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HEALTHCARE 2010

ABSTRACT: In March 2010 the Patient Protection and Affordable Care Act (PPACA) was passed by Congress and signed into law by President Obama. This 2300 page law represents the most significant legislation on healthcare since the Social Security Amendments of 1965 created Medicare and Medicaid. The act is sweeping in magnitude and will provide access to healthcare for an estimated 32 million previously uninsured Americans. Despite the passage of this legislation significant issues concerning the U.S. healthcare remain, most notably rising costs that are unsustainable in the long term. The U.S. will spend $2.5 trillion on healthcare in 2009**,** and the costs are rising faster than inflation. By 2019, national health spending is expected to reach $4.5 trillion and comprise 19.3 percent of GDP. The U.S. also faces a significant shortage of physicians and nurses, at a time when needs will only increase with an aging population and the overall quality of care provided needs improvement. Challenges also remain in the areas of emergency preparedness and global health. This paper examines the healthcare industry and proposes numerous policy measures to address the issues raised above.

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Walter Reed Army Medical Center, Washington, DC
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Johns Hopkins Health System, Baltimore, MD
Owens and Minor, Inc., Hanover, MD
Baxter International, Inc., Waukegan, IL
Cardinal Health, Waukegan, IL
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Siemens Medical Solutions – Molecular Imaging Division, Hoffman Estates, IL
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Hungarian Defense Forces, Budapest, Hungary
County Hospital, Veszprem, Hungary
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NATO Center of Excellence for Military Medicine, Budapest, Hungary
U.S. Health Attache`, Geneva, Switzerland
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U.S. Mission to the United Nations and Other International Organizations in Geneva, Geneva, Switzerland
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INTRODUCTION

The United States (U.S.) healthcare industry is a complex mix of private sector companies, facilities and providers; public sector providers and facilities; and insurance companies, all intermixed with significant Government regulation and oversight. This is one of the largest industries in the United States, and is multi-faceted in size and scope. Ultimately, however, this industry is focused on one primary objective: delivering healthcare in all its forms to the citizens of the U.S. Therefore, the healthcare industry itself is in many ways synonymous with the U.S. healthcare system.

The U.S. healthcare system is currently at a crossroads. On the one hand, in many respects the system is without a peer in the rest of the world. The top U.S. hospitals, such as the Mayo Clinic, Johns Hopkins, and Sloan Kettering are recognized worldwide for their innovation and high standards of care. U.S. hospitals are typically the first to adopt new technologies and surgical procedures, the latter which has enabled a rapid expansion in outpatient surgery. Because of an over-abundance of specialists, the U.S. also has shorter waiting times to see a specialist than any country in the world.[1] U.S. pharmaceutical manufacturers are the world's most prolific, marketing new products faster in the U.S. than anywhere else in the world.[2]

But this innovation and technological excellence comes at a price, and all signs now point to a system of care that is not sustainable. Total healthcare expenditures are expected to have increased from 16.2% of the U.S. Gross Domestic Product (GDP) in 2008 to 17.3 % in 2009.[3] In fact, since 1978 U.S. healthcare expenditures have grown 2.8% per year faster, on average, than the rest of the economy.[4] The Centers for Medicare and Medicaid Services (CMS) project that the U.S. will spend $2.5 trillion on healthcare in 2009**,** and the costs are rising faster than inflation.[5] The impact of rising healthcare costs has also placed a significant cost burden on employers. For example, between 1999 and 2009 workers' earnings increased by 38%.[6] However, during this same period health insurance premiums increased 131%.[7] By 2019, national health spending is expected to reach $4.5 trillion and comprise 19.3 percent of GDP.

Approximately 36% of current healthcare expenditures are paid for by the federal government[8], and public spending is projected to grow faster on average than private spending (7.0 percent versus 5.2 percent, respectively) from 2009 through 2019.[9] This is problematic because unlike the rest of the federal budget, healthcare expenditures are not subject to annual appropriations, but rather are structured to pay all costs submitted. As healthcare expenditures increase, further pressure will be placed on the federal budget, squeezing out other discretionary spending. The U.S. national debt could reach over 90% of GDP in 2010 and spending cuts to all federal programs are anticipated. Getting costs under control will be essential to maintaining the viability of Medicare, Medicaid and the State Children's Health Insurance Program (SCHIP) which are critical to the nation's health and well being.

One explanation for the excessive cost increases in healthcare lies in the reimbursement structure. The U.S. method of payment for healthcare, with its extensive use of fee-for-service, encourages the overuse of healthcare services by those with insurance who can afford to access the system. Another aspect of the cost increases has to do with the "advances in diagnostic and therapeutic interventions".[10] Americans adopt new technologies faster than other peer nations, sometimes before there is evidence that the new technology offers better outcomes. As a result Americans pay far more per capita for their healthcare than any other country in the world, yet in many key indices including life expectancy and infant mortality, our results are below our peer group of nations.[11] There are also increasing disparities and inequities in the delivery of healthcare

in the U.S. The lack of access to healthcare by millions of Americans has in part been responsible for poor health outcomes.

Despite these outcomes there has never been a national consensus that all Americans should have a right of access to quality healthcare. Many people, including some of the nation's political leaders, have expressed the opinion that such access already exists via hospital emergency rooms. While a hospital emergency room will treat emergency cases, most will not see people for non-emergency cases without insurance. Emergency rooms will not treat people suffering with chronic conditions who need ready access to primary medical care.

However, the year 2010 marked a "sea change" in the U.S. healthcare system. In March 2010 the Patient Protection and Affordable Care Act (PPACA) was passed by Congress and signed into law by President Obama. This 2,300 page law represents the most significant legislation on healthcare since the Social Security Amendments of 1965 created Medicare and Medicaid.[12] The act is sweeping in magnitude and is predicted to provide access to healthcare for an estimated 32 million previously uninsured Americans. Despite the passage of this legislation debate will continue on the law's implementation as the Department of Health and Human Services (DHHS) drafts the formal corresponding regulations. Yet at the same time nearly everyone is in agreement that the costs of healthcare are unsustainable in the long term. Any successful reform geared at slowing the rise in costs will have to minimize the impacts to access and quality, which represent the two other competing elements of the healthcare triangle. Although there is opportunity for innovation in each of these elements, the enormity and complexity of the problem will make complete reform elusive.

Despite all of the money that the U.S. puts into healthcare, the system fails too frequently to deliver high quality care. Significant disparities exist in rural and inner city areas, and the U.S. ranks well below peer nations in critical areas such as infant mortality and life expectancy. Further, the number of people that die from avoidable mistakes during treatment is unacceptable. In addition, physician-ordered treatments are too often not in accordance with best practices. There is a strong need for implementing best practices, or evidence based medicine, in medical treatments.

On top of these concerns the U.S. faces a considerable challenge in providing an adequate number of physicians (notably primary care physicians) and nurses. More physicians are turning to higher-paid specialist practices, and the remaining primary care physicians find themselves increasingly overworked. The shortfall of nurses represents perhaps a more serious problem. Nurses play a critical role in ensuring a high level of patient care. The shortfall of medical professionals will be an increasing concern as 32 million more Americans are added to the health insurance roles. It will also have an increasingly negative impact as the percentage of Americans over age 65 increases. The aging U.S. population will add considerable stress to the U.S. healthcare system. By 2030 a total of 20% of the U.S. population, or 72 million people, will be age 65 and older, in contrast to the current total of 12.8%.[13] These older Americans are likely to have acute and chronic conditions which will require sustained medical care.

Finally, there are two other significant healthcare issues facing the U.S. that must be addressed. First, emergency preparedness in the U.S. is significantly lacking. Government agencies at all levels, private corporations, and individual citizens all play a role in preparing for and responding to health emergencies. However, their day-to-day interests typically require little preparedness coordination; as a result their working relationships are weakly developed. Secondly, global health presents a serious national security challenge to the U.S., but tackling the issues involved will demand collective global action, and multilateral cooperation. This paper addresses each of these issues in greater detail and offers numerous policy prescriptions.

THE INDUSTRY DEFINED

The Healthcare Industry and its Key Segments

The U.S. healthcare industry as defined in this paper is one of the largest industries in the U.S. In 2010 it is expected to have total revenues of approximately $3 trillion and employ 14.7 million people.[14] For purposes of this paper and our studies the healthcare industry has been limited to four large segments: 1) treatment facilities and treatment services; 2) manufacturers, producers, distributors, wholesalers, and retailers; 3) providers; and 4) insurers.

The industry's largest employers are facilities that provide treatment or treatment services to individual Americans. This includes registered hospitals (both traditional and psychiatric), emergency and outpatient care facilities, family planning clinics, substance abuse and mental health clinics, nursing care facilities, and diagnostic and medical laboratories. This part of the industry includes over 97,000 separate facilities that employ nearly 8.2 million people. Their total 2010 anticipated revenues are nearly $1 trillion.[15]

A healthcare facility is defined as an establishment that routinely provides medical services to individuals and their families. The types of healthcare facilities range from outpatient clinics and primary care offices to major medical centers and hospitals with state-of-the-art specialized care units. Some medical institutions offer various auxiliary healthcare services through subsidiaries. Healthcare facilities are owned and operated by profit entities, non-profit organizations, government agencies, and in some case individuals. The quantity, quality, accessibility, diversity, and value of healthcare facilities are a universal gauge of the quality of life and affluence in a given U.S. geographic region. Healthcare facilities are legislatively regulated and licensure is required for these facilities to operate.[16]

Another segment of the industry serves to manufacture, produce, distribute, and sell various products needed by the healthcare industry. This includes pharmaceutical companies, medical instrument and equipment manufacturers, medical suppliers and wholesalers, prescription drug wholesalers, and retail pharmacies. This segment of the industry is expected to have revenues of approximately $1.1 trillion in 2010, and employ 1.8 million people in 74,667 different facilities.[17] The pharmaceutical manufacturers develop and produce medications used to treat or prevent diseases and other illnesses. For these companies, research and development is a large portion of their effort and expense.[18] Products made by the manufacturers meet a wide variety of needs, ranging from surgical equipment, to the beds and furniture used in hospitals, to prosthetic devices. This segment also includes distributors that manage extensive supply chain networks to ensure these products are delivered when and where they are needed. Finally, pharmacies provide consumers access to medication (prescription and non-prescription) and other health and wellness products. Examples include drug stores, which offer pharmaceutical items as well as other general health and wellness items. The three leading companies in this sector, Walgreen Co., CVS Caremark Corp., and Rite Aid Corp., account for 70% of the market share.[19] Retailers also include health stores that offer general nutrition products. An example of this is General Nutrition Companies (GNC), which sells nutritional supplements and other products for diet or energy purposes.[20]

A third and key segment of the healthcare industry includes the various types of providers such as primary care physicians, sub-specialists, dentists, optometrists, psychologists nurses, and social workers, podiatrists, physical therapists, and chiropractors. In the U.S. there are 4.4 million people either engaged as providers or working in over 890,000 different provider offices.[21] U.S. providers are expected to earn over $591 billion in 2010.[22] Professional and service occupations account for over 76% of jobs within this segment of the industry and encompass a broad range of expertise and

education. Many of these professionals possess at least a bachelor's degree, and in most cases additional higher education in a specialized field.[23] The industry's reliance on technology has made health technicians and technologists one of the fast-growing areas in the healthcare industry. These career fields focus on skill sets that assist in the diagnoses and treatment of patients, for example radiological technologists or health information technicians. The education requirement often involves the completion of a certification course and a high school diploma. Service workers such as home health attendants attract individuals with little or no specialized training. Finally, within the healthcare industry, approximately 22% of jobs provide support through administrative services, business management, and financial operations. Like the professional and service occupations, this population represents diverse groups with varying educational backgrounds and training.[24]

There are also numerous insurance firms involved in providing medical insurance to governments, companies, families, and individuals as well as providing reinsurance to other insurers. This industry employs over 290,000 people, and 2010 revenues should exceed $290 billion.[25] The insurance companies are both non-profit and for-profit. In 2008, more than half of the medical insurance plans in the U.S. and approximately half of total enrollees were in non-profit plans.[26] In 2008, the latest year for which official statistics are available, there were 201 million people covered by private health insurance in the U.S. In addition to these private firms there are thousands of people employed by the federal government to administer health insurance programs.

Insurers play a critical role in the American healthcare system because the average recipient of healthcare in the U.S. does not normally pay their medical bills directly to their providers. Instead, the majority of these bills are paid by medical insurance firms that have been funded by an employer, union, or by the individual.[27] This is referred to as a third-party payer system.[28] Sometimes the third-party payer is simply a reimbursement mechanism through an insurance carrier, and in some cases that third-party controls the medical benefits or services provided to the patient.[29] Some employers make a business decision to self-insure and take on the risk themselves, though they may contract for the administration.[30] The widespread use of health insurance as part of a broader package of benefits did not begin in the U.S. until the 1940s. Because of wage limitations during World War II employers added health insurance on a tax-free basis as a means to attract a qualified workforce. Since that time obtaining health insurance through the workplace has become the norm for most working Americans.

Non-Federal Healthcare Oversight

Aspects of the healthcare industry are overseen by various federal and state regulators, as well as by several key private regulators. Non-federal government regulators provide guidance and establish standards for the healthcare industry. The Joint Commission, an independent, not-for-profit organization governed by 29 members representing various aspects of the industry, provides accreditation and certification for U.S. healthcare organizations.[31] Private and professional organizations, such as the American Medical Association, also play a key role in establishing industry standard policies and practices. State and local governments provide further regulation of healthcare services and activities within their areas of jurisdiction. The regulatory role of federal government will be defined in the next major section of this paper.

Public Health

Public health, although not part of the industry section as defined above, plays a critical role in the well being of Americans. Public health in the U.S. is aligned along the Federalist model, with diverse responsibilities being tiered through the local, state and federal level.[32] This system

provides flexibility in responding to local concerns, but by consequence it leads to a lack of coordination toward common goals.[33] At the federal level, public health falls largely under the purview of the DHHS. Under DHHS are a number of agencies involved in all aspects of public health, most notably the Administration for Children & Families, the Administration on Aging, the Agency for Toxic Substances & Disease, the Health Resources & Services Administration (HRSA), the Indian Health Service (IHS), and the Substance Abuse & Mental Health Services Administration.[34] The public health roles provided by DHHS are mirrored to some extent through various health department structures at the state and local levels, with these local entities consuming approximately two-thirds of public health funding.[35] In addition to its role in the sphere of public health the federal government plays significant and varied roles in the U.S. healthcare system, as defined in the following section.

GOVERNMENT GOALS AND ROLE

The federal government serves as both provider and regulator of healthcare, a payer of healthcare services, and also conducts significant medical research and development. The specific details of these roles are explained below.

Provider

The Department of Defense (DoD) and the Veteran's Administration (VA) are substantive Federal government providers of healthcare. The DoD Military Health System (MHS) is a global medical network, providing worldwide healthcare to 9.6 million beneficiaries that includes all U.S. military personnel and retirees, and their respective family members. The MHS includes 59 hospitals and 364 health clinics. The MHS team of more than 130,000 medical professionals work in concert with the federal government's health care plan known as TRICARE, to provide more than 200,000 visits each day. TRICARE administers the health insurance plan for beneficiaries when they are required to use non-military healthcare facilities.

The mission of the VA is to serve America's veterans as their principal advocate, ensuring that they receive medical care, benefits, and social support. Services and benefits are provided via a nationwide network of 153 hospitals, 995 outpatient clinics, 135 community living centers, 49 domiciliary residential rehabilitation treatment programs, 232 Veterans centers, and 57 Veterans benefits regional offices. The VA has over 278,000 employees which includes thousands of medical professionals.

Regulator

The DHHS is the Federal government's principal agency for regulating and protecting the health of all Americans. This department employs over 64,000 individuals and operates on a budget of over $700 billion dollars per year. The primary agencies involved in regulation include the Food and Drug Administration (FDA), the Centers for Disease Control and Prevention (CDC), and CMS**.** The FDA assures the safety of foods and cosmetics, and the safety and efficacy of pharmaceuticals, biological products, and medical devices. The CDC provides a system of health surveillance to monitor and prevent disease outbreaks (including bioterrorism), and implements disease prevention strategies. The CDC also provides for immunization services, workplace safety, and environmental disease prevention. This critical agency also guards against international disease transmission, with personnel stationed in more than 25 foreign countries. The CMS administers and promulgates regulations for the Medicare and Medicaid programs, which provide healthcare to almost one in

every three Americans. Medicare provides health insurance for more than 44.6 million elderly and disabled Americans. Medicaid, a joint federal-state program, provides health coverage for some 50 million low-income persons, including 24 million children, and nursing home coverage for low-income elderly. CMS also administers the SCHIP program that covers more than 11 million children.[36]

Payer

There is no peer to the U.S. Government in its role as primary bill payer. Collectively, the departments and agencies (DoD**,** DHHS, Medicare, Medicaid, SCHIP, IHS, etc.) are a driving force that shapes industry standards and pricing benchmarks. Specifically, Medicare, due to the sheer magnitude of annual payments ($484 billion in 2009), has taken on the unassigned role as the foundation upon which most healthcare costs in the rest of the industry are based.

Researcher and Developer

The DHHS, the CDC, the National Institutes of Health (NIH) and the DoD are the principal Federal government organizations involved in medical research and development. The DHHS focuses on medical research which includes preventable diseases that can be eradicated, or disease effects minimized, through scheduled vaccinations. The CDC works directly with state health departments and other partners to research public health concerns that could impact health policy issues.[37] The CDC collects immunization data, tracks outbreaks of illnesses and also conducts research into the mutation or development of resident virus strains. The NIH, under DHHS, is the primary Federal agency for conducting and supporting medical research. The NIH provides leadership and both direct and indirect financial support to researchers and organizations in every state of the union as well as foreign governments throughout the world.[38] Finally, each of the DoD services conduct unique medical research and development.

As explained above, the healthcare industry is broad in scope and has significant government involvement and oversight. The next section of this paper will highlight some of the current and projected conditions which are impacting the delivery of healthcare in the U.S.

CURRENT AND PROJECTED CONDITIONS

Patient Protection and Affordable Care Act

Any discussion of current conditions in the healthcare industry must first include the passage of the most significant legislation on healthcare since the Social Security Amendments of 1965 created Medicare and Medicaid.[39] In March 2010 President Obama signed the PPACA into law. This occurred after the Congress passed the bill along strict party lines after a year of vitriolic rhetoric and legislative maneuvering. At over 2,300 pages, the act is sweeping in magnitude and will indelibly alter the American healthcare system.

The fundamental focus of the new law is to enhance healthcare access, primarily through insurance reform. Key attributes of this reform include barring insurers from withholding insurance from children with pre-existing conditions, eliminating lifetime dollar limits on insurance claims, and prohibiting insurers from rescinding coverage on individuals who become ill.[40] The law also requires medium and large-size companies to provide healthcare insurance to their employees, and incentivizes smaller companies, through tax credits, to do the same.[41] To help insure adults with pre-existing conditions, the law appropriates $50 billion to the states to set up high-risk insurance pools.[42] It also establishes insurance exchanges with the intent of increasing competition among

companies at the state level and providing a venue for small firms and individuals to acquire insurance at competitive rates.[43] The bill limits the percentage of premiums that can be spent on administration, and insurers will be required to justify premium increases.[44]

The mandates levied against insurance companies are anticipated to increase costs. To preclude an increase in premiums the new law requires all persons to acquire healthcare coverage (the individual mandate), which provides an additional stream of premiums from which costs can be spread among a larger pool of citizens.[45] This mandate is contentious, and has been challenged as unconstitutional by numerous states.

By approaching healthcare access as an issue of insurance reform, the new law reinforces the third party payer system as the fundamental means through which medical care is purchased. This system often distorts the healthcare market by divorcing both the consumer and provider from the cost of care. By pursuing the individual mandate, the act marginalizes the use of Healthcare Savings Accounts, a means by which some employers have provided access to medical care that incentivizes employees to be cost conscious. The PPACA places limits on the tax-deductible size of such accounts, effectively restricting their use.

While the focus of the law is access, it also begins to address the critical area of wellness. It mandates full Medicare/Medicaid coverage for selected preventive services, incentivizes small companies to offer wellness programs, establishes the requirement for a national strategy to improve the nation's health, and creates a Prevention and Public Health Fund for prevention, wellness and public health activities.[46] These steps may, in the long run, prove to be beneficial in moving the American healthcare culture from one of treatment to one of prevention. Additionally, a focus on wellness could shift personal behavior, thereby lowering medical costs by reducing the chronic illnesses that stem from smoking, poor diets, and lack of exercise.

According to the Congressional Budget Office (CBO) estimates the healthcare law will provide medical access to an additional 32 million Americans,[47] and will lead to minor reductions in deficit spending over the next decade.[48] The bill is funded through increased Medicare payroll taxes, fees on the pharmaceutical and insurance sectors, and excise taxes on high-value health insurance plans, certain medical devices, and indoor tanning services.

The law does not address tort reform, the high cost of pharmaceutical drugs, and most importantly the rapidly increasing cost of medical care. Without such action, these costs will overwhelm the nation's ability to pay and lead to unsustainable national debt. Thus, the most significant aspect of the Patient Protection and Affordable Care Act may be that it has wedged open the legislative door on healthcare, providing the beginning for what will be additional debate and continued legislation. The issues surrounding healthcare costs are addressed in more detail in the following section.

Healthcare Costs and Healthcare Results

The Rising Cost of Healthcare

As previously stated, the cost of healthcare in the U.S. is rising faster than inflation, and in the long term will not be sustainable. In 2006 the U.S. spent nearly $650 billion more on healthcare than all other peer nations, after adjusting for wealth.[49] Left unchecked the rising costs of healthcare will have a significant impact on the federal budget, crowding out other necessary spending. Medicare and Medicaid made up 20% of the federal budget in 2010 a total of $743 billion, and additional out-year growth is expected.[50]

There are a variety of ways to depict the composition of healthcare costs. Using 2006 healthcare cost data, the U.S. spent 40% on outpatient care (which includes same-day hospital visits, physician office visits, dental care, diagnostic imaging center visits, and other outpatient clinics). The next largest component of healthcare costs was inpatient care, representing 25% of overall costs, followed by prescription drugs and nondurable medical equipment[51] comprising 15%. The remaining costs include administration and insurance (7%), long-term and home care (9%), and durable medical equipment (1%)[52],[53] In terms of demographics, healthcare costs increase significantly with age. The per person expenditures in the 0-18 age group, which represents over 24% of the population, averages about $2,000. However, people in age 65 and over group, who make up just 12.8% of the population, average over $9,000 per year in healthcare costs, generating 72% of all healthcare expenditures.[54]

The status quo is unsustainable on all levels: national, state, local, and individual. The most challenging aspect of cost containment in the U.S. healthcare system lies in addressing the complex, fragmented markets which comprise the system. The persistent increases in healthcare costs over the rate of inflation are a result of market failures, driven by forces of a quasi-commercial system wherein the incentives reward supply of services rather than quality outcomes. Any successful reform must remedy the respective market supply and demand failures (including an adjustment of current incentive misalignments), all while meeting societal and cultural acceptance.

These dynamics distort resource allocation and, and equally critical, make costs nearly invisible to most consumers. Unlike nearly all other markets, most insured patients (consumers) are price-insensitive. Pricing information is not readily available in the public domain, making cost-based decisions difficult at best. Only healthcare providers typically understand information concerning the necessity and quality of treatments, which further limits the consumer's ability to make informed decisions. As a result providers of care nearly always have the upper hand by dictating the quantity of services offered. The current fee-for-service payment model which dominates the industry further exacerbates the problem by incentivizing consumption rather than quality of healthcare services. The result of this system is a unique, inefficient recipe of over-treatment (excessive medical care provided for increased profit) and under-treatment (insurance companies practicing risk selection and limiting services covered for increased profit). As a result costs outpace GDP and inflation growth, and positive patient outcomes are not rewarded. These characteristics of the healthcare consumer market--price-insensitive demand, no pricing information, fee-for-service, and supplier-determined quantity of services provided--create economic conditions that facilitate "more is better," and innovation that generally increases, rather than decreases cost. In order to sustain a reasonable standard of healthcare for all Americans, aspects of these markets must change.

Poor Outcomes are Occurring in the Healthcare Marketplace

Despite the high level of spending as outlined in the preceding section, the quality of care in the U.S. is mixed. While the U.S. offers state of the art facilities and care in many areas, the nation lags in areas of life expectancy and infant mortality in comparison to peer industrialized nations.[55] Y Moreover, the U.S. health system is plagued by disparities within its borders. Ethnic and racial minorities experience worse health outcomes. For example, the average life expectancy for black Americans is 5.3 years shorter than for white Americans.[56] Even when adjusted for socioeconomic status, the disparities persist. Similarly, rural communities experience poorer health outcomes, largely due to the scarcity of health professionals.[57]

Poor outcomes are not limited to those Americans who do have access to the healthcare system. In 1999, the Institute of Medicine (IOM) published its landmark report entitled *To Err is Human* which revealed that at least 44,000 and perhaps as many as 98,000 Americans die annually in hospitals due to preventable medical errors.[58] The report shined a spotlight on patient safety and the impact of medical errors. This report was the beginning of public discourse questioning the quality of healthcare in the U.S. Two years later, the IOM report *Crossing the Quality Chasm* stated that "healthcare today harms too frequently and routinely fails to deliver its potential benefits. Americans should be able to count on receiving care that meets their needs and is based on the best scientific knowledge."[59] Nearly a decade later a chasm still exists between the care we have available and the care the health system is capable of providing. According to the 2008 National Scorecard on U.S. Health System Performance published by the Commonwealth Fund Commission, the U.S. scored 65 out of 100 on 37 key performance indicators when comparing national averages for benchmarks to the results of the international community.[60] More disconcerting is the widening of the chasm. Between 2003 to 2008 the U.S. dropped from 15th to 19th for preventable deaths. This equates to more than 100,000 premature deaths annually that are directly attributable to a lack of quality.[61]

These results are disconcerting, especially because the U.S. is typically the first nation to adopt new medical technologies. However, simply adopting technologies without addressing best medical practices will only contribute to rising costs and continued poor quality. As a result of these issues a concept called evidence-based medicine (EBM) is increasingly being seen as a cornerstone of future U.S. health policy. The concept of EBM is simple: apply the best available evidence gained from the scientifically-designed studies and clinical research to medical decision making.

Within the medical community there is clear recognition of its value. Despite this recognition, several studies, to include an IOM report, have shown that too little physician activity is based on evidence. "Fewer than half of the treatments and tests that doctors recommend are supported by scientific evidence."[62] The absence of EBM in clinical decision-making, when available, wastes valuable resources. Of course, it is important to remember that EBM is a tool to be balanced with clinical judgment. Prominent British medical researcher Dr. David L. Sackett summed up the role of EBM in medicine when he said, "without clinical expertise, practice risks becoming tyrannized by evidence…without current best evidence, practice risks becoming rapidly out of date, to the detriment of patients."[63]

Like many other aspects of the U.S. healthcare system, EBM suffers from a lack of integration. There is no overarching approach to EBM in healthcare that creates incentives throughout the decision making process. For the most part, payment for healthcare is not focused on outcomes. As stated previously, fee-for-service continues to drive the reimbursement structure and rewards volume over quality. Further, patients do not have access to the right tools such as outcome measures to make decisions. While some payers have attempted to limit aspects of coverage based on the evidence, the lack of a transparent, integrated system creates inconsistency and room for criticism. Insurance plans have had their best success implementing EBM in the area of pharmaceuticals.

EBM is also limited by the availability of unbiased quality research studies. The U.S. healthcare system is a free market with a sizeable portion of that market focused on profit objectives. Private sector research efforts are motivated, in some part, by the ability to make a profit, and are not necessarily geared to areas that would generate the most health benefit. Additionally there are certain areas of medicine that do not readily lend themselves to the

application of EBM. For example, social issues surrounding end-of-life care greatly influence health outcomes but are difficult to study and quantify.

The importance of EBM is apparent in the PPACA. In addition to embracing EBM, President Obama has also advocated comparative effectiveness research (CER), which has the ability to use EBM in determining the best value treatment solution. Comparative effectiveness is an evidence-based assessment of the impact of varying options that are available for treating a specified medical condition for a particular set of patients.[64]

Electronic Health Records

Maximizing each person's ability to participate in their healthcare decisions is important to reducing costs and improving quality. The nationwide implementation of Electronic Health Records (EHR) is a critical enabler to achieving this objective. Although definitive cost reductions have not been defined, and there are significant up-front costs, at least one integrated healthcare system has shown positive results. In a three-year study conducted in Hawaii between 2004 and 2007 using its Health Connect HER, Kaiser Permanente achieved a 26.2% reduction in office visits and a corresponding 900% increase in telephone visits.[65] Patients were saved significant out-of-pocket costs for travel, parking, and time lost at work.

The most compelling reason for expanding EHRs has to do with improving quality and patient safety. Redundant tests can be eliminated and multiple providers, including pharmacists, can have access to the same test results and medical notes. The potential for greater safety and more effective treatment options is significant. Perhaps the ultimate benefit is the fact that patients will have the ability to see all of their test results and doctor's notes, enabling them to become active participants in their medical treatment.

The expansion of EHRs will be an important enabler to improving medical care, and is especially needed at a time when the nation is facing a critical shortage of doctors and nurses.

U.S Healthcare Workforce Issues: The Shortage of Physicians and Nurses

The U.S. faces a considerable challenge in providing an adequate number of healthcare workers. The greatest concern affecting the healthcare workforce and the nation, however, is the current and projected future shortage of physicians and nurses. The Association of American Medical Colleges (AAMC), the Council on Graduate Medical Education (COGME), and the HSRA all agree that by 2020 physician shortages will range from 49,000 to 76,000 people.[66]

Shortfalls for physicians already exist across the U.S. in rural and inner city areas.[67] The U.S. government has designated approximately 6,000 primary care shortage areas, and 20% of all Americans live in these shortage areas.[68] This regional misallocation of physicians, which has always been with us, is expected to become more acute in the years ahead. The demographics of the U.S. population are another cause of the expected demand for physicians. Between 2006 and 2025 the population of the U.S. is expected to increase by 51.2 million people. Roughly 50% of that growth will occur in the 65 year and over age group.[69] This is a critical factor because it is this population that is expected to have a large percentage of acute and chronic conditions which will require sustained medical care.

The most visible issue surrounding the looming shortage of physicians is the projected shortfall of primary care physicians.[70] Primary care physicians currently account for 35% of all practicing doctors, but fewer than 20% of all U.S. medical students are choosing primary care as a specialty.[71] In fact, the number of medical students who go into primary care has dropped by more than half

since 1997.[72] Moreover, within primary care fewer doctors are choosing geriatrics as primary care profession, a key shortfall given America's aging population.

There are several reasons why medical students are turning away from primary medicine. First, the incomes of primary care physicians are considerably lower than those of specialists. A 2003 American Medical Association study showed that family practice and pediatric physician incomes were half those of cardiologists and orthopedists (about $150,000 to over $300,000).[73] In addition to earnings, new doctors are graduating with an average medical school debt of $155,000, which incentivizes them to consider high paying specialization.[74] Quality of life issues are another problem facing primary medicine. Higher paid specialists have less demanding schedules, more defined shifts, and generally more control over their lives.[75] On the other hand, primary care physicians find themselves increasingly overworked; as many as 50% have stopped taking new patients.[76]

In addition to needing more physicians, according to the U.S. Bureau of Labor Statistics, more than one million new and replacement nurses will be needed by 2016.[77] This projected shortfall is caused by several factors, but the most important is that within the next 20 years, the largest age group in the nursing workforce will be RNs in their fifties.[78] Perhaps the most important factor blocking resolution of this problem is the lack of qualified faculty at the nation's 640 schools of nursing. In 2008 a total of 49,948 qualified applicants were not admitted to baccalaureate and graduate nursing programs because of a lack of qualified faculty.[79] Nearly 7,000 of those applicants were turned away from masters or doctoral degree nursing programs, which are the degrees required to teach in nursing schools.[80] There are a number of reasons for the faculty shortfalls, including the fact that academic salaries are lower than clinical practice salaries, and the cost of obtaining advanced degrees is increasingly more expensive.[81] The faculty shortfall is further compounded by the fact that the average age of faculty in all nursing degree programs is 51.5 years, and the rate of retirements is projected to exceed the rate of replacement.[82] There are also workforce issues which are driving some existing nurses away from the profession. One 2007 study showed that 40% of U.S. hospital nurses were dissatisfied with their jobs, and 23% planned to leave their current job within the next year.[83] Resolving the nursing shortage is critical because nurses working in hospital settings play a critical role in ensuring patient safety and a high quality of care.[84] Numerous studies have shown that fewer nurses results in increased risk of adverse outcomes.

As the next section explains, the shortfall of primary care physicians and nurses will have a significant adverse impact as the percentage of Americans over age 65 increases in the next decade.

The Aging U.S. Population

The aging U.S. population will add considerable stress to the U.S. healthcare system. By 2030 20% of the U.S. population, or 72 million people, will be age 65 and older, in contrast to the current total of 12.8%.[85]. In addition, those in the age group 85 and over represent the fastest growing segment of the overall U.S. population.[86] Implementation of the Social Security Act in 1965 and the creation of Medicare, and subsequent program improvements, have contributed significantly to well being of older Americans.[87] Nonetheless, older Americans are more likely to have a large percentage of acute and chronic conditions which will require sustained medical care. Unfortunately, the needs of older patients "are often overlooked or ignored by a healthcare system that emphasizes efficiency and cost containment" in lieu of continued sustained care.[88] "The average 75 year old suffers from three chronic conditions and takes five prescriptions."[89] There is, therefore, little chance that a doctor will be able to cover everything in a standard 15-minute office

visit when an individual has multiple chronic diseases, or difficulty hearing or remembering, or any of the other various challenges that come with aging.[90] In addition, the rising trend toward obesity at all ages in our population exacerbates this situation and chronic co-morbidities are inherent side effects.[91] Further complicating this issue are societal changes which have left older Americans with decreased support. Fertility rates have declined, reducing the size of the average family.[92] In addition, the increasing prevalence of divorce has left a growing number of elderly Americans alone or with limited family support.[93] The costs of long term care will become an increasingly significant issue.

Beyond the structural healthcare issues explained in the previous sections, the U.S. faces two significant healthcare issues with broad implications. The first of these is increasing emergency preparedness, and the second is global health.

Emergency Preparedness

Increasing health emergency preparedness is essential and requires effective interaction between many public and private organizations, as well as individual citizens. Government agencies at all levels, private corporations, and individual citizens all play a role in preparing for and responding to health emergencies. However, their day-to-day interests typically require little preparedness coordination; and as a result their working relationships are weakly developed. The complex network of stakeholders introduces a broad spectrum of competing interests and behaviors, ranging from faith-based health services to aggressive profit-based competition for market share. Despite this stakeholder diversity, health emergencies pose a shared risk to emergency response organizations and society, and therefore require a collective mitigation strategy. Partnerships between government and industry must balance and reconcile the public service goals of the federal and lower levels of government with the business-oriented goals of healthcare providers and their suppliers.

The Department of Homeland Security (DHS) adopted a "Capabilities-based Preparedness form of all-hazards planning" as a viable way to deal with uncertain threats.[94] The U.S. deals with the uncertain contemporary threat environment by pursuing 37 capabilities to prepare for and respond to 15 National Planning Scenarios.[95] Amounting to approximately 800 pages, the nation's emergency preparedness and response architecture is documented in the law and several executive documents: the 2006 Pandemic and All-Hazards Preparedness Act (PAHPA) codified congressional expectations for meeting the nation's emergency preparedness obligations;[96] the National Response Framework (NRF) defined the nation's emergency response structure;[97] the National Preparedness Guidelines (NPG) identified the "vision, capabilities, and priorities for national preparedness;"[98] the National Incident Management System provided a "core set of doctrines, concepts, principles, terminology, and organizational processes" to enable "collaborative incident management;"[99] the National Health Security Strategy of the U.S. of America (NHSS) outlined the nation's preparedness goals and strategic objectives;[100] the Interim Implementation Guide for the National Health Security Strategy (IIG) specified necessary health security actions.[101]

Taken as a whole, the nation's emergency preparedness and response architecture describes both what to prepare for and how to prepare. Despite the considerable strategic and structural progress since 2006, major obstacles remain that will dampen the preparedness outcome unless future planning directly targets them. As the nation continues to mature its preparedness and response architecture, the public-private partnerships that are essential for an operationally viable response capability remain severely underdeveloped. Moreover, it is difficult for the average person to internalize the need to prepare for threats portrayed by the various National Planning Scenarios.

Faced with this ambiguity, the 21st century American culture tends to rely on the government for security, rather than individual preparedness. However, the NPG suggests that the federal government relies on voluntary initiatives, such as the Ready Campaign and Citizen Corps Councils, to increase individual preparedness.[102] With emergency responders making up "less than one percent of the total U.S. population," an individual preparedness culture must augment government-sponsored preparedness initiatives to enable effective large-scale health-emergency response.[103] Regrettably, as a sign of the indifference to this issue, only 36% of Americans took a first aid or resuscitation course from 2003 to 2008. This demonstrates that an individual preparedness culture remains largely dormant in the U.S.[104]

The Challenge of Global Health

According to the 2006 National Security Strategy of the U.S., "Global health is a contemporary challenge to national security in the 21st century, which the U.S. should strategically respond to in order to protect the security of the American people."[105] Global health has no boundaries and its challenges are without borders. With globalization, the world has become more complex and interconnected than ever before. Cross-border health threats have increased with the international trade of goods and the transportation of people. As a result of the speed of globalization, a deadly disease outbreak in one country can quickly travel across the globe. This past decade's three influenza outbreaks - severe acute respiratory syndrome (SARS), H5N1 Avian flu, and H1N1 Swine flu, are clear indicators of the world's vulnerability to new infectious, deadly diseases. These diseases illuminate the requirement not only for fast, internationally coordinated crisis response, but also the critical need for global unity and emergency preparedness.[106]

The term "global health" is frequently used in the media, the health arena, and in governmental and nongovernmental organizations (NGOs) and institutions.[107] As a result, the term "global health" is often used interchangeably with "public health" and "international health".[108] This has been a source of international division and confusion, and has sometimes resulted in disjointed and incongruous strategies. The issue of global health actually encompasses the full breadth of health threats, from maternal/child health and infectious, communicable diseases (HIV/AIDS, malaria, pandemic influenza, and tuberculosis) to chronic, non-communicable diseases, such as heart disease, cancer, diabetes, obesity, and hypertension.[109]

The 2008 World Health Organization (WHO) Report revealed that globalization, urbanization, and aging have unexpectedly accelerated the worldwide transmission of communicable diseases, and increased the burden of chronic and non-communicable disorders.[110] Despite the increasing numbers of morbidity and mortality from non-communicable diseases, countering infectious disease rather than growing a health infrastructure has dominated the U.S. and international health agenda. This is due to the effects of globalization and the immediate fear of pandemics and bioterrorism. For example, HIV/AIDS continues to be the leading cause of death in Sub-Saharan Africa and the fourth largest killer worldwide.[111] To date, approximately 60 million people have been infected with HIV, 25 million people have died of HIV-related causes, and 2.1 million children under 15 are living with HIV.[112] Tuberculosis (TB) presents another serious problem. The WHO reports that someone in the world is infected with TB every second. About one-third of people living with HIV (3.67 million people) are co-infected with TB, a leading cause of death among people living with HIV. There is also a great focus on malaria and other infectious diseases. Approximately 2.8 billion people, 40% of the world's population, are at risk for malaria. Roughly 500 million people still contract malaria every year resulting in 1 million annual deaths.[113] The problem that these diseases present is that

development in the affected countries is slowed and they have the potential to become destabilized. Whole regions can be affected by one nation in political and economic disarray.

POLICY RECOMMENDATIONS

Controlling Costs While Minimizing Impacts to Quality and Access

Bending the Cost Curve

The most critical challenge facing the American healthcare system is bending the cost curve downward. Most industrialized nations, irregardless of their form of healthcare, are faced with the same challenge of healthcare costs rising faster than inflation and consuming an ever-growing share of GDP.[114] As previously illustrated the primarily market-based American healthcare system is facing the same critical challenge of unsustainable cost increases.

The stitched-together markets currently comprising the U.S. healthcare system must change. We must begin by reversing a system in which supply creates its own demand in a third-payer environment. The solution should first alter incentives to reward performance (patient outcomes) instead of the volume of services provided. Secondly, consumers must recognize the cost of the care provided, and to the extent that these costs are incurred by the individual, markets will become more competitive, thereby pressuring prices to market equilibrium. These two elements--outcomes and price transparency--will shape behaviors that contribute to the rising cost of healthcare.

Recognizing that the U.S. has made a commitment to ensure that all Americans have access to healthcare, the following prescriptive steps should be taken to avoid additional market distortions. First, individuals must bear a proportional share of the cost of care received via scalable co-pays and premiums. Secondly, these scalable co-pays must be capped so risk of high-cost care is spread across the system. Finally, the healthcare insurance industry must be structured similarly to other insurance industries whereby risk is priced into the model. The use of High Deductible Health Plans in combination with Health Savings Accounts should be encouraged and legislatively supported. These type of plans promote a desire for greater price visibility and discourage unnecessary exploitation of the healthcare system.

Resolving Medicare/Medicaid Funding Shortfalls

As explained in preceding sections, Medicare, Medicaid, and SCHIP are critical to the nation's health and well being, a fact which cannot be overstated. By design, they provide critical healthcare services to the least advantaged citizens: the elderly, the poor, and the young. Maintaining the health and vitality of these programs is important for ensuring our ability to care for Americans who rely on these programs. At the same time, a healthy and vital national economy is important to ensuring our ability to fund these programs. Measures must be taken to contain the revenue demands of the programs such that they do not become a drain on the overall economy. Five specific recommendations are made to address these issues:

1) Eliminate Medicare Advantage plan overpayments

Both the Medicare Payment Advisory Commission (MedPAC) and the Congressional Budget Office (CBO) have found that payments to Medicare Advantage plans are 12% more on average than the costs would have been if the coverage had been provided under traditional Medicare fee-for-service payments.[115] This overage is estimated at about $1000 per beneficiary, and CBO predicts the total costs to rise given the projected growth in Medicare Advantage enrollments.[116] The CBO estimates that these overpayments will total $54 billion over the next five years and $149

billion over ten years.[117] The House has already voted to eliminate the overpayments, and the provisions survived in the recently approved legislation. MedPAC has already initiated phased implementation of payment adjustments.

2) Implement value-based purchasing and target areas of regional variation

Momentum has been growing in support of bundled payments for outcomes. Under this concept, Medicare would pay a fixed price for a medical outcome, such as a heart bypass operation. The medical service providers would determine how to allocate the price to the various providers, and would guarantee the level of care for an established period of time. The price is set for the outcome - a successful surgical procedure, for example, rather than for the multiple activities that occur during a surgical event. The outcome includes any resultant follow-up care, so providers are incentivized to optimize procedures and reduce incidents of missteps. This concept encourages innovation, as the provider is free to adjust procedures and practices as long as the medical outcome is obtained. The Congressional Research Service refers to this payment concept as value-based purchasing. Medicare, using the MedPAC procedures, should immediately begin aggressive implementation of value-based purchasing, and should prioritize its implementation in those regions with high volumes of fee-for-service procedures as a means to reduce excessive usage of medical services and their associated costs. While many experts believe this change will lead to substantial savings, the savings have not been quantified.

3) Incentivize the purchase of Long-Term Care insurance

"Most formal long-term care services are paid for by government sources. In 2007 a total of $190.4 billion was spent for nursing home and home healthcare in the U.S. Of this amount, Medicare paid for 25 percent, Medicaid and other public funds paid for 42 percent, out-of-pocket funds paid for 22 percent, and private insurance and other sources paid for 11 percent (excluding hospital-based nursing home spending)."[118]

Congress should consider incentivizing the purchase of long term care insurance by making the premiums tax deductible. Given the high costs of long term care, and the fact that the federal government now pays for two-thirds of the care provided, the near-term loss of tax revenues for deductible premiums would appear to be an advantageous exchange for avoiding the longer term potential costs the government faces if more of the burden is not shifted to insurance.

4) Increase the Medicare Part B and D deductibles

Increases to program revenues should also address increasing patient participation in understanding the costs of healthcare choices. Taxes collected from payroll deductions and premiums deducted from Social Security payments tend to mute the effects of price sensitivity and independent buyer decisions, as these collections take place before the funds are actually in the possession of the consumer. Rather than increasing revenues through general tax increases, targeting program revenues to consumer participation should be pursued. To this end, it is recommended that Congress revise the applicable Medicare provisions to adopt a general deductible for Medicare Part B and D coverage in the amount of $500 each, applicable to each $20,000 of adjusted gross incomes in excess of 200% of the federal poverty level. The existing deductible for Part B coverage is $135 per year, and the Part D deductible is $295 per year.[119] The higher deductible targets higher income program participants, and compares more closely to the deductibles required of many employer insurance plans. A participant with an income of $40,000 above 200% of the federal poverty level would pay a $1,000 deductible per Part. Such a plan would

be the equivalent of a tax rate of 5.0% for higher income participants. This approach will lower the demands on the Medicare trust funds and increase direct consumer participation, which in turn should motivate beneficial usage behaviors and price sensitivity. The deductible also targets increasing revenues directly from the program beneficiaries rather than from the general population.

5) Raise the age of Medicare entitlement to match the Social Security retirement age

Nearly a decade ago the nation addressed the projected funding requirements of the Social Security program by increasing the age of retirement eligibility, which in turn lowered the financial demands upon the program. This measure was undertaken in part in recognition of the increase in average life expectancy. The Medicare program was originally structured to match the entitlement provisions for Social Security, but its eligibility requirements were not changed to keep pace with the Social Security program. Congress may have been reluctant to raise the eligibility for Medicare in the past because significant numbers of citizens would have faced increased risks of not having health insurance until they became eligible for Medicare. Under PPACA this fear should be eliminated as it requires all citizens to have insurance. Increasing the Medicare eligibility age should therefore not automatically result in an increase in the number of uninsured, but would instead shift costs from the Federal level back to the private level. The increased age of Medicare eligibility should be phased in to follow the enactment of the insurance requirement in the current legislation, and its implementation should be staggered much like the rise in the eligibility age for social security to minimize the affect on those nearing the entitlement age.

Implement Electronic Health Records

Devoting resources to the development of information technology, to include an EHR, is critical to the dissemination of clinically relevant information to healthcare providers and patients. On February 12, 2010, DHHS reported the award of $750 million in grants to state and regional representatives to "...advance the adoption and meaningful use of health information technology (IT). The awards will help make health IT available to over 100,000 hospitals and primary care physicians by 2014".[120] The DHHS developed a definition for meaningful use, and the proposed information is available for public comment. Depending on the comments they receive, the definition will become official shortly thereafter and will guide determination of providers meeting the requirement to have meaningful use of EHR by 2015.

The efforts already underway from the Federal government are good steps toward making sure EHRs become available to patients throughout the country. Two additional steps are necessary. First, the government should consider additional incentives to keep this effort moving forward. Additional funds may be needed to help smaller providers implement this technology into their practices. Leaders should also work with the industry to review the payment structure for providers, considering how to better compensate those who use secure messaging and phone calls in place of in-office visits. If providers were paid for these types of contacts with patients, there would be an incentive to fully integrate the capabilities of EHRs into their practices.

Secondly, DHHS needs to continue to assess software packages to ensure that they meet operating standards for the Healthcare Information Network. This will help ensure the interoperability of the various systems and aid in the large-scale benefits of data analysis. It will also ensure that security attributes are included that protect patient privacy. Finally, Congress needs to review the existing laws regarding personally identifiable information and how they will be affected by the use of EHRs. This will be critical when that first major breach of a medical record database happens.

Improving Outcomes

While our recommendations have thus far focused on reducing costs, we recognize that cost, along with quality and access are inexplicably linked in an "iron triangle". Changes to one area, for example reducing costs, could come at the expense of quality and/or access. We therefore believe that incorporating EBM and CER as a standard aspect of medical practice in the U.S. is essential to controlling costs while at the same time improving quality. While the lack of full integration of EBM contributes to the gap between knowledge and quality health outcomes, the dearth of CER probably has the most profound effect on the translation of the best evidence into value-added clinical practice. Although CER is new to the U.S. debate on healthcare reform, it is well integrated into the health systems of many other countries. Developed countries with universal health coverage such as the United Kingdom, Germany, and The Netherlands all embrace CER as an important element in the determination of how best to spend available healthcare dollars. These countries also add cost-effectiveness to the assessment process. Using quality-adjusted life years and cost for a health intervention, effectiveness can be expressed in monetary terms (i.e. dollars) allowing for a quantitative assessment of CER.

The 2009 Commonwealth Fund's State Scorecard on Health Performance offers some support to the belief that CER will improve quality while lowering healthcare cost. This scorecard highlighted regional variation in healthcare costs that did not equate to better health outcomes, thereby presenting a clear opportunity for improvement. It would be possible for Medicare to save $20 to $37 billion per year if the higher-cost states' per-person cost fell to the median state rate, or to the average rate achieved in the top quartile of states.[121] Additionally, CER has the potential to shape the behavior of healthcare suppliers (devices, medications, etc.) by creating room for traditional market forces to influence supply and demand based on value that is outcome focused. Developers of new technologies, to include medicines, may be motivated to develop products that are both clinically and cost effective. The incorporation of EBM and CER are an essential aspect of a healthcare system that values quality, cost-effective healthcare.

Resolving the Shortage of Primary Care Physicians and Nurses

In order to correct the shortfall of primary care physicians, the federal government should first take steps to rebalance the current payment system which undervalues primary care services in comparison to specialist services. The Relative Value Scale Update Committee (RUC) provides recommendations to the CMS on the value of specific services to include fee-for-service payments. The CMS accepts 90% of the RUC recommendations, and in turn most insurance companies and managed care groups use the same relative value method to determine payment for services.[122] Under this process reimbursement for primary care physicians has continued to lag while specialist payments have increased. Rebalancing the payment system should be accomplished on a zero sum basis, increasing primary care reimbursement and decreasing specialty reimbursements. Any changes to increase primary care reimbursement must also include an overhaul of the current fee-for-service system which incentivizes services but not quality. Compensation models must be adjusted to account for performance, quality, and encouraging implementation of the patient-centered medical home model.[123] A patient centered medical home is an integrated concept whereby the primary care physician leads an integrated team of health care professionals to coordinate all preventive, acute, and chronic medical needs of patients. In this concept patients are active participants in their own healthcare.[124] .

Another issue impacting the number of doctors choosing specialization over primary care is the fact that CMS currently does not permit payment for physician residency training outside of hospital settings. Permitting training in community based outpatient settings would encourage students to enter into primary care.[125] Through Medicare and Medicaid, teaching hospitals are provided with Indirect Medical Education (IME) funds to cover their overhead expenses for the less efficient care that new residents provide. In 2007 the government provided $12.1 billion to 1,100 teaching hospitals for teaching and training of 90,000 residents.[126] However, $6 billion of these funds went to IME, and hospitals are not accountable to the government for their use. The laws governing the use of IME should be changed to redirect a portion of these funds to support training at community based medical sites in rural and underserved locations.

Under Title VIII Medicare currently pays about $150 million per year to hospitals for nurse training, despite the fact that most nurses do not receive their primary training in hospitals.[127] These funds should be increased markedly and the rules changed to permit their use for nurse training in other clinical settings. Expanded funding should be made available for advanced practice nurses.[128] Finally, federal grants should be expanded to nursing schools to both expand the number of schools and increase the number of faculty. A number of states have entered into public-private partnerships to increase faculty salaries.

Given America's huge budget shortfalls, Medicare funding is likely to be reduced between now and 2020, which could have a significant negative impact on the number of physicians and nurses. The federal government therefore needs to promulgate guidelines and recommendations to the states that will enable greater nationwide use of integrated healthcare and patient-centered medical home solutions. Integrated and patient-centered healthcare solutions offer the best opportunity to maximize the entire healthcare workforce while at the same time improving outcomes.

This solution promotes greater use of lower cost nurse practitioners (NPs) and physician assistants (PAs). Developing a nationally recognized standard curriculum that could be accepted in any state would also ease the physician shortfall and maximize the available workforce.[129] Nurse practitioners and physician assistants can be trained faster and at far less cost than physicians, and are more likely to practice in rural and underserved areas than physicians. Today's communication technology would allow NPs and PAs to practice in rural areas under physicians who are located miles away in hospitals or integrated practices.[130] Including NPs and PAs along with doctors and fewer specialists within integrated care solutions has great potential to provide better outcomes at a lower price than our current system. Increasing the number of geriatric NPs would also support long term care at home options which could substantially benefit America's aging population. Finally, incentivizing patient centered medical homes and integrated healthcare solutions could also pay benefits to improving the long term retention of nurses.

Prescriptions for Emergency Preparedness

Balancing the diverse organizational interests embedded in healthcare coalitions is the most pressing challenge to increasing preparedness because no single entity can succeed alone. Although billions of federal dollars have been invested to develop an all-hazards response capability, relying on federal commitments alone will perpetuate significant preparedness gaps because non-Federal stakeholders play a pivotal response role. PAHPA already provides for federal-state government partnerships by making some federal funding for public health preparedness contingent on a state's commitment to match up to 10 percent of the federal funding.[131] It also provides for partnerships with hospitals and laboratories to develop surge capacity and countermeasures.[132] However, the cooperative agreements that institutionalize these partnerships suffer a "lack of long-term

commitment" from non-federal governmental agencies and "there is currently little activity" to encourage partnerships with the private sector.[133]

The multi-billion dollar federal investment in preparedness to date, while significant, offers little insight into how much progress has been made. Moreover, the lack of validated performance measures undercuts the credibility of any cost-benefit analysis of future investments. Therefore, the federal government must first establish validated preparedness measures of performance. Enlisting the Joint Commission's expertise to help develop these measures and then incorporate them into its accreditation process would provide objective standards as a basis for future negotiations.

Enabled by these performance measures, partners would share a common understanding of each other's roles and responsibilities, as well as how their resources would collectively contribute to a mutually beneficial outcome. This common understanding, in turn, would facilitate a national, rather than purely federal, approach to improve emergency preparedness. Through these partnerships, federal and state governments should consider the following policy recommendations to overcome preparedness obstacles.

First, to incentivize business models for private sector partners, DHHS and DHS should propose a legislative change that provides societal-benefit tax incentives for corporations that commit resources to partnerships and meet their validated performance measures. This would enable industry business models to favorably treat preparedness investments such as hospital surge capacity.[134] It would also partially shift the funding burden from participating corporations to the U.S. population, the primary beneficiary of increased preparedness. Second, DHHS and DHS should mandate that the state government or private sector recipient commit resources to sustain the resulting capabilities and capacity under a partnership as a condition of receiving any initial federal grants. In conjunction with this mandate, state governments should provide tax incentives for private sector sustainment investments. In effect, the federal government would share the high initial cost with the recipient in exchange for state commitments to share the more manageable annual sustainment costs. Third, DHHS, DHS, and state governments should develop a partnership to mandate basic preparedness education in public schools. By employing federally-developed core and state-tailored K-12 preparedness curricula, which may include National Planning Scenario awareness, first aid training and practical exercises, Americans will evolve to value individual preparedness by the end of the decade.

Meeting the Challenge of Global Health

Global health, in particular the spread infectious diseases, bioterrorism, and a reduction in a nation's stability, directly affects our national security and the security of our allies. While the U.S. has taken a leadership role in responding to global health challenges, for a number of reasons the international community has not proactively and collectively addressed this area to the same magnitude as the global economic crisis and climate change. Tackling the issues involved will demand collective global action, and multilateral cooperation.

There are a number of actions that the U.S. should take to address this complex issue. First, the U.S. should specify its commitment to global health improvement in the next National Security Strategy. Secondly, it must do a better job supporting the WHO, which is responsible for providing leadership on global health matters, but which suffers from a host of issues to include a lack of resources. The WHO provides technical support to countries and monitors and assesses health trends.

One way to improve support is to increase the amount of government funding. The total U.S. funding applied to global health issues amounted to $8.6 billion in 2010, which represents just

0.066% of GDP. The Obama administration has determined that funding applied to global health will increase to $15 billion by 2012, which amounts to just 0.1% of the U.S. GDP. It should be noted that the U.S. is frequently criticized for its percentage of contribution relative to its GDP. However, U.S. citizens provide significant private contribution to many global health initiatives. The U.S. also provides significant "in-kind" contributions, such as the U.S. Navy responses to the December 2004 tsunami in Thailand (Operation Unified Assistance) and the January 2010 earthquake in Haiti.

Notwithstanding these private and in-kind contributions the U.S. should consider increased funding levels if the WHO undertakes two primary changes. First, any increased funding should be based on improved effectiveness tied to specific metrics.[135] Secondly, the WHO must balance its funding across a wider spectrum of global health programs and activities. While the WHO and other donor nations have focused significant funds on specific diseases, greater investment is required comprehensive health programs, particularly as it relates to capacity building.[136] Such a reallocation of funds would address the roots that promote not only the spread of specific infectious diseases, but the environment that foster poor health across the underdeveloped world.

The U.S. should also push global health onto center stage, just as it has with climate change, by putting it on the agenda at upcoming G20 summits. The nation must be an advocate for a strong international commitment to collectively and proactively address global health challenges. At the same time the U.S. should reinforce the UN member states' obligation to responsible behavior and reasonable burden-sharing of global security and stability challenges.

The Administration should create a deputy-level global health committee, e.g. a White House Interagency Committee on Global Health, to lead, plan, prioritize, and coordinate U.S. global health efforts. This council would act to synchronize all inter- and intra-agency efforts, thereby eliminating inefficiency and unnecessary redundancy.[137] Fragmentation, inefficiencies, and redundancies are a by-product of the fact that Global Health Initiative funding streams cross the DoS, DHHS, and DoD.

Lastly, the U.S. government must increase its investments domestically—in research and development for vaccine development and production capacity (industrial base), in academic institutions and programs of study, and in expanding the healthcare workforce. The H1N1 epidemic reinforced the fact that we cannot depend on others (e.g. Europe) to supply the U.S. with the necessary vaccines and anti-retrovirals, and therefore a national strategic plan is required**.**

CONCLUSION

The U.S. healthcare system, a world class industry in many ways, is facing serious problems. We believe that the most challenging task before the nation concerning healthcare lies in stemming what appears to be the inexorable rise of healthcare costs. These costs are clearly not sustainable, either by the federal government, employers, or consumers. Although the PPACA notably expands access to healthcare to uninsured Americans, the law in itself does not implement changes that will bend the cost curve downward. In order to reduce overall costs the U.S. must address the dysfunctional incentive structures that impact the complex and fragmented healthcare market. The incentive structures which currently exist generate and reward supply over outcomes, and will continue to do so ad infinitum until these structures are altered. Resolving the cost issues will also be important to resolving the shortfall of physicians and nurses. In addition, to these issues, the U.S faces significant challenges in the areas of emergency preparedness and global health. The first area requires individual Americans to take ownership of preparedness, and the second requires more aggressive investment and leadership by the U.S. government. Our policy recommendations are

certainly not exhaustive, but represent our best estimates of the actions required. The U.S. has taken positive steps to address access to healthcare for all Americans, but substantive work remains to be accomplished.

Endnotes

[1] McKinsey Global Institute, "Accounting for the cost of U.S. healthcare: A new look at why Americans spend more," *McKinsey & Company*, http://www.mckinsey.com/mgi/publications/US_healthcare/pdf/US_healthcare_Chapter1.pdf , April 26, 2010: 25.

[2] Ibid., 25.

[3] United States Department of Health and Human Services, Centers for Medicare and Medicaid Services, *National Health Expenditure Projections, 2009-2019*, (January 27, 2010): 1.

[4] Victor R. Fuchs, Ph.D., "Three Inconvenient "'Truths' About Health Care", *The New England Journal of Medicine.* (October 23, 2008): 21.

[5] Ibid., 1.

[6] William Rowley, MD, Senior Futurist, Institute for Alternative Futures, "Perspectives on the Future of American Health Care," Presentation, Industrial College of the Armed Forces, Health Care Industry, 29 March 2010

[7] Ibid.

[8] United States Department of Health and Human Services, Centers for Medicare and Medicaid Services, *National Health Expenditure Projections, 2009-2019*, (January 27, 2010): 1.

[9] Ibid., 1.

[10] Victor R. Fuchs, Ph.D., "Three Inconvenient "'Truths' About Health Care", *The New England Journal of Medicine.* (October 23, 2008): 21.

[11] OECD Health Data 2009: How Does the United States Compare, http://www.oecd.org/dataoecd/46/2/38980580.pdf

[12] Larry Goldberg, "*Congress Passes Massive Health Care Reform Using Two Bills,"* (Washington Bulletin, 30 March 2010), http://www.grantthornton.com/staticfiles/GTCom/Health%20care%20organizations/Washington%20Bulletin/2010/WB_Mar_29_10_Congress%20Passes%20Massive%20Health%20Care%20Reform.pdf.

[13] U.S. Census Bureau, U.S. Census Bureau Press Releases, http://www.census.gov/_PressRelease/www/releases/archives/aging_population/0006544.html.

[14] IbisWorldhttp://www.ibisworld.com/search/default.aspx?st=health+care&srtid=0

[15] Ibid

[16] Robert F. Carr, 2009, Healthcare Facilities, WBDG Healthcare Subcommittee http://www.wbdg.org/design/health_care.php Accessed 25 April 2010

[17] Ibid

[18] Bureau of Labor Statistics. "Pharmaceutical and Medicine Manufacturing: Nature of the Industry" http://www.bls.gov/oco/cg/cgs009.htm (accessed April 28, 2010)

[19] IBISWorld. "IBISWorld Industry Report: Pharmacies & Drug Stores in the US: 44611" March 23, 2010, 24.

[20] IBISWorld. "IBISWorld Industry Report: Health Stores in the US: 44619" March 16, 2010, 22.

[21] Ibid

[22] Ibid

[23] Ibid.

[24] Ibid.

[25] Ibid

[26] "Alliance for Advancing NonProfit Healthcare" http://www.nonprofithealthcare.org/resources/BasicFactsAndFigures-NonprofitHealthPlans9.9.08.pdf, April 21, 2008.

[27] Jensen, Eric, (Consultant, McKinsey and Company) in discussion on Accounting for the Cost of US Healthcare, January 2010.

[28] Goodman, John C. "Perverse Incentives in Healthcare ?" Wall Street Journal. http://online.wsj.com/article/SB117573825899360526.html, March 31, 2010.

[29] Ibid.

[30] Austin, Andrew & Hungerford, Thomas. "The Market Structure of the Health Insurance Industry" Congressional Research Service, http://www.fas.org/sgp/crs/misc/R40834.pdf, April 20, 2010.

[31] The Joint Commission. “Facts About the Joint Commission” http://www.jointcommission.org/AboutUs/Fact_Sheets/joint_commission_facts.htm (accessed April 20, 2010).

[32] Bernard J. Turnock and Christopher Atchison, "Governmental Public Health in the U.S.: The Implications of Federalism," *Health Affairs* 21, no. 6 (Nov/Dec, 2002), 68, http://ezproxy6.ndu.edu/login?url=http://proquest.umi.com/pqdweb?did=239897441&Fmt=7&clientId=3921&RQT=309&VName=PQD.

[33] Ibid.

[34] U.S. Department of Health and Human Services, “About Us,” http://www.hhs.gov/about/.

[35] Bernard J. Turnock and Christopher Atchison, "Governmental Public Health in the United States: The Implications of Federalism," *Health Affairs* 21, no. 6 (Nov/Dec, 2002), 68, http://ezproxy6.ndu.edu/login?url=http://proquest.umi.com/pqdweb?did=239897441&Fmt=7&clientId=3921&RQT=309&VName=PQD.

[36] John H. Ferman, “SCHIP to Cover More Patients,” Healthcare Executive, 24.3 (May/June 2009): 66.

[37] The Centers for Disease Control and Prevention, http://www.cdc.gov/phtrain/policy_research.html

[38] The National Institutes of Health, http://www.nih.gov/about/NIHoverview.html

[39] Larry Goldberg, “*Congress Passes Massive Health Care Reform Using Two Bills,”* (Washington Bulletin, 30 March 2010), http://www.grantthornton.com/staticfiles/GTCom/Health%20care%20organizations/Washington%20Bulletin/2010/WB_Mar_29_10_Congress%20Passes%20Massive%20Health%20Care%20Reform.pdf.

[40] The Henry J. Kaiser Family Foundation, “Side-by-Side Comparison of Major Healthcare Reform Proposals,” http://www.kff.org/healthreform/upload/housesenatebill_final.pdf, 21 April 2010.

[41] Ibid.

[42] Ibid.

[43] Ibid.

[44] Ibid.

[45] Ibid.

[46] Ibid.

[47] The Congressional Budget Office, Analysis of H.R. 4872, the Reconciliation Act of 2010, 20 March 2010, http://www.cbo.gov/ftpdocs/113xx/doc11379/Manager'sAmendmenttoReconciliationProposal.pdf, 9.

[48] The Congressional Budget Office, *Additional Information on the Potential Discretionary Costs of Implementing the Patient Protection and Affordable Care Act (PPACA)*, http://www.cbo.gov/ftpdocs/114xx/doc11493/Additional_Information_PPACA_Discretionary.pdf, May 2010.

[49] McKinsey Global Institute, "Accounting for the cost of U.S. healthcare: A new look at why Americans spend more," *McKinsey & Company*, http://www.mckinsey.com/mgi/publications/US_healthcare/pdf/US_healthcare_Chapter1.pdf , April 26, 2010: 13

[50] United States Department of Health and Human Services, Centers for Medicare and Medicaid Services, *National Health Expenditure Projections, 2009-2019*, (January 27, 2010): 1.

[51] Nondurable medical equipment refers to an item of medical supply that cannot be reused following its intended use to treat a specific medical condition

[52] Durable medical equipment is a device or item that can withstand repeated use, and includes surgical and orthopedic products, wheelchairs, hearing aids, eyeglasses, contacts lenses, and other ophthalmic products.

[53] McKinsey Global Institute, "Accounting for the cost of U.S. healthcare: A new look at why Americans spend more," *McKinsey & Company*, http://www.mckinsey.com/mgi/publications/US_healthcare/pdf/US_healthcare_Chapter1.pdf , April 26, 2010

[54] Vince Veneziani and Joe Weisenthal, "The Amazing Healthcare Reform Presentation from Kaiser Permanente CEO George Halvorsen," *Business Insider*,. http://www.businessinsider.com/a-practical-model-to-achieve-health-reform-from-the-kaiser-foundation-2010-3, April 26, 2010.

[55] OECD Health Data 2009: How Does the United States Compare. http://www.oecd.org/dataeed/46/2/38980580.pdf, Accessed 18 May 2010.

[38] H. Mead, L. Cartwright-Smith, K. Jones, C. Ramos, K. Woods, and B. Siegel, Racial and Ethnic Disparities in U.S. Healthcare: A Chartbook, The Commonwealth Fund, March 2008 Available: http://www.commonwealthfund.org/Content/Publications/Chartbooks/2008/Mar/Racial-and-Ethnic-Disparities-in-U-S--Health-Care--A-Chartbook.aspx Accessed 17 May 2010

[57] Sarah Klein, In Focus: Improving the Quality of Rural Healthcare Through Collaboration, The Commonwealth Fund, November/December 2009. Available: http://www.commonwealthfund.org/Content/Newsletters/Quality-Matters/2009/November-December-2009/In-Focus.aspx Accessed 17 May 2010.

[58]. Linda T. Kohn, Janet M. Corrigan, and Molla S. Donaldson, eds. Institute of Medicine. "To Err is Human: Building a Safer Health System (2000)," Washington D.C,: National Academy Press. http://books.nap.edu/openbook.php?record_id=9728&page=26 Accessed: 26 March 2010.

[59]. Institute of Medicine. "Crossing the Quality Chasm. A New Health System for the 21st Century (2001)," Washington D.C,: National Academy Press. http://www.nap.edu/openbook.php?record_id=10027&page=1 Accessed: 26 March 2010.

[60]. The Commonwealth Fund Commission on a High Performance Health System, "Why Not the Best? Results from the National Scorecard on U.S. Health System Performance, 2008," 1, The Commonwealth Fund, July 2008. http://www.commonwealthfund.org/~/media/Files/Publications/Fund%20Report/2008/Jul/Why%20Not%20the%20Best%20%20Results%20from%20the%20National%20Scorecard%20on%20U%20S%20%20Health%20System%20Performance%20%202008/Why_Not_the_Best_national_scorecard_2008%20pdf.pdf Accessed 26 March 2010.

[61]. Ibid.

[62]. Susan Gilbert, "The Nesting-Egg Problem: Why Comparative Effectiveness Research Is Trickier Than It Looks," *Hastings Center Report* 39, no. 6 (2009): 11.

[63]. David L. Sackett, et al. "Evidence based medicine: what it is and what it isn't [Editorial]," *British Medical Journal* (1996), 312: 72.

[64]. Congressional Budget Office. "Research on the Comparative Effectiveness of Medical Treatment, December 2007," The Congress of the United States, 3. http://www.cbo.gov/ftpdocs/88xx/doc8891/12-18-ComparativeEffectiveness.pdf Accessed 27 March 2010.

[65] Kaiser Permanente, "Kaiser Permanente Identifies Key Elements in Successful Healthcare Information Technology Implementation," Kaiser Permanente News Center, March 10, 2009. http://Xnet.kp.org/newscenter/pressreleases/nat/2009/031009healthaffairs.html (accessed March 26, 2010).

[66] Michael J. Dill and Edward S. Salsberg, *The Complexities of Physician Supply and Demand: Projections Through 2025*. Center for Workforce Studies, Association of American Medical Colleges, (November 2008): 24.

[67] U.S. Congress, Senate. Committee on Senate Health, Education, Labor, and Pensions, Statement of A. Bruce Steinwald, Director, Healthcare, United States Government Accountability Office, 110th Cong., 2nd sess., (February 12, 2008): 5.

[68] PriceWaterhouseCoopers' Health Research Institute, "What Works: Healing the Healthcare Staffing Shortage", (2007): 15.

[69] Michael J. Dill and Edward S. Salsberg, *The Complexities of Physician Supply and Demand: Projections Through 2025*. Center for Workforce Studies, Association of American Medical Colleges, (November 2008): 42.

[70] Primary care physicians are defined as internists, pediatricians, general practice physicians, and family practitioners.

[71] Council on Graduate Medical Education, Letter to the Secretary of Health and Human Services and Key Congressional Committees, (May 5, 2009): 1.

[72] Mary Carmichael, "The Doctor Won't See You Now", *Newsweek*, (March 8, 2010): 47.

[73] Paul Jolly, "Medical School Tuition and Young Physicians' Indebtedness," *Health Affairs* 24, no. 2 (March/April 2005): 533.

[74] Council on Graduate *Medical Education, New Paradigms for Physician Training for Improving Access to Healthcare,* Eighteenth Report, (September 2007): 18.

[75] Ibid.,135

[76] Mary Carmichael, "The Doctor Won't See You Now", *Newsweek*, (March 8, 2010): 47.

[77] U.S. Congress, Senate, Committee on Senate Health, Education, Labor, and Pensions, Statement of Fay Raines, President, American Association of Colleges of Nursing, 111th Cong. 1st sess., (June 11, 2009).

[78] John Rother and Risa Lavizzo-Mourey, "Addressing the Nursing Workforce: A Critical Element for Health Reform". *Health Affairs (Project Hope) (Health Aff* 28, no. 4 (July-August, 2009): w622.

[79] U.S. Congress, Senate, Committee on Senate Health, Education, Labor, and Pensions, Statement of Fay Raines, President, American Association of Colleges of Nursing, 111th Cong. 1st sess., (June 11, 2009).

[80] Ibid.

[81] Linda Allen, "The Nursing Shortage Continues as Faculty Shortage Grows". *Nursing Economics* 26 no. 1 (January-February 2008): 37.

[82] Ibid., 36.

[83] Ibid., 21

[84] Robert Wood Johnson Foundation, *Charting Nurses Future*, (November 2009): 3.

[85] U.S. Census Bureau, U.S. Census Bureau Press Releases, http://www.census.gov/PressRelease/www/releases/archives/aging_population/0006544.html.

[86] .S. Census Press Releases, http://www.census.gov/Press-Release/www/releases/archives/aging_population/0006544.html, p. 2. Accessed 6 March 2010.

[87] U.S. Census Press Releases, http://www.census.gov/Press-Release/www/releases/archives/aging_population/0006544.html, p. 2. Accessed 6 March 2010.

[88] Sally Pobojewski, "Caring for an Aging America: Are We Prepared?," http://www,medicineatmichigan.org/magazine/2009/spring/aging/, p. 2. Accessed 6 March 2010

[89] Lynn Beattie, Assistant Vice President, Injury Prevention, The National Council on the Aging, "Aging and Health" Presentation, Industrial College of the Armed Forces, Healthcare Industry, 1 April 2010, slide 9.

[90] Sally Pobojewski, "Caring for an Aging America: Are We Prepared?," http://www,medicineatmichigan.org/magazine/2009/spring/aging/, p. 2. Accessed 6 March 2010.

[91] Lynn Beattie, Assistant Vice President, Injury Prevention, The National Council on the Aging, "Aging and Health" Presentation, Industrial College of the Armed Forces, Healthcare Industry, 1 April 2010, slide 9

[92] Public Policy in an Older America: A Century Foundation Guide to the Issues," (The Century Foundation Press, New York City, 2006), p. 25.

[93] U.S. Census Press Releases, http://www.census.gov/Press-Release/www/releases/archives/aging_population/0006544.html, p. 2. Accessed 6 March 2010.

[94] United States Department of Homeland Security, *National Preparedness Guidelines*, Washington, DC, September 2007, 30, http://www.fema.gov/pdf/government/npg.pdf.

[95] United States Department of Homeland Security, *National Preparedness Guidelines*, 30-31.

[96] *Pandemic and All-Hazards Preparedness Act of 2006*, Public Law 109-417, 109th Cong., (December 19, 2006), http://www.hhs.gov/aspr/omsph/nbsb/publiclaw109417.pdf.

[97] United States Department of Homeland Security, *National Response Framework*, Washington, DC, January 2008, 1, http://www.fema.gov/pdf/emergency/nrf/nrf-core.pdf.

[98] United States Department of Homeland Security, *National Preparedness Guidelines*, Washington, DC, September 2007, 1, http://www.fema.gov/pdf/government/npg.pdf.

[99] United States Department of Homeland Security, *National Incident Management System*, Washington, DC, December 2008, 3, http://www.fema.gov/pdf/emergency/nims/NIMS_core.pdf.

[100] United States Department of Health and Human Services, *National Health Security Strategy of the United States of America*, Washington, DC, December 2009, 5, http://www.hhs.gov/aspr/opsp/nhss/nhss0912.pdf.

[101] United States Department of Health and Human Services, *Interim Implementation Guide for the National Health Security Strategy of the United States of America*, Washington, DC, December 2009, 4, 19-20, http://www.hhs.gov/aspr/opsp/nhss/nhss_iig0912.pdf.

[102] United States Department of Homeland Security, *National Preparedness Guidelines*, 21.

[103] United States Department of Homeland Security, *National Preparedness Guidelines*, 21.

[104] American Red Cross, *2008 Annual Report*, Washington, DC, 2009, 9. http://www.redcross.org/www-files/Documents/pdf/corppubs/A501-08.pdf.

[105] The National Security Strategy of the United States of America (March 2006), http:www.whitehouse.gov/nsc/nss/2006/nss2006.pdf, cover memo, December 4, 2009.

[106] Ibid.

[107] The Healthcare Industry Seminar visited Geneva, Switzerland, and visited the U.S. Mission, World Health Organization, UNAIDS, and the U.N. High Commissioner for Refugees. During this visit we learned that there is no standard, universally recognized definition of global health.

[108] Jeffrey P. Koplan, T. Christopher Bond, Michael H. Merson, K. Srinath Reddy et al. "Towards a Common Definition of Global Health." *The Lancet* 373 (June 2009),1.

[109] Andrew F. Cooper, John J. Kirton, Ted Schrecker. Governing Global Health (England: Ashgate Publishing Ltd., 2007), 243.

[110] WHO, The World Health Report 2008, Primary Healthcare: Now More Than Ever, World Health Organization, http://www.who.int, March 8, 2010, p. XIII.

[111] National Academy of Sciences, The U.S. Commitment to Global Health: Recommendations for the New Administration, http://www.nap.edu/catalog/12506.html, March 5, 2010, 11-12.

[112] Ibid.

[113] National Academy of Sciences, The U.S. Commitment to Global Health: Recommendations for the New Administration, http://www.nap.edu/catalog/12506.html, March 5, 2010, 12

[114] The ICAF Healthcare Industry Seminar visited Hungary and the United Kingdom, both countries with government-managed healthcare systems. Each of these nation's healthcare systems are facing the same cost, quality, and access problems that the U.S. is facing.

[115] Center on Budget and Policy Priorities, "Curbing Medicare Advantage Overpayments Would Strengthen Medicare," (December 5, 2007), http://www.cbpp.org/12-5-07health.pdf

[116] Ibid.

[117] Ibid.

[118] Terence Ng, Charlene Harrington and Martin Kitchener, "Medicare and Medicaid In Long-Term Care," *Health Affairs*, 29.1 (January 2010): 22.

[119] Hinda Chaikind, et. al., *Medicare Primer*, (Washington, D.C.: Congressional Research Service, March 10, 2009), 8.

[120] United States Department of Health and Human Services Press Office, "Sebelius, Solis Announce Nearly $1 Billion Recovery Act Investment in Advancing Use of Health IT, Training Workers for Health Jobs of the Future," February 12, 2010. http://www.hhs.gov/news/press/2010pres/02/20100212a.html (accessed March 13, 2010).

[121]. D. McCarthy, S. K. H. How, C. Schoen, J. C. Cantor, D. Belloff, "Aiming Higher Results from a State Scorecard on Health System Performance, 2009," The Commonwealth Fund, October 2009. http://www.commonwealthfund.org/Content/Publications/Fund-Reports/2009/Oct/2009-State-Scorecard.aspx Accessed 27 March 2010.

[122] Daniel J. Derksen and Ellen-Marie Whelan, *Closing the Healthcare Workforce Gap: Reforming Federal Healthcare Workforce Policies to Meet the Needs of the 21st Century*. Center for American Progress, (December 2009): 6.

[123] PriceWaterhouseCoopers' Health Research Institute, "What Works: Healing the Healthcare Staffing Shortage", (2007): 29.

[124] American Academy of Family Physicians, Definition of Patient Centered Medical Home, http://www.aafp.org/online/en/home/policy/policies/p/patientcenteredmedhome.html

[125] Ibid., 24

[126] Ibid., 12

[127] Daniel J. Derksen and Ellen-Marie Whelan, *Closing the Healthcare Workforce Gap: Reforming Federal Healthcare Workforce Policies to Meet the Needs of the 21st Century*. Center for American Progress, (December 2009): 21

[128] Ibid., 21.

[129] Daniel J. Derksen and Ellen-Marie Whelan, *Closing the Healthcare Workforce Gap: Reforming Federal Healthcare Workforce Policies to Meet the Needs of the 21st Century*. Center for American Progress, (December 2009): 27

[130] Richard M. Scheffler, *Is There a Doctor in the House?* (Stanford, California: Stanford University Press, 2000): 59.

[131] *Pandemic and All-Hazards Preparedness Act of 2006*, Public Law 109-417, 109th Congress. (December 19, 2006), Sect. 201.

[132] *Pandemic and All-Hazards Preparedness Act of 2006*, Public Law 109-417, 109th Congress. (December 19, 2006), Sects. 305 and 401.

[133] United States Department of Health and Human Services, *Interim Implementation Guide for the National Health Security Strategy of the United States of America*, 21.

[134] Donna F. Barbisch and Kristi L. Koenig, "Understanding Surge Capacity: Essential Elements," *American Emergency Medicine*, 13.11 (2006): 1099.

[135] National Academy of Sciences, The U.S. Commitment to Global Health: Recommendations for the New Administration, http://www.nap.edu/catalog/12506.html, March 5, 2010, 2-3.

[136] U.S. Global Health Policy Brief, The U.S. Global Health Initiative: Overview & Budget Analysis (December 2009), http://www.kff.org/globalhealth/upload/8009.pdf, March 5, 2010, 1.

[137] National Academy of Sciences, The U.S. Commitment to Global Health: Recommendations for the New Administration, http://www.nap.edu/catalog/12506.html, March 5, 2010, 11-12.

Bibliography

Amercian College of Physicans. "Medical Homes & Patient-Centered Care – What is the Patient Centered Medical Home?." *Running a Practice.* http://www.acponline.org/running_practice/pcmh/understanding/what.htm.

Aitoro, Jill R. "HHS awards millions in grants to advance health IT initiatives." *Nextgov.* http://www.nextgov.com/site_services/print_article.php?StoryID=ng_20100212_6621.

Alderman, Lesley. "For a Frugal Dieter, Weight Loss on a Sliding Scale." *New York Times*, July 4, 2009.

Allen, Linda. "The Nursing Shortage Continues as Faculty Shortage Grows." *Nursing Economics* 26, no. 1 (January-February 2008): 35-40.

American Academy of Family Physicians. *Family Physician Workforce Reform: Recommendations to the American Academy of Family Physicians*. Board of Directors Report to the 2006 Congress of Delegates, 2006: 365-376.

American Hospital Association. *Workforce 2015: Strategy Trumps Shortage* (January 2010). http://www.aha.org/aha/issues/Workforce/workforce2015.html

American Hospital Association. "Health for Life, Focus on Wellness." *Health for Life.* http:/www.aha.org/aha/content/2007/pdf/071204_H4L_FocusonWellness.pdf.

American Institutes for Research. "Teaching Cultural Competence in Health Care: A Review of Current Concepts, Policies and Practices." Report prepared for the Office of Minority Health, Washington, DC (2002). http://minorityhealth.hhs.gov/assets/pdf/checked/em01garcia1.pdf.

American Red Cross. *2008 Annual Report.* http://www.redcross.org/ www-files/Documents/pdf/corppubs/A501-08.pdf.

Anonymous. "Accounting for the cost of US health care: A New Look at Why Americans Spend More." *Executive Summary, McKinsey Global Institute, McKinsey & Company* (December 1, 2008).

Anonymous. "The Global Fund: Replenishment and Redefinition in 2010." *The Lancet* 375 (March 13-19, 2010): 1. http://www.lexisnexis.com.

Anonymous. "The U.S. Army Medical Department Exceeds 2009 Goals." *Preventive Medicine Week,* February 7, 2010, 871. http://www.newsrx.com

Anonymous. "Who Runs Global Health?" *The Lancet* 373 (June 20-26, 2009): 1. http://proquest.umi.com.

Arantes, James, "PCMH Likely to Form Basis of Federal Health Care Reform, Primary Care High on List of Possible Fixes." *American Academy of Family Physicians,* February 17, 2009. http://www.aafp.org/online/en/home/publications/news/news-now/pcmh/20090217pcmhfed.

Archer Productions, Inc. *Duck and Cover featuring Burt the Turtle.* 1951. Video sponsored by United States Federal Civil Defense Administration http://www.archive.org/details/DuckandC1951.

Astrue, Michael J. *Hearing on Clearing the Disability Claims Backlogs: The Social Security Administration's Progress and New Challenges Arising From the Recession.* Testimony before House Ways and Means Committee, November 19, 2009. http://waysandmeans.house.gov/ Hearings/Testimony.aspx?TID=2299.

Balkin, Jack M. "The Constitutionality of the Individual Mandate for Health Insurance." *The New England Journal of Medicine.* http://healthcarereform.nejm.org/?p=2764.

Barbera, Joseph A., Dale J. Yeatts, and Anthony G. MacIntyre. "Challenge of Hospital Emergency Preparedness: Analysis and Recommendations." *Disaster Medicine and Public Health Preparedness* 3, no. 1 (2009): S74-S82.

Barbisch, Donna F., and Kristi L. Koenig. "Understanding Surge Capacity: Essential Elements." *American Emergency Medicine*. 13, no.11 (2006): 1098-1102.

Bayer, Ronald and Jennifer Stuber. "Tobacco Control, Stigma, and Public Health: Rethinking the Relations." *American Journal of Public Health* 96, no. 1 (Jan, 2006): 47.

Benjamin, Dr. Georges. "Population Health, A Different Kind of Reform." Lecture, Industrial College of the Armed Forces, Health Care Industry Study, Ft. McNair, Washington DC, February 26, 2010.

Betancourt, Joseph R.; Green, Alexander R., and Carrillo, J.Emilio. *Cultural Competence in Health Care: Emerging Frameworks and Practical Approaches. 2002*. The Commonwealth Fund. http://www.commonwealthfund.org/Content/Publications/Fund-Reports/2002/Oct/Cultural-Competence-in-Health-Care--Emerging-Frameworks-and-Practical-Approaches.aspx.

Blair, Dennis C. National Intelligence Council. *Annual Threat Assessment of the U.S. Intelligence Community for the Senate Select Committee on Intelligence* (February 2, 2010). http://www.dni.gov/testimonies/20100202_testimony.pdf.

Blumental, David. "Health IT Adoption and the New Challenges Faced by Solo and Small Group Healthcare Practices." Testimony before House Committee on Small Business, June 24, 2009. http://www.hhs.gov/asl/testify/2009/06/t20090624a.html.

Book, Robert A., Dr. "Introduction to the Economics of the Health Care Industry." Lecture, Industrial College of the Armed Forces, Health Care Industry Study, Ft. McNair, Washington DC, March 4, 2010.

Brand, Rachel, and Saunders, Jennifer. "Medicaid: Under the Weather." *State Legislatures*, 35, Iss. 4 (April 2009): 12.

British Broadcasting Corporation. "London Medical Records Go Online" (November 16, 2009). http://news.bbc.co.uk/2/hi/uk_news/england/london/8361826.stm.

Cacas, Max. "HHS is One Step Closer to Universal, Electronic Health Record." Federal News Radio, January 6, 2010. *Federal News Radio.* http://www.federalnewsradio.com/index.php?nid=110&sid=1856559

Carden Michael J. "VA Initiative Aims to Improve Veteran Health Care." *Military Health System News.* http://www.health.mil/News_And_Multimedia/ News/detail/09-12-02/VA_Initiative_Aims_to_Improve_Veteran_Health_Care.aspx

Carmichael, Mary. "The Doctor Won't See You Now." *Newsweek*, March 8, 2010.

Center for Biosecurity of UPMC. *Hospitals Rising to the Challenge: The First Five Years of the U.S. Hospital Preparedness Program and Priorities Going Forward.* Baltimore, March 2009. http://www.upmc-biosecurity.org/website/resources/publications/ 2009/pdf/ 2009-04-16-hppreport.pdf.

Center for Biosecurity of UPMC. *The Next Challenge in Healthcare Preparedness*, January 2010. http://www.upmc-biosecurity.org/website/resources/publications/ 2010/pdf/2010-01-29-prepreport.pdf.

Center on Budget and Policy Priorities. "Curbing Medicare Advantage Overpayments Would Strengthen Medicare." http://www.cbpp.org/12-5-07health.pdf

Center for Health Workforce Studies, School of Public Health. University of Albany. *The Impact of the Aging Population in the Health Workforce in the United States: Summary of Key Findings*, March 2006.

Centers for Disease Control and Prevention "Uninsured Americans: Newly Released Health Insurance Statistics." *CDC.* http://www.cdc.gov/features/uninsured.

Centers for Medicare and Medicaid Services. "Mandated Report to Congress: Analysis of Impacts and Issues Relating to Four Medicaid Regulations" (September 30, 2009). http://www.cms.hhs.gov/medicaidrf/Downloads/Baucussignedtxt(2).pdf.

Centers for Medicare and Medicaid Services. "Medicaid At-a-Glance 2005, A Medicaid Information Source." http://www.cms.hhs.gov/MedicaidGenInfo/downloads/MedicaidAtAGlance2005.pdf.

Centers for Medicare and Medicaid Services. "National Health Expenditures Aggregate, Per Capita Amounts, Percent Distribution and Average Annual Percent Growth, by Source of Funds: Selected Calendar Years 1960-2008." *CMS.* http://www.cms.hhs.gov/NationalHealthExpendData/downloads/tables.pdf.

Centers for Medicare and Medicaid Services. "National Health Expenditure Factsheet." http://www.cms.hhs.gov/NationalHealthExpendData/25_NHE_Fact_Sheet.asp#TopOfPage.

Centers for Medicare and Medicaid Services. "2007 SCHIP Annual Reports, A Review." http://www.cms.hhs.gov/NationalCHIPPolicy/downloads/Final2007CHIPAnnualReport.pdf.

Chaikind, Hinda. *Medicare Primer.* Washington, DC: Congressional Research Service, March 10, 2009.

Chen, Catherine, T. Garrido, D. Cook, G. Okawa, and L. Liang. "The Kaiser Permanente Electronic Health Record: Transforming and Streamlining Modalities of Care." http://content.healthaffairs.org/cgi/reprint/28/2/323.pdf.

Christensen, Clayton M. *The Innovator's Prescription.* New York: McGraw-Hill, 2009.

Citizens for Tax Justice. "President's Medicare Tax Reforms Would Affect about 2% of Taxpayers and End the Exemption for Wealthy Investors" (March 5, 2010). http://www.ctj.org/pdf/obamamedicaretaxchange.pdf.

Clancy, Carolyn M. "What is Health Care Quality and Who Decides?" Testimony before Senate Committee on Finance, March 18, 2009. http://www.hhs.gov/asl/testify/2009/03/t20090318b.html

Clinton, William J. "Statement of President Clinton, The White House, January 25, 1993." *Ibiblio.* http://www.ibiblio.org/darlene/task.

Cohen, Joshua T., Peter J. Neumann, and Milton C. Weinstein. "Does Preventive Care Save Money? Health Economics and the Presidential Candidates." *New England Journal of Medicine* 358; no. 7 (February 14, 2008): 661-663.

Coleman-Miller, Beverly. "A Physician's Perspective on Minority Health." http://www.cms.gov/HealthCareFinancingReview/Downloads/00summerpg45.pdf.

Congressional Budget Office. "Quality Initiatives Undertaken by the Veterans Health Administration" (August 2009). http://www.cbo.gov/ftpdocs/104xx/doc10453/08-13-VHA.pdf.

Congressional Budget Office. "The Budget and Economic Outlook: An Update." *CBO, An Update.* http://www.cbo/gov/ftpdocs/105xx/doc10521/2009BudgetUpdate_Summary.pdf

Congressional Quarterly Researcher. "Universal Coverage – Will All Americans Finally Get Health Insurance?" *CQ Researcher*. http://library.cqpress.com/cqresearcher/document.php?id=cqresrre2007033000&type=hitlist&num=0.

Congressional Budget Office. *Testimony: Statement of Peter R. Orszag Evidence on the Costs and Benefits of Health Information Technology* (July 24, 2008). http://www.cbo.gov/ftpdocs/95xx/doc9572/07-24-HealthIT.pdf.

Cooper, Andrew F., John J. Kirton, Ted Schrecker. *Governing Global Health.* England: Ashgate Publishing Ltd., 2007.

Council on Graduate Medical Education. Letter to The Secretary of Health and Human Services and Key Congressional Committees, May 5, 2009.

Council on Graduate Medical Education. *New Paradigms for Physician Training for Improving Access to Health Care (*Eighteenth Report), September 2007.

Council on Medical Education. *Securing Funding for Graduate Medical Education.* Resolution 318, A-09. Report 3-I-09, 2009.

Cronin, Patrick M. *Global Strategic Assessment 2009: America's Security Role in a Changing World*. Washington, DC: NDU Press, 2009.

Cutler, David M. "Health System Modernization Will Reduce the Deficit." Democratic Leadership Council, Center for American Progress Action Fund (May 11, 2008). http://www.americanprogress.org/issues/2009/05/health_modernization.html.

Davis, Karen, PhD, and Kristof Stremikis, MPP. "Family Medicine: Preparing for a High-Performance Health Care System." *Medscape Today*. http://www.medscape.com/viewarticle/718961.

Davis, Patricia A. *CRS Issue Statement on Medicare Reform.* Washington, DC: Congressional Research Service, January 15, 2010.

Davis, Patricia A. *Medicare: Financing the Part A Hospital Insurance Program.* Washington, DC: Congressional Research Service, May 27, 2009.

Dentzer, Susan. "Global Health: Challenges Without Borders." *Health Affairs* 27 (July/August 2008): 1-2. http://proquest.umi.com.

Derksen, Daniel J., and Ellen-Marie Whelan. *Closing the Health Care Workforce Gap: Reforming Federal Health Care Workforce Policies to Meet the Needs of the 21st Century*. Center for American Progress, December 2009.

Devlin, Kate. "Controversial Electronic Medical Records to be Rolled Out Across the Country'." *Telegraph*, November 16, 2009. http://www.telegraph.co.uk/health/ healthnews/ 6564488/ Controversial-electronic-medical-records-to-be-rolled-out-across-the-country.html.

Dill, Michael J., and Edward S. Salsberg. *The Complexities of Physician Supply and Demand: Projections through 2025*. Center for Workforce Studies, Association of American Medical Colleges, November 2008.

Dinneen, Michael J, Dr. "Trends in Health Care for Quality and Performance." Lecture, Industrial College of the Armed Forces, Health Care Industry Study, Ft. McNair, Washington DC, March 26, 2010.

Eleazer, G. P., and K. Brummel-Smith. "Commentary: Aging America: Meeting the Needs of Older Americans and the Crisis in Geriatrics." *Academic Medicine: Journal of the Association of American Medical Colleges* 84, no. 5 (May 2009): 542-544.

Elemendorf, Douglas W. "Estimated Budgetary Impact of the Legislation**."** *Congressional Budget Office.* http://www.cbo.gov/ftpdocs/113xx/doc11379/ Manager'sAmendmenttoReconciliationProposal.pdf.

Employee Benefit Research Institute. "History of Health Insurance Benefits." *EBRI.* http://www.ebri.org/publications/facts/index.cfm?fa=0302fact.

Esterling, Kevin M. "Does the Federal Government Learn from the States? Medicaid and the Limits of Expertise in the Intergovernmental Lobby." *Publius*, 39, Iss. 1 (Winter 2009): 1.

Families USA. "States in Need: Congress Should Extend Temporary Increase in Medicaid Funding" (February, 2010). http://www.familiesusa.org/assets/pdfs/ statesinneed.pdf.

Feldbaum, Harley. Center for Strategic and International Studies. *U.S. Global Health and National Security Policy* (April 2009). http://www.csis.org/media/csis/ pubs/090420_feldbaum_usglobalhealth.pdf.

Ferman, John H. “SCHIP to Cover More Patients.” *Healthcare Executive,* 24, Iss. 3 (May/June 2009): 66.

Freire, J.P. “16,500 more IRS agents needed to enfore Obamacare.” *Washington Examiner.* http://www.washingtonexaminer.com/opinion/blogs/beltway confidential/16500-more-IRS-agents-needed-to-enforce-Obamacare-88458137.html.

Frey, Adam and Graham, John R. “Obama’s Unhealthy Start: SCHIP Explosion, Medicaid Bailout, COBRA’s Bite.” *Pacific Research Institute Health Policy Prescriptions,* 7.2 (February 2009).

Galewitz, Phil. “The Debate Over Selling Insurance Across State Lines.” Kaiser *Health News.* http://www.kaiserhealthnews.org/Stories/2009/November/06/health-insurance-across-state-lines.aspx.

Gearon, C. J. "Developing the 21st Century Health Care Workforce." *America’s Health Insurance Plans Coverage* 48, no. 6 (November-December 2007): 12-6, 18.

Giuffrida, Antonio and David J. Torgerson. "Should we Pay the Patient? Review of Financial Incentives to Enhance Patient Compliance." *British Medical Journal* 315, no. 7110 (Sep 20, 1997): 703.

Glick, Bryan. “NHS Backtracks on Deleting Electronic Medical Records”(May 26, 2009). http://www.computing.co.uk/articles/print/2242940.

Global Health. *Global Health Facts.* http://www.globalhealthfacts.org/topic.

Goldberg, Larry. “*Congress Passes Massive Health Care Reform Using Two Bills.”* Washington Bulletin, 30 March 2010. http://www.grantthornton.com/staticfiles/GTCom/Health%20care%20organizations/Washington%20Bulletin/2010/WB_Mar_29_10_Congress%20Passes%20Massive%20Health%20Care%20Reform.pdf.

Goldhill, David, “How American Health Care Killed My Father.” The Altantic, http://www.theatlantic.com/magazine/archive/2009/09/how-american-health-care-killed-my-father/7617/3/.

Goodman, John C. “Perverse Incentives in Health Care ?” *Wall Street Journal.* http://online.wsj.com/article/SB117573825899360526.html.

Government Accountability Office. “State Children’s Health Insurance Program, CMS Should Improve Efforts to Assess whether SCHIP Is Substituting for Private Insurance.” GAO-09-252. Washington, DC: February 2009.

Grant, S. 2010. Diversity in Healthcare: Driven by Leadership. *Frontiers of Health Services Management* 26, no. 3, (April 1): 41-44. http://www.proquest.com.

Gravelle, Jane G. *Tax Options for Financing Health Care Reform.* Washington, DC: Congressional Research Service, March 2, 2010.

Groman R, Ginsburg J, and American College of Physicians, 2004. "Racial and Ethnic Disparities in Health Care: A Position Paper of the American College of Physicians." *Annals of Internal Medicine* 141, no. 3, (August 3): 226-232. http://www.proquest.com.

Haig, Scott. "Electronic Medical Records: Will They Really Cut Costs?" *Time*, March 5, 2009. http://www.time.com/time/health/article/0,8599,1883002,00.html.

Haller, Karen. "Nursing Excellence." Presentation, Industrial College of the Armed Forces, Health Care Industry Seminar, Johns Hopkins University, Baltimore, MD, March 25, 2010.

Hansen, M. "Increasing the Health Care Workforce." *NCSL Legisbrief* 16, no. 36 (August-September 2008): 1-2.

Health Care in the United States. http://en.wikipedia.org/wiki/Health_ care_in_the_United_States.

Health Resources and Services Administration, U.S. Department of Health and Human Services. *Effects of the Workforce Investment Act of 1998 on Health Workforce Development in the States*, November 2004.

Health Resources and Services Administration, U.S. Department of Health and Human Services. *The Physician Workforce: Projections and Research into Current Issues Affecting Supply and Demand*, December 2008.

Hennessey, Keith, "How Many Uninsured People Need Additional Help From Taxpayers?" *KeithHennessey.com*. http://keithhennessey.com/2009/04/09/how-many-uninsured-people-need-additional-help-from-taxpayers.

Herz, Elicia J. *Medicaid: A Primer.* Washington, DC: Congressional Research Service, February 25, 2010.

Huslin, Anita. "Online Health Data in Remission," *The Washington Post*, February 16, 2009. http://w ww.washinktonpost.com/wp-dyn/content/article/2009/ 02/15/ AR2009021501284_pf.html.

Iglehart, John K. "Reform and the Health Care Workforce--Current Capacity, Future Demand." *The New England Journal of Medicine* 361, no. 19 (November 5, 2009): e38.

Insurance Information Institute. “Compulsory Auto/Uninsured Motorists.” *Media.* http://old.iii.org/media/hottopics/insurance/compulsory/.

Isgur, B. "Healing the Health Care Staffing Shortage." *Trustee: The Journal for Hospital Governing Boards* 61, no. 2 (Feb, 2008): 18-21, 1.

Jacobine, Kenn. “A History of Cost Overruns Should Squash Government Run Healthcare.” *Nolan Chart.* http://www.nolanchart.com/article6774.html.

Jansen, Don J. “CRS Issue Statement on Health Care for Military Personnel and Veterans” (January 12, 2010). Congressional Research Service.

Jha, Ashish K., C. DesRoches, E. Campbell, K. Donelan, S. Rao, T. Ferris, A. Shields, S. Rosenbaum, and D. Blumenthal. “Use of Electronic Health Records in U.S. Hospitals.” *New England Journal of Medicine*, no. 360 (April 16, 2009): 16. http://content.nejm.org/cgi/reprint/ 360/16/1628.pdf.

Johns Hopkins Bloomberg School of Public Health. “Preventive Medicine, A Student Resource.” http://www.jhsph.edu/PrevMed_student_resource.

Jolly, Paul. “Medical School Tuition and Young Physicians’ Indebtedness.” *Health Affairs* 24, no. 2 (March/April 2005): 527:535.

Jordan, Steve. “A Tried-and-True Program: Why Isn’t Company Wellness Part of the Debate over Health Care?” Omaha World Herald, August 23, 2009.

Joyner, James, “Healthcare Reform Unconstitutional?” *Outside the Beltway*. http://www.outsidethebeltway.com/archives/health_care_reform_unconstitutional.

Kaiser Permanente. “Kaiser Permanente HealthConnect Electronic Health Record: Overview.” *Kaiser Permanente News Center*. http://Xnet.kp.org/newscenter/aboutkp/ healthconnect/ index.html.

Kaiser Permanente. “Kaiser Permanente HealthConnect Electronic Health Record: Frequently Asked Questions.” *Kaiser Permanente News Center.* http://Xnet.kp.org/newscenter/aboutkp/ healthconnect/faqs.html.

Kaiser Permanente. “Kaiser Permanente Identifies Key Elements in Successful Health Care Information Technology Implementation.” *Kaiser Permanente News Center,* March 10, 2009. http://Xnet.kp.org/newscenter/pressreleases/nat/2009/ 031009healthaffairs.html.

Keepnews, D. M. "Health Care Workforce Policy in 2008 and Beyond.” *Policy, Politics & Nursing Practice* 9, no. 1 (February 2008): 4.

Kennedy, Senator Edward M. United States Senate Committee on Health, Education, Labor, and Pensions. *Enhancing Public Health and Medical Preparedness: Reauthorization of the Public Health Security and Bioterrorism Preparedness and Response Act.* 109th Cong., 2d sess., March 16, 2006.

Kenney, Genevieve M, and Cook, Allison. "Potential Impacts of Alternative Health Care Reform Proposals for Children with Medicaid and CHIP Coverage." *The Urban Institute Health Policy Center*, January 2010. http://www.urban.org/UploadedPDF/411993_CHIP_coverage.pdf.

Koplan, Jeffrey P., T. Christopher Bond, Michael H. Merson, K. Srinath Reddyet al. "Towards a Common Definition of Global Health." *The Lancet* 373 (June 6-12, 2009): 1-3. http://proquest.umi.com.

Kussman, Michael J., Dr., Under Secretary for Health Department of Veterans Affairs, Comments before the House Committee on Appropriations on Military Construction, Veterans Affairs (March 25, 2009). http://appropriations.house.gov/Witness_testimony/MC/Michael_J_Kussman.

Lawrence, Stacy. "Studies Show Electronic Medical Records Make Financial Sense." *CIOInsight*, September 14, 2005. http://www.cioinsight.com/c/a/Health-Care/Studies-Show-Electronic-Medical-Records-Make-Financial-Sense.

Lewis, M.,Jr. "Cash Helps Patients Kick the Habit." *Medical Economics* 86, no. 8 (April 17, 2009): 12.

Lipowicz, Alice. "VA, Kaiser Seek to Expand Health Data Exchange Project." *Federal Computer Week*, January 7, 2010. http://fcw.com/articles/2010/01/07/veterans-va-kaiser-permanente-health-information-exchange-nhin.aspx

Majority Staff of the Committees on Energy and Commerce, Ways and Means, and Science and Technology. "Health Information Technology for Economic and clinical Health Act – Fact Sheet" (January 16, 2009). http://waysandmeans.house.gov/media/pdf/110/hit2.pdf.

Marteau, T., R. Ashcroft, and A. Oliver. "Using Financial Incentives to Achieve Healthy Behaviour." *British Medical Journal* 338, no. 7701 (April 25, 2009): 983.

McKinsey Global Institute. "Accounting for the Cost of U.S. Health Care: A New Look at Why Americans Spend More." *McKinsey & Company*. http://www.mckinsey.com/mgi/publications/US_healthcare/pdf/US_healthcare_Chapter1.pdf.

McMichael, William H. "Services Face Doctor, Nurse Shortages, Top Officers Say." *Army Times*, March 22, 2010.

Medical News Today. "Report: Too Few Minority Doctors After Decades Of Discrimination." *Medical News/Student News.* http://www.medicalnewstoday.com/articles/177487.php.

Medical News Today. "New EPI Healthcare Study By June O'Neill Shows Uninsured Crisis' Wildly Overestimated." *Health Issurance/Medical Insurance News.* http://www.medicalnewstoday.com/articles/155093.php.

Medicare Payment Advisory Commission. "Report to Congress, Medicare Payment Policy" (March 2010). http://www.medpac.gov/documents/Mar10_EntireReport.pdf

Merson, Michael H. and Kimberly Chapman Page. *The Dramatic Expansion of University Engagement in Global Health* (April 2009). Center for Strategic and International Studies. http://www.csis.org/files/media/csis/ pubs/090420_ merson_ dramaticexpansion.pdf.

Meyerrose, Dale. "Networks, Information Technology, and Paved Cowpaths." *Center for Information Policy Research*, March 16, 2000. http://pirp.harvard.edu/pubs_pdf/ meyerro/meyerro-i01-1.pdf .

Meyerson, Noah. *Accounting for Sources of Projected Growth in Federal Spending on Medicare and Medicaid.* Washington, DC: Congressional Budget Office, 2009. http://purl.access.gpo.gov/GPO/LPS94774

Miller, Jason. "VA Touts Success of Electronic Medical Records Pilot" (January 7, 2010). *Federal News Radio*. www.federalnewsradio.com/index.php?nid= 110&sid=1857544.

Morgan, Paulette C. *Medicare Payment Policies.* Washington, DC: Congressional Research Service, February 9, 2009.

Moss, Kellie. *The President's Malaria Initiative and Other U.S. Global Efforts to Combat Malaria: Background, Issues For Congress, and Resources.* Congressional Research Service. http://crs.gallerywatch.com/PHP_ articledetails.gw? articleid= PHP:US:CRS:R40494&type=CRS.

Nash, Timothy G., Pretty, Keith A., Freeland, Will. "U.S. Health Care: A Call for Time and Debate, Not Action." Northwood University. http://www.northwood.edu/ sharedmedia/PDF/AboutUs/WhitePapers/ HealthCareWhitePaper.pdf.

Nasser, Haya El. "U.S. Hispanic Population to Triple by 2050." *USA Today* http://www.usatoday.com/news/nation/2008-02-11-population-study_N.htm.

National Academy of Sciences. *The U.S. Commitment to Global Health: Recommendations for the New Administration* (2009). http://www.nap.edu/catalog.php?record_id=12506#toc.

National Intelligence Council. *Strategic Implications of Global Health* (December 2008). http://www.dni.gov/nic/PDF_GIF.../ICA_Global_Health_2008.pdf.

New Jersey Division of Consumer Affairs State Board of Medical Examiners. *2008 New Jersey Cultural Competency*. http://www.state.nj.us/lps/ca/bme/ press/cultural.htm.

Ng, Terence; Harrington, Charlene; and Kitchener, Martin. "Medicare and Medicaid In Long-Term Care." *Health Affairs,* 29.1 (January 2010): 22.

North Chicago Veterans Administration. *Captain James A Lovell Federal Healthcare Center 2010*. http://www.northchicago.va.gov/about/fhcc.asp

Nye, Joseph S. *Understanding International Conflicts: An Introduction to Theory and History*, 7th ed. New York: Longman, 2007.

O'Reilly, Kevin B. "Doctor Training Starts Here in 7th Grade." *American Medical News*, October 3, 2010. http://www.proquest.com.

Organization for Economic Co-Operation and Development. "OECD Health Data 2009 How Does the United States Compare." *OECD.* http://www.oecd.org/dataoecd/46/2/ 38980580.pdf.

Orszag, Peter R. *Evidence on the Costs and Benefits of Health Information Technology* (May 2008). Testimony before the House Committee on Ways and Means. http://www.cbo.gov/ftpdocs/91xx/doc9168/HealthITTOC.2.1.htm

Parente, Stephen T., Feldman, Roger, Abraham, Jean, and Yi. "Consumer Response to National Marketplace for Individual Insurance." *Health Systems Innovations*. http://www.hsinetwork.com/National_Marketplace_7-21-2008%20FINAL_Blind.pdf.

Public Broadcasting Service. "American Experience." *PBS.* http://www.pbs.org/wgbh/ amex/rails/timeline/index_3.html.

Partners in Health. *Global Health Initiative and 2011 U.S. Global Health Funding* (March 16, 2010). Stand With Haiti. http://standwithhaiti.org/haiti/news-entry.

PEPFAR. *The U.S. President's Emergency Plan for AIDS Relief Five-Year Strategy*. http://www.pepfar.gov.

Peters, Jeff, Army Liaison Officer to the Veterans Administration, in discussion with author, March 3, 2010.

Peterson, Molly. "Bill Gates Urges More U.S. Spending on Global Health (Update 2)." *BusinessWeek*, March 10, 2010. http://www.businessweek.com/news.

Pobojewski, Sally. "Caring for an Aging America: Are We Prepared?." *Medicine at Michigan*. http://www.medicineatmichigan.org/magazine/2009/spring/aging.

Prela, Cecilia M. "Challenges in Merging Medicaid and Medicare Databases to Obtain Healthcare Costs for Dual-Eligible Beneficiaries: Using Diabetes as and Example." *PharmacoEconomics*, 27, Iss. 2 (2009): 167.

PriceWaterhouseCoopers, Health Research Institute. *What Works: Healing the Healthcare Staffing Shortage"* (2007). http://www.pwc.com/us/en/healthcare/publications/what-works-healing-the-healthcare-staffing-shortage.jhtml

Priest, Dana and Hull, Anne. "Soldiers Face Neglect, Frustration at Army's Top Medical Facility." *Washington Post*, February 18 2007. http://www.washingtonpost.com.

Rowley, William MD. Senior Futurist. Institute for Alternative Futures, "Perspectives on the Future of American Health Care." Presentation, Industrial College of the Armed Forces, Health Care Industry. 29 March 2010

Reid, T.R. *The Healing of America: A Global Quest for Better, Cheaper, and Fairer Health Care.* New York: The Penguin Press, 2009.

Robert Wood Foundation. "Opening Doors: A Program to Reduce Sociocultural Barriers to Health Care." http://www.rwjf.org/reports/npreports/opendoorse.htm.

Robert Wood Johnson Foundation. *Charting Nurses Future.* November 2009.

Roman, Linda. "Combined EMR, EHR and PHR Manage Data for Better Health." *Drug Store News*, No. 31, Issue 9, Aug 10 2009. http://findarticles.com/p/articles/mi_m3374/is_9_31/ai_n35619257/

Rother, John, and Risa Lavizzo-Mourey. "Addressing the Nursing Workforce: A Critical Element for Health Reform". *Health Affairs (Project Hope*) 28, no. 4 (July-August 2009): 620-624.

Sack, Kevin. "With Medicaid Cuts, Doctors and Patients Drop Out." *New York Times.* March 15, 2010.

Sage, William M.. "Regulating for Patient Safety: The Law's Response to Medical Errors: Malpractice Reform as a Health Policy Problem." *Widener Law Review* (2005).

Salaam-Blyther, Tiaji. *Centers for Disease Control and Prevention Global* Congressional Research Service *Health Programs: FY2004-FY2010* (August 21, 2009). http://crs.gallerywatch.com/PHP_articledetails.gw?articleid=PHP:US:CRS:R40239 &type=CRS.

Salaam-Blyther, Tiaji. *U.S. Global Health Assistance: Background, Priorities, and Issues for the 111th Congress* (January 29, 2010). Congressional Research Service. http://crs.gallerywatch.com/PHP_articledetails.gw?articleid=PHP: US:CRS: R40740&type=CRS.

Scheffler, Richard M. *Is There a Doctor in the House?* Stanford, California: Stanford University Press, 2000.

Seiler, Robin, "The Budgetary Treatment of An Individual Mandate to Buy Health Insurance." Congressional Budget Office. http://www.cbo.gov/ftpdocs/ 48xx/doc4816/doc38.pdf.

Serafini, Marilyn Werber. "Looking for More?" *National Journal*, March 12, 2010.

Seshamani, Meena, "How the Current Health Insurance System Leaves Millions Behind." *Healthcarereform.gov*. http://www.healthreform.gov/ reports/denied_coverage/index.html

Shih, Anthony, Karen Davis, Stephen C. Schoenbaum, Anne Garuthier, Rachel Nuzum, and Douglas McCarthy. "Organizing the U.S. Health Care System for High Performance." *The Commonwealth Fund, Commission on a High Performance Health System* (August 2008).

Smith, Dennis G., and Haislmaier, Edmund F. "Medicaid Meltdown: Dropping Medicaid Could Save States $1 Trillion." *The Heritage Foundation*, December 1, 2009. http://www.heritage.org/Research/HealthCare/wm2712.cfm

Stockdale, Holly. *Medicare: FY2010 Budget Issues.* Washington, DC: Congressional Research Service, May 20, 2009.

St. Petersburg Times. "Negotiate healthcare reform in public sessions televised on C-Span." *PolitiFact.com*. http://www.politifact.com/truth-o-meter/promises/ promise/517/health-care-reform-public-sessions-C-SPAN/.

The American Geriatrics Society . Policy: The Patient-Centered Medical Home, http://www.americangeriatrics.org/policy/pmch.shtml.

The Century Foundation. *Public Policy in an Older America: A Century Foundation Guide to the Issues*. New York: The Century Foundation Press, 2006.

The Commonwealth Medical College. "Our Background." http://www.thecommonwealthmedical.com/oth/Page.asp?PageID=OTH000018.

The White House. *Economic Report of the President 2009*. http://www.gpoaccess.gov/eop/2009/2009_erp.pdf .

The White House. *The National Security Strategy of the United States of America* (March 2006). http://www.whitehouse.gov/nsc/nss/2006/nss2006.pdf.

Title Talk Radio. "Solve Medicare's Problems First." http://www.tiltedtalk.com/index.php?option=com_content&view=article&id=229:solve-medicares-problems-first&catid=3:domagoj&Itemid=15.

United Nations. *Joint United Nations Programme on HIV/AIDS, UNAIDS, Global Facts and Figures (2009)*. http://data.unaids.org/pub/FactSheet/2009/20091124_FS_global_en.pdf.

United States Central Intelligence Agency. *The CIA World Factbook: United States.* Washington, DC. https://www.cia.gov/library/publications/the-world-factbook/geos/us.html.

United States Department of Health and Human Services. *Interim Implementation Guide for the National Health Security Strategy of the United States of America* (December 2009). http://www.hhs.gov/aspr/opsp/nhss/nhss_iig0912.pdf.

United States Department of Health and Human Services. *National Health Security Strategy of the United States of America (*December 2009). http://www.hhs.gov/aspr/opsp/nhss/nhss0912.pdf.

United States Department of Health and Human Services Centers for Medicare and Medicaid Services. *National Health Expenditure Projections 2009-2019.* http://www.cms.hhs.gov/NationalHealthExpendData/downloads/proj2009.pdf.

United States Department of Health and Human Services Press Office. "Sebelius, Solis Announce Nearly $1 Billion Recovery Act Investment in Advancing Use of Health IT, Training Workers for Health Jobs of the Future." *HHS News, February 12, 2010*. http://www.hhs.gov/news/press/ 2010pres/02/20100212a.html.

United States Department of Health and Human Services, *National Health Information Network.* http://healthit.hhs.gov/portal/server.pt?open=512&objID=1142&parentname=CommunityPage&parentid=6&mode=2&in_hi_userid=10741&cached=true.

United States Department of Homeland Security. *National Incident Management System,* (December 2008). http://www.fema.gov/pdf/emergency/nims/NIMS_core.pdf.

United States Department of Homeland Security. *National Preparedness Guideline.* (September 2007). http://www.fema.gov/pdf/government/npg.pdf.

United States Department of Homeland Security. *National Response Framework* (January 2008). http://www.fema.gov/pdf/emergency/nrf/nrf-core.pdf.

United States Government Accountability Office. *Military Personnel: Status of Accession, Retention, and End Strength for Military Medical Officers and Preliminary Observations Regarding Accession and Retention Challenges*. GAO-09-469 Military Personnel, Washington, DC (April 16, 2009).

United States Government Accountability Office, "VA and DOD Healthcare." http://www.gao.gov/new.items/d04792.

United States Government. "U. S. National Debt Clock Debt.*" U.S. Debt Clock.* http://www.usdebtclock.org.

United States History. *The Social Security Act*. http://www.u-s-history.com/pages/h1609.html.

United States Office of Civil and Defense Mobilization. *The National Plan for Civil Defense and Defense Mobilization: Individual and Family Preparedness Appendix NP-2-1* (December 1960). http://www.archive.org/details/nationalplanforc00unitrich.

U.S. Census Bureau. U.S. Census Bureau Press Releases. http://www.census.gov/PressRelease/www/releases/archives/aging_population/0006544.html.

United States Code. "Examination and treatment for emergency medical conditions and women in labor." Title 42 – The Public Health and Welfare. http://frwebgate.access.gpo.gov/cgi-bin/usc.cgi?ACTION=RETRIEVE&FILE=$$xa$$busc42.pt1.wais&start=18295745&SIZE=51858&TYPE=PDF (Pg 2534).

U.S. Congress. *Senior Oversight Committee Extension Act of 2008.* 110th Cong., 2d sess., 2008. http://thomas.loc.gov/cgi-bin/query April 28, 2008

U.S. Congress. House. *Patient Protection and Affordable Health Care Act HR 3590.* 111th Cong., 2nd sess., January 5, 2010.

U.S. Congress. Senate. Committee on Senate Health, Education, Labor, and Pensions. *Statement of A. Bruce Steinwald, Director, Healthcare, United States Government Accountability Office*. 110th Cong., 2nd sess., February 12, 2008.

U.S. Congress. Senate. Committee on Senate Health, Education, Labor, and Pensions. *Statement of Fay Raines, President, American Association of Colleges of Nursing.* 111th Cong. 1st sess., June 11, 2009.

U.S. Congress. *Pandemic and All-Hazards Preparedness Act of 2006.* Public Law 109-417, 109th Cong., December 19, 2006.

U.S. Global Health Policy. Policy Brief. *The Global Health Initiative: Overview & Budget* (December 2009). http://www.kff.org/globalhealth/upload/8009.pdf.

Van Oort, Gijs and Elaine Mischler. "The Use of Incentives in Engaging Employees in Primary Prevention: A Status Report." *Employee Benefit Plan Review* 60, no. 11 (May, 2006): 27.

Van Ryn, Michelle, and Burke, Jane. "The Effect of Patient Race and Socio-economic Status on Physicians' Perceptions of Patients. *Social Science & Medicine* 50, no. 6 (March 2000): 813-828. http://www.proquest.com.

Vesely, Rebecca. "SCHIP Crunched." *Modern Healthcare,* 39, Iss 34 (August 24, 2009): 18.

Veterans Administration. *VA/DOD Joint Executive Council Strategic Plans, Fiscal Years 2008-2010*. http://www.tricare.mil/DVPCO/downloads/VA-DoD-JointStrategicPlan.pdf

Veterans Administration. "Kaiser Seek to Expand Health Data Exchange Project." *Federal Computer Week,* January 7, 2010. http://fcw.com/articles/2010/01/07/veterans-va-kaiser-permanente-health-information-exchange-nhin.aspx

Veterans Administration. About VA. http://www.va.gov/

Vince Veneziani and Joe Weisenthal. "The Amazing Health Care Reform Presentation from Kaiser Permanente CEO George Halvorsen." *Business Insider*. http://www.businessinsider.com/a-practical-model-to-achieve-health-reform-from-the-kaiser-foundation-2010-3.

WashingtonWatch.com. *H.R. 2307, The RE-Aligning [sic] Care Act.* http://www.washingtonwatch.com/bills/show/111_HR_2307.html.

West, Joyce. "Medicaid Prescription Drug Policies and Mediation Access and Continuity: Findings from Ten States." *Psychiatric Services,* 60, Iss 5 (May 2009): 601.

Winker, Margaret A., MD; Catherine D. DeAngelis, MD, MPH. "Caring for an Aging Population." Journal of the American Medical Association. http://jama.ama-assn.org/cgi/content/full/303/5/455.

Wojcik, J. "Plan Credits Healthy Habits." *Business Insurance* 43, no. 42 (November 23, 2009): 4.

World Health Organization. *Global Health Risks: Mortality and Burden of Disease Attributable to Selected Major Risks* (2009). http://www.who.int/en.

World Health Organization. *Global Polio Eradication Initiative: Programme of Work 2009 and Financial Resource Requirements 2009-2013* (May 2009). http://polioeradication.org.

World Health Organization.. "Drug-resistant Tuberculosis Now at Record Levels." *WHO News Release, March 18, 2010.* http://www.who.int/mediacenter/news/releases.

World Health Organization. *World Health Report 2008* (2008). http://www.who.int/en.

World Health Organization. *WHO*. http://ww.who.int.