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Reforming Primary Care in the United States: Analysis of Deficiencies and Potential Solutions Based on Existing Models

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Reforming Primary Care in the United States: Analysis of
Deficiencies and Potential Solutions Based on Existing
Models

By

Noah Joseph

Submitted in partial fulfillment
Of the requirements for
Honors in the Department of Sociology

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ABSTRACT

JOSEPH, NOAH. Reforming Primary Care in the United States: Analysis of deficiencies
and potential solutions based on existing models

Department of Sociology. March 2013.

ADVISOR: Professor Melinda Goldner

Primary care medicine is an essential component of the U.S. health care system, yet there is no other part of the health care system that is in greater trouble right now. Primary care is undergoing profound change in the United States, as evidenced by an increasingly sick population along with the concurrent decrease in the supply of doctors to care for that population. The passage and the Supreme Court's upholding of the constitutionality of the Affordable Care Act (ACA) is but another confirmation of the need to improve upon primary care in the U.S. In this paper, the major deficiencies in the primary care infrastructure in the U.S. are outlined. In addition, analysis of health care systems of countries that have substantial primary care systems, namely the United Kingdom, Spain and Italy, was performed to identify solutions to mitigate U.S. deficiencies. Innovative U.S. models and initiatives spurred by the ACA were also assessed. The results of this analysis indicate that to make substantive change to the U.S. health care system requires community directed initiatives based on the medical home model and centered on the primary care physician.

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INTRODUCTION

The United States health care system is currently at a crossroads. On average, patients in the U.S. receive 55% of the care experts recommend for them (McGlynn et al. 2003). For an American population in which an estimated 50% have a chronic illness, two-thirds of adults are obese and the first wave of 80 million baby boomers is now reaching retirement age, this presents a serious challenge to a system that cannot provide care to its increasingly needy population (Hoff 2010: 5). This rising incidence of chronic medical conditions in American society is indicative of the need for better primary care. Unfortunately, the American health care system does not promote primary care as the first line of defense for prevention and overall health management. Rather, it is predicated upon waiting for illness to obtain care, evidenced by the fact that 1 in 5 emergency room patients receive care they could have received from a primary care physician (Abrams et al. 2011).

Primary care is an invaluable asset to health care systems. Higher numbers of primary care professionals are associated with lower overall death and mortality rates from heart disease and cancer as well as fewer emergency room visits and hospitalizations (Abrams et al. 2011; Shi and Singh 2010: 87). Good primary care improves quality of life, reduces dependency on high-cost medicine and minimizes physician's office visits (Hoff 2010: 210). The value of primary care to health care systems is also evident on an international scale, as countries with stronger primary care infrastructures have better health outcomes including lower rates of all causes mortality and premature mortality (Starfield 1991; Starfield 1994; Starfield, Shi and Macinko 2005). In addition, the World Health Organization (WHO) has consistently advocated for the promotion and enhancement of countries' primary care infrastructures. According to the WHO, comprehensive primary care, and the holistic

approach to health that it encompasses, provides a means through which goals of social justice, equity and social development can be met (Bryant and Richmond 2008). Despite the importance of primary care, in the U.S. there are dwindling numbers of physicians entering into primary care practice, as only 7% of medical students enter into primary care (Abrams et. al. 2011). That small percentage of primary care physicians (PCPs) is charged with providing for over 85% of the preventive care visits in the U.S. (Hoff 2010: 6).

The lack of PCPs, the fragmented and poorly coordinated care that patients receive as they navigate the health care system are major obstacles that must be overcome. Payment based on fee-for-service reinforces the fragmentation of the multi-tiered health care system by providing greater financial reward for specialty procedures, such as surgeries and the use of advanced technologies, while preventive care, physical examinations and care coordination are undervalued. However, the implementation and the Supreme Court's upholding of the constitutionality of the Patient Protection and Affordable Care Act (ACA) is intended to grant an additional 32 million U.S. citizens access to health care. Thus, in order to meet these obligations, organizational changes are needed. While the benefits to society from the promotion of health and the prevention of disease, disability and premature death through primary care are widely recognized, progress in these areas of health care reform has been slow largely due to American social and institutional values and beliefs that emphasize curing disease rather than promoting health (Shi and Singh 2010: 28).

This thesis attempts to examine ways in which the primary care infrastructure in the U.S. can be augmented based on existing models in the U.S. and abroad. Chapter 1 begins by defining primary care and its relation to public health. It goes on to pinpoint the major deficiencies in primary care in the U.S. The beliefs and values ingrained in the American culture that have been so influential in laying the foundations of the health care system today are also discussed in relation to those deficiencies. Chapter 1 concludes by addressing the

most recent reform in the ACA and how it can strengthen primary care. Chapter 2 outlines the methodology employed in this thesis, including the systematic approach to health care reform and the rationale for selecting the particular health care models analyzed. Chapter 3 examines the effectiveness of primary care through an international comparison of countries with substantial primary care infrastructures. From detailed analysis of the health care systems in Spain, Italy and the United Kingdom in this chapter, key components of these systems are highlighted in their ability to promote primary care and overall population health. Chapter 4 looks to existing practices in the U.S. that are showing promise in providing better coordinated and higher quality care centered on the PCP. Included in this discussion are the Medical Home and Accountable Care Organizations (ACOs) as well as area-specific models like Kaiser Permanente, the Geisinger Health System (Pennsylvania), Vermont's Blueprint for Health, Community Care Health of North Carolina, the Seattle-based Group Health Cooperative and Oklahoma's Primary Care Extension Centers. Finally, Chapter 5 concludes the thesis with a discussion of the major lessons learned from analysis of primary care models, including key recommendations that can redirect the U.S. health care system to focus on primary care. Chapter 5 concludes with a summary of the significance of this research, its limitations and the potential direction of future research in this area.

CHAPTER 1: Definitions, Deficiencies and Culture on U.S. Primary Health Care

Why talk about primary care? Because there is no other part of the health care system that is in greater trouble right now, and no other part that plays such an important role in people's lives. Primary care is undergoing profound change in the United States, as evidenced by an increasingly sick population along with the concurrent decrease in the supply of doctors to care for that population. The passage and the Supreme Court's upholding of the constitutionality of the Affordable Care Act (ACA) is but another confirmation of the need to improve upon primary care in the U.S. Professional associations and the government believe that money is at the root of the problem yet this is just the tip of the iceberg.

In this chapter, I systematically delineate the current state of primary care in the U.S. I start by defining primary care and explaining its relationship to public health. I then discuss the effectiveness of the primary care system in the U.S. in order to pinpoint the major deficiencies. In addition, I examine the main social and cultural factors that have shaped the way primary care is practiced in the U.S. Finally, I look at the ACA and its potential impacts on primary care to answer the question: Are we headed in the right direction?

PRIMARY CARE: Combining clinical medicine and public health

Primary care plays a central role in a health care delivery system. To define primary care, one typically focuses on the type or level of services provided, including prevention, diagnostic and therapeutic services, health education and minor procedures or surgeries.

While primary care does emphasize such services, many specialists also provide a similar range of services. Thus, for the purpose of this paper, primary care is more appropriately viewed as an approach to providing health care rather than as a set of specific services.

The Institute of Medicine (IOM) defines primary care as follows:

The provision of integrated, accessible health care services by clinicians who are accountable for addressing a large majority of personal health care needs, developing a sustained partnership with patients and practicing in the context of family and community (as quoted in Vanselow et al. 1995: 192).

This definition highlights several important aspects of primary care including integration of care and the partnership between physicians and patients. A more comprehensive definition was agreed upon 34 years ago in Alma Ata, Kazakhstan, as health ministers from around the world agreed to commit to a particular approach to health called primary health care. This approach emphasizes the primary level of care, as in clinics, health stations and health centers, as the fundamental basis of every health care system. The primary level was seen as being able to respond to the majority of the needs of individuals and populations in a cost effective, easily accessible and appropriate fashion (Bryant and Richmond 2008). Key elements include immunization, family planning and treatment of common diseases (Walley and Wright 2010: 140). The World Health Organization (1978) defined primary care in the Alma Ata Declaration as follows:

Primary health care is essential health care based on practical, scientifically sound and socially acceptable methods and technology made universally accessible to individuals and families in the community through their full participation and at a cost that the community and country can afford to maintain

at every stage of their development in the spirit of self-reliance and self-determination. It forms an integral part both of the country's health system, of which it is the central function and main focus, and of the overall social and economic development of the community. It is the first level of contact of individuals, the family and community with the national health system bringing health care as close as possible to where people live and work, and constitutes the first element of a continuing health care process (3).

This definition adds to that provided by the IOM the concepts of point of entry and essential care and reinforces the idea of care coordination. Taken together, these definitions embody the scope of primary care.

As identified by the WHO and IOM, primary care is the point of entry into the health care system and plays a significant role in care coordination (Starfield 1996). It is often the point of first contact with the health care system for many patients. Primary care physicians serve as gatekeepers, playing an important role in controlling cost, utilization and allocation of medical resources (Starfield 1996). While gatekeeping may seem like a mechanism for the denial of needed care, primary care overwhelmingly serves to protect patients from unnecessary procedures, excessive treatment and from the risks of medical complications and iatrogenic disease (Starfield 1996). In addition to this gatekeeping role, primary care is longitudinal in that providers follow through the course of treatment and coordinate the delivery of health services between the patient and the different components of the system (Shi and Singh 2010: 83). In this function, primary care physicians coordinate initial diagnosis, referrals, consultations, monitoring and follow-ups. Such coordination of an individual's total health needs is intended to ensure

comprehensiveness, continuity and can best be achieved through a close mutual relationship between patient and provider formed over time (Shi and Sing 2010: 169). In addition, primary care provides comprehensive care (Clifton 2009: 71). It is comprehensive in that it takes a holistic approach, viewing the patient as a whole rather than the particular disease or organ systems of the body involved (Shi and Singh 2010: 83). Thus, any health problem at any given life stage is addressed by primary care and through continuity and coordination, the proper combination of health services to best meet the patients' needs over time are addressed.

While primary care epitomizes the efficiency of clinical medicine in its holistic treatment of individual patients by providing them with basic preventative services, health education and chronic disease management, the WHO definition highlights a key public health aspect of primary care. The 1978 international conference on primary health care at Alma Ata emphasized community oriented primary care that incorporates the elements of good primary care delivery and adds a population-based approach to identifying and addressing community health problems (Bryant and Richmond 2008). Countries that have since then followed the primary health care strategy from Alma Ata, such as France, Canada and Germany, have experienced better health outcomes including higher life expectancy, lower infant mortality and better self-reported health status (Walley and Wright 2010: 323).

A strong functioning primary care system is a critical component of an effective and fluid healthcare system. The majority of people suffering from chronic diseases such as diabetes and hypertension receive their care in primary care settings (Hoff 2010: 31). Good primary care improves quality of life, reduces dependency on high-cost medicine

and minimizes physician's office visits (Hoff 2010: 210). People with access to a regular primary care physician (PCP) are more likely to receive recommended preventative services before the medical condition becomes serious and costly to treat (Blewett et al. 2008). Greater numbers of primary care professionals in a population are associated with lower overall death and mortality rates from heart disease and cancer as well as fewer emergency room visits and hospitalizations (Shi and Singh 2010: 87; Abrams et al. 2011).

The effectiveness of primary care towards achieving overall healthier populations is well documented. U.S. states with higher ratios of primary care physicians to population have lower smoking rates, less obesity and higher seatbelt use than states with lower primary care physician-to-population ratios (Shi and Starfield 2000). Geographic areas with more family practitioners and general practitioners per population had lower hospitalization rates for conditions that should be preventable with good primary care (Macinko et al. 2007). Such conditions include diabetes mellitus or pneumonia in children and congestive heart failure, hypertension, pneumonia, and diabetes in adults (Clifton 2009: 72). When infant mortality was examined among states, an increase of just one primary care physician per 10,000 people was associated with a 2.5% reduction in infant mortality and in low birth weight (Starfield 2000). Furthermore, adults who have primary care physicians as their regular source of care rather than specialists had lower subsequent mortality and lower annual health care costs after controlling for differences in demographic characteristics and health insurance status (Shi, Starfield and Kennedy 1999). Moreover, a study by Shi, Starfield and Kennedy (1999) indicated that access to primary care mitigates the effects of poverty on the health of patients of all ages. The

study confirmed the finding that the greater the disparities in income within a population, the greater the disparities in health indicators, particularly those concerning birth outcomes. Because birth outcomes are highly associated with subsequent health, disadvantage early in life has a significant impact on subsequent life chances. This study suggests that primary care may serve as a palliative strategy for reducing the adverse effect of social inequality because health indicators, including mortality associated with heart disease, cancer and infancy, improve in people of low socioeconomic status who receive primary care.

There is a clear intersection of public health and primary care. The main goals of primary care include preventing people from crossing the line from health to disease and then developing chronic conditions, managing chronic diseases once they develop in order to prevent flare-ups and diagnosing and treating short-term illnesses before they become severe (Clifton 2009: 71). These objectives affect individuals as well as communities. Early detection of breast cancer, for example, is enhanced when the supply of primary care physicians is adequate (relative to specialists) while a 33% increase in the supply of family physicians correlates to a 20% decrease in mortality rates of cervical cancer (Macinko et al. 2007). Moreover, as many as 127,617 deaths in the U.S. could be prevented annually with an increase of just one primary care physician per 10,000 population (Macinko et al. 2007). Continuity of care with a single provider was positively associated with primary preventative care, including smoking cessation and influenza immunization, in a large ongoing 60-community study in the U.S. (Saver 2002). Because primary care emphasizes disease prevention and management, higher concentrations of primary care physicians in a community is conducive to an overall healthier population.

Public health can be defined as the process of promoting health, preventing disease, prolonging life and improving the quality of life through the organized efforts of society (Walley and Wright 2010: 9). The IOM spells out the mission of public health as “fulfilling society’s interest in assuring conditions in which people can be healthy” (Koplan et al. 2009: 1993). At the individual level, people with access to a regular primary care physician are more likely to receive recommended preventative services before the medical condition becomes serious and costly to treat (Abrams et al. 2011). Individuals who use primary care over time for most health care needs have improved satisfaction, better compliance, lower hospitalization rates, and less emergency room use (Macinko et al. 2007). From a broader scope, communities with well-developed primary care systems have better health outcomes and higher levels of satisfaction than those without (Macinko et al. 2007). It is important to note that patient satisfaction correlates to positive perceptions of health and therefore plays a significant role in overall health because people who believe they are healthy will feel healthy (Macinko et al. 2007). Furthermore, areas with higher ratios of primary care physicians to population have much lower total health care costs than do other areas, partly due to better preventive care and lower hospitalization rates (Starfield et al. 2005). This was demonstrated to be the case for the total U.S. adult population and for the elderly living in metropolitan areas (Starfield et al. 2005). Therefore, primary care is unique in that it serves to improve the health of individuals through clinical medicine and concurrently to improve the health of a population. Primary care plays a central role in a health care delivery system because it is linked to improved patient health status, cost-effectiveness and overall community well being.

DEFICIENCIES: The current state of primary care in the United States

Despite the benefit of access to primary care to the overall health of a population, the United States has underinvested and undervalued the current primary care system making it too fragmented and variable to provide care for an increasingly aging and unhealthy population. Today, due to a dysfunctional financing and delivery system, the primary care infrastructure in the United States is so discouraging that the American College of Physicians has concluded that it is “on the verge of collapse” (American College of Physicians 2003). As a nation, the United States does not fair well on international comparisons of deaths from diseases that are preventable or treatable by primary care such as asthma, pneumonia and cardiovascular disease, even when adjusted for the effects of wealth and smoking (Starfield 2000). More specifically, 460,000 preventable deaths per year are associated with smoking, 395,000 with hypertension, 216,000 with obesity, 191,000 with physical inactivity, 190,000 with high blood glucose levels and 113,000 with high levels of low-density lipoprotein cholesterol (Murray and Frenk 2010). In 1998 the U.S. mortality rate from thirty-four of such diseases was 16th among 19 industrialized countries while Canada, by comparison, ranked 4th. By 2003 the U.S. dropped to dead last in deaths that can be prevented by primary care (Nolte and McKee 2003). There is no mystery behind the devaluation of and deficiency in U.S. primary care. The U.S. delivery system faces an increasing demand for primary care, due to an increased prevalence of chronic disease, yet the supply of physicians entering into primary is shrinking (American College of Physicians 2003). As a result, the quality of care provided has been negatively impacted.

Primary care physicians are at the epicenter of managing chronic diseases and providing full continuity of care. An estimated 50% of the U.S. population has a chronic illness and about half of these have multiple conditions (American College of Physicians 2003). Added to this is the fact that two-thirds of adults that are obese and the first wave of 80 million baby boomers is now reaching retirement age (Hoff 2010: 3-5). A third of all Americans suffer from cardiovascular diseases like hypertension and coronary heart disease. While these conditions are not immediately life threatening they do require constant monitoring and preventative activities (Hoff 2010: 31). Furthermore, 70,000 people die annually from diabetes, another prevalent chronic disease (Hoff 2010: 31). This presents a serious challenge to a system that already cannot provide care to its needy population.

Studies show that the number of ambulatory care office visits increased by 31% between 1994 and 2004 due to a combination of increased population size and utilization of health services per person (Health Resources Administration 2010). Primary care visits accounted for over half of the total visits, which amounts to almost half a billion visits. Despite the seemingly high demand for primary care, there is an ever-shrinking primary care workforce. PCPs make up a third of the physician workforce and only 7% of medical students enter into primary care (Abrams et al. 2011). It is estimated that less than 20% of the physicians who began their residencies in 2005 will practice as generalists and less than 2% of internal medicine residents said they would go into primary care (Hoff 2010: 11). This small percentage of primary care physicians (PCPs) provides for over 85% of the preventive care visits in the U.S. (Hoff 2010: 6). In addition, fewer primary care residency positions are being made available to medical students and even fewer are

being filled by U.S. medical school graduates due to lack of interest in this specialty (General Accounting Office 2010). Studies have also shown that many areas of the U.S. lack availability of PCPs. Currently, over 20 million people live in non-metropolitan areas with a shortage of PCPs (General Accounting Office 2010). Based on these statistics, it is estimated that due to an aging population, population growth, chronic disease prevalence and a greater focus on prevention, 38% more primary care physicians may be needed by 2020 (Health Resources and Services Administration 2010). It is important to note that the shortage in primary care is not unique to physicians as fewer nurse practitioners and physician assistants are going into primary care fields as well (Abrams et al. 2011).

Based on the lack primary care providers in the work force it is not surprising that many patients have difficulty accessing primary care. Studies have shown that 20% of adults face a delay of six days or more to see a doctor or a nurse (Blewett et al. 2008). These delays are costly to patients whose conditions worsen without immediate treatment. In addition, after hours care is increasingly difficult to obtain as only 29% of primary care practices have arrangements for patients to obtain care on evenings or weekends (Blewett et al. 2008). As a result, patients resort to using emergency rooms, which fragments care, forcing them to see a new provider in a different setting, and drives up costs. The single factor that overwhelmingly causes avoidable trips to the emergency room is a lack of access to primary care (Clifton 2009: 72). One study showed that 1 in 5 emergency room patients receive care they could have received from a primary care physician (Bindman, Grumbach and Osmond 1996). One third of children's hospital and intensive care unit admissions and 15% of adult admissions are avoidable (Bindman,

Grumbach and Osmond 1996). Thus, the incidence of avoidable hospitalizations in the U.S. can be attributed to the deficiency in primary care physicians, who not only facilitate entry into the health care system but they also emphasize prevention and early management of health problems.

One distinct problem that challenges primary care is its dysfunctional business model. The current business model employs the predominant fee-for-service reimbursement system. This model is a poor fit for primary care services and fragments care into specific procedures and forces physicians to approach their work in a more transactional manner. Consider a typical PCP workday. On average, PCPs see an upwards of 29 patients per day in order to remain financially viable, spending approximately 15 minutes with each patient (Hing, Cherry and Woodwell 2006). They do this because insurers provide no financial motivation to PCPs to spend time with their patients. PCPs are not reimbursed for treating multiple diagnoses in the same visit and they are reimbursed the same for spending an hour as they are for spending 15 minutes with a patient (Hoff 2010: 17). As a result, visits have become brief and processes fundamental to the holistic approach of primary care, such as treating patients with multiple conditions, are neglected (McGlynn et al. 2003). PCPs increasingly emphasize the economic rather than the social aspects of the patient encounter, as the fee-for-service system favors specialty procedures such as surgeries, medical imaging and quick episodic care while undervaluing core primary care services, including the practice of cognitive medicine, which requires history taking, counseling, preventative services and care coordination. The end result is that PCPs are forced to see a high volume of patients in a day and are motivated to abandon low-margin work such as taking new Medicaid

patients. They are forced to refer patients with more complex issues to specialists (Hing, Cherry and Woodwell 2006). Moreover, fewer PCPs are performing simple procedures such as biopsies, injections and cardiac stress tests because these procedures are delegated to specialists. These realities stem from a dysfunctional business model that forces PCPs to refer patients to specialists, and refer them quickly, so that they can see greater numbers of patients in a workday.

In essence, productivity in primary care has been redefined: to see the most patients in a day rather than focus on quality interactions, which has become secondary. Almost all of the revenue generated must come from the patient visit. Subsequently, care coordination, an essential role played by PCPs as gatekeepers to the healthcare system, is virtually non-existent, as PCPs simply do not have time for such functions. This further fragments care for patients transitioning through the healthcare system. Overall, this current business model detracts from the ability of the PCP to treat patients holistically, which ideally produces the overall healthiest patient.

The devaluation of primary care has had a predictable effect on health care quality. The paradox of America's current health care system is that often those who need it the most, such as those with chronic illnesses, are denied access to it. A RAND Corporation study showed on average, patients receive 55% of the care experts recommend for them (McGlynn et al. 2003). A study by Hyman and Pavlik (2001) showed that almost half of U.S. patients with hypertension do not receive treatment and only 23% patients report their blood pressure to be well controlled. By 2003, the U.S. dropped to last in international rankings of deaths that could have been preventable by primary care (Nolte and McKee 2003). On the other hand, states with higher ratios of

PCPs to population have better health outcomes such as mortality from stroke, heart disease and cancer (American Physician Association 2003). While a higher concentration of PCPs in a community lowers the mortality rate from chronic diseases, higher concentrations of specialists has no effect of mortality rates (Clifton 2009: 74).

In summary, the work of PCPs in the U.S. is undervalued. PCPs are often the first point of contact people have in the healthcare system. PCPs are the first ones to care for children, treat common infections, prevent future illness, help lessen the effects of chronic disease and are often the first to diagnose serious diseases (Hoff 2010: 31). Yet currently the U.S. is facing a shortage of PCPs due to factors including high patient loads and declining revenue as a result of poor reimbursement systems. This main deficiency has led to avoidable hospitalizations, expensive health care costs and a reduction in health care quality. Unfortunately, as the U.S. population increases and ages, along with the concurrent increase in chronic disease prevalence, this issue will grow worse.

CULTURE and its impact on U.S. health care delivery and policymaking

Up until this point, I have discussed the devaluation of primary care in the United States despite overwhelming evidence suggesting that its emphasis is both cost-effective and conducive to producing a healthier population. But the question still remains, how has the U.S. adopted a delivery system that goes against the evidence? The answer can be explained through an understanding of American culture in relation to health. The U.S. health care system is influenced by many factors including the political climate, economic development, technological progress and social and cultural values. The combined interaction of these forces influences the course of health care delivery. The

major influences of health care delivery and policymaking discussed below are government ideology, political culture and values, legal influences, the technological imperative and the economic system.

First, health care delivery and policymaking in the U.S. is influenced by the country's political culture and by the values held in common by its constituents. As it is described here, culture refers to the shared views that a group of people has formed about the way their world works, and about the methods of problem solving that will be effective in that world (Schein 1985: 6). In addition to this worldly perspective, people's values, which reflect what they think are appropriate and desirable things for a government to do are also important to consider. In the U.S., two distinct political views on health care are prevalent. Conservative politicians in the U.S. contend that the Constitution does not grant Congress, or anyone, the right to health care and government, therefore, should play no role in health care delivery (Ubokudom 2012: 50). Further, it is argued that the Tenth Amendment reserves all powers not explicitly given to Congress to the states. Therefore, states may provide socialized health care, if their citizens allow them to do so (Ubokudom 2012: 47). Liberals, on the other hand, argue that Article I, Section 8 of the Constitution gives Congress power to provide for the "general welfare." Accordingly, even though health care might not be a right, it is a benefit Congress can provide to the people as part of its constitutional powers (Anderson 2006: 35). Thus, the ability of health policy makers and reformers to achieve desired goals is largely dependent on the political orientation of those occupying executive, legislative and judicial branches of government.

Second, political culture rests on democratic values. These values include liberty, equality, individualism, justice, patriotism, limited government, freedom, private property, equality of opportunity and the right to petition government for the redress of one's grievances (Ubokudom 2012: 51). The notion of liberty implies that Americans are free to do what they choose as long as their actions do not infringe upon the freedoms and well being of others. Liberty encompasses individual freedom and opportunity to attain one's goals. Similar to liberty are the values of private property and individualism. The essence of these implies a commitment to self-sufficiency, personal initiative and accumulation of wealth. The limited development of welfare programs and government regulation of health insurance, in addition to the current criticisms of existing programs like Medicare and Medicaid, is attributed to the American emphasis on individualism (Anderson 2006: 41). Taken together, these values comprise the notion of the American dream, the idea that individual initiative and hard work can lead to economic success (Ubokudom and Khubchandani 2010). They account for why Americans value capitalism, market justice and limited government interference in the economy (Magleby et al. 2006). Overall, the political and social values identified greatly influence Americans' orientation towards health care delivery. Key aspects of the health care system that are the results of these values include the lack of a central governing agency to administer health insurance, the predominance of private sector health care, the denunciation of national health insurance and the belief that health care is a market commodity as opposed to a public good (Ubokudom and Khubchandani 2010).

Third, U.S. beliefs and values have also made substantial legal impacts on health care delivery in the U.S. Statutory laws, legislative and administrative regulations

pertaining to health care are intended to subject medical practice and health care financing to the rule of law (Ubokudom and Khubchandani 2010). The power to determine health care provider liability for medical negligence, or malpractice, is delegated to the judicial system, the courts. Medical malpractice is defined as “unskillful, negligent or unlawful, or willingly acts committed by a physician in treating his or her patient, resulting in death or injury to the patient” (Ubokudom 2012: 67). Americans are highly litigious and are quick to engage in lawsuits, motivated by prospects of large jury awards (Shi and Singh 2010: 17). While threats of lawsuits against physicians and hospitals have been blamed for rising health care costs in the U.S., defensive medicine is the real culprit. That is, physicians are inclined to administer additional, and sometimes, extraneous, tests to avoid a malpractice suit, which increases overall health care expenditures (Ubokudom 2012: 68). This has undoubtedly impacted the overall inefficiency of the delivery system.

Fourth, Americans have strong faith in the ability of clinical medicine to treat their ailments and concurrently, they have a strong belief in the advancement of science and technology (Ubokudom 2012: 114). As a result, patients assume that current technologies offer the best care and physicians want to try the latest technology. The effect of this “technological imperative” is that health care providers attempt to distinguish themselves from their competitors by acquiring and utilizing the latest technology, which often increases costs without necessarily improving the quality of care (Glied 2001: 960). In addition, the advancement of medical technology has driven medical specialization (Ubokudom 2012: 122). Medical education emphasizes specific organ systems and not holistic care. Furthermore, there are no explicit government or

private policies designed to influence physician supply and distribution. As a result, market forces determine the quantity and specialty of physicians trained. Since specialists, who utilize advanced technology for their procedures and diagnostic tests, receive greater compensation and prestige than generalists, or primary care physicians, more physicians choose specialization over primary care. Overall, the technological imperative is credited with being a major factor driving medical costs (Glied 2001).

Lastly, economic principles have helped shape the U.S. health care delivery system. Health care is a very important component of the American economy. The total direct health care expenditures of \$2.34 trillion in 2008 accounted for about 16.2% of the nation's GDP, or an average of \$7,681 spent for every person in the country (Ubokudom 2012: 2). As a society, Americans by and large believe in the concepts of capitalism and market justice, distribution of finite health resources based on market forces. Societies try to allocate healthcare resources according to acceptable guiding principles based on the system of values and beliefs to which they adhere (Shi and Singh 2010: 13). Market Justice involves a system of demand side rationing, where market forces drive the achievement of a fair distribution of health care (Budetti 2008). Based on this theory, medical services are distributed on the basis of peoples' abilities to pay, and giving people a service they have not earned is morally and economically wrong. Aside from public programs like Medicare, Medicaid and Children's Health Insurance Program, the private insurance system in the U.S. is reminiscent of market justice. Because of the free-market, capitalistic system, the rich can afford employer-based or private insurance plans plus out-of-pocket expenses associated with medical treatment, the middle class rely on their employers to provide them with health insurance benefits and the poor rely on

governmental programs such as Medicaid for coverage (Shi and Singh 2010: 151). Rationing health care based on one's ability to pay has limited access to care as millions of Americans lack health insurance; many forgo needed care and pay high prices for care; and the costs of those who do not have insurance is shifted to those who do (Ubokudom 2012: 184). Because Americans seem to prefer market solutions to government intervention in health care financing and delivery, the U.S. delivery system allocates services unequally.

Overall, U.S. cultural and ideological values have shaped the U.S. health care delivery system and have impacted policymaking. They have influenced government intervention, litigation, technology and economic principles. Yet the question remains, why do these cultural influences on health care delivery matter with respect to primary care? The simple answer is because these values have caused us to focus on the wrong things. The U.S. health care system values medical specialization and medical technology. It emphasizes clinical medicine and despite efforts to improve the delivery of medical care, they have failed to produce a proportionate improvement of health status (Ubokudom 2012: 148). The health status of the U.S. population is greatly impacted by preventative medicine, genetics and social and economic circumstances. Only about 10% of premature deaths in the U.S. can be attributed to medical care, while the overwhelming majority is accounted for by individual lifestyle and behaviors (50%), genetic predisposition (20%) and social and environmental conditions (20%), according to the Centers for Disease Control and Prevention (1979). Lifestyle and behavioral choices, including dietary choices, physical activity, recreational activities like smoking and wearing a helmet or seatbelt, constitute the most important influence over one's health

status (McGinnis et al. 2002). It is important to point out that social and environmental conditions that impact one's health include socioeconomic status, housing conditions and exposure to substandard air and water. As discussed in previous sections, primary care physicians are best equipped to promote overall health. Holistic medicine and the integration of prevention and health promotion through education are key components of primary care that address the main deficiencies within the U.S. delivery system. Thus, U.S. cultural values have derailed the health care system from meeting the needs of the greater population.

PATIENT PROTECTION AND AFFORDABLE CARE ACT: A step in the right direction?

The Patient Protection and Affordable Care Act (ACA), passed in March 2010, is intended to provide more U.S. citizens with coverage and access to health care while decreasing the cost of health care, which currently comprises 16% of the GDP (Shi and Singh 2010: 151). To do this, the new law offers various reforms in health care delivery, reimbursement and insurance systems. Delivery system reform is geared towards a greater focus on primary care and preventative care. To change the reimbursement system, emphasis is placed on moving away from the traditional fee-for-service system to more bundled care payment options such as capitation and episodic care payments. In order to increase access, the ACA extends dependent coverage until age 26, extends Medicaid coverage to people under 133% of the federal poverty level, supports state-run insurance exchanges and subsidizes individual purchase of insurance (Abrams et al. 2011). Also, the purchase of health insurance will not be denied to those with pre-existing

health conditions. The overall goal of the ACA is to establish a minimum standard of health care to promote a healthier population, which will in turn reduce costs by reducing the likelihood of more costly medical conditions. In this section, I outline the key impacts the ACA is intended to have on primary care in the U.S.

There are many provisions in the ACA that have the potential to positively impact the deficiencies in the current primary care system, including the lack of PCPs and care coordination, in order to better provide care to an increasingly unhealthy population. The primary care reforms in the ACA include provisions for the temporary increase in Medicare and Medicaid payments to PCPs; emphasis on the provision of preventative care services and health care delivery in underserved areas; innovations in the delivery of care emphasizing care models that lead to better health outcomes and better patient care experiences such as medical homes and Accountable Care Organizations; and enhancing the support for the primary care workforce by investing in the development of increased numbers of primary care providers (Koh and Sebelius 2010).

First, roughly 20% of PCPs report that they are unwilling to accept new Medicare or Medicaid patients because they are currently not reimbursed well for their services (Abrams et al. 2011). Because of this, the ACA offers financial incentives to promote PCPs accepting new Medicare and Medicaid patients. This is done through the allocation of \$3.5 billion towards a primary care provider bonus program that gives incentives for PCPs to see more Medicare patients while an additional \$8.3 billion will be allocated towards creating incentives for PCPs to take new Medicaid patients (Manchikanti et al. 2011). Overall, Medicare reimbursement rates for PCPs will increase by 10% starting in 2011 and Medicaid reimbursement rates for PCPs will be increased to at least Medicare

levels (Abrams et al. 2011).

Second, preventative care is also emphasized in the ACA in the form of incentives for patients to receive preventative services (Abrams et al. 2011). Since preventing illness is an intrinsic part of PCP work, these provisions will be implemented at the primary care setting. The ACA eliminates coinsurance, deductibles and co-payments for Medicare, Medicaid and privately insured citizens for approved preventative services and tests including immunizations, cancer screenings and mammograms (Davis, Hahn and Hoffman 2010). For low-income patients these provisions will drastically increase the utilization of care and the overall health of that population. In addition, \$3.6 billion will be invested to grant annual wellness visits for Medicare patients that will provide free health risk assessments, health education services and personal prevention plans (Davis, Hahn and Hoffman 2010).

Third, the ACA plans to invest \$11 billion in expanding the operational capacity of federally qualified health centers (FQHC). FQHCs are community-based health centers that provide comprehensive preventative and primary care to people regardless of their ability to pay. ACA investment in these health centers will expand access to these centers for minority, low-income and underinsured patients with emphasis on areas that are medically underserved and are federally designated health professional shortage areas (Abrams et al. 2011). Also, incentives and programs will be provided to increase the primary care workforce at these centers. A new teaching health center grant program will expand primary care residency programs at FQHCs and incentives through loan forgiveness for primary care providers to work in designated professional shortage or medically underserved areas will be provided (Abrams et al. 2011). Moreover, workforce

development programs, including demonstration grants for nurse practitioner training programs supporting providers in FQHSs will be created. Overall, \$1.5 billion will be allocated for the National Health Service Corps to provide scholarships and loan forgiveness for PCPs, nurse practitioners and physician assistants to practice in health professional shortage areas (Abrams et al. 2011). The goal of this initiative is to increase the supply of primary care providers in underserved areas in order to promote positive health behaviors and outcomes in these areas. The idea is that promoting a base line of preventative care services will increase the health of the population in such areas dramatically.

Fourth, the ACA is also attempting different and possibly more effective ways to deliver primary care through the promotion of the Medical Home. The ACA promotes the medical home model by offering all states the option to enhance reimbursement of primary care sites designated as “health homes” for Medicaid patients with chronic conditions (Abrams et al. 2011). The definition of a health home, provided by the ACA, is identical to that of the patient centered medical home. The medical home is a cultivated partnership between the patient and primary care provider in cooperation with specialists and support from the community (Health Resources and Services Administration 2011). Basic components of a medical home include a personal PCP for each patient, a team of nurses and assistants to make the PCPs more productive, coordination of care across a continuum of services and higher reimbursement for the coordination of care. Pilot studies show that medical home patients’ have better access to care, are more likely to receive recommended preventive services and have better management of their chronic conditions than those without medical homes (Abrams et al. 2011). Medical home

patients also report fewer errors in their care or duplication of tests and are less likely to go to the emergency room (American Hospital Association 2010).

The medical home combines important aspects of primary care, such as first-contact, consultant-type and coordinated care, with 21st century techno-structured practices such as the use of electronic medical records linked to larger health information systems, patient education, population based chronic illness management and continuous measurement and improvement of quality (Hoff 2010: 6). A kind of “one-stop shopping,” the medical home creates organized systems of care that share resources that might otherwise be too expensive for a single practice to own, including medical imaging technologies and electronic patient information databases. The result is 24/7 patient-centered care through the shared co-location of resources. Furthermore, medical homes allow a central organization to coordinate care and provide more specialized services, including mental health services, shared technical assistance and nutritional guidance. This greater support in care coordination allows physicians to spend less time performing administrative tasks and spend more time with their patients (Rittenhouse, Shortell and Fisher 2009). Thus, medical homes are intended to provide integrated and coordinated care centered around the PCP and to contain costs through reduced errors, emergency-room visits and hospitalizations. The goal is that by creating an overall healthier patient, healthcare costs will be reduced because the patient will not need to use the healthcare system as often.

In summary, the provisions of the ACA, if fully implemented, will have an immense impact on patients and primary care providers. Thirty-two million people, of the 48 million who are currently uninsured, will gain access to health insurance (Abrams et

al. 2011). Fifty million Medicare beneficiaries will have access to free preventative care services and 90 million people will no longer have to make a co-payment for recommended preventative screenings. In addition, incentives provided through scholarships, loan repayment, training demonstration programs and expansion of residency programs will add an estimated 16,000 new primary care providers to the workforce over the next five years (Abrams et al. 2011). This would replenish the PCP workforce by almost 50% of the projected shortage by 2025 (Colwill et al. 2008). Finally, PCPs will receive increased reimbursement rates for Medicaid and Medicare patients. Thus, the implementation of the provisions in the ACA will support the restoration of primary care and increase the incentives for primary care work.

CONCLUSION: Big Picture

Primary care medicine is an essential component of the U.S. health care system. It is a field of medicine aimed at preventing illness and taking care of patients in the early stages of illness to reduce the need for additional intrusive and expensive health care services. At the community level, no other specialty is as effective and cost-efficient as primary care in creating and sustaining an overall healthier population. Furthermore, there has been no other time when the U.S. population has been in greater need of an enhanced primary care workforce than now, as U.S. citizens age and develop chronic diseases. American society has created a culture in which people wait until they get sick to consult clinical medicine, instead of promoting prevention and sustaining a healthy lifestyle. As a result, we naïvely value technology and specialty medicine while taking for granted generalist medicine. We take for granted how, when practiced properly, it

improves quality of life, reduces our dependency on high-cost medicine and keeps us from having to visit the physician's office. The provisions of the Affordable Care Act, which create incentives for primary care work and for preventative services, illustrates an attempt to reemphasize primary care as essential to health care delivery. Yet this is just a start. Ultimately, I hope to analyze how to improve primary care so that it can fulfill its health-improving, cost-reducing potential in a fragmented health care system that lacks, on a fundamental level, the necessary physician workforce. It is logical, given patterns of aging, disease prevalence and current health care costs, for the U.S. delivery system to have primary care as its backbone. I hope to delineate strategies to mitigate this larger issue.

CHAPTER 2: METHODOLOGY

The studies described in Chapter 1 indicate that primary care is an essential component of the U.S. health care system because no other specialty has been shown to be as effective and cost-efficient as primary care in creating and sustaining an overall healthier population. Despite the overwhelming evidence supporting this idea, the U.S. health care system is currently deficient in the primary care workforce necessary to treat rising numbers of patients with an increasing prevalence of chronic disease, especially given that primary care physicians are not reimbursed properly for their efforts. The poor primary care infrastructure that has developed is directly related to American cultural values that place greater emphasis on specialty medicine, use of expensive technology and private insurance coverage. After identifying these issues, analysis of how to improve primary care in the fragmented U.S. health care system was performed.

Because the deficiencies within primary care in the U.S. are manifestations of the health care system as a whole, as well as the American culture, my analysis of potential solutions to primary care deficiencies began by examining health care systems of foreign countries. Emphasis was placed particularly on examining countries that had strong primary care infrastructures. To determine which countries would be examined more closely, data compiled by the World Health Organization (WHO), the specialized agency of the United Nations that is concerned with international public health, were analyzed. The WHO publishes World Health Statistics, which is an annual compilation of health-related data for the 194 member countries, almost annually. However, in 2000, the WHO released its World Health Report entitled *Health Systems: Improving Performance* that ranked health care systems based on various characteristics including overall health care

system performance and health care system performance based on health outcomes. While the U.S. ranks 72nd and 37th in the world in those categories respectively, Italy ranks 2nd in overall health system performance and Spain ranks 7th in that category. What's more, upon further analysis, these two countries have some of the strongest primary care systems in the world, as indicated by Starfield (2000) and Starfield, Shi and Macinko (2005). In addition, the United Kingdom, which ranks 18th in overall health care system performance, has one of the best primary care infrastructures in the world, as indicated by Starfield, Shi and Macinko (2005), and is of particular interest because it shares similar cultural features with the U.S. Thus, Italy, Spain and the U.K. were selected for closer examination. These countries were analyzed for the strength and effectiveness of their primary care infrastructures. In addition, key components of these infrastructures were examined to ultimately determine what has made them successful and to determine whether similar programs could be put in place in the U.S. given its cultural beliefs and values.

In addition to a global analysis, it was prudent to look internally at U.S. initiatives that emphasize primary care, especially in light of the passing of the Affordable Care Act (ACA) in 2010, which has allocated funding toward strengthening primary care. The ACA clearly identifies initiatives that should be used to strengthen primary care, namely community health teams, collaborative care networks and primary care extension centers. These all employ characteristics of the Patient Centered Medical Home model. While the ACA offers funding through grants to develop such initiatives, existing practices that employ these models were analyzed. Those include Kaiser Permanente, the Geisinger Health System (Pennsylvania), Vermont's Blueprint for Health, Community Care Health

of North Carolina, the Seattle-based Group Health Cooperative and Oklahoma's Primary Care Extension Centers. These centers have been shown to deliver high quality care at the community level in the modern U.S. health care system that is fraught with deficiencies at the national level. Research on primary care systems in foreign countries and on those at the community-based initiatives is intended to highlight components essential to constructing an efficient and effective health care system. Ultimately, such information can be used to develop models of care, based on primary care delivery, which can be implemented in any community throughout the U.S.

CHAPTER 3: A GLOBAL PERSPECTIVE ON PRIMARY CARE

As mentioned in Chapter 1, primary care has been on the global agenda for the last thirty-five years since the World Health Organization (WHO) held the conference at Alma Ata in 1978. The ultimate conclusion of the conference is evident in the Declaration of Alma Ata in stating “all governments should formulate national policies, strategies and plans of action to launch and sustain primary health care as part of a comprehensive national system and in coordination with other sectors” (World Health Organization 1978: 3). However, an era of global market reform in the two decades following the Declaration shifted attention away from primary care to hospitals, specialization and an increased emphasis on technology and pharmaceuticals (Starfield 2004). As a result, it seemed that the WHO’s recommendations had fallen on deaf ears. Yet with the failures of market-oriented reforms to constrain rising costs of care as well as to cope with an increasing prevalence of chronic disease, an aging population, the emergence of new highly infectious acute diseases with chronic symptoms and recognition of rising trends in co-morbidity, there is newfound interest in the revival of primary health care. As a result of the upsurge in interest in primary care, numerous studies, including those conducted by the WHO at the turn of the twenty-first century, have compiled mounting evidence supporting the importance of primary care in health care systems.

While evidence was presented in Chapter 1 attesting to the importance of primary care in the United States health care system and the issues that are caused by its deficiency, similar reasons exist when examining the health care systems of other developed countries. The wealth of evidence across countries presented, points to better

effectiveness and health outcomes when primary care is adequate. Through international comparisons, we can extend the examination of the impact of primary care according to the achievement of its main characteristics. Three studies will be briefly explained to demonstrate not only that countries with stronger primary care had healthier populations but also what policies were conducive to such outcomes.

The first study looked at the relationship between primary care and health outcomes in eleven industrialized countries (Starfield 1991; Starfield 1994). Each country in the study was analyzed and rated based on the four main characteristics of primary care: first contact care (gatekeeping), patient-centered (holistic) care over time, comprehensive care and coordinated care. In addition, family and community orientation were also assessed. The first key finding from this study was that those countries with low primary care scores had poorer health outcomes, particularly for indicators in low birth weight and post neonatal mortality (Starfield 1991; Starfield 1994). Furthermore, the countries were examined and rated for policy characteristics such as equitable distribution of health services resources, financial coverage guaranteed by the government or a government regulated body, a lower percentage of physicians who were not primary care physicians (PCP) and higher salaries of PCPs compared to those of specialists. The key finding here was that these policy characteristics were highly correlated with the practice characteristics. This indicates that those countries that had better primary care practices, and subsequently better health outcomes, also had supportive governmental policies (Starfield 1991; Starfield 1994; Starfield, Shi and Macinko 2005).

In the second, and more recent, comparison of thirteen developed countries, better health outcomes for primary care-oriented countries were seen even after controlling for

socioeconomic inequalities, such as income and smoking rates (Starfield and Shi 2002). Not only did the countries with primary care-oriented health care systems exhibit lower rates of post neonatal mortality and of low birth weight, These countries performed significantly better on major aspects of health, such as mental health care and more specifically, years of potential life lost because of suicide (Starfield and Shi 2002). Starfield, Shi and Macinko (2005) point out that the beneficial effect of primary care on low birth weight stems from its beneficial impact on mothers' health before pregnancy. Like in the previous study, the authors also examined the primary care practices present or absent in the countries analyzed and found that countries with low primary care scores has a lesser degree of comprehensiveness in their primary care administration (i.e. "the extent to which primary care practitioners provided a broader range of services rather than making referrals to specialists for those services") (Starfield, Shi and Macinko 2005: 467). Overall, the study found that policy characteristics associated with better primary care systems were equitable distribution of health resources, low or no patient cost sharing for primary care services and universal financial coverage (Starfield and Shi 2002).

The positive impact of primary care to health outcomes examined in the two previous studies were expanded upon in a more extensive analysis of eighteen countries in the Organization for Economic Cooperation and Development (OECD) (Macinko, Starfield and Shi 2003). The study assessed the contribution of national primary care systems to health outcomes during the period from 1970 to 1998 and found that the stronger the country's primary care system, the lower the rates of all causes of mortality and premature mortality as well as mortality from asthma, bronchitis, emphysema,

pneumonia, cardiovascular disease and heart disease (Macinko, Starfield and Shi 2003). What makes these findings more remarkable is that the effect of primary care was found to be significant even when controlling for important determinants of population health like income, GDP per capita, percentage of elderly people, total physicians per 1,000 people and behavioral factors such as smoking and alcohol consumption. Moreover, countries that implemented policy changes to strengthen their primary care infrastructure over the period of study (1970-1998) exhibited concurrent improvements in primary care practice and subsequently in health outcomes. In the United States, for example, primary care health outcomes improved as a result of participation in Health Maintenance Organizations (HMO), which tend to use a higher percentage of primary care practitioners and tend to provide community-centered service (Starfield, Shi and Macinko 2005).

When examined together, the three studies discussed above illustrate a positive correlation between primary care-oriented systems and health outcomes. From a public health perspective, they show that primary care practices are more beneficial than other types of care in reducing a country's overall burden of disease. Therefore, in order to determine the most effective components of health care systems, with the understanding that those with substantial primary care infrastructures are most conducive to promoting a healthier population, analysis of the primary care systems in countries where primary care is emphasized must be performed. In this chapter, I examine more closely the primary care infrastructures in place in Spain, Italy and the United Kingdom (U.K.), in order to delineate effective practices and their potential for implementation in the United States.

So, why look at Spain, Italy and the U.K. or do an international comparison of health care systems in the first place? Because in the World Health Organization's World Health Report (2000) entitled *Health Systems: Improving Performance*, the U.S. health care system ranked 37th in the world and 72nd when based strictly on health performance. It ranked 39th in infant mortality, 43rd for adult female mortality, 42nd in adult male mortality and 36th in life expectancy (Murray and Frenk 2010). Moreover, of the top seven countries with the best health care systems, five of them have strong primary care infrastructures (Starfield 2000). By comparison, Italy ranks second in the world in overall health care system performance, utilizes PCPs as gatekeepers into the system and relies on a regional system to delivery primary care to all Italian citizens (WHO 2000; Donatini et al. 2011). Over the past thirty years, Spain, ranked 7th in the world in health care system performance, strengthened its primary care infrastructure by equitably distributing funds based on region, increasing the supply of family physicians, moving to a tax-based financing system (free health care at the point of service financed by income tax) and establishing primary health care centers that improve family orientation, care coordination, integration and promotion of health services (WHO 2000; Starfield, Shi and Macinko 2005). Finally, the U.K.'s National Health Service (NHS), ranked 18th by the WHO, has placed primary care at the center of its single-payer system and improved health outcomes through pay-for-performance quality improvement programs, multidisciplinary teams and routine chronic disease management (Roland 2008). It is also of interest to note that Spain, Italy and the U.K. all spend a significantly smaller percentage of their gross domestic product (GDP) on health care compared to the U.S. Health care spending in the U.S. accounts for over 16% of its GDP compared to 8.5% in

Spain, 8.4% in Italy and 10% in the U.K. (Borkan et al. 2010; Donatini et al. 2001; Harrison et al. 2011). Overall, I examine the effectiveness of these health care models to determine whether these approaches are within the realm of political and social possibility for U.S. health care. Acceptance of these health care models in the U.S. would be largely dependent upon American culture and the norms and values it embraces. Looking at what these countries do right also serves to help us see what we are doing wrong.

CASE STUDY ONE: Primary health care reform in Spain

The Spanish health care system has undergone a rapid transformation and has been able to achieve substantial health status outcome improvements in a short period of time and without massive spending. In this section I outline the underlying features of the Spanish reforms and their impacts on health outcomes. However, because Spanish health care reform sprouted from the sociopolitical organization of the country, a brief history lesson is warranted to provide context. Following the death of Spanish dictator, Francisco Franco, in 1975 the country adopted a democratic style of government and in doing so joined the European Union and strengthened its economy to what is now the twelfth largest economy in the world as measured by gross domestic product (Borkan et al. 2010). With this transformation was the concurrent reorganization of the nation's health care system. By 1978, the Spanish constitution guaranteed the right of every citizen of Spain to health care, requiring the establishment of a universal health care system that was not only free, but also guaranteed equal access to preventative, rehabilitative and curative services (Borkan et al. 2010). The Spanish National Institute of Health

(INSALUD) was granted administrative and managerial power over the system. Then in 1981, jurisdiction over the health care system decentralized from INSALUD to Spain's seventeen Autonomous Communities, which would deliver care using primary care centers and primary care teams to offer coordinated and personalized services (WHO Regional Office for Europe 2000). The Autonomous Communities also established family medicine as a medical specialty, creating a distinctive professional identity for PCPs. The transition to a regionalized health care system rooted in primary care was formalized by the passage of the General Health Act of 1986, allowing for the creation of an integrated national health system and agreement on the range of health services that would be publicly funded (Borkan et al. 2010). This paved the way for the range of reforms that has shaped the Spanish health care system to the 7th best in the world (WHO 2000).

Encompassed in Spain's transformation was a major shift in financing from a social insurance model to a tax-based financing system and the creation of a primary care sector (Larizgoitia and Starfield 1997). The reason this is of particular importance and the reason that Spain structured its health care system around primary care is that the goal of the transformation was to provide universal access to health care for all of its citizens. At the same time, the National Health System maintains an option to hold private supplemental insurance that roughly 15% of the population utilizes and that covers services that the National Health System does not, such as dental care, or that facilitates access to services that normally are difficult to gain access to, like preventative gynecological care (Borkan et al. 2010). Currently, the system is structured so that the Autonomous Communities control health planning, public health and management of

health services through the oversight of Basic Health Zones and Health Areas. The goal of these Areas is to ensure service proximity to users and each Area manages health facilities and services within their geographic region (Borkan et al. 2010). Health Areas are comprised of several Basic Health Zones that represent the primary contact users have into the health care system and must be given a referral to see a specialist at the hospital assigned to the corresponding Health Area. Basic Health Zones are small units of health care organization based around the care of a primary care team to provide and coordinate preventative services, treatment and public health activities. This regionalized structure makes health care delivery more organized and coordinated and also makes the distribution of health services equitable.

The health care system transformation in Spain that began in the late 1970s following the death of Spanish dictator Francisco Franco facilitated noteworthy progress in health outcomes. Spain ranked sixth among thirty OECD countries in life expectancy after birth (84.3 years for women, 77.8 for men) compared to the U.S., which ranked twenty-fourth (Health at a Glance, OECD 2009). Spain's rate of infant mortality, as of 2009, ranks seventeenth in the world compared to the U.S., which ranks forty-fifth (Health at a Glance, OECD 2009). Moreover, from 1986 to 2006, there was a dramatic decrease in premature deaths from circulatory system disease (from 322.1 to 159.0 per 100,000 population) and from diabetes mellitus (from 19.8 to 12.5 per 100,000 population) (Health at a Glance, OECD 2009). These improvements in health outcomes were achieved, at least in part, by Spain's robust primary care infrastructure, which functions similar to the concept of the patient centered medical home model currently being investigated and piloted in the U.S. by the Centers for Medicare and Medicaid

Services. Citizens of Spain are covered by the National Health System, which is funded through tax revenue, and are entitled to a free range of primary care services. The backbone of this model lies in providing comprehensive health care, including health promotion and disease prevention, through the establishment of multidisciplinary primary care teams (Borkan et al. 2010). These teams are comprised of general practitioners (PCPs) who specialize in family and community medicine, as well as pediatricians, nurses, administrative staff and in some cases social workers and physical therapists. These teams work together to provide the following broad range of general medical care: twenty-four hour availability, diagnostic services, minor surgery, family planning, obstetric and prenatal care, pharmaceutical prescriptions, ambulance services, palliative care, nursing care, preventative services and services specific to mental health. Health professionals working at these primary care centers are given a two-part salary that contains a fixed payment and an incentive payment based on the fulfillment of quality objectives and number of patients assigned to the practice (Borkan et al. 2010). Finally, as a result of an increasing number of primary care centers in Spain, there is nearly one of these centers within fifteen minutes of every citizen in the country (Borkan et al. 2010). Thus, Spanish health care has been revamped through a coordinated team approach to health care delivery, the proliferation of primary care centers and a quality-based reimbursement system.

The Spanish system is far from perfect and has its shortcomings that merit brief mention. Like many countries during the global financial crisis, Spain's health care system faces pressure to provide high quality universal care despite increasing costs and limited financial resources (Martin-Moreno et al. 2009). Another issue prevalent in the

Spanish health care system is the concern about deficits in PCPs. Because Spain's health care system is dependent upon the use of PCPs and their availability to every citizen in the country, it is understandable that concern exists about the sufficiency of having 100 general practitioners per 100,000 inhabitants and primary care teams available to 81% of the population with the remainder, those who can afford it, using individual physicians (Borkan et al. 2010). Lastly, Spain shares the American issue of an increasing percentage of patients entering the health care system through emergency rooms of hospitals rather than through primary care (National Statistics Institute 2005). This is symptomatic of a deeper issue within the Spanish health care system potentially due to patient education. Overall, these problems can be attributed to many factors within the system and are not uncommon to other health care systems.

In conclusion and despite its issues, there is much insight to be gained from the Spanish health care transition, namely in its system wide approach, its regional and local organization and its equitable practice. In contrast to reforms in the U.S., most notably those in the ACA described in Chapter 1, that focus on specific components of the health care system and target groups of physicians, hospitals or insurers, Spanish reform transcended geographic and institutional boundaries. For example, incentive-based reimbursement programs, use of electronic medical records and services provided by primary care centers are implemented throughout the entire health care system, taking advantage of the fact that all key players in the system are connected. In addition, health care strategies are devised nationally yet they are implemented and coordinated regionally and locally allowing local authorities to be more responsive to local needs (Borkan et al. 2010). Finally, the Spanish system, being universal, strives to provide an

equitable distribution of health resources. In the United States, rates of hospitalization for conditions that should be preventable by exposure to good primary care (ambulatory care-sensitive conditions) are strongly associated with socioeconomic deprivation, at least in part because socially disadvantaged populations are less likely to have a good source of primary care (Casanova, Colomer, and Starfield 1996). In Spain, however, the rates of hospitalization for these conditions have been shown to not be associated with socioeconomic characteristics (Casanova, Colomer, and Starfield 1996). This means that the Spanish health care system's primary care orientation reduces the hospitalization rates for these conditions despite social disadvantage; the system reduces health disparities based on socioeconomic status.

Ultimately, are the key components of Spain's primary care-centered system compatible with U.S. social norms and values? It is difficult to tell. Many of Spain's main features would require major overhaul of current U.S. programs and many aspects that need the most change in the U.S. system are the most politically and logistically difficult to realize. Nevertheless, the Spanish transformation not only illustrates that reconstruction of primary care infrastructure is possible within a relatively short time frame, it is also illustrative of the fruits of a bipartisan commitment to health care transformation.

CASE STUDY TWO: Italy's Servizio Sanitario Nazionale

Italy's health care system is second only to France based on overall performance and third in the world based on health outcomes (WHO 2000). The United States stands at 37th in overall performance and 72nd in health outcomes by comparison (WHO 2000).

These statistics alone, coupled with the fact that Italy's health care system is structurally based upon the use of PCPs as gatekeepers into its system, makes this Italian system worthy of further study. Before discussing the components of the primary care system, an overview of the Italian system must be provided. To begin, the Italian Constitution of 1948 explicitly grants citizens, very generally, the right to health in stating that "the Republic safeguards health as a fundamental right of the individual and as a collective interest and guarantees free care to the indigent" (Torbica and Fattore 2005; Constitution of the Italian Republic, 1948, Article 32). Interestingly, this means that all Italian citizens have a right to health but only poor citizens have the right to free health care. However, in 1978 Italy's Servizio Sanitario Nazionale ('National Health Service'), or SSN, was established and in this reform, through Law 833, a principle package of benefits was made available to all Italian citizens regardless of income, condition of health or age (Torbica and Fattore 2005). Of particular importance in Law 833, which effectively created Italy's national health system, is its mention of the role of the SSN in eliminating geographical disparities in health care conditions (article II) and in guaranteeing specific "levels of care" (article III) to be provided to all citizens (Torbica and Fattore 2005). These two points are distinctive in that the former illustrates a desire to deliver equitable health care and the latter, while not specifically defined until the 1990s and early 2000s, serves to identify the extent of care provided to Italian citizens.

As evidenced from its beginnings, the SSN was founded upon principles of universal, equitable and comprehensive care. Major reforms to the SSN in 1992-1993 decentralized health care delivery and management to regions that structurally reshaped the system. This new legislation entitled regions to receive funding from the central

government based on the regional population (*quota capitaria*). Furthermore, the legislation reserves the right to define the set of services to be provided under SSN coverage. The regions are held accountable for providing those services and are held financially accountable for any additional costs incurred for any care provided that is not defined by the central government (Torbica and Fattore 2005). Financial accountability is established because the regions are responsible for all costs that exceed the initial funding they receive from the central government. Finally, with the approval of the National Health Plan in 1998-2000 and constitutional reform in 2001, the “essential levels of care” (Livelli Essenziali di Assistenza, LEAs) set by the central government and guaranteed to all citizens, were delineated (Torbica and Fattore 2005). LEA services were developed based on criteria related to medical necessity, effectiveness, human dignity, appropriateness and efficiency in delivery (Donatini et al. 2011). Explicitly covered services include those relating to pharmaceuticals, inpatient curative care, primary care, rehabilitative care, emergency care, preventative care and specialist outpatient care. Non-LEA services are also defined including cosmetic surgery, orthodontics and laser eye surgery (Donatini et al. 2011). The resulting system is regionally based, providing universal coverage free of charge at the point of service with the central government absorbing approximately 77% of total health care expenditures financed through general taxation (Donatini et al. 2011). The central government is charged with ensuring the principles of the SSN, including the LEAs, are followed. The twenty regional governments, through regional health departments, are responsible for ensuring the delivery of the benefit package through the network of over 200 population-based health

management organizations, or Local Health Units, and over 100 public and private hospitals (Donatini et al. 2001).

It is with the Local Health Units, which serve as the fundamental unit in the SSN, that the discussion of primary care delivery in Italy must commence. The regionalized health care system divides each region into health districts, geographical units responsible for coordinating and providing primary care as well as specialized care to their assigned populations (Donatini et al. 2001). The number of these districts in each region depends on both population size and its demographics. The number of Local Health Units placed in each district is also dependent on these characteristics. Through these Units, PCPs play a major gatekeeping role in the Italian system. All patients in Italy are registered with a general practitioner in charge of providing primary care, prescribing diagnostic interventions, medications and importantly, referring the patient to specialists (Torbica and Fattore 2005). Italian citizens are free to select their own general practitioner granted the physician has not exceeded the maximum number of enrolled patients. The National Contract for General Practitioners outlines categories of services that PCPs are obligated to provide and is negotiated between the central government and representatives of physicians organized in trade unions (Torbica and Fattore 2005). The categories broadly outlined in the Contract are essential chronic and acute disease management services, health promotion activities, patient management coordinated with providers, specialist and rehabilitative services and community services. Local Health Units are required to guarantee their service 24 hours a day, 7 days a week. Integration between outpatient primary care and routine care provided by other health care providers in assisted living agencies or in the patient's home is also encouraged under the Contract. In this way,

PCPs are the first contact for the most common health problems and are responsible for coordinating referrals to specialists.

Italy's health care system is illustrative of how government-sponsored incentives can help drive care quality. A study by Schoen et al. (2009) showed that 70% of PCPs in Italy are rewarded with financial incentives to improve the quality of care. Only one-third of U.S. physicians reported being offered such rewards (Schoen et al. 2009). PCPs in Italy are paid through a combination of capitation and fee-for-service and are regulated via national and regional contracting (Donatini et al. 2011). While, in the past, PCPs generally operated in solo practices, this model has been progressively out-phased by government-sponsored multidisciplinary teams. In an effort to promote care coordination and improve patient accessibility to primary care, multidisciplinary teams have formed, comprised of general practitioners, specialists and nurses, to ensure 24-hour access and to reduce hospital emergency room use (Donatini et al. 2011). Care coordination in these teams is augmented by the near universal use of electronic medical records. Over 90% of physicians in Italy use electronic medical records, compared to only 46% of U.S. physicians (Macinko, Starfield and Shi 2003). However, the use of multidisciplinary teams is not the only mechanism in place to avoid unnecessary use of emergency room care. The SSN emphasizes treating patients at the least intense level appropriate for their given condition (Donatini et al. 2011). For example, since 2007 a \$35 U.S. dollar copayment is required for "unwarranted" use of emergency services (Donatini et al. 2011). This is meant to deter patients from using the emergency room for non-urgent services and also to encourage the use of primary care to manage and prevent illness.

As is the case with all health care systems, even those like Italy that are ranked amongst the best in the world, the SSN has its share of problems. One longstanding concern in Italy is regional disparities in health between the more affluent regions of the country and the poorer ones. The Ministry of the Economy and Finance determines funding for each region based on demographic characteristics of each region's population and data on the frequency of health care service consumption and therefore attempts to allocate resources equitably (Donatini et al. 2011). Yet data suggest that there is significant inequality in health status along a north south divide of the country in favor of the more affluent regions (Van Doorslaer and Koolman 2004). Nevertheless, the differences in health outcomes based on socioeconomic status seen in Italy are significantly lower than those that exist in other European countries (Van Doorslaer and Koolman 2004). In addition to the issue of regional disparities, access to care in Italy is limited by waiting lists and wait times are of concern despite national legislation setting a maximum wait time guarantee for ambulatory care and certain specialty procedures (Donatini et al. 2011). Overall, these issues do represent maladies that accompany a national goal of universal access to health care.

There are many lessons that can be gleaned from the SSN, namely the emphasis on PCPs as gatekeepers into the health care system and the implementation of a regionalized system of delivery. Perhaps the most striking statistic attesting to Italy's reliance on primary care is that PCPs outnumber specialists by a three-to-one ratio, in stark contrast to the United States. (Donatini et al. 2001). This allows every citizen to have his or her own PCP that serves to coordinate patient care throughout the system in the most efficient manner. Moreover, the gatekeeping function allows PCPs to assess

their patients holistically and thoroughly. For example, PCPs at Local Health Units play an integral role in mental health diagnosis, treatment and, if needed, referral. The PCP's gatekeeping role has been more pronounced not only in treating patients with common mental illnesses but also in referring patients with more severe illnesses to Community Mental Health Centers (Rucci et al. 2012). In addition, since the SSN implemented the regional system in the early 1990s allowing for creation of the Local Health Units, child mortality has declined by 46.3% (4.4 deaths per 1,000 live births), life expectancy at birth has increased to 72.7 years old, which ranks 6th in the world (the U.S. is 24th) and Italy's primary care system has improved to 5th best (previously 7th) in the OECD (WHO 2000; Macinko, Starfield and Shi 2003). Overall, not only do these statistics support the pervasive trend that more primary care produces a healthier population, but they are also suggestive of the fact that countries like the U.S. need not depend so heavily on specialty medicine.

In light of this information, can components of Italy's SSN be implemented in the U.S.? In short, universal health care is the least likely component to be implemented, as it is antithetical to most American values. A regionalized system of delivery may be practical for a country like Italy but may become too complex for a nation with a population five times its size, like the U.S. However, gatekeeping, providing financial incentives to ensure quality and discouraging inefficient treatment and use of multidisciplinary teams are not so farfetched. In fact, as will be described later, certain programs in the U.S. have already been using these components on a smaller scale.

CASE STUDY THREE: The United Kingdom's National Health Service

The United Kingdom (U.K.) ranks above the United States in numerous significant health statistics, an unfortunate reality shared by most developed countries (Harrell 2009). Indeed, a study comparing the relative health status of individuals in the U.K. and the United States based on self-reported illness and biological markers of disease found that English citizens were healthier than their American counterparts (Banks et al. 2006). More importantly, the differences in health status were observed irrespective of socioeconomic status, a testament to U.K. health care system practices that reduce income-based health disparities. As a whole, U.K.'s National Health Service (NHS) ranked 14th in health attainment, as measured by life expectancy at birth (71.7 years on average), 8th in equitable financial distribution of health services to all its member states (The U.S. came in 54th) and 18th in overall health care system performance (WHO 2000). In a study comparing countries in the OECD, the NHS was ranked as the top primary care system out of the eighteen countries examined (Macinko, Starfield and Shi 2003). Ultimately, the NHS is the ideal primary care-centered system to analyze because the U.K. government has clearly been convinced for over half a century that primary care must be at the heart of a country's health care system.

The NHS, established in 1948, provides preventative, primary care and hospital services to all U.K. residents (Boyle 2011). Yes, this is yet another successful health care system that provides universal coverage to all "ordinary residents" and does so, for the most part, free of charge at the point of use (Harrison et al. 2011). NHS services are paid for primarily through general taxation while private medical insurance is an option that over 12% of the population utilizes as a mode of access to elective care (Boyle 2011). There is overlap between what the private sector and the NHS provide, however those

with private insurance most commonly use it for inpatient psychiatric care, pharmaceutical products and devices and for elective surgeries (Doyle and Bull 2000). Responsibility over health legislation and policy is relegated to the Parliament and the Department of Health, which is the central government body responsible for setting policy on the NHS. Currently, the NHS is administered through ten regional strategic health authorities (SHAs) that answer to the Department of Health and are responsible for ensuring quality and performance of local health services. At the local level, health services are commissioned through the 152 Primary Care Trusts (PCTs) that contract with providers, including PCPs, hospital trusts and independent providers, for services needed based on the population they each serve (Harrison et al. 2011). These PCTs serve as the most basic unit of health care provision and are, therefore, allocated about 80% of the NHS budget (Harrison et al. 2011). However, both the SHAs and PCTs are to be replaced by Clinical Commissioning Groups (CCGs) led by PCPs beginning in April 2013 and pending the passing of the necessary legislation by the coalition government elected in May 2012 (Harrison et al. 2011). Nevertheless, the key structural components of the NHS will remain the same: a regionalized system based around the PCP.

From the use of local PCTs headed by PCPs, it is evident that the NHS structurally favors primary care. In the U.K., primary care basically encompasses all care not provided in a hospital setting, accounting for 90% of patient contact with the NHS (United Kingdom Department of Health 2012). The two essential characteristics of NHS primary care are that it provides the point of first contact for patients seeking medical attention and it provides continuous access to such general medical care often with a designated physician taking responsibility for the care of that patient (Boyle 2011). In this

way, PCPs serve the gatekeeping role in determining when referral to specialized care is necessary. The general practitioner is the focal point for all primary care services in the U.K. These physicians have registered lists of patients to whom they provide care and most of these physicians are private contractors operating under contract and paid by the PCTs through a payment system that is a mixture of risk-adjusted capitation, pay-for performance (described below) and traditional fee-for service (Roland 2008; Harrison et al. 2011). The PCTs are responsible for the coordination and delivery of primary care services. It is relevant to point out that U.K. PCPs are paid, on average, \$220,000, which is more than many U.K. specialists earn and well exceeds the U.S. average by about \$70,000 (Roland 2008; Shi and Singh 2010). In addition, the number of PCPs in the U.K. has increased by 36% since 1989, providing another sharp contrast to the U.S., which is facing the opposite trend (Boyle 2011; Sataline and Wang 2010). And why has there been such an increase in PCPs, especially since in that time the U.K. population only expanded by 9% (Boyle 2011)? Because, among other reasons, in the U.K. each 15 to 20% increase in PCP supply per 100,000 population is significantly associated with a decrease in hospital admissions rates of 14 per 100,000 for acute illness and 11 per 100,000 for chronic illnesses (Starfield, Macinko and Shi 2005). Together, these data illustrate the emphasis placed on, and devotion to, primary care in the U.K.

Having a single payer system in the U.K. helps a great deal in implementing uniform practices. For one thing, this means that U.K. PCPs have access to the complete lifelong medical record of their patients, including records of specialty care visits, which is mediated through the widespread use of electronic medical records (Roland 2008). While only 46% of U.S. doctors use electronic medical records, over 90% of doctors in

the U.K. utilize government-standardized electronic medical records (Schoen et al. 2009). Moreover, U.K. PCPs increasingly work in multidisciplinary teams and nearly all have arrangements for 24-hour care (Schoen et al. 2009). Patients with chronic illness require substantial time with physicians for education about their illness and instruction about treatment, diet and medication regimens. Multidisciplinary care teams comprised of PCPs and nurses are effective in providing care to people with chronic conditions and in improving health outcomes. The use of such teams is widespread in the U.K. and is less prevalent in the U.S. (Schoen et al. 2009). As of 2009 there were over 40,000 PCPs practicing in the U.K. and of these physicians working in the 8,228 practices in the NHS, less than 5% of them worked in solo practices (Boyle 2011). By comparison, 67% of physicians in the U.S. work in solo practices (Hoff 2010: 75). Uniform implementation of health policy by the NHS through primary care has also allowed for a reduction in health disparities. In the U.K., one study found that socioeconomic differences in coronary heart disease mortality were not a result of differences in cardiac care and another found that Black patients in London had the same rates of diabetes-related lower extremity amputation as white patients did (Starfield, Shi and Marcinko 2005). In the U.S., these rates are two to three times higher in African American patients than in white patients (Starfield, Shi and Marcinko 2005).

Another benefit of a single payer system in the U.K. lies in organizing quality improvement initiatives. In the last decade alone, the U.K. government has been able to introduce a plethora of such programs nationwide, ranging from annual performance reviews of physicians by their peers to national standards for the care of major diseases (Roland 2008). These programs, implemented through the PCTs, have resulted in

substantial improvements in health outcomes. Specifically, between 1998 and 2003, the quality of care for coronary heart disease, asthma and type-2 diabetes provided by PCPs improved substantially based on defined evidenced based review criteria (Campbell et al. 2005). The PCP-run diabetes clinics were found to do as well, if not better, than hospital specialists in monitoring diabetic complications (Campbell et al. 2005). In such instances where PCPs performed better than the specialists, their patients had lower mortality rates and better glycemic control than did patients treated by specialists (Campbell et al. 2005). An explanation for the recent quality improvements lies in the introduction of a major pay-for-performance program initiated in 2004. In general, the U.K. has one of the highest rates for the use of financial incentives to improve quality of care, as over 89% of physicians receive some form of financial reward for reaching quality markers (Schoen et al. 2009). U.S. doctors are among the least likely to receive such bonuses with only 33% reporting receiving them (Schoen et al. 2009). The 2004 pay-for-performance contract for PCPs in the U.K. committed \$3.2 billion to rewarding physicians for achieving quality-of-care indicators such as prevention of premature deaths, enhancing quality of life for patients with long-term conditions and patient satisfaction (Campbell et al. 2007). Based on a longitudinal cohort study of the quality of care in the categories of coronary heart disease, asthma and type-2 diabetes, the quality of care improved between 2003 and 2005 (Campbell et al. 2007). The recent primary care-centered quality improvement initiatives are further evidence of the government's robust confidence in primary care.

The NHS does come with considerable problems that vary in severity. One main concern of the NHS is the \$200 million of health care costs incurred each year due to health tourism, when non-citizens come into the country to be treated taking advantage of

the free access at the point of service (Shi and Singh 2010: 19). U.K. citizens also face long wait times to receive care, elective procedures in particular. Much of this dismay lies in the fact that 41% of patients report waiting at least twelve weeks to see a specialist or to receive a surgical procedure (Shi and Singh 2010: 19). However, the NHS set a goal for patients to have guaranteed access to a PCP within 48 hours by 2004 (Boyle 2011). Surveys conducted in 2007-2008 showed that this goal was being met for 87% of patients (Boyle 2011). Lastly, dissatisfaction exists over the lack of funding towards technological innovations in the U.K. (Shi and Singh 2010: 19). Ultimately, these issues should not be taken lightly, but at the same time, they should not be overemphasized in assessing the effectiveness of the health care system.

The NHS is a prime example of a system implemented by a government that has been convinced by the mounting evidence that primary care promotes high quality, efficient and equitable health care. Successive government administrations have continued to promote the strengthening of the country's primary care infrastructure. PCPs are incentivized to produce high quality health outcomes. Therefore, they work collaboratively in multidisciplinary teams, they utilize electronic medical records and they control patient referral to specialty care. As seen in the cases of Italy and Spain, universal coverage and a regionalized system of delivery are key factors in the success of the NHS. Although some features of the NHS would be difficult to transplant to the U.S., some are also within reason. For example, implementation of a payment system involving a mix of risk-adjusted capitation and pay-for-performance, use of multidisciplinary teams, electronic medical records and patient registration with a single PCP could be viewed as small steps in the right direction.

CONCLUSION: What do we learn?

Countries that began to reform their primary care systems in the 1970s and 1980s, most notably Spain, Italy and the United Kingdom that have continued to improve upon an already substantial primary care infrastructure, have made progress in improving both structural features and practice characteristics of their health care systems (Marcinko, Starfield and Shi 2003). On the other hand, in spite of the vast array of evidence to the benefits of improved primary care on population health, countries with the weakest primary care systems and therefore those with the most potential to benefit from improvements, namely the U.S., have, in general, not made much progress in improving either primary care structure or practice (Marcinko, Starfield and Shi 2003). Case studies like those presented on the health care systems in Spain, Italy and in the U.K. illustrate a principle that goes beyond the importance of primary care in producing healthier populations. They convey the extent to which governments are committed to providing health care to their constituents. Key similarities amongst the three cases include structural similarities such as universal health care coverage financed primarily, but not necessarily completely, by public funds and the regionalization of health care delivery through the use of community health centers based around the provision of primary care. From a regionalized system that is ultimately loosely regulated by a central governing agency, system-wide initiatives, such as the use and standardization of electronic medical records, performance-based incentives and control of specialty referrals, can easily be administered.

Unfortunately, the argument that can be made as an explanation for the failure of the U.S. to make progress in health reform and to its primary care system is that those

aspects of the system that most need change are those that are the most logistically and politically difficult to realize. Reforms in PCP reimbursement, expansion of health care coverage and increasing the primary care workforce all aptly fall under that category. In addition, a large contributing factor in the successful implementation of primary care health systems in the three countries examined was the continued nonpartisan government support for such systems and their continued improvement. In all three cases, the government played an overwhelmingly large role in the fulfillment of health care goals. With this in mind, the question remains, are the approaches to overall health improvement through primary care outlined in this chapter beyond the realm of political possibility for U.S. health care? On the macro level, the answer is unfortunately no. As described in Chapter 1, health care policy making in the U.S. is overwhelmingly influenced by the country's political culture, which is comprised of the alternative interpretations of the Constitution combined with the democratic values of individualism, limited government and freedom. Regardless of legitimate benefit to the health of the country's citizens, reforms aimed at increasing the government's role or decreasing consumer choice would be seen as infringing upon core American principles and thus, would not be accepted. Thus, the best way to implement substantive change to the U.S. health care system is through community directed, locally run, initiatives.

CHAPTER 4: Developing primary care models in the U.S.

Hopefully, what is now evident is that when it comes to primary care, the United States health care system is subpar. The poor health outcomes achieved by U.S. citizens, especially when compared to other developed countries around the world, is an unfortunate manifestation of this deficiency. In addition, with over ninety-nine million Americans currently living with chronic illness and the mounting evidence from numerous studies revealing that sizeable proportions of these chronically ill patients are not receiving effective therapy or optimal disease control, it is clear that meeting the needs of this population is one of the major challenges facing the U.S. health care system today (Rothman and Wagner 2003). I established in Chapter 1 that the development of the U.S. health care system, with its emphasis on specialty medicine, technology and private insurance ownership, is a reflection of the norms and values Americans hold dear. I established in Chapter 3 through an international comparison that countries with strong primary care infrastructures have better health outcomes as a result of their commitment to universal health care coverage, regional health care delivery and system-wide initiatives aimed at quality improvement. While many of these macro-level reforms may lie beyond the realm of sociopolitical possibility in the U.S. based on American values and lack of political will, substantive change is most likely to be achieved through locally run initiatives. There are, in fact, specific areas around the United States that have been able to adopt health care systems that allow for an increase in primary care availability and highly coordinated care for all patients within the health microsystem. In this Chapter, I highlight current models in the U.S. that take a primary care approach to improving community health and health care delivery. Included in this discussion are the

Medical Home and Accountable Care Organizations (ACOs) as well as area-specific models like Kaiser Permanente, the Geisinger Health System (Pennsylvania), Vermont's Blueprint for Health, Community Care Health of North Carolina, the Seattle-based Group Health Cooperative and Oklahoma's Primary Care Extension Centers. Each practice contains specific strengths that allow for increases in coordination of care and consistently high quality care and all of them rely upon primary care as the focal point of care management and delivery. These "national best practices" have been shown to deliver high quality care in the modern U.S. health care system fraught with error and lack of accountability.

TURNING TO EXISTING MODELS: From the Affordable Care Act to Medical Homes to Innovative Practices

The Patient Centered Medical Home is one of the reforms aimed at improving the primary care infrastructure in the U.S., which is outlined in the Affordable Care Act. The medical home has recently emerged as a promising model for strengthening primary care yet the concept is not a new one. The term was first coined by the American Academy of Pediatrics in the late 1960s but did not receive considerable attention until recently (Hoff 2010: 173). In March 2007, the American Academy of Family Physicians, American Academy of Pediatrics, American College of Physicians and American Osteopathic Association released the "Joint Principles of the Patient-Centered Medical Home" (Hoff 2010: 173). The document emphasizes the attributes of primary care and provides insight into how these correlate to the various elements of the medical home (Reid et al. 2010). The attributes include access to care, long-term relationships with health care providers, comprehensiveness and coordination of care (Reid et al. 2010). Also critical to the

medical home concept are a health professional team orientation grounded in evidence based medicine and quality improvement and the support of these teams through the use of advanced electronic medical records and payment systems that reward quality improvement (Reid et al. 2010). Perhaps the most important element, however, is the pairing of each patient with a single primary care physician (PCP) who not only treats patients holistically but also helps navigate their care within any part of the health care delivery system. To put it all together, a patient-centered medical home is a primary care site that provides patients with timely access to care, including the provision of care after regular office hours (in evenings and on weekends in particular), allies with patients to manage health conditions and prevent complications, coordinates all care while engaging in continuous quality improvement (Abrams et al. 2011).

It is important to emphasize that the medical home idea is really, as Timothy Hoff, Professor of Health Policy and Management at the University of Albany School of Public Health, calls it, “old wine in new skins” (as quoted in Hoff 2010: 176). Concepts like care coordination and case management were central to the managed care reforms in the 1990s because they were believed to be important in reducing health care expenditures. However, proponents of the medical home model argue that the financing model employed in managed care was not conducive to getting more PCPs to coordinate or manage care in a high-quality manner (Hoff 2010: 176). Capitation was the primary financing model and it involved the up-front payment of PCPs for managing patient care. The idea was that by only being reimbursed a fixed fee per person per episode of care, the physician was incentivized to control utilization in order to be able to keep more of the capitated fee. Thus, PCPs were reimbursed poorly, if at all, for face-to-face visits under

the capitated system because they were only paid for providing specific services. The medical home model, on the other hand, differs in that care management is driven by quality outcomes and not by the reduction in spending. Now, this quality component is also not a new one in the U.S., as considerable attention has focused on quality improvement since the major Institute of Medicine reports “To Err is Human” and “Crossing the Quality Chasm” in 1999 and 2001 respectively were published (Institute of Medicine 1999 and 2001). The former highlighted the significant patient safety and physician error issues particularly in ambulatory care settings and the latter identified areas that must be addressed to foster complete and integrated care including, among others, patient centeredness, care effectiveness and safety (Institute of Medicine 1999 and 2001). Overall, the medical home principles are not novel yet they have captured the attention of major stakeholders in health care delivery including large national employers, the major primary care physician associations as well as state and federal governments.

A growing body of evidence suggests that medical homes are associated with better health outcomes on both the individual and community levels in addition to lower overall costs of care and reductions in health disparities between populations of low and high socioeconomic status (Starfield and Shi 2004). Patients with a medical home have better access to care, are more likely to receive recommended preventative services, have better managed chronic conditions and are less likely to go to the emergency room (Abrams et al. 2011; Nutting et al. 2009; Starfield and Shi 2004). Cost savings associated with medical home pilot programs are consistently seen primarily through reductions in unnecessary hospitalizations and emergency room use (Abrams et al. 2011). As mentioned in Chapter 1, the Affordable Care Act (ACA) promotes the medical home

concept by giving states the option to increase reimbursements of primary care sites designated as “health homes” for Medicaid patients with chronic conditions (Abrams et al. 2011). These health homes are defined as designated primary care providers who work in multidisciplinary teams with other health care professionals to provide the following services: comprehensive care management, care coordination, transitional care between primary care and specialty care, referral to social services and use of information technology systems to link these services (Abrams et al. 2011). Currently, thirty-seven states have begun demonstration or pilot programs utilizing the medical home model with the federal government providing up to 90% reimbursement of costs for states participating in the health home program for the first two years, far exceeding the usual federal-state Medicaid matching rates (Abrams et al. 2011). The enhanced reimbursement varies by state, with Medicaid medical home payments ranging from an additional \$3.00 per member per month in Rhode Island to an average \$31.00 per patient per month for qualified practices in Minnesota (Abrams et al. 2011; Minnesota Department of Health 2010). Because the ACA expands Medicaid coverage to up to 133% of the federal poverty level, more than 15 million chronically ill Medicaid enrollees could have a health home by 2014 to help in their disease management.

One primary example of the application and success of the medical home model is the Group Health Cooperative in Seattle, Washington. Group Health Cooperative, an integrated health insurance and care delivery system, became one of the first to pioneer the medical home model when it redesigned a small, 9,200 adult patient-portion of its practice in 2006 (Reid et al. 2010). To adopt the medical home model, Group Health made a series of changes. First, they hired more physicians and other clinical staff to

decrease the number of patients per physician from 2,300 to 1,800 (Reid et al. 2010). In addition to physicians, medical assistants, licensed practical nurses, physician assistants, nurse practitioners, registered nurses and clinical pharmacists were hired to serve on primary care patient panels with the goal of providing more comprehensive and coordinated care. These care panels, lead by primary care physicians, were responsible for delivering care to patients in their practices utilizing e-mail, telephone messages and online viewing of lab results to enhance and promote patient engagement, outreach and visit preparation. Standard management practices were established through short, daily planning meetings with the patient panel (Reid et al. 2010). Second, given the significant evidence linking time constraints on quality of care and patient satisfaction, Group Health attempted to increase the standard patient visit time from twenty minutes to thirty minutes with time allocated for each patient panel to plan and coordinate care (Chen et al. 2009; Gross et al. 1998; Reid et al. 2010).

The results of the implementation of the medical home components to Group Health Cooperative were analyzed for patient experience, quality of care, provider burnout and costs after two years of implementation. Based on a survey of 6,187 adults in the clinic compared to two control groups of patients who were not a part of the medical home, the medical home patients reported better health care experiences based on care coordination, access, goal setting, quality of doctor-patient interaction and patient activation and involvement (Reid et al. 2010). Patient activation means that the patient is given the tools necessary to manage his/her own disease state. Surveys of provider burnout, measured using the Maslach Burnout Inventory, which is a standard tool used to measure aspects of workplace stress, showed that providers in the medical home were

less emotionally exhausted and felt a greater sense of personal accomplishment than those treating non-medical home patients (Reid et al. 2010). In terms of clinical quality, medical home patients experienced 20-30% greater improvements in health outcomes over the two-year period compared to non-medical home patients as measured using twenty-two indicators from the Healthcare Effectiveness Data and Information Set (HEDIS 2008; Reid et al. 2010). Furthermore, medical home patients made 6% fewer visits to their PCP and made 29% fewer emergency room visits than did patients in other Puget Sound area practices (Reid et al. 2010). Finally, the return on investment for the medical home after two years was 1.5:1, which means that for every dollar spent to implement the medical home, Group Health received \$1.50 in return (Reid et al. 2010). What the implementation of the medical home prototype at Group Health demonstrates is that primary care investments in the form of the medical home can improve quality of care, both provider and patient satisfaction and save money. At the community level, this is a substantial health care delivery feat.

While Group Health made the implementation of a medical home prototype seem easy, in general, operationalization under the ACA is quite difficult. Primary care sites will need to provide a wide range of services, including expanded access to care, comprehensive care management, coordinated and integrated care and use of information technology systems, in order to qualify as a medical home. A survey of physicians at primary care practices in Massachusetts found that larger practices are more likely than smaller ones to adopt the necessary capabilities to become medical homes due to the greater investment of resources required (Friedberg et al. 2009). However, a study of 291 large medical group practices (defined as those with more than 20 physicians) found that

the adoption rate of the medical home infrastructure was low, indicating that many primary care practices do not have the resources in place to meet the expansive qualifications for a federally reimbursable medical home (Rittenhouse et al. 2008). Normally, there are three key components identified as critical in operationalizing the medical home concept. The first is added payments for PCP care coordination and case management. The second is the implementation of electronic medical records in the PCP offices. The third is transforming the way patient care is performed to assume the added duties of the medical home such as extending the length of time for a given face-to-face patient visit (Hoff 2010: 180). Because it is very hard for practices to accomplish these goals on their own, the Agency for Healthcare Research and Quality (AHRQ) is helping to transform primary care practices through practice facilitation (AHRQ 2013). Facilitators help practices move to a team-based approach to care coordination and delivery and maximize the use of electronic medical records, thus changing the way they provide care. There are currently four states, Pennsylvania, New Mexico, Oklahoma and North Carolina, that have received grants from AHRQ to support facilitation in small and mid-sized practices to assist with the transformation to a medical home model (AHRQ 2013). These facilitators are intended to provide primary care sites the support they need to function as medical homes.

Yet another significant example of the practical application of the medical home model is the Geisinger Health system headquartered in Danville, Pennsylvania. Geisinger Health System is a physician-led, non-profit, integrated delivery system that serves approximately 2.6 million people living in 43 counties (McCarthy et al. 2009). The system employs a multidisciplinary group of more than 740 physicians practicing at 50

clinical sites. Approximately 200 of these physicians provide primary care in 40 community practice clinics (McCarthy et al. 2009). The health system also has three hospitals, three ambulatory surgery centers, inpatient and outpatient drug and alcohol treatment centers and offers a Geisinger Health Plan, a network model health maintenance organization offering individual, group and Medicare coverage to approximately 30% of Geisinger's patients (McCarthy et al. 2009). Geisinger's patient centered medical home initiative is designed to improve care coordination and optimize health status for each patient. Components of the medical home, or "Personal Health Navigator," include 24-hours a day access to primary and specialty care, a nurse care coordinator in each practice site, predictive analytics to identify risk trends and a focus on evidence-based care to reduce hospitalizations and optimize management of chronic disease (Paulus et al. 2008). In addition, electronic medical record access is provided to all participants including physicians, care managers and patients. Patients can view their lab results online and can also compare how these results compare to past results. In addition, patients have access to clinical reminders, self-scheduling, prescription refills and secure e-mail with providers (Paulus et al. 2008). The electronic database also displays a set of providers (specialists) that patients could be referred to if they so desired. To encourage physician involvement in the medical home, the Geisinger system provides a series of practice-based payments. Physicians are paid monthly payments of \$1,800 per physician to increase their scope of practice, such as taking on greater care coordination roles, and monthly stipends of \$5,000 per 1,000 Medicare members are paid to practices to help finance additional staff, extended hours of operation and implement other structural changes (Paulus et al. 2008). Additional incentive payments are provided

to each physician upon meeting quality performance indicators. In addition to incentive payments, Geisinger Health System medical homes receive monthly performance reports of quality and efficiency, which are reviewed by the site team.

Geisinger Health System pilot medical home initiatives have shown significant promise. One target outcome of the medical homes was to reduce hospital use. Results after one year of implementing the medical home model at two pilot sites show a 20% reduction in all-cause hospital admissions and a 7% reduction in total medical costs (Paulus et al. 2008). Because of these promising results, the medical home initiative has been expanded to ten additional Geisinger sites, covering 25,000 Medicare patients (Paulus et al. 2008). Overall, the Geisinger Health System was founded upon the principles of information continuity, care coordination, system accountability, peer review and teamwork, continuous innovation and easy access to appropriate care (McCarthy et al. 2009). The Geisinger medical home initiative has been shown to accomplish these goals through the use of an extensive electronic medical record system and utilization of various quality improvement mechanisms.

The structural support required for primary care practices to meet the requirements of a medical home can be achieved by sharing resources across multiple primary care sites. By pooling resources, smaller practices can reduce their operation costs and improve quality because it gives them access to resources that might otherwise be too expensive for a single practice to own. This shared resources concept has been operationalized through community health teams, collaborative care networks and primary care extension centers.

COMMUNITY HEALTH TEAMS

In 2011, the U.S. Department of Health and Human Services began awarding grants to states and state-designated organizations to establish “community health teams” to support patient centered medical homes. The goal was to bring a range of professionals, from physicians to nutritionists, to contract with local primary care practices to provide support for patients with chronic conditions (Abrams et al. 2011). Services encompassed in these health teams included preventative care, 24-hour care management and hospital discharge support, as well as the collection of data on health outcomes and patient satisfaction. The PCPs were required to develop care plans for each participating patient and make the plan and the patient’s medical history available to a health team. The PCP would also be charged with meeting regularly with the patient’s care providers to facilitate proper coordination and integration.

An example of the implementation of community health teams is Vermont’s Blueprint for Health, a statewide (public and private) initiative authorized by the Vermont legislature that supports six medical home practices in the St. Johnsbury health service area through the use of multidisciplinary teams that provide preventative, chronic disease, mental health and social service support (AHRQ 2010). The St. Johnsbury area includes 30,000 residents, 40% of whom are covered by Medicare and 20% by Medicaid (AHRQ 2010). The program, which first began in July 2008, helps medical homes refer patients to community resources, coordinate care with other providers and help chronically ill patients better manage their conditions (Bielaszka-DuVernay 2011). The main component of the program is the multidisciplinary community health team that identifies at-risk patients and helps them overcome the social and economic barriers to

managing their health. The teams are lead by a team coordinator that works with patients to develop a plan for self-managing their conditions and follow up with the patients on a regular basis. Care coordinators are also present at the six primary care practices and collaborate with other health care providers to coordinate care for patients at risk for chronic conditions. The care coordinators counsel patients on self-management goals, provide care management for complex patients, follow up with patients about overdue appointments and diagnostic tests and follow up with patients after discharge from the hospital (AHRQ 2010; Bielaszka-DuVernay 2011). All of the medical homes use electronic medical record systems to track patient care and also have access to the hospital information system. Participating practices are rewarded with bonuses for improving performance based on standards set by the Department of Health and Human Services for patient centered medical homes. Physicians can receive close to \$30,000 a year in bonuses awarded per-person per-month based on their performance (AHRQ 2010). The Vermont Medicaid program also funds the enhanced payments. Since the implementation of the community health teams, the annual rate of inpatient admissions decreased by 6% compared to just 1% in non-participating practices (AHRQ 2010). Vermont public health officials estimate that total health care spending will be reduced by 34.7% once statewide expansion of Blueprint for Health is completed (AHRQ 2010).

COLLABORATIVE HEALTH NETWORKS

Another grant program created by the ACA provides comprehensive and integrated health care services for low-income populations through “community-based collaborative care networks” (Abrams et al. 2011). The grants will be used to help low-

income individuals obtain access to medical homes and networks eligible for funding must serve a high volume of Medicaid patients. Community Care of North Carolina (CCNC), established in 1998, best illustrates the potential benefit of such collaborative care networks. CCNC is the product of a grassroots response by physicians, state legislators and community health care leaders to the challenge of providing high quality and cost efficient care for Medicaid patients in the state of North Carolina (Steiner et al. 2008). CCNC is a partnership between Medicaid, PCPs and other local health care providers to reduce costs and improve quality in the management of care for Medicaid recipients in the state. The program has 1,200 primary care practices (50% of the total number of primary care practices in the state) that manage the care of 750,000 Medicaid patients or 80% of the State's Medicaid population (Steiner et al. 2008). The program is organized into 14 community health networks, each of which employs a full time program director, a medical director and a team of case managers. The networks in the CCNC are funded entirely by the state Medicaid office and receive \$3 per member per month from Medicaid to improve the quality of care each patient receives (Grumbach and Mold 2009). CCNC links each patient to a medical home, subsequently linking each Medicaid patient to a PCP (Steiner et al. 2008). This allows the patient to receive ongoing comprehensive primary care, coordinated care with other health care professionals as needed, as well as provides access to the gamut of other services associated with medical homes previously described throughout the chapter (24-hour access to care, social services and dietitians, chronic disease management, etc.). To aid in the management of chronic diseases, case managers are employed to complement the work of physicians. There is a strong incentive for small practices to join the community health networks

because it gives their patients access to case managers that the small practices would otherwise be unable to afford. Overall, the strengths in CCNC lie in its ability to coordinate care for a large population that is normally turned away from physicians' offices because reimbursement rates for Medicaid patients are generally low (Steiner et al. 2008).

CCNC was implemented to curb rising Medicaid costs. Assessments of cost savings for three years, from 2000-2002, showed that the state of North Carolina saved \$60 million a year after implementing CCNC (Stiener et al. 2008). By 2006, North Carolina was saving \$161 million a year, with the largest savings in reductions in emergency department utilization (23% fewer emergency room visits) and outpatient care (25% fewer visits) (Mercer Group 2005, 2007). This is made possible simply because healthier patients visit their doctor less frequently. Furthermore, the CCNC has yielded Medicaid a return of \$2 in savings for every \$1 invested (Grumbach and Mold 2009). In addition to cost reductions, CCNC also improved the quality of care. Through asthma control initiatives, the CCNC was able to decrease the staging of asthma (staging refers to the level of severity of the disease from stage 1- mild intermittent to stage 4- severe persistent) in patients by 21%, increase the number of asthma patients who received influenza vaccinations by 112% and hospitalizations for asthma decreased by 34% (Steiner et al. 2008). Overall, the five basic principles of CCNC include linking patients to medical homes, engaging in quality improvement mechanisms, providing case management for high-risk patients, intervention planning and quality assessment, and providing statewide structure while also allowing for control at the regional level. Adherence to these principles has allowed CCNC to improve delivery of chronic care and

preventative services, which may serve as a practical model of health care delivery physicians in the U.S.

PRIMARY CARE EXTENSION CENTERS

In addition to community health teams and collaborative health networks, the Agency for Healthcare Research and Quality has been charged with establishing Primary Care Extension Centers designed to provide educational support and assistance to primary care providers (Abrams et al. 2011). The goal of these extension centers is to enable providers to regularly utilize preventative medicine, health promotion, chronic disease management, mental health services and evidence-based medicine in their practices by working with health extension agents. Health extension agents are local, community-based health care workers who provide assistance to primary care practices to incorporate the principles of the medical home and link the practices to the wide array of health services necessary to provide comprehensive care. The ACA has allocated \$120 million each year, since 2011, for state health departments, Medicaid agencies and schools that train primary care providers to serve as agents in extension agencies (Abrams et al. 2011).

An initiative in Oklahoma illustrates the benefits of primary care extension centers. The Oklahoma Physicians Resource/Research Network (OKPRN) is collaboration between the Oklahoma Academy of Family Physicians and the University of Oklahoma Department of Family and Preventative Medicine with additional ties to the state's Department of Health, Medicare Quality Improvement Organization and Medicaid Program (Grumbach and Mold 2009). The OKPRN is comprised of more than 235

clinicians at 110 sites, most of which are small independent practices, and aims to provide community physicians with information, education and technology to enhance their primary care practices. The OKPRN developed and tested a quality improvement method that offers participating providers performance feedback through benchmarking, practice facilitation, health information technology support and assistance with quality improvement projects (Grumbach and Mold 2009). The OKPRN has been able to produce significant improvements particularly in the provision of preventative services and diabetes care by sharing their approaches to common challenges such as the implementation of evidence-based care (Mold et al. 2008). Taken together, community health teams, collaborative health networks and primary care extension centers share the same key feature. Each is committed to sustained partnership with community primary care practices to improve health care delivery in order to ultimately improve public health.

It is important to mention that those critical of the medical home model criticize that it does not offer explicit incentives for providers to work collaboratively to reduce costs and improve quality (AHA 2010). Opponents argue that while the medical home model calls specifically for primary care providers to take responsibility for coordinating care, this can be challenging if the providers do not have the resources or established relationships with other providers to undertake these tasks (AHA 2010). To address some of these limitations and others in the medical home model, the ACA calls for the creation of an Accountable Care Organization (ACO) program administered by the Centers for Medicare and Medicaid Services (CMS) that was initiated in January, 2012 (AHA 2010). Dr. Elliot Fisher coined the term Accountable Care Organization (ACO) in 2006 in an

article where he was describing the development of partnerships between hospitals and private practicing physicians to better coordinate and deliver care (Fisher et al. 2006; Fisher et al. 2009). Central to the ACO concept is the development of legal agreements between hospitals, PCPs, specialists and other health care providers to improve health care quality through the efficient use of treatments, care settings and providers (Fisher et al. 2009; AHA 2010). Much like with the medical home model, ACOs would need to be able to incentivize health care providers to form linkages and facilitate care coordination throughout the different levels of care. This would require, as a part of the ACO, an administrative body dedicated to managing patient care, distributing payments and managing financial risks incurred by the ACO. Through the ACA, ACO demonstration programs administered by the CMS have been initiated. Both the medical home and ACOs promote the use of electronic medical records, patient registries and increased patient education to achieve health care improvements (AHA 2010). However, the ACO is expected to address some of the medical home model's limitations because it fosters accountability for care and costs by offering a joint payment to all providers involved in the provision of care (AHA 2010). In addition, the ACO model does not specify a specific type of provider that should take the role as administrator of the ACO. ACOs are not explicitly centered on primary care yet they do embody key components of the primary care approach to health care, namely in a holistic approach to patient care. The inclusion of ACOs in the legislation of the ACA is an acknowledgement of the fact that U.S. health care is too fragmented and that treating patients holistically is the best way to achieved higher quality delivery.

Overall, the medical home model acknowledges that the best quality of care is provided not in episodic, illness-oriented care but rather through patient-centered, physician-guided, longitudinal care that values an evidence-based scientific approach to medicine. What programs like Group Health Cooperative, CCNC and OKPRN illustrate is that components of the medical home model are feasible and practical for quality improvement and cost reduction. However, the medical home model faces challenges to its success that must be considered. First, standard measurement criteria must be established to designate practices that function as medical homes. While the National Committee for Quality Assurance (NCQA) has led the way in accrediting and certifying health care organizations as medical homes, the NCQA standards have been criticized for overemphasizing health information technology infrastructures and not giving practices credit for other aspects of the model, like improving patient satisfaction (Rittenhouse and Shortell 2009). In addition to this, another important barrier impeding the success of medical homes is public perception. In the U.S., any health reform effort aimed at decreasing costs bears the stigma of restricting access to quality care. That is, because Americans tend to associate higher cost with better medical care, reducing the cost of care creates the impression that the care provided is simply not as good. Therefore, significant educational initiatives are needed to describe the medical home model in a way that will best resonate with the American public. Finally and perhaps most importantly, there is an impatience that accompanies health care delivery reform in that there is an expectation of positive results in the short term. In the case of the medical home, short term cost savings may be unrealistic because implementation requires investment in infrastructure to reemphasize primary care. It will require the

redevelopment of business models and new staffing structures to foster better integration and coordination of care. Cost reductions accrued in the medical home model will result from decreased medical errors, emergency room usage and hospitalizations. Therefore, legislators and the American public must be weary of being too focused on short-term gains. Nevertheless, the medical home model is widely endorsed and has the potential to increase access to quality medical care (Abrams et al. 2011).

KAISER PERMANENTE: A macro-level approach to total patient care

The medical home model is not the only model currently being used that relies heavily on primary care and the holistic approach to patient care. Possibly the largest and one of the best examples is Kaiser Permanente. Kaiser is the largest not-for-profit, integrated health care delivery system in the U.S. (McCarthy et al. 2009). The delivery system serves 8.6 million members in eight regions around the country including California, Colorado, Georgia, Hawaii, the Mid-Atlantic States, Ohio and the Northwest. Kaiser Permanente is considered a closed group-model care system in that health plan members generally obtain care from Kaiser Permanente physicians.

Among the strengths of Kaiser is that in having a broad spectrum of services available within one organization, and, in many cases, one location allows for easier coordination of care for patients. In this way, Kaiser can be viewed as a macro level medical home in that all of the patient's health care needs are addressed within one organization. Patients are linked to one PCP and an "accountable unit," a team of providers that is responsible for coordinating and ensuring continuity of care (McCarthy et al. 2009). One role of the "accountable units" is to consistently check on outstanding

preventative care needs and schedule services. For example, medical assistants receive feedback reports following patient visits that inform them on whether certain preventative care needs were not addressed during the visit. The medical assistant can then promptly follow up with patients. As a result of such efforts, the breast cancer-screening rate for women ages 40-69 was 79% compared to the national rate of 69% (McCarthy et al. 2009). Kaiser's holistic and personal approach to care may be a contributing factor in member loyalty, as members enrolled in the California region stay enrolled, on average, for 14 years compared to four years for its competitors (McCarthy et al. 2009). Overall, Kaiser's approach to health care delivery is based on the philosophy that a strong primary care system offers the most efficient way to interact with patients while, at the same time, conceding that some patients need additional support and specialty care to achieve the best health outcomes.

Kaiser patients fall into three basic levels of care. Approximately 65 to 80% of patients whose conditions are generally responsive to lifestyle changes and medications utilize primary care with self-care support (McCarthy et al. 2009). This level of care minimizes face-to-face physician time by providing enhanced contributions from support staff such as nurses, medical assistants and pharmacists. Teams of health care support staff utilize electronic health records to track patients with chronic conditions and develop plans for self-care to make sure that patients are taking appropriate medications and are reminded of preventative care measures when needed. The 20 to 30% of patients who have multiple diseases, whose diseases are not under control or have complex medication regimens, utilize assistive care management. At this level, care managers support the primary care team to help patients control their chronic condition whether

through self-care training or referral to educational classes that teach patients about their chronic illness. Lastly, intensive case management and specialty care is utilized by 1 to 5% of patients with advanced disease states. At this level, specific programs are implemented to reduce the severity of the disease. For example, the Northern California region initiated a program called Prevent Heart Attacks and Strokes Everyday, or PHASE, to provide patients with consistent prevention therapies for controlling blood pressure, blood glucose and blood lipids for patients at risk for cardiovascular disease (McCarthy et al. 2009). Interventions included prescribing medications to lower blood pressure and blood lipids and promoting lifestyle changes like smoking cessation, physical activity and nutrition. Through PHASE's focus on prevention for cardiac care, prevalence of smoking declined by 3% in three years (double the rate of improvement in the state of California), blood pressure control doubled from 36 to 77% of patients with hypertension from 2001 to 2008, hospitalizations rates for coronary heart disease declined by 30% from 1998 to 2007 and the heart disease mortality rate declined by 26% from 1995 to 2004 (McCarthy et al. 2009).

Kaiser Permanente has succeeded in allowing primary, secondary and tertiary care providers to fully integrate and communicate with one another through the use of an advanced IT system known as KP HealthConnect. The \$4 billion health information system is the largest non-military installation of electronic medical records in the country. First implemented in 2004, HealthConnect is a comprehensive information system with numerous functionalities including electronic health records with comprehensive documentation and connectivity to lab, pharmacy, radiology and other systems, secure patient-provider messaging and electronic inter-provider messaging about care that is

automatically incorporated to patient records (Chen, Garrido et al. 2009). HealthConnect also has the capability for electronic prescription and test ordering through computerized order entry, disease registries, preventative care reminders, electronic referrals that directly schedule patient appointments with specialists and billing functions. Through HealthConnect, patients are electronically connected to their health care team and to their personal health information. Studies have shown that patient satisfaction with physician visits increased and that errors in medication administration have been reduced after the introduction of HealthConnect in exam rooms (McCarthy et al. 2009; Chen, Garrido et al. 2009). Furthermore, 75% of patients who use HealthConnect reported that they were able to manage their health care more effectively (Chen, Garrido et al. 2009). Patients who used Kaiser's online services made 10% fewer visits to their PCP lending further support to the efficacy of electronic health systems (Zhou et al. 2007).

Kaiser Permanente illustrates how an integrated, coordinated and multidisciplinary group practice can manage the health of a population. Coordination of care is enhanced by the fact that Kaiser employs its own physicians and owns its primary, secondary and tertiary care facilities. That is, Kaiser's physicians are employees and are not simply working under contract. Care coordination is also facilitated through the ease with which information is shared across specialties and settings, a feature made possible by HealthConnect. Moreover, just like with medical homes, Kaiser relies heavily on primary care to manage chronic conditions and prevent onset of new ones, and in doing so Kaiser reduces health care costs because healthy patients access the health care system less. Ultimately, Kaiser, having the advantage of having evolved over a long period of time (it was started in the 1940s by Henry J. Kaiser) may not be easy to replicate today.

Kaiser had attempted to expand to several new regions in the 1980s and 1990s, but only two have been successful (McCarthy et al. 2009). Nevertheless, Kaiser's model is additional evidence supporting the need for a more integrated health care system predicated on primary care, prevention and holistic treatment.

CONCLUSION: Opportunity for Primary Care Initiatives in the U.S.

Some of the best health care systems in the world, as indicated by the World Health Organization, achieve substantial health outcomes because they employ regionalized health care delivery systems centered on primary care. In these systems, PCPs act not only as physicians, but also as gatekeepers into the health care system, as care managers and as patient educators. In these systems, continuous quality improvement is incentivized by performance-based financial rewards and effective treatment is promoted through the use of evidence-based medicine. In these systems, costs are controlled not through the withholding of needed care, but by producing healthier patients who, subsequently, utilize the health care system a little bit less or more appropriately. Currently, in the U.S. there are numerous community-based health care systems in practice with features similar to those regionalized systems employed by countries with the best health care systems in the world. The medical home model, and programs that are based on its concepts, including the Geisinger health System, Vermont's Blueprint for Health, Group Health Cooperative, Community Care Health of North Carolina and Oklahoma's Primary Care Extension Centers, are models based on patient-centered delivery and strong primary care. They emphasize preventative care and chronic disease management through the integration of multiple components of care that

can be used to overcome the fragmentation and rising costs of the current U.S. health care system. Moreover, because of the numerous grants, reimbursement programs and other financial incentives offered through the ACA to support the development of community health teams, community-based collaborative care networks, primary care extension centers and other forms of the medical home model, the current environment for the development and proliferation of such initiatives is favorable.

Many cities around the U.S. are in need of a stronger primary care system to address the deficiencies in health care access and quality. Many communities across the country face the same challenges of coping with the increasing prevalence of chronic disease, an aging population and an insufficient supply of primary care practitioners. The models presented in this chapter reflect national best practices in primary care that set the standards for meeting these challenges. The ACA also attempts to address the need for increased primary care infrastructure on a national scale. The challenge facing communities across the U.S. will be to commit to working towards adopting these practices in the interest of its citizens' health, well-being and financial viability.

CHAPTER 5: CONCLUSIONS AND WHERE DO WE GO FROM HERE?

CONCLUSIONS AND POLICY IMPLICATIONS

The United States health care system today faces significant challenges that clearly indicate the urgent need for reform. Attention has been focused on the approximately 48 million Americans who are uninsured as well as on the many precariously insured Americans who face rapidly increasing premiums and out-of-pocket expenses (Brennan et al. 2009). As a consequence, little emphasis has been placed on the delivery system reforms that will be required to improve the quality and coordination of health care for an increasingly unhealthy American population. This thesis has reviewed the evidence on a range of primary care delivery systems, initiatives and policies that improve the outcomes and quality of care for individuals, communities and countries as a whole. The main conclusion drawn from this research paints an ideal picture of the way health care should be structured and delivered. Evidence from international data suggest that countries whose health care systems have a strong primary care orientation perform better than those that lack this orientation in that they experience lower overall health systems costs, better health outcomes and higher levels of patient and provider satisfaction (Macinko, Starfield and Shi 2007). Exemplary primary care-centered health care systems share the following commonalities: universal health care coverage financed principally by the central government, a regionalized delivery system of community health centers where care is provided and coordinated by the primary care physician (PCP) and the capacity to implement system-wide quality improvement initiatives such as health information technology systems and performance-based incentives. Despite the fact that the underlying element of these systems is the provision of universal health care,

something Americans are fundamentally opposed to, community level programs exist in the U.S. that are structured similarly to those in the countries analyzed (Abrams et al. 2011). Thus, achieving quality improvement in the U.S. health care system is possible through the implementation of community-based primary care centers. In light of this conclusion, there are several recommendations that can redirect the U.S. health care system to focus on primary care. These include greater emphasis coordinating care, enhancing the primary care workforce and developing delivery models that target specific communities or populations. Lastly, international comparisons provide a useful conceptualization of how American society has shaped health care policy and reform. Organizational and policy differences between health care systems mean that ideas and initiatives have to be adapted rather than simply copied.

TOWARDS GREATER CARE COORDINATION

Improving the coordination of care in the U.S. should be a priority. In this case, care coordination refers to the range of reforms that reorganize primary care with the goals of improving preventative care, transitions from one care setting to another and information exchange as patients navigate through the health care system (Brennan et al. 2009). The U.S. health care system suffers from fragmentation and lack of accountability, which inhibit the effectiveness of care. Based on Medicare claims data, the average beneficiary sees two PCPs and five specialists across multiple practices and the physician who the beneficiary sees most frequently accounts for only a third of the patient's total doctor visits (Pham et al. 2007). Communication amongst patients' physicians, particularly the 66% of Medicare patients with multiple chronic diseases, is hindered by

paper-based record systems (Pham et al. 2007). The lack of care coordination is most manifested during medical transitions when patients transition from inpatient care to home care and where physician accountability is ambiguous (Coleman 2005). Effective care coordination can help patients suffering from multiple chronic illnesses, particularly those at high risk for costly complications. Care coordination must have a primary care focus. An example of such an intervention is assigning a primary care manager, most likely a nurse or a physician assistant, to educate and check on patients between visits to the PCP, coordinate treatments, engage in record-sharing among each of the patient's health care providers and remind physicians about cost-effective treatment steps that improve patient outcomes (Brennan et al. 2009). In general, there are two methods that are key in reforming care coordination that can be implemented at the state or local level. The first involves giving PCPs greater resources for coordination activities, such as providing fee-for-service payments for services like follow-up phone calls or emails to patients. The second is to provide greater support to PCPs to expand care coordination capabilities by providing more health care support staff, such as nurse care managers, and health information technology. Health information technology, in the form of electronic medical records or computerized physician order entry, have the potential to facilitate a broad range of quality improvements and have been shown to improve the provision of preventative services like vaccinations and cancer screenings (Dexter 2004). These policies are relatively simple mechanisms by which care can be coordinated to reduce complexity, avoid errors, improve the effectiveness of care and subsequently decrease utilization of specialist and hospital care.

Perhaps a more complex mechanism of care coordination involves the fundamental reorganization of the primary care system around the patient-centered medical home model. The medical home model is effective in enhancing care coordination because it organizes delivery around teams of physicians and nurses that offer 24-hour access to primary care, supported by greater use of electronic medical records for communication, decision making and chronic disease management (Nutting et al. 2009; Starfield and Shi 2004). Evidence of effective implementation of the medical home model is mounting, with successful initiatives in the Group Health Cooperative in Seattle, Community Care of North Carolina and the Geisinger Health system (Reid et al. 2010; Steiner et al. 2008; McCarthy et al. 2009). Furthermore, because these initiatives are being supported and funded by the federal government through the provisions of the Affordable Care Act (ACA), the current climate for care coordination reform is promising.

That being said, the implementation of the medical home model faces challenges that lie beyond the direct control of primary care practice. Although the model calls for primary care practices to take responsibility for coordinating and integrating care across the health care continuum, it provides no direct incentives to other providers to work collaboratively with primary care providers in achieving these goals and optimizing health outcomes (Rittenhouse and Shortell 2009). In addition, although evidence suggests that increased investment in primary care can result in savings from reductions in inappropriate use of tests and procedures, emergency department utilization, and hospitalizations for conditions that could be treated in an outpatient setting to name a few, most primary care practices do not have financial arrangements that allow them to share

in these savings (Fisher 2008). The effect on total costs of implementing the medical home model could be limited because under the current largely fee-for-service reimbursement system it is unlikely that providers will respond well to reductions in the number of referrals or admissions by allowing their incomes to fall (Rittenhouse and Shortell 2009). These limitations could be addressed most readily if the model were implemented in the context of a larger entity such as an Accountable Care Organization (ACO) that expands the umbrella of the medical home to hospitals and specialists. ACOs, which are also being piloted by the Centers for Medicare and Medicaid Services (CMS), have the capacity to offer incentives to all providers involved in the provision of medical and coordination services. Thus, medical home and ACOs are promising reform models because they expand care coordination provided that they offer incentives, via increased payments, for physicians carrying out coordination functions. Operationalization of such initiatives must begin at the federal level with the Medicare Payment Advisory Commission (MedPAC), which has the capacity to implement nationwide medical home pilot programs with enhanced pay-for-performance incentives for Medicare patients. Overall, care coordination through an enhanced role of primary care in chronic disease management and use of health information technology can improve deficiencies in the fragmented U.S. health care system. However, longitudinal data must be collected from medical home pilot programs to determine whether such an organization can improve quality and reduce costs in a predominantly fee-for-service system.

EXPANDING THE PRIMARY CARE WORKFORCE: Is the ACA doing enough?

Achieving any substantial improvements in the primary care infrastructure in the U.S. health care system starts with increasing the number of PCPs. There is little debate about the growing primary care workforce shortage in the U.S., as most national studies show that while the supply of PCPs is increasing, it is neither sufficient for current needs nor for keeping pace with the increasing demand (Carrier et al. 2011). The ACA includes many provisions promoting strategies to increase the supply of primary care practitioners (including nurse practitioners and physician assistants, not just PCPs) yet will these efforts be enough? Policies included in the ACA attempt to address both short-term and long-term expansion of the primary care workforce. As described in Chapter 1, the ACA aims to increase the supply of practitioners through initiatives like educational loan forgiveness or scholarships, enhanced training programs and higher reimbursement and payment rates (Carrier et al. 2011). These policies are put in place to increase the number of medical students who will pursue careers in primary care, to encourage medical school graduates to practice primary care and to provide additional skills for practitioners currently working in primary care. However, these strategies, while potentially very beneficial, may be insufficient. Currently, about 300,000 physicians practice primary care with 3,000 new U.S.-educated physicians entering primary care each year (Carrier et al. 2011). If the cumulative effect of the provisions in the ACA were to increase the annual number of new PCPs by 20% (an overestimation), new U.S.-educated physicians would constitute an additional 0.3% of the primary care workforce, about 600 additional physicians annually (Bodenheimer and Pham 2010). By 2020, a decade after the passage of the ACA, approximately 6,000 new physicians would enter the primary care

workforce, less than one seventh of predicted need of PCPs (45,000 PCPs) as indicated by the American Association of Medical Colleges (Carrier et al. 2011).

Because the process of training new PCPs is slow, given the length and financial cost of medical education, current ACA policies to expand primary care capacity could be augmented by concurrent expansion of state scope-of-practice laws and the adoption of payment policies that support increased productivity for PCPs. Given the supply of advanced practice nurses (APN) and the shorter training time frame of new APNs, expanding state scope-of-practice laws, which determine the tasks non-physician health care professionals can perform and whether they can practice independently, is an area of reform that expands the primary care workforce in a relatively shorter time frame (Carrier et al. 2011). APNs are nurses that have completed graduate level education in nursing (either a Master of Nursing or a Doctor of Nursing Practice degree) and can treat patients independently or under physician supervision, depending on state scope-of-practice laws. Physician assistants, in contrast, must work under physician supervision. While the impetus for states to amend legislation to broaden scope-of-practice laws depends on their primary care workforce and the distribution of practitioners, twenty-two states and the District of Columbia currently allow APNs to practice independently while two-thirds of states with PCP shortages also have scope-of-practice laws that restrict APN independent practice (Carrier et al. 2011). It is important to note that there is strong disagreement among health care professionals as to whether APNs are qualified to perform certain tasks despite the fact that studies show APN quality performance on recommended preventative services, patient satisfaction and short term mortality to be equivalent to that of physicians (Wilson 2008). While the ACA does allocate \$50 million

from 2012 to 2015 for hospitals to train APNs as well as other incentives for APNs to practice primary care, states must be willing to consider expansion of their scope-of-practice laws in order for these APNs to alleviate the demand for PCPs.

Central to attracting medical students and young physicians to primary care and keeping them satisfied is changing payment mechanisms in place for primary care work. The ACA does include Medicare and Medicaid payment rate increases for primary care services as well as performance-based incentives for providing high quality care supported by electronic medical records (Abrams et al. 2011). However, additional payment methods could be introduced to primary care settings, such as capitated payments that hold providers accountable for care cost and utilization or added payments for care management that incentivize physicians to work in multidisciplinary teams comparable to those described in the medical home model. Primary care practices that chose to implement such payment options may be more willing to implement team/multidisciplinary models that increase PCP productivity. For example, allowing PCPs to play a greater role in care coordination allows them to initiate care that might previously have been performed by specialists. In fact, proponents of the medical home model argue that PCP involvement in multidisciplinary teams will increase PCP satisfaction, leading to an increase in the desirability of the specialty (Carrier et al. 2011). Overall, enhancing payment options for PCPs that increases the productivity of the physician and the desirability of the field will ultimately encourage greater numbers of medical students to enter into primary care. However, increasing payments for PCPs requires substantial investments, not only in money but also in time, by providers. Therefore, government and philanthropic support is required for these models to be

implemented. Furthermore, since the ACA grants 16 million more Americans access to Medicaid by 2019, state governments should lead the way in implementing incentive-based payment plans for primary care work (Abrams et al. 2011). Funding for states to increase primary care reimbursement rates for Medicaid patients has already been allocated under the ACA (Abrams et al. 2011).

Overall, if the primary care workforce is to be strengthened in the U.S., emphasis must be placed on illustrating to future physicians that primary care is a desirable specialty. To do this, the PCP business model must change and PCPs must get paid more. Given the rising numbers of patients with chronic diseases that will be walking through primary care practice doors as the baby boomer population reaches retirement age, PCPs must be paid appropriately for spending more time with patients and serving proper prevention, chronic disease management and care coordination functions. In addition, opportunities for PCPs to work in multidisciplinary teams through the medical home model and increased use of electronic medical records may also enhance physician satisfaction by giving incentives to PCPs to be care coordinators. However, financial barriers are frequently cited as the main obstacle to adoption of electronic medical records especially for independent providers (Brennan et al. 2009). Despite being effective in reducing medical errors and promoting care coordination, the benefits of electronic medical record adoption are only accrued after significant implementation costs (office based electronic medical records range in cost from \$25,000 to \$45,000). Moreover, federal research grants supported by the ACA may not be enough to create the impetus for PCPs to change their practice and for payers to offer incentive-based

payments. Therefore, state governments will have to play greater roles in facilitating such improvements.

KEEPING AN EYE ON FOREIGN MODELS FOR REFORM

International comparisons of the U.S. health care system to those of Spain, Italy and the United Kingdom provide invaluable evidence for and against implementation of specific policies in the U.S., even when considering differences in values and politics. International data on primary care help to illustrate the importance of a strong primary care infrastructure on producing an effective health care system and a healthy population. Systems that enhance the provision of primary care are associated with better overall mortality rates, including premature death from asthma, bronchitis, emphysema, pneumonia and cardiovascular disease (Macinko, Starfield and Shi 2003). Recent surveys of patient care experiences and patient ratings of various dimensions of care in the U.S. and other countries show that U.S. patients are less satisfied with the U.S. health care system than patients from other countries (Ginsburg et al. 2008). People in countries with greater proportions of PCPs than the U.S. see less need for a complete rebuilding of their health care systems, find their regular physicians' advice to be helpful and feel they receive coordinated care (Ginsburg et al. 2008). These data coupled with that issued by the World Health Organization (WHO) ranking the U.S. significantly lower than other developed countries that spend a fraction of what the U.S. does on health care, illustrate the importance of continuously monitoring reforms other countries implement into their health care systems (WHO 2000); however, we must modify components of other systems to fit within American sociopolitical culture.

Aside from universal health care coverage, the key element of the primary care-centered systems is the regionalized system of delivery. In Spain, regions are divided into Health Areas and primary care is provided at Basic Health Zones (Borkan et al. 2010). The Italian equivalent of the Basic Health Zone is the Local Health Unit and the U.K. equivalent is the Primary Care Trust (Donatini et al. 2001; Harrison et al. 2011). Use of regionalized systems allows the governing bodies of these health systems to establish interventions that target specific regions, communities or patient populations that will have greater impacts on quality improvement and health outcomes (Carrier et al. 2011; Ginsburg et al. 2008). These systems have the enhanced capacity to measure predictors such as high utilization, complexity of conditions or clinical and personal characteristics to improve delivery system initiatives. It is important to note that the U.S. Institute of Medicine has outlined benchmarks for measuring quality care in the report entitled, “Crossing a Quality Chasm” (Institute of Medicine 2001). The report identifies six areas that can be assessed to ensure health care quality: safety, effectiveness, patient centeredness, time and efficiency and equity. Each area has a set of indicators that can be empirically measured. Safety, for example, can be assessed using rates of iatrogenic disease. While such a method of measuring quality using testable criteria is ideal, implementation in the U.S. is not widespread due to the fragmented and multi-tiered system. While a regionalized system in the U.S. is more difficult, if not nearly impossible at this point without universal coverage, emphasis can and should be placed on identifying regions or populations within the U.S. that would benefit the most from targeted delivery system reforms such as medical homes, ACOs or electronic medical records. For example, certain groups, including individuals with multiple chronic

diseases, low income and minority populations and patients undergoing care transitions are particularly vulnerable and are more likely to benefit from enhanced care coordination and disease management. Developing better analytic capabilities for focusing delivery system interventions appropriately is a prime example of how foreign models can be adapted to fit within the U.S. system.

Adaptations of foreign policies on U.S. health care are most manifest in organizations such as Kaiser Permanente, which has adapted case management, risk stratification and predictive modeling of necessary care based on the U.K.'s National Health Service (NHS) managed care policies (Ham 2005). When examined more closely, Kaiser Permanente and the NHS have a lot in common. Kaiser and the NHS were founded at roughly the same time (1940s) and provide a similar range of services for similar sized populations (Feachem et al. 2002). Much like the NHS, physicians, both primary care and specialists, are salaried employees of the medical groups and Kaiser owns and operates most of its own ambulatory facilities and hospitals (Feachem et al. 2002). However, Kaiser specialists cannot work outside the system unlike NHS specialists. Nevertheless, these similarities provide a glimpse at the potential success of an NHS-type system in the U.S. While Kaiser illustrates how an integrated and coordinated multidisciplinary group practice can manage the health of a population the size of a small country, it is important to point out that (as noted in Chapter 4) expansion of Kaiser to several new regions in the U.S. have failed. Kaiser attempted to build a branch of their HMO in the Northeast U.S. however this branch, that served 575,000 patients in the New York suburbs of Westchester County and Fairfield County, Connecticut, closed in 1999 due to losses of nearly \$1 billion in revenue (Freudenheim

1999). Kaiser was also forced to sell its HMOs serving the Dallas-Fort Worth, Texas, area and that serving Raleigh-Durham, North Carolina, just a year prior to closing the Northeast branch (Freudenheim 1999). What was the main reason for these closures? Patients in these areas were not open to the idea of having a completely centralized health care delivery system (Freudenheim 1999). The system, which had been so successfully implemented throughout California, failed to reach one of the largest markets in the country. Kaiser's sustained presence in California is largely due to the fact that Kaiser was established in Oakland as a company-funded and company-managed means of providing medical services to employees in Henry J. Kaiser's industrial enterprises. The Kaiser case, with its structural similarities to the NHS, is important because it demonstrates the impact of culture on implementing health care policy and reform.

What distinguishes the U.S. from the countries analyzed in this thesis, as well as others, is its distinct cultural elements and their impact on health care policy. American society is rooted in individualistic ideals, distrust of government and values personal freedom and choice (Ham 2005). Consequently, Americans want to direct and be in control of their own health care, with clinical advice from their physicians, financial subsidies from employers and public programs, information from the Internet and the support of their families and friends. This makes the likelihood of a national, single payer-program highly implausible, even if the U.S. government does predominate as a major payer in that it already accounts for 46% of all health care costs through public programs like Medicare, Medicaid, State Children's Health Insurance Program (SCHIP), the Veterans Health Administration and the Department of Defense workers compensation (Ginsburg et al. 2008). At the same time, in all the countries analyzed,

there is a small percentage of the population utilizing private insurance whether to access care not covered by the public plan or simply because they can afford it. About 12% of U.K. citizens own private health insurance, compared to 15% in Italy and Spain (Borkan et al. 2010; Donatini et al. 2011). The fundamental difference between these countries and the U.S. is that their health care systems are predicated on first ensuring that a basic level of health care is provided to all citizens before offering private options for those of higher socioeconomic status. This collectivism is in stark contrast to American individualism that views health insurance as something one earns (Ubokudom 2012: 51). Overall, international comparisons of primary care systems not only allow us to evaluate the effectiveness of policies and initiatives in the U.S. compared to those used in other countries but also provide a qualitative depiction of how culture impacts health care policy and reform.

SIGNIFIGANCE OF RESEARCH

This thesis highlights the importance of implementing specific delivery reforms to the U.S. health care system. Investments are needed to support the expansion of the primary care workforce and subsequently, coordinated, high-quality care. To ensure the achievement of substantive pay off, these investments must be linked to realistic improvements in care outcomes and cost reduction to produce greater value. Future investments in care coordination should begin with government grants and loans to promote infrastructure investments that enhance the ability of PCPs to provide coordinated care, including through the introduction of subsidies for physicians using electronic medical records with Medicare and Medicaid patients. Funding must also be

provided to promote better sharing of clinical information across treatment settings, including the use of information systems that enable solo and small group practitioners to track the care of patients they share. Through the proliferation of health information technology systems and greater care coordination, subsidies for providers that utilize these services can shift to added payments tied to patient outcomes and cost reduction. Furthermore, policy makers must encourage state and regional level efforts by public and private payers to promote more consistent measurement and payment reforms that support coordinated care across the multitier U.S. system. Government support for infrastructural investment and collaboration between private and public sectors is essential to the success of these reforms.

The U.S. health care system does not push Americans to stay healthy. Rather it allows its citizens to wait until they get sick to provide care and does not pay or innovate around basic acute care and preventative medicine. As a result, Americans take for granted the effectiveness of primary care in improving the quality of life, reducing dependency on high-cost medicine, and keeping them out of the physician's office. In this specialty dominated system, only major legislative action can shift reimbursement schemes toward primary care in ways that make a difference. This thesis addresses the overarching policy question of how to make primary health care and PCPs fulfill their potential in a fragmented health care system that desperately needs greater primary care involvement. Through the systematic delineation of deficiencies and analysis of foreign and domestic solutions, this work offers a framework by which health care policy can be developed keeping cultural impacts on policy in mind.

Unfortunately, it seems that the U.S. health care system will remain a specialty-dominated system, regardless of whether initiatives such as the medical home model or electronic medical record use become pervasive. This is because the health care system has become an industry emphasizing technologically advanced and high cost specialty medicine, taking advantage of American fanaticism with the capabilities of modern medical intervention. Too much money and power is at stake for physicians, who occupy social positions at the height of professional dominance, hospitals and other stakeholders to concede to primary care, even if population trends, including aging, chronic disease prevalence and rising health care costs, indicate that primary care should be used as the backbone of the health care system. Nevertheless, reforms aimed at increasing care coordination, the primary care workforce and targeted population-based initiatives offer solutions intended to alleviate main deficiencies within the U.S. health care system.

LIMITATIONS AND DIRECTION OF FUTURE RESEARCH

This thesis reviewed many efforts to reform primary care, and subsequently, health care delivery in the U.S. that show considerable promise. Yet it is important to acknowledge several limitations. Progress in the delivery of primary care cannot be measured in a vacuum. The evidence presented supporting use of specific models of health care delivery centered on primary care is largely theoretical and based on a small sample of successful programs. In addition, international data on health and health care systems of different countries is difficult to compare because different outcomes may reflect economic, demographic, social and cultural factors not sufficiently discussed here. Lastly, despite the successes of reforms discussed that achieved significant health

improvements and cost savings over a relatively short period of time, including the redevelopment of the Spanish health care system and many medical home pilot programs analyzed, it is important to acknowledge that there is no “magic bullet” for improving health care. Reforms require significant short-term investments for the potential to impede future growth in health care spending and health trends. It is easy to add on to the existing health care delivery and payment system with modest policy improvements and initiatives based on ideal practices. Yet in reality, these reforms may simply increase the complexity of an already complex system.

The limitations outlined center on the theoretical nature of the research performed. Therefore, future research is needed to test these initiatives empirically. Research must examine the longitudinal ability of the initiatives discussed to assess the achievement of their desired functions, such as coordinating the primary and specialty care services and improving health outcomes. Included in this analysis is continued observation of the effectiveness of legislation outlined in the ACA. Genuine progress in health care reform can be evaluated only through the collection of these empirical data. Moreover, future development of health care reform must recognize American culture, the rapidly growing elderly and diseased population and the understanding of the fragmentation of the multi-tier health care system. Reforms must also be developed with the understanding that the achievement of measureable results may take significant time and may have to overcome initial financial losses, recouped later through reduced health care system use. Furthermore, for systemic initiatives involving increasing the supply of PCPs and their coordination function to be most effective, they must be implemented simultaneously to ensure real accountability from both providers and patients to achieve

desired results. Thus, further study is needed to determine whether these solutions could be effectively applied all at once and at how large a scale. Finally, to succeed with medical home initiatives, organizations must commit to providing accountability and added value to care. That is, executives must realize that they are not simply repackaging managed care or a collection of services provided previously under a different banner. For example, the process of creating and joining a health home, as has begun in thirty-seven states, requires organizations to add a variety of new processes, track new metrics and manage new populations in ways that most have not before. Significant research must involve delineating the operationalization of the medical home model. Overall, expanding research on improving health outcomes and health care system effectiveness through primary care would help ensure that the health care system is doing its job: yielding the best possible health outcomes at lowered overall cost and social burden.

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