸⁵ Also, despite the fact that many Americans receive health insurance from their employer, only a fifth of large employer plans provide data regarding the cost and quality of physicians within the health plans they offer.¹⁸⁶ Before consumers can use performance data to make decisions about their care, the United States needs a comprehensive data collection method that consumers can easily utilize, which will hopefully help combat lack of motivation to consult performance data on the consumer’s end.

The consumer driven model must also overcome hospital and provider opposition to price transparency. Hospitals claim that posting their prices would cause price collusion.¹⁸⁷ In other words, hospitals fear that publicly posting prices would lead to price fixing in order to lock out competition and control the supply of care. However, it seems worth pointing out that prices for every other sector of the economy remain readily available to consumers without this type of price fixing. Provider opposition stems primarily from concerns over the current quality measurement methods and has resulted in many physicians dropping out.¹⁸⁸ The discrepancies between collection methods, and the ease with which physicians feel the manipulation of performance data can occur, pose roadblocks to physician acceptance of making performance and cost information commonly available and widely used. Involving physicians in the development of a new, comprehensive performance data collection method might help ease physician opposition.

¹⁸⁴ Thomas P. Miller, Troyen A. Brennan, and Arnold Milstein, “How Can We Make More Progress,” 1432

¹⁸⁵ *Ibid.*, 1431

¹⁸⁶ Thomas P. Miller, Troyen A. Brennan, and Arnold Milstein, “How Can We Make More Progress.”

¹⁸⁷ Regina Herzlinger, Who Killed Health Care

¹⁸⁸ Thomas P. Miller, Troyen A. Brennan, and Arnold Milstein, “How Can We Make More Progress.”

Consumer-Driven Model: Focused Factories

Regina Herzlinger, an economist and expert in consumer-driven health care, believes that the health care system should be organized around long-term contracts with integrated teams that meet all of a patient's needs—"focused factories"—using an annual risk-adjusted capitation payment method. The yearlong, or multi-year, capitation-based contract would provide physicians with a financial incentive to keep patients healthy, but would also hold the patient accountable for their own self-management by levying fines on patients who choose not to follow their care plan. Presently, "there is little or no individual accountability within the U.S. healthcare system for lifestyle choices that compromise health," and the terms of the contract envisioned by Herzlinger would help address that problem.¹⁸⁹ Additionally, the terms of the contract would permit a patient to leave if they received sub-par care. To improve patient mobility, patients would also own their own medical records, giving them increased control over their own care.

Specifically, the consumer driven model proposes the development of an "integrated network of disease management teams," known as the "focused factory."¹⁹⁰ Supporters of focused factories argue that America does "not need more hard-to-reach, giant, every-thing-for-everybody" hospitals, but rather requires "integrated centers for victims of chronic diseases and disabilities."¹⁹¹ A key factor behind this argument rests on the premise that specialized care equals better care.¹⁹² In the commercial market, "brand-name products, such as Dove Soap, Calvin Klein jeans, and Coca-Cola, are not manufactured by the companies that design and

¹⁸⁹ Louis Hoch, "Cross-Border Healthcare."

¹⁹⁰ Stuart Lovett, "Chronic Problems, Innovative Solutions," *Consumer-Driven Health Care*, ed. Regina Herzlinger (San Francisco, CA, 2004): 635

¹⁹¹ Regina Herzlinger, *Who Killed Health Care*

¹⁹² Edward H. Wagner, Brian T. Austin, and Michael Von Korff, "Organizing Care for Patients with Chronic Illness."

market them” because companies like Dove Soap specialize in marketing, not manufacturing.¹⁹³ The quality of their products would suffer if they manufactured and marketed their own products, since the companies do not specialize in manufacturing. Focused factory supporters argue that medical practices should not provide every service under the sun for the same reasons Calvin Klein does not design, manufacture and market its own products, but rather out sources parts of the process to companies that specialize in that area – the quality will suffer.

Supporters of focused factories apply the same logic to the health care arena, arguing that a provider who does not have expertise in a particular area cannot offer the level of quality as one who does. Consequently, supporters like Herzlinger believe consumers will opt to switch to a focused factory for their chronic illness once the quality becomes apparent. In Georgia, the Comprehensive Sickle Cell Center, a part of the Grady Health System, serves individuals with sickle cell anemia. In the eight years after opening, hospital admissions dropped by 80 percent, resulting in over \$1.2 million in savings for every one hundred patients.¹⁹⁴ The Hypertension Detection and Follow-up Program (HDFP) and Diabetes Control and Complications Trial (DCCT) also offer examples of specialty care success. In HDFP and DCCT, patients receive care from disease-specific, specialized clinics that also conduct a follow-up evaluation and provide lessons in self-management. Patients who received their care from the specialized clinics had higher treatment compliance rates, better control of their blood pressure and blood sugar, and less disease-related complications compared to patients receiving care in their usual practice setting.¹⁹⁵ However, critics cite studies that have found no differences in outcomes between specialty and primary care and suggest the “discipline of primary providers may be less

¹⁹³ “Health Care Productivity,” Consumer-Driven Health Care, ed. Regina Herzlinger (San Francisco, CA, 2004): 107

¹⁹⁴ “Why We Need Consumer-Driven Health Care,” Consumer-Driven Health Care, ed. Regina Herzlinger (San Francisco, CA, 2004): 107.

¹⁹⁵ Edward H. Wagner, Brian T. Austin, and Michael Von Korff, “Organizing Care for Patients with Chronic Illness.”

important than the organization of the practice.”¹⁹⁶ In other words, structuring a practice to deliver effective care coordination trumps the discipline of the provider.

Size represents a second component to the focused factory. Intended to be small in size, focused factory supporters argue “they present a much more feasible solution to the problem of fragmentation.”¹⁹⁷ On the other hand, critics contend that relying on specialist care “tends to fragment care and contribute to increased medical costs,” and “health care systems should expand efforts to distribute health care expertise among all providers.”¹⁹⁸ How care would be coordinated for patients with multiple chronic illnesses, such as diabetes and cancer, remains a question to address. Indeed, critics of the focused factory model also express concern over a lack of coordination for patients with multiple illnesses and argue that lack of coordination represents a common problem with specialty treatment centers.¹⁹⁹

Finally, to be successful, focused factories must accompany payment reform, such as the implementation of an annual capitation-based contract. Otherwise, decreased revenue elsewhere in the health care system would negate any savings from better quality care. For example, Duke University launched an integrated program to address congestive heart failure, as it accounted for a significant portion of its treatment costs.²⁰⁰ Its specialized approach successfully increased the quality of patient care and led to a subsequent decrease in hospitalization. However, as a result of the decrease in patient admissions, Duke’s hospital lost revenue, effectively eliminating any savings caused by the integrated program.

¹⁹⁶ Ibid., 521

¹⁹⁷ “The Frayed Safety Net,” Consumer-Driven Health Care, ed. Regina Herzlinger (San Francisco, CA, 2004): 46.

¹⁹⁸ Jessie C. Gruman and Cynthia M. Gibson, “A Disease Management Approach to Chronic Illness,” 566

¹⁹⁹ Alain C. Enthoven and Laura A. Tollen, “Competition in Health Care: It Takes Systems to Pursue Quality and Efficiency,” *Health Affairs* 24 (September 2005): 420-433.

²⁰⁰ “Why We Need Consumer-Driven Health Care,” Consumer-Driven Health Care, ed. Regina Herzlinger (San Francisco, CA, 2004): 109.

Switzerland often receives attention from supporters of the consumer-driven health care model as an example of the consumer-driven model at work. With 23 cantons and a population of over seven million, nearly 99 percent of Swiss citizens have insurance.²⁰¹ However, in Switzerland, the health care industry faces a fair amount of regulation. Insurers cannot profit on the compulsory insurance package, and the insurance benefits are identical for the entire country. Switzerland's health care system operates on a FFS basis. The Association of Swiss Health Insurance Companies negotiates the entire fee schedule at the national level with the service providers association.²⁰² The national fee schedule assigns point values to services and the Federal Council must approve it. After the Federal Council approves the fee schedule, the cantonal insurance and provider associations negotiate the specific prices assigned to each point value.²⁰³ The cantonal government must then approve the negotiated prices. If the canton does not approve, or if the Associations cannot agree, the cantonal government can set the fees.²⁰⁴ The Federal Department of Home Affairs decides what prescriptions, lab tests, and medical devices the compulsory health insurance covers.²⁰⁵ Since health insurance companies must all offer identical packages, the companies compete on the price of premiums.²⁰⁶ To compete on the price of premiums, many insurance companies offer different deductibles. The Federal Office for Social Insurance audits premiums yearly and, if too high, the Office can force the health insurance company to reduce them.

However, the Swiss can change insurance companies once a year, much like Herzlinger envisions patients being bound to an annual contract for care. The Swiss can choose any provider

²⁰¹ R. E. Leu, F. F. H. Rutten, W. Brouwer et al., "The Swiss and Dutch Health Insurance Systems: Universal Coverage and Regulated Competitive Insurance Markets," *The Commonwealth Fund* (January 2009).

²⁰² European Observatory on Health Care Systems, "Health Care Systems in Transition: Switzerland," *WHO Regional Office for Europe* (2000).

²⁰³ *Ibid.*

²⁰⁴ *Ibid.*

²⁰⁵ *Ibid.*

²⁰⁶ *Ibid.*, 23

within their canton and are free to see any specialist at any time.^{207,208} Also, the Swiss health care system has generated a “whole information industry devoted to comparing insurance options,” which supporters of the consumer-driven health care model predict would happen in the United States for physician performance.²⁰⁹

Like the United States, Switzerland has more specialists than primary care doctors and suffers from an over utilization of care. Within Switzerland, 23,679 doctors actively practiced in 1998, 357 in a private office-based setting and the rest belonging to group practices. Of those practicing in a private office-based setting, general practitioners (GP) represent 35 percent and specialists represent 46 percent.²¹⁰ A small number of doctors, approximately 140, work in an HMO, serving 98,400 people.²¹¹ Yet, despite the existence of several consumer-driven health care model components within the Swiss system, the “Swiss use a lot of medical care—too much, in fact” and the “number of doctors [is] considered to be too high.”^{212,213} The consumer-driven aspect of Switzerland’s health care system at least partly drives the high utilization of health care. The ease with which patients can move from provider to provider, and the easy access to insurance cost and quality measurement information, creates a problem because if a patient wants an unnecessary test, the doctor faces two choices: Either 1) order it, even though the insurance company will not like it and the doctor knows it is unnecessary, or 2) Refuse to perform the test and lose the patient to another doctor.^{214,215} As a result, Switzerland’s health care system remains the third most expensive in terms of total expenditure per capita.²¹⁶

²⁰⁷ Ibid.

²⁰⁸ European Observatory on Health Care Systems, “Health Care Systems in Transition.”

²⁰⁹ Claire Daley and James Gubb, “The Swiss Health System,” *CIVITAS* (2007): <www.civitas.org.uk/nhs/switzerland.pdf>.

²¹⁰ Claire Daley and James Gubb, “The Swiss Health System.”

²¹¹ European Observatory on Health Care Systems, “Health Care Systems in Transition.”

²¹² Doyle McManus, “Switzerland Example of Universal Healthcare,” *Los Angeles Times* (October 18, 2009).

²¹³ European Observatory on Health Care Systems, “Health Care Systems in Transition,” 5

²¹⁴ Doyle McManus, “Switzerland Example of Universal Healthcare.”

²¹⁵ European Observatory on Health Care Systems, “Health Care Systems in Transition,” 44

²¹⁶ OECD, “Health at a Glance 2009.”

Medical Home Model

Founded on the four basic principles of “primary care, patient-centered care, new-model practice and payment reform,” the medical home model seeks to enhance primary care, maximize care coordination, and contain costs.²¹⁷ Medical homes must meet various qualifications, and the National Committee for Quality Assurance created a set of detailed standards for medical home recognition, titled the Physician Practice Connections – Patient-Centered Medical Home (PPC-PCMH), which many current medical home projects utilize. To qualify as a PCMH, medical homes must follow nine guideline categories and meet at least ten required elements. For example, practices must demonstrate a certain level of access and communication; care management; performance improvement; and record keeping.²¹⁸ The NCQA’s PCMH guidelines currently face some degree of controversy; not all physicians welcome the guidelines’ change physicians’ income and practice structure. Others express concern about NCQA’s PCMH reimbursement structure and fear that it does not properly reimburse physicians for the extra costs they will face under the new model.²¹⁹ However, while still slightly controversial and subject to future alteration, the NCQA’s PCMH guidelines have received increasing acceptance as a set of guidelines for medical homes nationwide.

Despite the increasing support for the implementation of medical homes, concern remains regarding the implications of the medical home model for access to care. Some worry that the medical home model will restrict access to care, particularly specialty care. The concern stems from past attempts to reform the health care delivery system. When the HMO first emerged, family physicians felt optimistic about the direction of health care reform, because of their

²¹⁷ Rittenhouse, Diane R. and Stephen M. Shortell. “The Patient-Centered Medical Home: Will It Stand the Test of Health Reform?” *Journal of the American Medical Association* 301.19 (2009): 2038

²¹⁸ NCQA, “Standards and Guidelines for Physician Practice Connections—Patient-Centered Medical Home,” (2008).

²¹⁹ Caroline Poplin, “No Direction Home: A Primary Care Physician Questions The Medical Home Model,” *Health Affairs Blog*, (March 24, 2009) <<http://healthaffairs.org/blog/2009/03/24/no-direction-home-a-primary-care-physician-questions-the-medical-home-model/>>.

“anticipated, well-defined central role as care managers within emerging health care models.”²²⁰ However, the enthusiasm did not last and “quickly changed to frustration and disillusionment as family physicians and other primary care physicians found themselves depicted as administrative gatekeepers, rather than gateways, to care.”²²¹ The backlash stemmed from many employers migrating to health maintenance organizations (HMOs) in the 1990s, which had primary care providers “assume the central care coordinating role, viewed positively as ‘primary care case manager’ or pejoratively as ‘gatekeeper,’ limiting patients’ access to desired care to save money.”²²² Many physicians found their new responsibility to control access to care “ethically problematic” and “patients eventually rebelled against what they saw as a ruthless corporate bureaucracy that tried to block access to care.”²²³ The medical home model must find a way to distinguish itself, politically, in the minds of Americans from the HMOs of the 1990s.

As such, managed care continues to carry a stigma of being “too focused on the bottom line” and this association prompts skepticism of the medical home model.²²⁴ Critics believe specialty care providers will suffer under the medical home system. For example, the American Urological Association (AUA) argues that limiting the medical home model to primary care clinics unfairly excludes specialty care providers. During a recent Senate hearing, Dr. Steven Schlossberg, policy chair of the AUA, told lawmakers, “unfortunately, the current medical home models do not include all qualified physicians able to provide medical homes and may, in fact, result in limiting access to some specialists.”²²⁵ In some respects, this criticism is valid. Shifting

²²⁰ Timothy P Daaleman, “The Medical Home: Locus of Physician Formation,” *Family medicine and the Health Care System* 21.5 (2008): 451

²²¹ *Ibid.*, 451

²²² Robert A. Berenson, et al., “A House is Not A Home: Keeping Patients At The Center of Practice Redesign,” *Health Affairs* 27.5 (2008): 1223

²²³ Timothy P Daaleman, “The Medical Home,” 454

²²⁴ Lisa Wangsness, “Medical home approach brings back managed care.”

²²⁵ Kathryn Foxhall, “Medical home gaining traction but at what cost?” *Modern Medicine* (1 August 2009)

<<http://www.modernmedicine.com/modernmedicine/Modern+Medicine+Now/Medical-home-gaining-traction-but-at-what-cost/ArticleStandard/Article/detail/614749>>.

to a primary care based delivery system represents a key element of the medical home model because the model seeks to utilize the primary care physician as the ultimate care coordinator. Also, the medical home model design relies on coordinating care around a primary care physician who attempts to keep patients healthy so they do not require specialty care. Therefore, the current medical home model allows only primary care providers to qualify as a medical home. Thus, a decrease in the utilization of specialty service exists as a goal of the medical home model.

Additionally, the American College of Emergency Physicians believes the PCMH reforms “could have adverse effects on sectors of the health care system that are already experiencing serious challenge.”²²⁶ While it agrees with the basic principles of the medical home model, it argues that increased payments to primary care providers—which most medical home model reform plans include—will come at the expense of specialized care. Thus, like the AUA, ACEP will only support medical homes if related payment reforms “ensure all medical providers are fairly compensated for the care they provide to patients” and if patients have “freedom to ... select specialists of their choosing.”²²⁷ In other words, ACEP does not support the medical home concept as currently designed.

Making the primary care field more attractive and improving the quality of care so as to decrease the need for expensive specialty care exists as crucial aspects of the medical home model. For this reason, all medical home models contain payment reform, operating under the theory that “current reimbursement is biased in favor of procedures,” which “pays for the volume and intensity of services, giving short shrift to primary care, prevention, or wellness.”^{228,229} As a

²²⁶ American College of Emergency Physicians (ACEP), “The Patient-Centered Medical Home Model,” (August 2008) <http://m.acep.org/MobileArticle.aspx?id=42740&coll_id=36&parentid=748>.

²²⁷ ACEP, “The Patient-Centered Medical Home Model.”

²²⁸ K. Abrams, Karen Davis, Christine Haran, “Can Patient-Centered Medical Homes Transform Health Care Delivery.”

²²⁹ Ibid.

result, it discourages primary care physicians from working closely with their patients, thus resulting in unnecessary complications and the over utilization of specialty care and emergency care. In other words, critics such as the American College of Emergency Physicians and the AUA are not unjustified in their concerns. The case of Gretchen Parker, 72, provides an anecdotal example of how the medical home model might decrease demand for specialty care. Parker's doctor warned her "she was pre-diabetic, a condition that afflicts 57 million Americans."²³⁰ Whereas Parker's doctor might have previously referred her to an endocrinologist, she instead worked with her care team within the medical home to "change her lifestyle and lose 55 pounds."²³¹ As a result, Parker's blood sugar readings returned to normal.²³² As the American College of Emergency Physicians explains, "many patients present with emergency conditions that might have been prevented or mitigated were it not for the patient's failure or inability to receive primary care."²³³ If the medical home model achieves its goal, it will reduce the amount of specialty and emergency care required for the care of a patient.

Much concern also surrounds the payment reform embedded in the medical home model because HMOs may cut costs by reducing doctor reimbursements without taking the health of the patient into consideration. Critics argue replacing fee-for-service with a flat payment structure provides doctors with an incentive to supply less care. However, current medical home initiatives utilize a similar type of payment system under a different theory. For example, the Group Health Cooperative medical home pilot projects paid doctors a set salary. In Vermont, insurers must provide "enhanced reimbursements on top of negotiated rates."²³⁴ Additionally, the NCQA guidelines for reimbursement suggest a risk adjusted, per member, per month fee. The

²³⁰ Catherine Arnst. "The Family Doctor: A Remedy for Health-Care Costs?" *Business Week* (6 July 2009) <http://www.businessweek.com/magazine/content/09_27/b4138034173005.htm>

²³¹ Catherine Arnst. "The Family Doctor."

²³² Ibid.

²³³ ACEP, "The Patient-Centered Medical Home Model."

²³⁴ Greg Moody and Sharon Silow-Carrol, "Aiming Higher for Health System Performance," 8

NCQA allows a mix of the per member fee with fee-for-service, but other models have implemented a full capitation system, where providers are paid a set per member, per month fee. However, providers receive risk-adjusted payments. Supporters of the flat payment structure argue it motivates physicians to keep their patients healthy and to improve the quality, not quantity, of care.

Others disagree entirely with the idea that medical homes represent a potential solution for controlling costs and improving the quality of care. They cite mixed results from various medical home efforts across the country and argue that “near-term net savings are either undetectable or a tiny fraction of the IOM and CBO estimates of potentially recoverable ‘waste.’”²³⁵ However, most of the savings from the medical home initiatives are not short-term, but rather longer-term savings. Yet the Group Health Cooperative did see savings over a period of twelve months. The question remains whether the medical home model will continue to realize savings in the long-term.

Additionally, policy-makers should consider the effects of increasing the quality of primary care on the demand for specialty care. If the medical home model theory—which asserts that an increase in the quality of less costly primary care will decrease the need for expensive specialty care—proves correct, it should decrease the demand for specialists. In other words, if someone with a chronic condition, such as asthma, properly manages the condition, no longer will he or she require an allergist or immunologist. Essentially, while access to specialty care would not face restrictions, the desire for such care might see a reduction. On a national scale, such a decrease in demand could have far-reaching effects on the specialty health care industry.

Many supporters of the medical home model stray away from the term “gatekeeper” in an attempt to avoid the stigma associated with managed care and HMOs and acknowledge that

²³⁵ Arnold Milstein and Elizabeth Gilberston, “American Medical Home Runs.” *Health Affairs* 28.5 (2009): 1317-1326.

“another important challenge to the success of the PCMH model is public perception.”²³⁶ Those who wish to see the medical home model succeed say “primary care physicians would be better framed more as personal physicians or navigators” because “any health reform effort in the United States that aims to decrease costs risks being perceived as restricting access to quality” care.²³⁷ Yet, supporters argue that “today’s medical homes strive to put a different face on managed care” and that “the new concept is designed to help patients, not insurers.”^{238,239} Thus, doctors act “as guides, helping patients find the best and cheapest doctor in a vast, fragmented healthcare system.”²⁴⁰ Medical home advocates claim patients can opt to see other doctors or specialists if they choose. For example, the Geisinger Health System in Pennsylvania contains several medical home pilot projects, and Ronald Paulus—executive vice president of Geisinger—says Geisinger “directs patients toward the least expensive specialists who still rank highest in its quality measures, but patients can ultimately choose other doctors.”²⁴¹

Advocates of the medical home model maintain “it is unlike managed care, in which primary doctors act as gatekeepers and the overriding goal is not managing care but managing costs.”²⁴² In contrast to HMOs, the medical home model seeks to make the patient the focus and increase access to care, not restrict it, through measures such as electronic health records, care teams, new means of communication, and increased hours of availability. Several of these factors—such as care teams and electronic health records—exist to improve communication and cooperation between any and all medical providers who care for the patient, including specialists. In a medical home, “the family doctor helps patients get specialty care when they

²³⁶ Rittenhouse, Diane R. and Stephen M. Shortell. “The Patient-Centered Medical Home,” 2040

²³⁷ Ibid.

²³⁸ Lisa Wangsness, “Medical home approach brings back managed care.”

²³⁹ Catherine Arnst. “The Family Doctor.”

²⁴⁰ Lisa Wangsness, “Medical home approach brings back managed care.”

²⁴¹ Ibid.

²⁴² Jane E. Body, “A Personal, Coordinated Approach to Care,” *The New York Times* (23 June 2009) <<http://www.nytimes.com/2009/06/23/health/23brod.html>>.

need it and ... informs the specialists of the patients' progress.”²⁴³ Thus, the medical home model design exists to create coordination of care between the primary physician and the specialist, not to restrict which specialists a patient can see.

Despite concerns about potential restrictions to access of care, all major national health plans, many Fortune 500 companies, and the American Medical Association have endorsed medical homes.²⁴⁴ Overall, there are twenty-two medical home pilot projects in fourteen different states and, in 2009, the Center for Medicare and Medicaid Services directed medical home pilot projects in over 400 practices. The medical home model garnered enough support in Vermont to pass the Blueprint for Health, and over twenty bills have been introduced in ten states in an attempt to expand the medical home.²⁴⁵ The federal health bill recently signed into law establishes a grant program for creating community-based health teams, which will link to an existing practice to aid care coordination, with priority given to practices with a high prevalence of chronic illness.²⁴⁶ According to the law, the teams must be interdisciplinary, including a mix of professionals appropriate to the patient population, such as nurses, nutritionists, dieticians, or behavioral providers. The teams will work closely with their assigned primary care provider to implement or strengthen a patient-centered medical home, expanding care coordination, care access and, hopefully, improving care quality. The law provides for payment on a capitated basis. Thus, hesitation or opposition to the medical home has not yet blocked its implementation in pockets across the United States and efforts remain underway to continue testing its outcome.

The medical home model could overcome the stigma associated with managed care involves demonstrating significant improvement in care quality, coordination and cost without

²⁴³ Jane E. Body, “A Personal, Coordinated Approach to Care.”

²⁴⁴ Rittenhouse, Diane R. and Stephen M. Shortell. “The Patient-Centered Medical Home.”

²⁴⁵ Ibid.

²⁴⁶ Patient Protection and Affordable Care Act of 2010, Public Law 111-148, 111th Cong., 2nd sess., (23 March 2010), 1048-1055.

restricting access to care. Preliminary evidence shows promising results, but the relatively recent implementation of the medical home limits the analysis to short-term results, generally only a year. In Vermont, “treating chronic conditions accounts for 78 percent of health care spending and 88 percent of all prescriptions,” and experts say these figures are the same across the country.²⁴⁷ When someone with a chronic condition does not receive the necessary care, his or her condition worsens and becomes more expensive to treat. The medical home model provides patients with extensive coaching and support for managing their chronic illness. Studies of the Vermont model show an increase in the “rate of appropriate care” and a decrease in trips to the emergency room over a twelve-month period.²⁴⁸ Likewise, a study of Group Health Cooperative, a Washington-based health cooperative, found that emergency room visits decreased by twenty-nine percent and hospitalizations decreased by eleven percent.²⁴⁹ Furthermore, Blue Cross and Blue Shield of Illinois’ pilot medical home programs lowered its costs overall, despite increased payments to physicians. It claims the cost savings come from the higher quality of care provided, which patients would otherwise have to seek at a hospital or from a specialist.²⁵⁰ So far, patients have not revolted against the medical home system, and studies have shown “the vast majority of adults with a medical home reported that they always get the care they need, when they need it.”²⁵¹

However, these short term results examine the first twelve to eighteen months, and prematurely pushing the medical home model on a national level without further pilot project implementation and evaluation could constitute a mistake. The NCQA PCMH guidelines

²⁴⁷ Wilson Ring, “Vt. Health reform: manage chronically ill patients,” *Associated Press* (11 October 2009) <<http://www.newsday.com/business/vt-health-reform-manage-chronically-ill-patients-1.1516953>>.

²⁴⁸ Bob Kinzel, “Report says Vermont’s Blueprint for Health has been Successful,” *Vermont Public Radio* (28 September 2009) <http://www.vpr.net/news_detail/85949/>.

²⁴⁹ Kyle Hardy, “Study: Medical home model increases quality of care, reduces cost,” *Healthcare* (1 Sept. 2009).

²⁵⁰ Bruce Japsen, “Blue Cross of Illinois Pushing Medical Homes.”

²⁵¹ Anne C. Beal, et al., “Closing the Divide: How Medical Homes Promote Equity in Health Care,” *The Commonwealth Fund* (June 2007): 27

continue to undergo revisions, indicating the medical home model still has room for improvement. Moreover, medical home initiatives have not produced consistent results. In a twelve-month period, the Group Health Cooperative reported a twenty-nine percent reduction in the number of emergency room visits and an eleven percent reduction in the number of hospitalizations.²⁵² On the other hand, “a recent study found that 13 of 15 Medicare medical home demonstration projects showed no significant savings or reductions in hospitalizations.”²⁵³

Moreover, even after overcoming the stigma associated with managed care, issues regarding widespread implementation present a problem for promoting the medical home model as a national solution to the broken health care delivery system. Most of the test initiatives involved large practices with the financial resources and manpower to provide an increased level of attention to each patient. The Group Health Cooperative medical home, for example, necessitated an increase in staff. Consequently, the cooperative invested an additional 16 dollars per patient per year and hired 72 percent more clinical pharmacists, 44 percent more physicians assistants, and 15 percent more primary doctors.²⁵⁴ Furthermore, the Group Health Cooperative primary care clinics have on-site pharmacies, labs and radiology suites, making care coordination quite within reach.²⁵⁵ For small practices, the increased costs might be prohibitive, particularly without the luxury of on-site pharmacies and labs.

However, these obstacles do not necessarily mean that the medical home model cannot succeed. Rather, determining the best way to implement the medical home in situations not as conducive to the transformation, particularly in rural areas, requires additional work. For example, the virtual medical home exists as a possible solution for small, rural practices. A

²⁵² Kyle Hardy, “Study.”

²⁵³ Lisa Wangsness, “Medical home approach brings back managed care.”

²⁵⁴ Kyle Hardy, “Study.”

²⁵⁵ Robert Reid, et al, “Patient-Centered Medical Home Demonstration: A Prospective, Qasi-Experimental, Before and After Evaluation,” *American Journal of Managed Care* 15.9 (2009) <http://www.ajmc.com/articles/managed-care/AJMC_09sep_ReidWEbX_e71toe87>.

virtual medical home uses the latest health information technology to link multiple medical facilities together—such as primary care providers, specialists, and hospitals. Moreover, the system includes patient medical records, allowing health care providers to consult with each other, even if separated by distances, to provide the best possible care team for a patients' individual health needs. It also makes an individual's medical information readily available in the event that he or she must take a trip to the emergency room.

North Carolina created a virtual medical home for Medicaid patients “by linking small practices with larger clinics and hospitals by region.”²⁵⁶ It reports significant savings over ten years.²⁵⁷ In North Carolina's system, a primary-care physician takes care of “coordinating the care they receive from various specialists via electronic records and email” and patients use “the clinic's online health portal to get the family medical information, make appointments and check the lab results.”²⁵⁸ Savings for fiscal year 2006 totaled approximately \$150-\$170 million.²⁵⁹ In implementing the medical home model for rural areas, North Carolina “did face some challenges to coordinating patients' care because of fewer resources,” but the model overcame these challenges by connecting “patients to available services in the surrounding region” through transportation services. Thus, in a rural area that previously faced restrictions on access to care, the medical home model helped eliminate this barrier.²⁶⁰

While some medical home initiatives have shown significant savings, the medical home must deal with significant obstacles to its implementation. The medical home model prompts concern that it will be yet another gatekeeper, restricting access to care like the unpopular HMO model. Such concern likely will produce public backlash, and any policy attempts to establish

²⁵⁶ Lisa Wangness, “Medical home approach brings back managed care.”

²⁵⁷ Ibid.

²⁵⁸ Jane E. Body, “A Personal, Coordinated Approach to Care.”

²⁵⁹ Kaiser Family Foundation, “Community Care of North Carolina: Putting Health Reform Ideas into Practice in Medicaid,” (May 2009): 1

²⁶⁰ Kaiser Family Foundation, “Community Care of North Carolina,” 3

medical home models on a wide scale must contend with public opinion. Additionally, the lack of studies regarding the long-term impact of the medical home model only increases speculation and makes it difficult to argue in favor of implementing it on a national scale. Implementation in areas already facing issues with access to care, such as rural communities, requires further study and innovation. Likewise, small practices face bigger hurdles than large practices and often do not have the financial resources, or the staff required, for the transformation. Before policy-makers consider the medical home model as a solution to America's health care woes, the medical home model must overcome these obstacles.

Recommendations

The initiatives established in the recently passed Patient Protection and Affordable Care Act should provide additional insight into the feasibility of widespread implementation of episode-of-care payment and care teams. The existing research demonstrates that a perfect solution does not exist, nor will a single action produce the desired outcome of reducing costs while improving the quality of care.

Based on the research found in this paper, the following combination of reforms could be attempted to test the outcome:

- 1) Offer health plans, per Herzlinger's suggestion, as an annual, risk-adjusted contract under a capitated payment method. An annual capitation-based contract, as previously demonstrated, would encourage providers to keep patients well, encourage care coordination, and make it easy for consumers to analyze their options. The contract would include a care team, a designated hospital or hospitals, and specialty care. Other requirements would include increased access to care, including after hours care options as well as phone and email support. The contract would allow patients to

move to a different provider if not properly cared for and would also financially penalize patients for not following care instructions, to foster accountability on the patient's end.

- 2) The care team included in the contract would vary according to the patient's health. In other words, the composition of the team, such as whether it includes a nutritionist or dietician, would be determined by the patient's needs. A patient with a less controlled chronic condition would require a more comprehensive team. As the patient regained control of his health, the savings could be split between the provider and patient. In rural areas, where a full team for each individual practice might not exist as a possibility, the contract could include community-based care teams or virtual care teams.
- 3) The structure set out below might naturally drive the creation of entities similar, though not necessarily identical, to the focused factories Herzlinger describes. Since care teams for different chronic conditions would necessitate a different mix of professions, practices might move to specialize in certain conditions and, as a result, patients likely would choose to contract with the practice specializing in their condition.
- 4) In addition to the annual contract, some pay for performance measures would help spur improvement in the short term. Pay for performance measures should be based on overall improvement, not benchmark numbers, to prevent providers who were already doing well from receiving the bulk of bonus payments and to help maintain the incentive for improvement. Incentives could be based on health and care factors critical to contributing or managing the most expensive chronic care conditions

prevalent in the applicable population of patients, such as diabetes, asthma, or heart disease.

- 5) The development of a comprehensive, nationwide performance and cost collection method must occur to make it easy for patients to choose a provider, and to make pay-for-performance measures possible. In creating such a data collection method, patients, physicians and health care experts should provide input on its development. Collected data should become publicly available, in order to foster the creation of an information industry as has happened in Switzerland, or other areas of the American economy, allowing Americans to easily compare health care options.
- 6) A requirement for practices to move towards EHR will help increase care coordination and information continuity, thereby decreasing medical errors. Initially, implementation of EHR should focus solely on electronic medical records and e-prescribing, two crucial EHR functions, but could eventually expand to other capabilities, such as those utilized by the Henry Ford Health System. The Henry Ford System relies on its state of the art health information technology (HIT) that exists across all group practice sites and can be viewed even by physicians outside of the system for shared patients. The EHR system sends alerts notifying doctors of follow-up requirements, testing reminders, and more.²⁶¹ Furthermore, the patient web portal allows patients to schedule doctor visits online, view their health records, and take part in an “e-visit” with their physician.²⁶²
- 7) As suggested by the consumer-driven health model, patients should have easy access to, and ultimately should own, their medical records. If a patient controls their own

²⁶¹ Douglas McCarthy, Kimberly Mueller, and Jennifer Wrenn Issues Research, Inc., “Henry Ford Health System: A Framework for System Integration, Coordination, Collaboration, and Innovation,” *Commonwealth Fund Publication* 29.1308

²⁶² *Ibid.*

medical records, a patient can easily move to a provider if they receive subpar care. However, EHR—or more specifically, electronic medical records—will make patient ownership easier, while simultaneously providing the primary care physician with the ability to edit and share the records with other personnel responsible for the patient's care, easy.

While neither Switzerland nor the United Kingdom have perfect health care delivery systems, both offer important insights into care coordination and payment methods. For one, Switzerland's experience suggests that introducing consumer-driven aspects into a health care system will not help reduce spending if not accompanied by payment method reform. Additionally, in Switzerland, the ease with which patients can move from provider to provider makes it difficult for physicians to effectively care for a patient, which an annual capitation-based contract would address. The United Kingdom illustrates how P4P can fail to improve care if improperly designed and also offers important lessons on chronic disease management and health information technology, both of which exist as essential mechanisms of an effective health care delivery system.

Together, these reforms should help eliminate unnecessary procedures, decrease medical errors and constrain episodes of care without sacrificing quality. Moreover, an annual capitation-based contract, combined with structured self-management initiatives, will provide patients with both the incentive as well as the means to manage their health and adhere to their treatment plan. As a result, the recommended reforms should decrease health care spending and improve the quality of care within the United States.