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COMPARATIVE ANALYSIS OF NATIONS' HEALTH CARE FUNDING SYSTEMS

SAMUEL KANTNER
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Reviewed and approved* by the following:

Richard London
Instructor in Risk Management
Thesis Supervisor

Ron Gebhardtsbauer
Clinical Associate Professor of Actuarial Science
Honors Adviser

* Signatures are on file in the Schreyer Honors College.

ABSTRACT

The United States faces the growing issue of having the most expensive health care system, as well as arguably the worst quality of care for the non-wealthy, in comparison to all other industrialized nations. Moreover, the United States has left many (up to 50 million before reforms, according to 2010 U.S. Census Health Insurance Coverage statistics) without health insurance, while most other industrialized countries cover nearly all citizens. To combat these issues, President Barack Obama signed into law the Patient Protection and Affordable Care Act (PPACA) in March 2010. The purpose of PPACA is to help minimize the number of uninsured Americans, improve the quality of care, and reduce costs in the country's health care system. Nearly all other industrialized nations fund their health care systems through either state, federal, or payroll taxes in order to ensure coverage for nearly all citizens, a clear difference from the U.S.

This report analyzes the changes the U.S. has made to its health care system in recent years due to PPACA and compares it to health care systems of other industrialized nations and reforms they have made in recent years. The goal of the study is to recommend potential improvements to the U.S. health care system based on an analysis of the funding models of other industrialized countries. The report concludes by considering the political climate in the country and its effect on health policy reform.

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Chapter 1

Introduction

Before 2010, the United States was administering the least affordable, least accessible, and, according to many, one of the worst-performing health care systems compared to other industrialized nations. The United States also faced the dilemma of having a significant portion of its population uninsured, primarily because it was either unaffordable for low and middle income persons or due to "pre-existing conditions," where an insurer could deny coverage if an individual had a documented medical history for a given condition before obtaining coverage. As evidenced in presidential debates and discussions among members of Congress, the health care industry is constantly scrutinized and politically-involved, as well as a controversial topic for discussion.

Other nations fund their health care systems quite differently than the U.S. does, with varying degrees of success. This report will analyze the effectiveness of recent changes made to the U.S. health care system, along with proposed future reforms. It will also analyze the funding models of other industrialized nations (tied to quality metrics) and which features of other funding models might improve the American system. Finally, this report will consider inefficiencies in the American health care system, unrelated to funding, that could be improved.

Currently, the United States spends the most on health care per capita and as a percentage of gross domestic product (GDP) – approximately 16.5% and $8,700 USD, according to OECD Health Statistics 2013 data. GDP is a quantitative value of a country's economic production. Figures 1 and 2 below, which show U.S. health care spending compared to all other OECD

(Organization for Economic Cooperation and Development) countries, demonstrates the U.S. is a clear outlier in its spending as a percent of GDP and per-capita, especially from the private sector. The OECD represents a coalition of 34 developed democratic nations with market economies to compare economic policy and development.

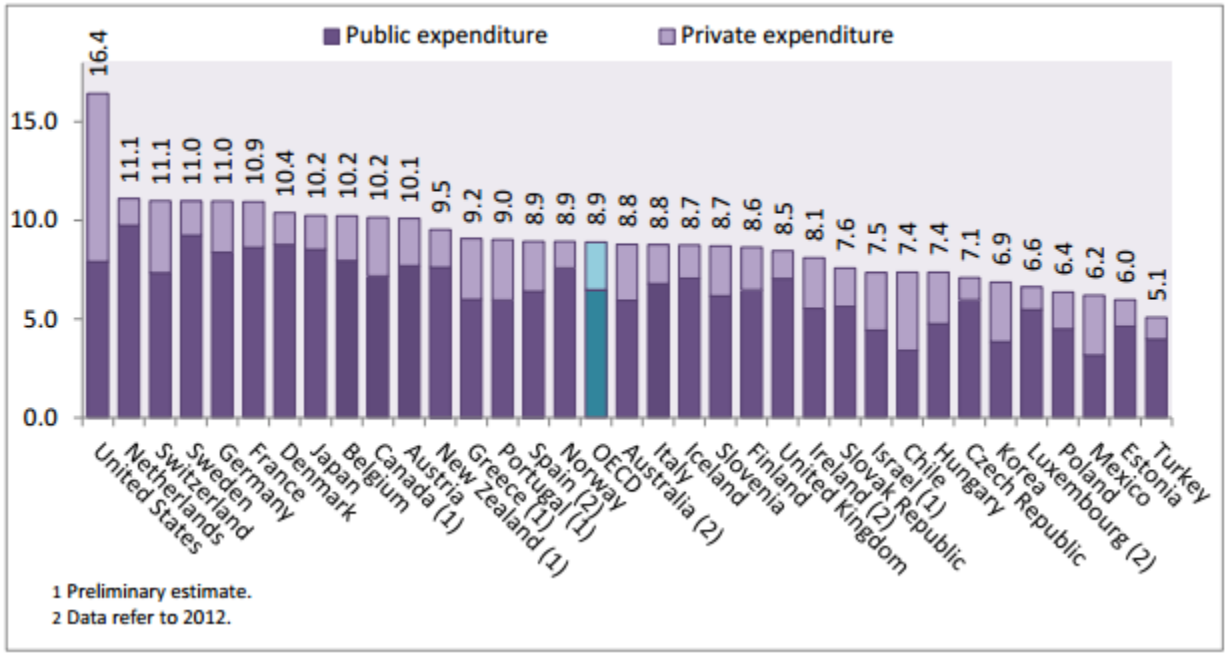

Figure 1: Health Spending as a Share of GDP, OECD Countries, 2013 Data

Source: OECD Health Spending

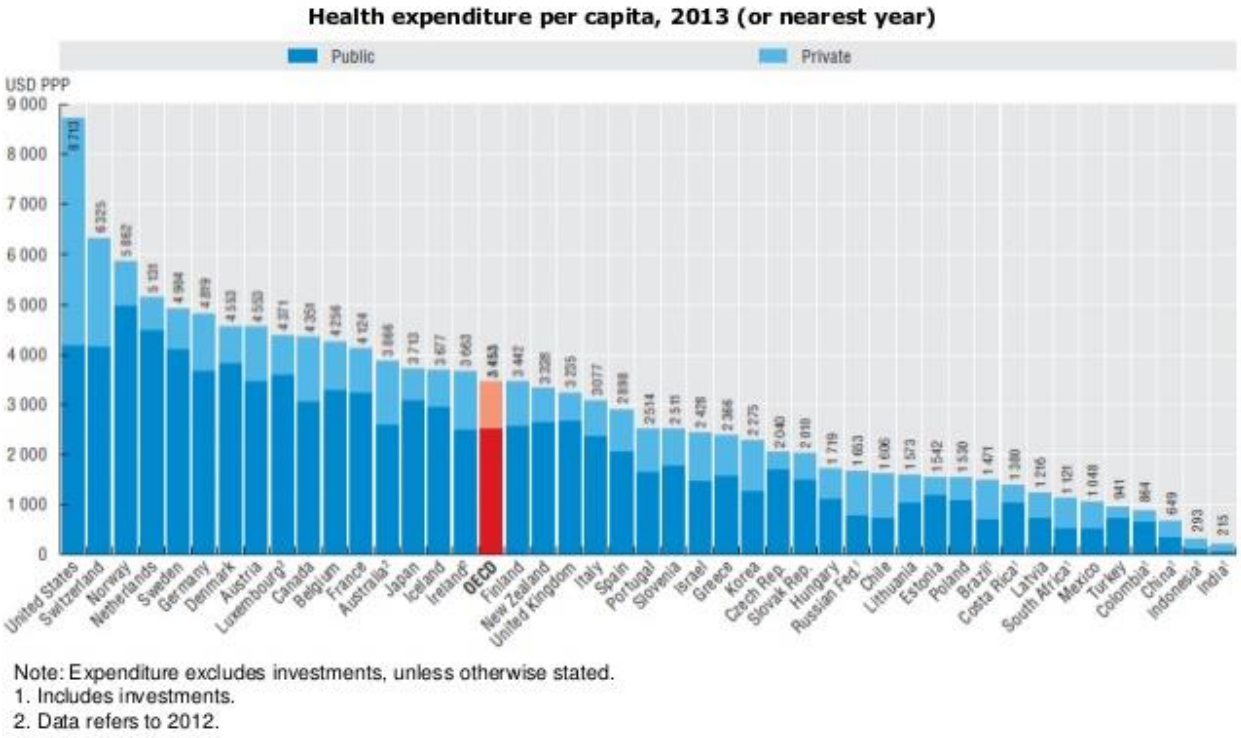

Figure 2: Health Spending Per Capita, OECD Countries, 2013 Data

Source: OECD Health Statistics

Global health spending in 2014 grew at roughly 1.0%, consistent with the global rate of overall economic growth; thus, the percentage of health spending relative to GDP output has remained relatively constant ("FOCUS on Health Spending" 1). Before the 2010 global financial crisis, spending on health care for OECD countries increased by an average of 3.8% per year from 2000-2009 ("FOCUS on Health Spending" 1). However, some countries such as Greece, Italy, and Portugal have experienced decreases in annual spending in recent years, whereas countries such as Chile, Korea, and Turkey have experienced spending increases that far surpass the OECD average ("FOCUS on Health Spending" 3). As the global economy continues to slowly recover, spending in health care will likely increase at a slow rate despite the threat of rapidly-increasing global health care costs.

One interesting observation, however, is that for many OECD countries, public spending has decreased in recent years in favor of increases in the private sector. In the 2010 global financial crisis, annual growth in public spending dropped from approximately 4% to 0%, with spending growth remaining rather slow since the recovery and at the same pace as overall global economic growth ("FOCUS on Health Spending" 4). In some OECD countries such as the U.S. and Germany, private health insurance (PHI) provides coverage to a majority of individuals. In most other countries, however, PHI is offered as supplemental coverage beyond statutory health insurance (SHI) for those who desire and can afford a more comprehensive health care plan. For countries like the United States, Chile, and Mexico, private spending comprises nearly half of overall health spending. In most other countries, however, private spending is a relatively minor component of overall health expenditures.

Uniqueness of Health Insurance Markets

Health care in this country has been a pressing topic in the 2016 presidential election race, having been discussed in several presidential debates, with candidates criticizing current systems and presenting their own health care funding plans. A study of the health care market in the U.S. is relevant because it represents one-sixth of the nation's spending. Policymakers, economists, those working in the health care industry, as well as anyone interested in health care funding in the U.S., should know how health insurance markets in the U.S. are uniquely different from those of other commodities.

The first distinctive feature is whether one considers health care to be a "right" rather than a luxury. Before passage of PPACA, an estimated 50 million Americans, almost one-sixth

of the population, were without health insurance. The only health care option available to individuals without insurance was emergency room visits, since the Emergency Medical Treatment and Active Labor Act (EMTALA), passed in 1986, required hospitals receiving funds from the Department of Health and Human Services to treat patients for emergency services regardless of their ability to pay (CMS.gov). This practice is rather wasteful, however, when those lacking insurance go to the emergency room for any type of ailment, and the hospital is obligated to provide care, thereby either losing money or increasing costs for others if the patient is unable to pay. By enacting PPACA, the U.S. joined all other OECD countries in affirming that basic health coverage is a necessity, either through universal coverage or through mandated insurance. Therefore, nearly all developed societies deem access to health care a social necessity.

The health insurance market also deals with a significant lack of symmetric information, where (a) the insured knows more about his current health status and health history than does the insurer, but (b) the insurer knows better how to project expected claims or how much the person should be paying for coverage. Lack of symmetric information, known as asymmetric information, occurs when one party in a transaction has more information than the other does. Usually, the seller has more information than the buyer. Purchasing a used car is a common example of asymmetric information affecting a transaction. The seller knows the car's repair and accident history and any underlying troubles the car might have, but the buyer only knows the price unless he or she does extra research to uncover more information. In health care markets, however, it is difficult to compare the quality of providers and, especially, their cost of services, as such information is generally not available to the public.

This matter of asymmetric information can lead to adverse selection in insurance. Adverse selection occurs when the buyers have better information about their health status than the sellers do, and could potentially conceal information in order to receive cheaper health insurance. Therefore, those who know they will be unhealthy and incur high costs will be more likely to purchase insurance at a given price than those who are otherwise healthy. Likewise, if the seller has more information, the company can get away with charging more than the true costs might be.

In addition to asymmetric information, the health care market exhibits a significant lack of price transparency. Providers and pharmaceutical companies do not disclose their prices for treatment in advance, making it incredibly difficult to shop for the best price. If one attempts to search online for the cost of a doctor's visit, many results simply outline what typical copay costs are and whether they contribute to an annual deductible, but not the true cost of the visit. Consumers, however, do not have much incentive to shop around. Typical insurance plans charge a copay per doctor's visit, which is the only cost many consumers see on the surface. However, the full cost of a routine visit can vary from $100 to several hundred dollars, depending on area in the country.

To make the industry even more complicated, demand for health care cannot be fully predicted. Health, as a commodity, differs from goods subject to the laws of supply and demand, where demand is inversely related to price and is directly related to supply. Additionally, health is unique in that it is viewed as both a consumption and production good, meaning that individuals have to invest some of their own free time and money in maintaining some degree of health, and also need to consume health care services (prescription drugs, doctor visit, specialist visits when necessary) to maintain overall health. Demand for some health services is rather

predictable. On the other hand, if a new, life-threatening virus spreads across the country, demand for treatment will skyrocket regardless of the price or supply of treatment. In addition, the prevalence of illnesses, infections, viruses, and so on, can fluctuate greatly year to year. Therefore, the demand for treating seasonal illnesses cannot be predicted exactly. Data analysis, however, has made modeling and predicting such trends in conditions and illnesses easier to predict as more data has become available and these trends can be monitored. Nonetheless, as long as people value their health, the demand for care will always exist. Predicting which expensive services will be in demand and disregarding the typical laws of supply and demand are two added complexities to financing health care around the world.

The presence of insurance also plays a role in making the health care market unique. Consumers purchase insurance because they are risk-averse, meaning they would rather pay a pre-determined amount per month in order to be certain of their losses than bear the relatively small probability of losing a large amount of money. Insurance helps protect consumers against such large, financially destructive losses. Most insurance plans have built-in mechanisms to reduce overutilization of elective services, as will be discussed later. These mechanisms encourage consumers to be more price conscious and careful in their utilization of relatively affordable services that are not considered "life or death," but ensure a high degree of financial protection for such "life or death" situations as cardiac arrests or other life-threatening illnesses.

Patient Protection and Affordable Care Act (PPACA)

On March 23, 2010, President Barack Obama signed into law the Patient Protection and Affordable Care Act (PPACA). The Act has several main goals, specifically to lower health care

costs for individuals and society as a whole, and to lower the uninsured rate by increasing affordability and accessibility for individuals.

PPACA includes several main provisions that have affected individuals and businesses. Most of these provisions were effective as of January 1, 2014. These provisions include the following:

- Guaranteed issue – insurers cannot deny coverage to individuals due to "pre-existing conditions" and cannot discriminate in pricing based on any existing conditions other than age, geographic location, and tobacco use
- Individual mandate – all individuals must have insurance coverage or pay a penalty that will increase each year
- Establishment of health insurance exchanges – individuals and small businesses in every state can compare policies and purchase insurance in a more convenient manner. Each state is supposed to provide its own insurance exchange, but if not, individuals can purchase from the federal exchange.
- Low-income individuals and families from 100% to 400% of the federal poverty level receive subsidies to purchase an insurance policy through either their state or the federal insurance exchange
- Employer mandate – businesses employing more than 50 individuals must insure all employees or pay a penalty

These provisions, among others, are arguably the most drastic changes in the health care model of the United States, and seem to reflect the models of other nations that will be analyzed in this report. These countries usually fund their health care systems via a single-payer (the government) through payroll deductions or annual federal, state, and local taxes. By mandating all individuals to be covered under health insurance and providing subsidies for those who cannot afford it, the current U.S. system resembles the more socialized models of other countries.

Plans sold on the exchanges are arranged into four "metal" tiers, namely bronze, silver, gold, and platinum, to make differentiating among the plans easier for consumers (healthcare.gov). Generally, bronze plans have the lowest monthly premiums but highest

deductible (amount that must be paid out-of-pocket before insurance payments begin) and other out-of-pocket costs. Bronze plans are followed by silver, gold, and platinum plans. Platinum plans have the lowest out-of-pocket costs and deductibles but highest premiums. Those who expect to not utilize many health care services due to excellent health condition would be more likely to purchase a bronze or silver plan in order to reduce monthly costs. Those with children, or those expecting to see a doctor or specialist more often, would be best served with a gold or platinum plan to minimize out-of-pocket costs.

The most vocal critics of PPACA contend that although more individuals are insured, the insurance costs for most, especially young, relatively healthy adults, have increased significantly. While rising health care costs are a factor, many individuals find their costs rising because insurers are required to cover the high-risk, costlier consumers insurers had previously avoided. Additionally, insurers cannot charge these consumers more than the rate they charge a healthy person of the same age. Thus, younger, healthier individuals essentially pay considerably more than necessary in order to offset the losses expected from the riskier individuals they must subsidize. As a result, many have seen their premiums and deductibles rise sharply each year.

Countries included in this analysis were selected based on OECD research that tracks various health care measures of 34 industrialized countries, as well as differences in funding models and consumer outcomes. Canada and the U.K. have similar health care financing systems, provided by a single payer (the government), and funded through income taxes so that services are free at the point of use. Switzerland and Germany have publicly funded health care systems, but are paid through payroll deductions and are usually subject to cost-sharing mechanisms so that part of the cost of service is passed on to the users. In all these countries, private insurance still plays a role in filling the gaps where people desire coverage for services

not provided by the government plan. Several factors have contributed to rising health care costs in the United States (as well as other countries, but to a smaller extent), such as the following:

- Moral hazard from low cost-sharing and excessive utilization of health care
- Lifestyle factors, such as obesity and smoking
- Utilization of expensive health care technology with non-commensurate results
- Market power of health care providers and insurers

These factors will be explored as potential inefficiencies in the U.S. health care system that can be mitigated to ensure more optimal outcomes in the country with less spending and without overhauling the entire health care system.

Chapter 2

Health Care Funding Models of Five Nations

All industrialized nations that are members of the OECD, except the United States, fund their health care systems primarily through a single payer, such as their governments. Although all OECD countries have experienced rates of health care spending that outpace inflation, the United States is a clear outlier, spending much more as a proportion of GDP and per capita on care. As will be discussed, the U.S., Canada, Switzerland, Germany, and the U.K. differ in either their funding models or quality of care outcomes, or both.

United States

As previously mentioned, health care in the United States is provided through a combination of privately-owned facilities (either for-profit or not-for-profit) and some public facilities. Although a variety of governmental health care programs exist such as Medicare, Medicaid, Veterans Health Administration (VA), and Children's Health Insurance Program (CHIP), most individuals obtain health coverage from private health insurers. This coverage can be obtained by purchasing an individual plan through the public health insurance exchanges stipulated by PPACA. Coverage can also be obtained as a benefit provided by an employer as group insurance coverage, as about 50% of the population does, rather than via individual coverage, which was obtained by 6% of the population as of 2013, though this percentage has likely increased over the last three years (Thomson et al. 128). In fact, PPACA mandates that companies with at least 50 full-time employees must provide coverage or be subject to tax

penalties from the government. In sharp contrast with the other countries in this study, total expenditures between public and private sectors is roughly equal in the U.S.

Another distinctive feature of the U.S. health care system is that individuals not covered under any government program are mandated to be covered by private insurers. Despite PPACA mandating individual coverage at the start of 2014, 11.9% of individuals still lack health insurance as of the end of the first quarter in 2015, though down from 18.0% at the end of 2013 (Levy, Gallup.com). Most other OECD countries, except Mexico, have achieved nearly 100% coverage.

United Kingdom

The United Kingdom's health care system consists of the publicly-funded health care systems of England, Northern Ireland, Wales, and Scotland, each providing universal coverage, free at the point of use, funded by general taxation, and administered by the National Health Service (NHS). Private insurance is available for elective hospital care, provided mainly through employers, but individuals can also select private supplemental insurance for services not covered by the NHS.

In contrast to the United States, cost-sharing (patients paying a portion of the health care costs in addition to what the insurer pays) is minimal with the United Kingdom's universal care system. Coverage is free-of-charge for primary, in-patient, hospital, and long-term care, although there are individual costs for prescription drugs, certain dental care, and eye tests, among others. It will be interesting for future research to analyze the effect of varying levels of cost-sharing on utilization of health care services in other countries, as the U.K. exhibits much

less cost-sharing than does the United States, but still spends less on health care as a percentage of GDP proportionally than the U.S. As will be discussed later, a study from the RAND (Research ANd Development) Corporation investigated the effects of cost-sharing on health care spending in the U.S., but it has yet to be replicated in any other country where the demographics might differ considerably and homogeneity in health status and income throughout the country could set it apart from the U.S.

In England and the other U.K. countries, services are provided through general practitioners, who may then refer a patient to hospitals or clinics for specialist services. Patients are given choices of hospitals and clinics, both public and private, where they can receive treatment. If the patient does not have private health insurance, he or she will need to pay the full cost of treatment unless the hospital or clinic adheres to cost and service criteria required by the NHS. This issue limits the options of those with public coverage, since most specialist centers are private. This dilemma may motivate individuals who prefer more options or less waiting time to elect private coverage to replace SHI, if they can afford it. Most private care in the U.K. is provided through large employers as part of a benefits package to attract and maintain employee talent. Insurers also market directly to individuals for supplementary coverage. However, most persons with private coverage still use their NHS general practitioner and opt for private specialists or hospital care, primarily due to less waiting time and/or better options for specialists.

Canada

Each province and territory in Canada administers its own universal health insurance program that plans and delivers publicly-funded services locally according to the Canada Health Act (Mossialos et al. 21). The Canada Health Act defines certain benefits that must be offered in order to receive funding. Utilization of most services is free-of-charge at the point of use, although mostly private entities provide such services and are then reimbursed by the provincial government on a fee-for-service basis (O'Grady and Roos, The Globe and Mail).

Public funding covers most health care expenditures in the country. Public funding is received from general provincial and federal taxation. This money is then distributed to the provinces and territories on a per-capita basis, according to the Canada Health Transfer (Mossialos et al. 21).

Private insurance provides supplemental benefits beyond those covered by public insurance, with around two-thirds of the population receiving some form of additional private coverage (Mossialos et al. 21). In fact, services such as prescription drugs, long-term care homes, dental and vision care are not funded publicly and these expenses constitute 15% of the nation's overall health expenditures (Mossialos et al. 22). Additionally, funding for mental health treatment is minimal. Therefore, approximately 30% of Canadians' health care costs are for out-of-pocket health expenses or for supplemental private coverage (Mossialos et al. 22).

Since Canada provides universal health coverage that is free at the point of use for covered services, there is no cost-sharing for publicly covered physician visits and hospital services. As a result, Canadians have little reason to avoid visiting a doctor for any reason, even for ailments that could easily be treated through affordable, over-the-counter medicine, since their out-of-pocket costs are essentially zero. This phenomenon of moral hazard resulting from

virtually no cost-sharing creates excessive demand for health care services, as will be discussed later in the paper. From the excess in demand and/or lack of health provider supply, Canadians face an issue of long waiting times to receive surgical or specialist treatment, even compared to other nations with publicly-funded health care systems. Many Canadians even opt to travel to the U.S. to receive care, even if it means paying the full price themselves, in order to avoid Canada's lengthy waiting times.

Germany

The German social health insurance system was the first socialized health insurance program, established by Otto Von Bismarck under the Health Insurance Bill in 1883 (Clarke & Bidgood 1). The system has three main principles: solidarity, subsidiarity, and corporatism (Clarke & Bidgood 1). Solidarity means that the government takes responsibility to ensure universal access to health insurance so that those unable to afford private insurance are still covered. Subsidiarity means the government establishes the legislation and bargaining processes, but implementation is passed to the smallest political units in society (similar to county-level government in the United States) (Clarke & Bidgood 1). Corporatism is defined as the elected representation of employees and employers on the governing boards of these sickness funds to negotiate the terms of medical care and reflect the competing interests of providers and insurers (Clarke & Bidgood 1-2). As a result, it is difficult to change the health care structure in Germany without consent from all parties involved in the decision-making process.

Currently, the federal government mandates health insurance in Germany or citizens face tax penalties, as in the United States. If one earns more than 49,500 euros per year, he or she has

the option to choose from statutory health insurance (SHI), also known as "sickness funds," or that person can elect to receive coverage through private insurance (PHI). If not, then he or she is automatically enrolled in SHI (Clarke & Bidgood 1). People can also purchase supplementary private insurance to cover benefits not provided under SHI. As of 2013, 86% received coverage under SHI and 11% were covered under substitutive PHI (Mossialos et al. 63). The rest consists of soldiers and policemen, who are covered under special programs (Mossialos et al. 63)

Those under SHI pay a joint employer-employee contribution into one of 130 sickness funds and those under social welfare programs have their contributions covered by their respective municipalities. As of 2011, employees contributed 8.2% of monthly salary and employers contributed another 7.3% (Mossialos et al. 64). These sickness funds provide broad and substantial benefits, and cannot discriminate or refuse membership on risk-based standards. Those opting for private insurance pay a risk-based premium, much like private insurance in the United States. Thus, premiums are lower for a young, healthy individual but rise with age since insurers can discriminate on such factors. Private insurance includes supplementary benefits, such as coverage for care not provided by SHI, or for more specialized and higher-quality care when undergoing in-patient treatment. It also enables those to opt out of SHI and select a PHI plan that better caters to their health care needs.

Providers used to be reimbursed on a fee-for-service basis, but that has since changed to a capitation basis, where provider reimbursement is capped per quarter based on services charged. For example, a sickness fund may pay a provider $1,000 per patient assigned. If the provider is assigned 20 patients, it will receive $20,000. If these patients need more care than expected, the provider is not given any extra beyond the $20,000 and does not make any additional revenue. This method of payment incentivizes providers to focus on preventive care and avoid expensive,

unnecessary procedures, but can also reduce quality of care since the provider could avoid necessary care since he or she will not receive extra compensation for it.

Switzerland

As in the U.S. and Germany, participation in the Swiss health care system is mandatory through tax penalty punishment. The system is split among the federal, cantonal (similar to states), and communal levels of government. Citizens of Switzerland are required, under the 1996 Federal Health Insurance Act, to purchase a statutory health insurance plan from competing insurers. Individuals buy coverage; employers do not provide insurance to their employees. However, the government ensures citizens do not pay too much for health insurance by providing cash subsidies if their premium payments are above a specified percentage of income. "Complementary" health insurance is also available to supplement statutory insurance if individuals desire to purchase it, covering additional benefits not stated under SHI or more luxurious in-patient care. According to a 2015 European health consumer index survey, Switzerland's health care system was ranked second in Europe but also regarded as expensive (Björnberg 24).

Although insurance coverage is universal, individuals partake in cost-sharing by paying an annual deductible and a 10% coinsurance rate for costs that exceed the deductible. In addition to these cost-sharing methods, individuals pay a monthly insurance premium for both compulsory and supplemental private insurance. Premiums for compulsory insurance are based only on age group and region of country, and insurers cannot discriminate on the basis of sex or current or previous state of health. Insurers offering compulsory coverage cannot profit from

these plans. Complementary insurance is based on the standard risk-based premiums and insurers may profit from these plans.

Chapter 3

Establishing Quality, Accessibility, and Affordability Metrics

Quality of a health care system can have different meanings to different people, but for this report, quality will be tied primarily to outcomes on an overall basis. Some may view quality as advanced technology, comfort of waiting areas, or waiting times. While those are beneficial qualities, the purpose of this study is to consider how utilizing health care services results in overall improved health in the given country.

Although accessibility and quality are sometimes separate entities, this study will place them together, since leaving a sizeable population uninsured or having long wait times are certainly not positive qualities in a health care system. Accessibility measures the ability for citizens to be covered. Cost is the largest deterrent for people not receiving coverage.

Waiting times are related to accessibility, but distinct in that they measure how long consumers have to wait before being able to see a doctor or receive surgical treatment. This measure does not consider how long a patient waits in the waiting area at a specific visit, but rather considers if people are able to be seen by a provider quickly when the demand arises. Lengthy waiting times for services imply that demand for health care is greater than the supply. This metric is measured on average wait times to see a primary care physician, specialist or hospital care, and wait times for emergency rooms.

Infant care is an important quality to measure, as the value of saving a newborn's life is incalculable, and parents would be willing to spend any amount to ensure safe and healthy delivery of their child or children. Therefore, emphasizing care at childbirth and for infants is

important, and spending money to ensure safe child delivery and care for at-risk births is worth the cost. Measuring infant care considers mortality rate in the first year of an infant's life.

Likewise, for elderly care, enhancing life expectancy depends on how well the health care system treats its older population. Some philosophers and economists debate the worth of prolonging human life after one reaches age 75 or higher, since people beyond that age are usually retired and do not produce, but rather consume, goods (though consumption is a vital part of any economy). This report will ignore the societal costs of prolonging life expectancy (since an elderly individual tends to consume more health care than someone of a younger, healthier age, especially on prescription drugs and long term care), and assumes a society wants individuals to live as long as possible. It would also be unethical to intentionally underserve a vulnerable segment of society for the sake of cutting costs.

The infant care metric is measured by mortality in the first year of life (where lower mortality is more desirable). Elderly care is measured based on life expectancy at age 60 because this statistic excludes infant and premature death, as well as death due to accidents. The World Health Organization (WHO) provides data on both life expectancy at birth and after age 60 to better reflect extending elderly life.

Preventive care is an often overlooked, but important, measure to study. Relatively inexpensive screenings and evaluations can prevent or minimize costs by detecting potential cancers and conditions early on or before symptoms develop. For example, mammograms (screening for breast cancer) are given once a year to women starting at age 40, with the goal of detecting cancer before it forms, or is in an early stage, to increase the likelihood of female survival. A mammogram screening costs approximately $100, but the advantage of receiving one is that a stage 3 or 4 (severe) breast cancer could have been avoided. According to the Susan

G. Komen Foundation, the average cost of treating early stages of breast cancer is approximately $22,000 and the direct costs of treating stage 3 or 4 breast cancer average more than $120,000, not accounting for lost productivity and the incalculable value of life that could be lost (Mehr, Zimmerman, AJMC.com). The government deems such preventive care services so important that PPACA included a provision for all insurance plans to allow such screenings to be provided free-of-charge to the patient. The U.S. government outlines which preventive care services are covered for free at the point of use. This measure is studied by a survey conducted by the Commonwealth Fund asking participants to report the effectiveness of providers at ensuring they receive required screenings and reminding them when they are due for screenings.

Treating chronic conditions is also an important part of a successful health care system, and is worth measuring. Chronic conditions are defined as those present for more than three months. Treating such conditions are essential to maintaining an overall healthy society, and the quicker such conditions can be treated or managed, the less they cost in the long run. This metric is also analyzed based on results from a Commonwealth Fund survey asking patients and providers about treatment and maintenance of chronic conditions.

Chapter 4

Analyzing Health Care Systems of Other Nations

A 1-5 ranking scale will be used to compare the five countries in the study, with 1 equaling the best and 5 equaling the worst of the countries. The results are shown in Table 1 on page 25. Information for the rankings is based on secondary research of waiting times, infant mortality, and life expectancy, as well as consumer-provided surveys on how individuals and health care professionals rate their own health care systems. This information is provided by the Commonwealth Fund in its 2014 report comparing countries on self-reported metrics of quality of care.

Although the United States has made efforts to improve accessibility for its citizens, estimates suggest around 10-12% are still uninsured, and thus the American system is deemed least accessible. Ranking the other countries beyond the U.S. is rather difficult since they are all universal systems and virtually everyone is covered. Canada and the U.K. are tied for most accessible since affording coverage is based merely on ability to pay taxes, and beyond that there are no barriers to health care access. Germany and Switzerland both administer their health care systems similar to an insurance company that institutes cost-sharing mechanisms, and even premiums, to pass some of the costs onto patients and prevent overutilization.

Finding wait times for emergency room treatment, doctor visits, and elective surgery is surprisingly difficult. Countries with poor wait times, such as Canada and the U.K., do not make average wait time for services readily available, but rather report that they are working on improving it. The U.S. also varies widely in wait times for given procedures, especially in economically underserved areas.

Figure 3 shows the average first-year infant mortality among countries studied. Figure 4 shows the average future lifetime at age 60 for the given countries.

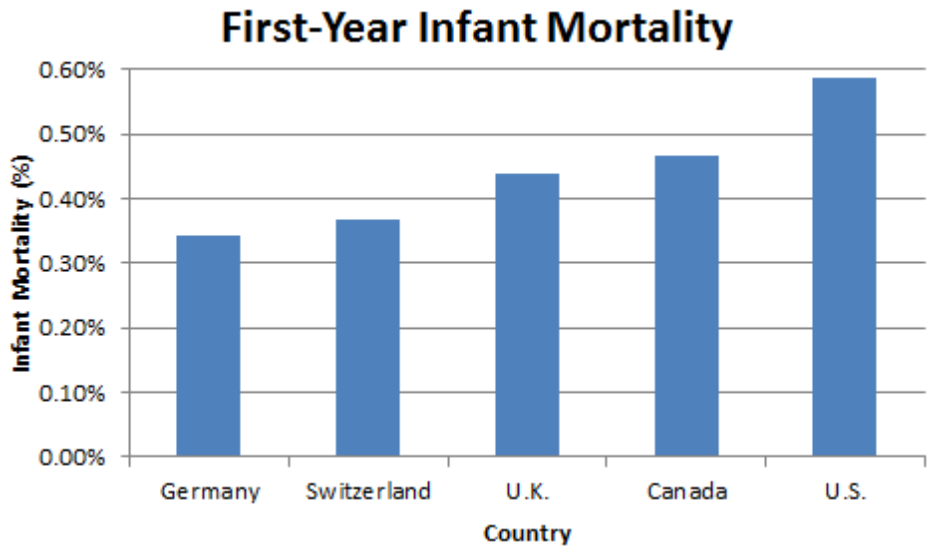

Figure 3: First-Year Infant Mortality

Source: The World Factbook, CIA.gov

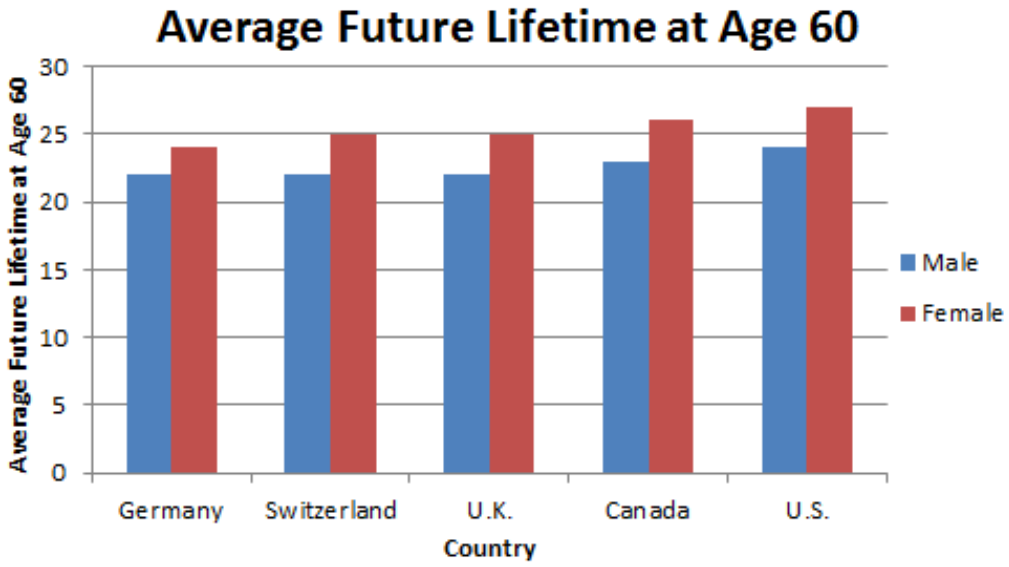

Figure 4: Average Future Lifetime at Age 60

Source: Global Health Observatory data repository, 2015, WHO

As mentioned above, the effectiveness of preventive care and treatment and maintenance of chronic care are based on survey results administered by the Commonwealth Fund in June 2014. The results of the survey and their rankings from the Commonwealth Fund are provided in Figures 5 (preventive care) and 6 (chronic care).

		Raw Scores (Percent)											Ranking Scores										
	Source	AUS	CAN	FRA	GER	NETH	NZ	NOR	SWE	SWIZ	UK	US	AUS	CAN	FRA	GER	NETH	NZ	NOR	SWE	SWIZ	UK	US
OVERALL BENCHMARK RANKING													**4**	**7**	**9**	**6**	**5**	**2**	**11**	**10**	**8**	**1**	**3**
Prevention																							
Physicians reporting it is easy to print out a list of patients who are due or overdue for tests or preventive care	2012	65	23	34	40	72	81	5	16	28	88	30	4	9	6	5	3	2	11	10	8	1	7
Patients receive reminders for preventive care	2013	38	39	40	47	58	56	24	32	33	46	49	8	7	6	4	1	2	11	10	9	5	3
Patients routinely sent computerized reminder notices for preventive or follow-up care	2012	76	35	64	35	80	95	17	55	48	95	52	4	9	5	9	3	1	11	6	8	1	7
Doctor or other clinical staff talked with patient about a healthy diet and healthy eating	2013	55	51	39	39	41	47	30	30	38	54	67	2	4	7	7	6	5	10	10	9	3	1
Doctor or other clinical staff talked about exercise or physical activity	2013	54	54	50	47	44	51	39	43	40	51	70	2	2	6	7	8	4	11	9	10	4	1
Doctor or other clinical staff talked with patient about health risks and ways to quit (base: smokers)	2013	61	69	54	59	58	86	45	49	47	67	77	5	3	8	6	7	1	11	9	10	4	2

Figure 5: Preventive Care Measures

Source: "Mirror Mirror on the Wall: How the Performance of the U.S. Healthcare System Compares Internationally" Commonwealth Fund, 2014, pg. 14

Chronic Care																							
Patients with diabetes receiving all four recommended services†	2011	56	40	26	39	49	53	33	41	34	76	50	2	7	11	8	5	3	10	6	9	1	4
Patients with hypertension who have had cholesterol checked in past year	2011	82	84	82	90	78	84	85	69	89	93	85	8	6	8	2	10	6	4	11	3	1	4
Has chronic condition and did not receive recommended test, treatment, or follow-up care because of cost	2011	20	8	10	12	8	17	8	5	11	4	33	10	3	6	8	3	9	3	2	7	1	11
Primary care practices that routinely provide written instructions to patients with chronic diseases	2012	41	21	15	34	34	25	14	13	26	61	39	2	8	9	4	4	7	10	11	6	1	3
Physicians reporting it is easy to print out a list of patients by diagnosis	2012	72	39	27	53	77	74	38	45	25	96	49	4	8	10	5	2	3	9	7	11	1	6
Physicians reporting it is easy to print out a list of all medications taken by individual patients, including those prescribed by other doctors	2012	78	42	39	61	78	74	59	52	46	98	56	2	10	11	5	2	4	6	8	9	1	7
Pharmacist or doctor did not review and discuss all medications patient uses in the past year (base: taking 2 or more prescriptions regularly)	2011	34	28	58	29	41	31	62	55	25	16	28	7	3	10	5	8	6	11	9	2	1	3

Figure 6: Chronic Care Measures

Source: "Mirror Mirror on the Wall: How the Performance of the U.S. Healthcare System Compares Internationally" Commonwealth Fund, 2014, pg. 14

Table 1: Countries' Health Care Ratings

	Canada	U.S.	U.K.	Germany	Switzerland
Accessibility	T-1	5	T-1	3	4
Waiting Times	5	1	4	T-2	T-2
Infant Care	4	5	3	1	2
Elderly Care	2	5	4	3	1
Preventive Care	3	2	1	4	5
Chronic Care	4	3	1	2	5

Chapter 5

Possible Implementations from Other Health Care Systems

In considering what is most advantageous to the country, it would not be advisable to repeal PPACA. Although many of the Act's political opponents, especially those running for office, repeatedly proclaim "Obamacare" (a nickname given to PPACA) needs to be repealed, many of these politicians make broad generalizations condemning PPACA without providing any evidence for these condemnations or without providing any alternative improvements. The U.S. should not regress to pre-PPACA days in which a sizeable portion of the population went without insurance, as this situation proved to be inefficient and costly. As previously mentioned, in the pre-PPACA system, the only way for those without insurance to receive care was through emergency room services. If unable to cover the cost of services, the hospital takes the loss and, in turn, spreads the cost around to recoup the loss. Overall, this practice was very expensive and would be preventable if citizens had a basic level of coverage. Access to at least minimum coverage, including doctor visits, should be afforded to all citizens in order to maintain a sense of security for individuals and their dependents.

The Physicians for a National Health Program (PNHP) outline a few health care funding models widely used in the world, with the countries analyzed in this report using some form of these models. The Beveridge Model, named after William Beveridge, who designed the United Kingdom's National Health Service, is used in the U.K. (pnhp.org). This model is funded through general taxation, in a manner similar to how federal and state taxes in the U.S. are administered. As expected, the tax rate is higher in countries utilizing the Beveridge model. If

the U.S. were to implement such a system, it would face considerable criticism from those who oppose higher taxation, especially since the disparity in health status varies considerably throughout the country based on geographic and socioeconomic status. Many countries following the Beveridge model, however, have relatively consistent health status throughout the country. With inconsistent health and ability to pay throughout the country, individuals with great health and ability to pay will be subsidizing those with poor health and/or inability to pay. In the U.K., the government owns most hospitals and specialist clinics. In this model, the government has an advantage over providers in contract negotiations, as the government is the sole payer and is able to dictate how much it will reimburse the providers and dictate what services they must provide. As a result of the authority government exerts over providers, there is less spending per capita compared to the U.S. since administrative services are not duplicated. The government also does not exist to make a profit, unlike private insurers in the U.S.

Such a model implies that the government believes health care should be a right afforded to all citizens. No one is denied care under this system, and the entire health care industry exists largely as non-profit, although private insurers can still operate to provide supplemental insurance for benefits the government does not provide.

The Bismarck Model represents the German and the Swiss health care systems. As mentioned earlier, it is named after Otto Von Bismarck. Coverage is provided in a way similar to a public insurance system by utilizing "sickness funds" financed by employers and employees through payroll deductions, comparable to how approximately half the population in the United States fund their health coverage from payroll deductions for insurance premiums through their employers. Both sickness funds in Germany and insurers in Switzerland offering compulsory

insurance do not make a profit, whereas private insurers covering citizens in the U.S. exist to profit.

The National Health Insurance (NHI) Model is used in Canada. This model involves private providers as in the Bismarck model, but features one single government payer that is funded through taxation in a manner similar to the Beveridge model.

It appears the United States, to an extent, follows aspects of all three of these models for different segments of the population. For military veterans seeking care through the VA system, health care is modeled after the Beveridge model of the U.K. For the retired or disabled population, health care is provided similar to the NHI model of Canada. For those receiving health insurance through his or her employer, health care is modeled after Germany and Switzerland. Such fragmented systems, depending on age and socioeconomic status in society, are not ideal for an efficient health care system. It will likely be more efficient to have one uniform system throughout the country (as is the case in every other OECD country) to reduce complexity on both the provider and payer ends.

The Bismarck Model (Germany and Switzerland), with some modifications, provides the best cost-reduction without compromising quality, allows private insurers and providers to continue to exist in the health care market, and makes the fewest changes to the current U.S. health care system. According to the Bureau of Labor Statistics, approximately 19 million people are employed in the health care industry in the U.S. as of March 2016. This value does not include those employed in the health insurance industry, which totals approximately 500,000 as of June 2015 (Hartwig, Insurance Information Institute). Considering how the private health insurance sector is currently established in the U.S., abolishing the private sector entirely would

result in millions of jobs lost, reduce market competition, and would effectively eliminate an industry for future employment.

There are fundamental similarities between the current American system and that of the Bismarck model. Individuals today are mandated to have health coverage under PPACA and cannot be denied due to their health status or history. Both systems also currently cap how much an individual can pay out-of-pocket, although the cap is much higher in the U.S. Both systems also have cost-sharing measures in place to prevent overutilization. Switzerland mandates purchase of PHI, but private insurers are not allowed to profit from the compulsory plans offered, unlike private insurers in the U.S., whose goal is to maximize profit. Additionally, Germans pay into their health care system through payroll deductions, similar to a majority of the adult working population in the U.S. The model also requires some individual contributions, which provide some barrier to entry, so that consumers do not over-utilize services and have to consider whether consuming such services is worth the cost, similar to the United States. The U.S. has more cost-sharing than do Germany and Switzerland.

A possible way to integrate the Bismarck model into the current U.S. model would be to create a government-run health insurance program to compete against private insurers. Such a program could be beneficial because it would cover individuals and their families who private insurers did not want to cover before PPACA, either because these individuals could not afford health care or were too high-risk. Instead of imposing strict regulations on insurers to cover such individuals, the government could allow insurers to price all insureds based on typical risk-based characteristics, which would incentivize the less-preferred risks to purchase the social insurance plan. Those under the social insurance plan would simply pay based on their income, rather than health characteristics, as is the case in Germany. A possible result of such a change is that

insurers would not need to increase prices for younger, healthier, or wealthier individuals to subsidize the losses from its PPACA-line of business. Coverage could include the necessary doctor visits, standard prescriptions, hospital and emergency care, and most specialist care. Those who want more than the basic coverage could then opt for private insurance. Such a system would also encourage consumers to keep prices low in order to compete with the social option.

Flood insurance is an example of a social insurance program that exists because property-casualty insurers are reluctant to cover such risks due to extreme adverse selection. The National Flood Insurance Program (NFIP) was created in 1968 through the National Flood Insurance Act. Individuals and businesses purchase policies from the program by paying premiums, just like other types of insurance. Premiums can be reduced if the property owner takes measures to reduce the likelihood of damage due to flood. Adverse selection exerts a substantial presence in this market because only individuals and businesses located near flood-prone areas would want to purchase insurance protection against the risk of flood. Similarly, with health insurance, insurers may not want to cover individuals with pre-existing conditions because they know these individuals will incur claims and be costly to cover. As such, a public insurance option could absorb such losses similarly to how the NFIP covers those in flood-prone areas.

The United States already has an example in which individuals have a private option for a government-mandated health program: Medicare. Medicare is the social insurance program signed into law by President Lyndon Johnson in 1965 that covers individuals over age 65 and some disabled persons below age 65. The program is funded by a 1.45% payroll tax each from the employee and employer for hospital coverage, and premium payments help cover the cost of out-patient and specialist care. However, many private insurers also offer plans approved by

Medicare (known as Medicare Advantage plans) in which individuals receive their Part A (hospital insurance) and Part B (medical insurance) through a private insurer instead of original Medicare (Medicare.gov). Companies offering Medicare Advantage plans receive a fixed reimbursement rate from Medicare each month and in return have to follow specified rules set forth by Medicare (Medicare.gov). The private option allows individuals more freedom in selecting which benefits they want covered and can offer more benefits beyond the original Medicare. Those who cannot afford or do not want the Medicare Advantage option receive coverage through original Medicare. With these examples, and the German health care system as a model, the U.S. could consider implementing a social insurance program so those looking for minimal coverage, high-risk types, or those unable to afford private insurance could be able to afford coverage at a cheaper cost, while those who want more personalization and options could opt for private insurers. Such a plan could keep the health care system affordable and allow such a developed industry to continue to exist in the U.S.

Chapter 6

Internal Issues in U.S. Health Care System

Lack of Price Transparency

Lack of transparency in health care costs is a factor that contributes to inefficiencies and higher costs in the health care system. The greatest confusion for consumers lies in the actual cost of services, treatments, medicine, and so on. Information on actual costs of services, treatments, and pharmaceuticals is not readily available to the public. Most traditional health care plans involve paying a monthly premium and some form of cost sharing, such as a copay or coinsurance. With coinsurance, the consumer pays a percentage of the full cost of services or treatments, and the insurer pays the rest. Copays are pre-determined fixed amounts paid by the consumer, regardless of the actual cost of services.

Since copays tend to be a popular form of cost-sharing, moral hazard plays a role. Moral hazard is defined as a person taking more risks because the person knows he or she is protected from the risk and someone else bears the risk. In this context, moral hazard exists when people over-consume health care because the true cost of services is not reflected in the copay (usually from $10 to $50) and the insurer picks up most of the cost. As such, the insured does not have much incentive to practice healthy or safe behaviors if the cost of a doctor's visit is rather cheap, or even free, to the patient. The insured might also visit the doctor for problems that could be treated easily through over-the-counter medicine, thus adding excessive costs to the health care system.

The RAND Corporation, in their unique Health Insurance Experiment (HIE), explored the phenomenon of moral hazard in health insurance. The study randomly assigned individuals to varying levels of coinsurance and observed their utilization behavior. By randomly assigning people into coverage groups, the study was able to rule out any differences in underlying health status on utilization. The breakthrough conclusion was that those who did not have any coinsurance (health care costs completely covered by insurer at the point of service) used more services, and that increasing the cost-sharing amount reduced both unnecessary and necessary consumption of services (Brook et al.). The study has some weaknesses in its generalization to the entire U.S. population due to its rather low sample size, but is otherwise a leading study in this field. Although the study was conducted in 1971, the results are likely to still hold true today, as health insurance plans have not significantly changed in plan design since then.

In Figure 7 below, the example shows that increasing insurance coverage (from no coverage to 50% coverage) results in increased demand for health care, assuming everything else held equal. In reality, the effect of increasing insurance coverage may not be as significant, but this example is simplified to show the effect. The RAND HIE study has much more detail on the exact effects of varying the level of insurance coverage. A table of the principal results displaying the increased demand is shown in Appendix A.

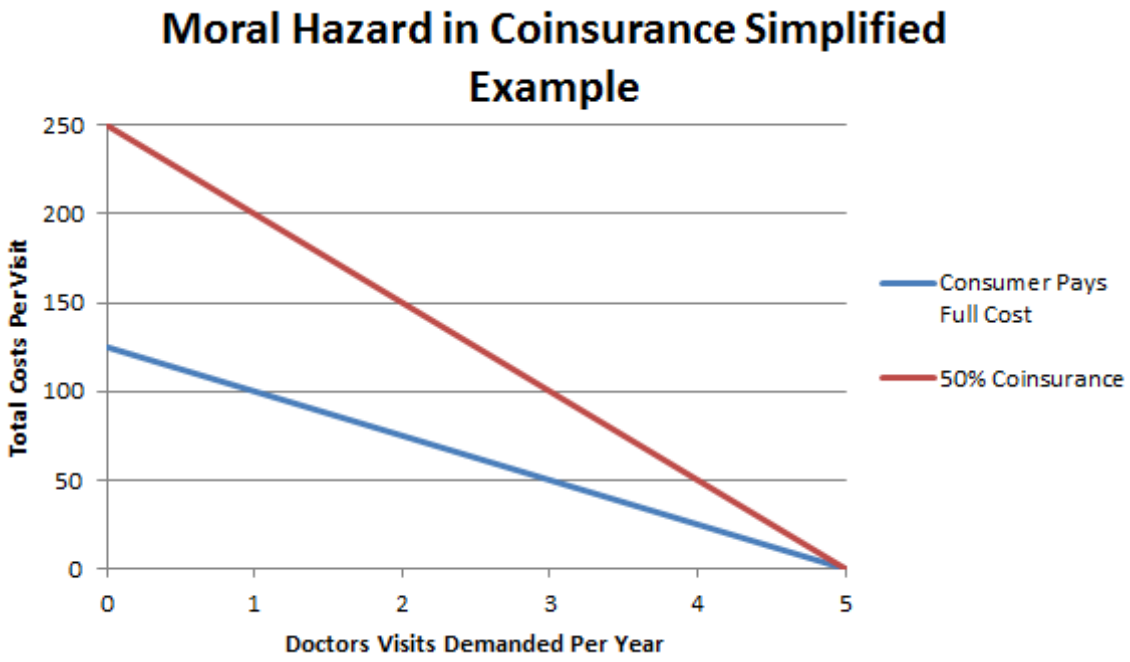

Figure 7: Simplified Example of Moral Hazard in Health Insurance

Many health insurers in the U.S. have changed their pricing strategies to reduce moral hazard by utilizing high-deductible health plans (HDHPs) in an attempt to shift cost consciousness toward the consumer. If an insurance policy has a deductible, the consumer must pay the specified amount out-of-pocket before insurance coverage kicks in. Deductibles can be per-claim or aggregate, such as total claims in a month or year. Therefore, an HDHP simply means the deductible is high (at least $1,000), in order to make the consumer more cost-sensitive about his or her health care needs. In exchange for the high deductible, the insured pays a relatively smaller monthly premium.

Although reducing moral hazard would be beneficial for the U.S. health care system, it alone cannot explain why the country spends such a large portion of GDP on health care compared to nations which have virtually no cost-sharing. Regardless, health care needs to be funded in a way that discourages overutilization for relatively affordable services in which

customers exhibit elastic demand (demand very dependent on price) and encourages maximum protection for expensive treatments with inelastic demand (demand that will exist regardless of price).

Excessive Cost of Service and Treatment in the United States

Although countries across the world face the issue of rising health care costs, none face costs as high, or increasing at as high a rate, as that experienced in the United States. The main cause of high costs is simply that the same services and treatments cost more in the U.S. than in other countries, even after accounting for currency differences. Cost of medical school education is much greater in the U.S. than in other countries, and those receiving such education need to be compensated at a higher rate to make up for this investment so that the profession remains attractive to talented individuals (as talented physicians are essential to a successful heath care system). The higher compensation for medical providers is reflected in higher costs of doctor visits, screenings, and hospital care compared to other countries.

Because the U.S. tends to excel beyond other countries in terms of advanced health care technology, combined with how private insurers generally reimburse providers on a fee-for-service basis, an incentive is created to prescribe new, expensive treatments, some of which may not be proven to be cost-effective.

Pharmaceuticals are the most common example of excessive cost in the U.S. compared to other countries. Drugs in other countries are cheaper than in the U.S. for various reasons, but one main difference is due to regulations that prohibit government-run social insurance programs like Medicare from negotiating with pharmaceutical companies for lower prices, whereas the

other countries in the study are allowed to do so. Countries who negotiate with pharmaceutical companies are able to obtain necessary medicines for just half the full price, whereas the U.S. pays nearly the full price for drugs.

Lifestyle Factors

In reference to lifestyle factors, smoking and obesity are two costly variables that could be reduced in order to minimize overall health care costs in the country. If current trends remain constant in the future, the percentage of Americans who are obese is likely to remain the same or even continue to increase. The U.S. currently ranks a close second to Mexico in obesity rate. Although the effects of obesity are not consistent across the country, each state faces a slowly increasing rate of obesity. The proportion of obese persons in each state has at least doubled since 1990 (stateofobesity.org).

According to the State of Obesity Project, current societal costs for obesity-related treatments range from $147B to $210B per year (HealthyAmericans.org, 2008). Some insurers have experimented with providing financial incentives for achieving and maintaining a healthy weight. Community-based initiatives are also worth the investment, according to a 2008 study by the Urban Institute, The New York Academy of Medicine, and Trust for America's Health. The study found that investing $10 per person through community-based initiatives such as physical exercise, proper nutrition, and smoking prevention could in turn save the country $16 billion within five years, a return of $5.60 for every $1 invested.

Smoking is another significant health-related cost to society that could be mitigated through public policy action to reduce tobacco use and thus reduce health care costs to society.

According to statistics provided by the Centers for Disease Control and Prevention (CDC) on smoking, $170B is spent on direct medical care and approximately $156B is lost from lost productivity or due to premature death (CDC.gov). This figure does not include the direct costs of cigarettes alone, which, if one smokes for 40 years and averages one pack per day at $5 per pack, he or she would spend $73,050. Although smoking creates a large societal cost, the U.S. ranks nowhere near the top of smoking prevalence, so smoking alone cannot explain higher costs and unhealthier lives in the U.S. compared to other nations.

A 2013 Society of Actuaries (SOA) report explored, among other factors in a cross-country analysis of health care systems, the impact that a nation's overall healthy (or unhealthy) lifestyle has on life expectancy and economic costs. The study introduced a Lifestyle Index that considers alcohol and tobacco consumption as well as obesity rate. The formula for the Index is defined as follows:

$$Lifestyle\ Index = 1 * (alcohol\ consumption) + 2 * (smoking\ rate) + 3 * (obesity\ rate)$$

The higher the value of the Index, the lower the overall health of a country and higher expected health care costs in both the present and future. Of the OECD countries measured, the United States had the highest value of 123.2 and Japan was the lowest at 55.3 (Have Associates 8).

Provider and Insurer Negotiating Power

In the United States, as well as the other countries where private insurance is available, health care providers and insurers are constantly battling to negotiate contracts for provider reimbursement. Traditionally, providers have been reimbursed on a fee-for-service basis, in which the insurer will pay back a pre-determined percentage of the cost of providing a given

service. Lately, insurers are experimenting with new methods in an attempt to include improvement in patient health as well. Both parties have different incentives; providers want to negotiate the maximum possible reimbursement rates for optimal revenue, but insurers want to negotiate the lowest reimbursement rates to minimize cost.

Providers have negotiating leverage if they have well-established facilities that are seen as desirable for individuals and employers to include in their health plan's network. If the provider is excluded from the insurance coverage network, the insured will have to pay the full out-of-pocket cost to see that provider in addition to his or her monthly insurance premiums. Therefore, insurers feel obligated to contract with desirable health care networks in order to gain employer and individual customers.

On the other hand, insurers have a negotiating advantage over health care networks in their ability to steer their insureds to lower-cost providers. The insurer may be able to wield the negotiation advantage over a provider if the insurer covers a large number of people in an area surrounding the provider and one or more of the provider's competitors. In such a situation, the insurer can negotiate among the competitors and select the cheapest to include as "in network," thus steering all the insurer's customers and potential revenue to one provider.

One example of such insurer power is the Blue Cross Blue Shield of Alabama (BCBS of Alabama), which wields 90% of the insurer market share in Alabama and relies on its strong network of providers to attract customers. The Alabama Regional Medical Center (ARMC) claimed in 2014 that it had been paid 30% less for providing the same services as other providers in the area (Oliver, al.com). As BCBS of Alabama exerts a near-monopoly on the citizens of Alabama, it is crucial for the hospital to be included in BCBS network in order to attract customers. Unable to reach an agreement on contract disputes, BCBS announced that it would

exclude ARMC as an in-network provider, making it the only hospital in Alabama to not be covered under Alabama's BCBS network.

As a result of the contract negotiation battles between the two sides, the health care provider and insurance industry have seen significant consolidation through mergers and acquisitions in recent years. The more insureds a provider or insurer have, the more leverage it will possess in negotiating reimbursement contracts. Abuses in negotiating power from either side must be minimized to benefit society by reducing costs. As the largest health insurers in the U.S. attempt to consolidate, the public's attention will be on the Department of Justice as to whether it will approve the proposed mergers.

Chapter 7

Conclusion

Health care in the U.S. is a very complicated industry involving several key players, including private insurers, government, providers, employers, and individuals. All five nations in the study face the challenge of combatting health care costs, which comprise an increasing proportion of GDP, while ensuring accessibility, quality, and affordability. Of course, further research and discussion with policy leaders and health care economists would be necessary to ensure that all factors in the economy and society are considered and that no negative, unintended outcomes would result from any changes.

Policy Considerations

While this report points out inefficiencies and offers improvements with the funding of the U.S. health care system that can be beneficial from a theoretical standpoint, such information will not be very useful in practice unless it is able to inform policymakers on improvements to the health care system.

The main reform arguments seen in the news focus on whether establishing some type of social insurance system, providing universal coverage, would fix the problems in our health care system. Even with the results of the study, the likelihood of implementing any changes must be considered. If implementing such a universal coverage system would increase taxation among all economic classes, it will likely face fierce opposition. Although the U.S. ranks 33rd worldwide in income tax rate according to 2015 KPMG tax rankings, and has a top marginal rate

below the OECD average, many in the country believe taxes are too high and ought to be cut, not raised. Before PPACA was signed into law by President Barack Obama in March 2010, it had to first pass both the Senate on December 24, 2009, and House of Representatives on March 21, 2010. At the time, both legislative bodies had Democratic majorities. Currently, however, the House and Senate both have Republican majorities. In order for a bill to become law, both the Senate and House of Representatives must approve the bill. If both bodies pass the bill, it then goes to the President, who can either sign the bill into law or veto it, which could then be overridden by a two-thirds vote by Congress.

Figure 8 below shows the vote from the House of Representatives on January 6, 2016, to repeal PPACA. As Figure 8 shows, either the opinion regarding the success of PPACA is greatly divided between Democratic and Republican members of the House or these members tend to vote along party lines out of political principle. Since universal health care coverage is a major step beyond PPACA, it is unlikely to exist unless both the Senate and House have Democratic majorities, there is a Democratic President to sign such a bill, and the Supreme Court is sufficiently left-leaning to uphold the legality of it.

FINAL VOTE RESULTS FOR ROLL CALL 6

(Republicans in roman; Democrats in *italic*; Independents underlined)

H R 3762 YEA-AND-NAY 6-Jan-2016 5:54 PM
QUESTION: On Motion to Concur in the Senate Amendment
BILL TITLE: An Act to provide for reconciliation pursuant to section 2002 of the concurrent resolution on the budget for fiscal year 2016

	YEAS	NAYS	PRES	NV
REPUBLICAN	239	3		4
DEMOCRATIC	1	178		9
INDEPENDENT				
TOTALS	**240**	**181**		**13**

Figure 8: 1/6/2016 House of Representatives Vote to Repeal PPACA

Source: Quinn, Melissa, "Find Out How Your Member of Congress Voted on a Bill Repealing Obamacare," DailySignal.com, 2016

Policy considerations aside, PPACA has taken several steps to address the substantial number of Americans previously without health care coverage. Cross-country analysis of other nations' health care systems and their funding models shed some light on differences between the U.S. and other OECD countries, and provide insight into how the U.S. can increase health care accessibility and decrease costs to society. The Bismarck model seen in Germany and Switzerland, with some modifications for the current U.S. health care system, might be an ideal solution to ensure all individuals can receive at least basic coverage. Those who desire more can purchase additional coverage, or a separate health plan, from the private insurance industry, which would still be able to thrive under such a model.

Appendix A

Nations' Health Care System Profiles – Summary

	United States	United Kingdom	Canada	Switzerland	Germany
How Coverage is Received	Through employers, governmental programs, individual insurance exchanges	Free-of-charge at the point of use through National Health Service	Free-of-charge at the point of use	Through private insurers, either through compulsory insurance or PHI	Either through government "sickness funds" or through PHI
Funding Method	Taxation, payroll deductions	General taxation	General taxation	Payroll deductions	Payroll deductions
Biggest Praise	Short wait times, advanced cancer treatment	Free coverage at the point of use	Free coverage at the point of use	Rather good quality of care, one of the healthiest nations	Efficient system, first social insurance program
Biggest Criticism	Expensive to receive coverage, lack of accessibility	Lack of doctors/physicians	Wait times for surgery	Expensive, especially for middle-lower income individuals and families	Difficulty in containing rising costs

Appendix B

Results from RAND Health Insurance Experiment

Plan	% Use	Visits Per Capita	% Visit Any Hospital	Admittances Per Capita	Adjusted Mean
Free (0% Coinsurance)	86.8	4.6	10.3	.13	**100**
25% Coinsurance	78.7	3.3	8.4	.11	**81.1**
50% Coinsurance	77.2	3.0	7.2	.09	**75.0**
95% Coinsurance	67.7	2.7	7.9	.10	**68.7**
Individual Deductible	72.3	3.0	9.6	.12	**80.2**

Source: Handbook of Health Economics, 2000 (Ch. 8, Zweifel and Manning)

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ACADEMIC VITA
Samuel Kantner

EDUCATION

The Pennsylvania State University — State College, PA
Schreyer Honors College — **Graduated May 2016**
Smeal College of Business

- Major: Risk Management—Actuarial Science option
- Minors: Statistics and Economics

ACTUARIAL EXAMINATIONS

- **Exam P—Passed—May 2014**
- **Exam FM—Passed—April 2015**
- **Exam MLC—Sitting—May 2016**
- Obtained VEE credits

WORK EXPERIENCE

Cigna — Greenwood Village, CO
Actuarial Senior Analyst — Starting July 2016

Cigna — Bloomfield, CT
Actuarial Intern – Pharmacy Economics — May – August 2015

- Analyzed pharmacy claims data in Access and Excel to recommend improvements to projection models
- Calculated components of generic drug annual cost trend to improve claims forecasting
- Collaborated with interns from other locations to develop solution improving cost transparency and affordability in pharmacy segment
- Presented project results to senior pharmacy leaders and Cigna actuarial community
- Provided analytical support to other business lines (pricing, trend, provider contracting, marketing)

The Seltzer Group — Schuylkill Haven, PA
Intern — June – August 2013

- Researched day-care centers in 12 Pennsylvania counties and recommended potential clients based on experience MOD numbers
- Collaborated with human resources to review and improve other companies' employee handbooks
- Performed ad-hoc office tasks—update customer files, data input into Excel, document scanning

ACTIVITIES

Penn State Club Cross Country — State College, PA
Workout Chair — August 2012 – Present

- Developed and executed year-round training and workout plans for over 200 club runners
- Created Excel tool to track individuals' workout and competition performance throughout season
- Advised runners on proper training, recovery, injury prevention, and dietary methods to help achieve goals

Smeal Student Mentors — State College, PA
First-Year Student Mentor — April 2014 –March 2016

- Acclimated 8 first-year business students to Penn State and the College of Business
- Presented information on College of Business resources at several first year business seminars each semester
- Awarded for top 25% participation in organization

Volunteers in Public Schools — State College, PA
Volunteer Mathematics and Spanish Tutor — September 2012 – May 2015

- Tutored 2 high school students in Spanish and mathematics 1 day per week

Penn State Actuarial Science Club — State College, PA
Member — August 2012 - Present

- Learned useful career tips, attend workshops, company information sessions, and actuarial exam review sessions

SKILLS

Proficient in Excel, Access; elementary knowledge of VBA, SAS, R, SQL