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Improving Health Insurance in the United States: A Comparative Analysis of Swiss and U.S. Insurance Markets

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Class of 2010
April 6, 2010

I. Introduction

For the past ten to twelve months, anyone perusing the cable news channels has been bombarded with a steady stream of speculation, propaganda and political analysis surrounding the health care debate. Whether described as an altruistic movement or an outrageously expensive move by a totalitarian government intent on controlling the behavior of its citizens, the debate has unquestionably been at the forefront of American politics. Included in this discussion has been the perceived success or failure of foreign countries in instituting different systems of care. Countries which have established universal health care coverage, such as Canada, have been applauded through popular media outlets such as Michael Moore's documentary *Sicko,* while others point to America as one of the best systems due to its technologically advanced practices and innovative development of pharmaceuticals and physician techniques. These comparisons between the United States system and those of foreign countries have often been too broad in their focus, relying on uneven comparisons and hand-picked statistics to characterize certain systems.

While health care has always been a public policy concern of the U.S. government, its relevance was not magnified until its economic implications were recognized. As health care costs have spiraled at an increasing rate and consumed a larger portion of government and personal spending, widespread reform considerations have evolved. Additionally, as many European and industrialized countries have moved towards providing insurance coverage to all of its citizens, the United States still has a large portion of its population without health insurance. As a result, comparisons of international health care systems have become commonplace.

Despite academic attempts to develop measures of health care performance by country, an accepted methodology has not been created. Evaluations of health care systems over the years have produced contrasting conclusions as to the best form of health care in the world. In spite of the difficulties in rating the quality of health care systems in their entirety, comparisons between health care systems can still present noteworthy results. A more focused approach in comparing health care between countries can provide more tangible and useful lessons in improving overall health care performance.

Many of the problems nations have encountered with their health care systems have been due to the conditions of the health insurance market. The United States has received considerable criticism of its health insurance industry due to the large profits accrued by many insurance companies and low levels of insurance rates throughout the population. The experiences of other countries may be able to offer useful lessons in not only the positive strategies employed to improve insurance markets, but also those approaches which have failed. A detailed comparison of the U.S. health insurance market with that of another country can provide insight into the relative strengths and weaknesses of the U.S. system and into possible methods to improve health insurance in the United States.

II. Literature Review

Due to the complexities of the industry, analyzing the health care system is a difficult task. Unlike typical markets, many people depend on receiving the service of health care in order to survive. Often, the costs of obtaining health care are unpredictable and incredibly large. As a result, people want to purchase insurance because they tend to

be risk-averse and are willing to pay a premium to protect themselves against the possibility of facing debilitating health care bills. Although there is both demand for insurance and companies willing to supply it, the unique characteristics of insurance make this transaction difficult and often problematic. These obstacles have to do with information asymmetries and the moral hazard created from involving third-party payers.

The root of most of the complications with health care and health insurance, in particular, is a lack of information. In the case of health care, consumers base their purchasing decisions on the advice of the doctor, who happens to be the seller of the service as well. When a person becomes ill, they may know they require medical care, but they probably do not know what type of treatment best addresses their needs. Unlike other markets where consumers can determine the service they require and gather information on the price and quality of the good or service, patients do not have the same luxury. Patients have poor information regarding the benefits and appropriateness of medical care. They rely almost entirely on their doctor's recommendation. Doctor-patient relationships are meant to work towards improving the health of the patient, but it is also a relationship between a seller and the buyer. In the case of medical care, the seller has significantly more information than the buyer.

What is important to remember regarding information inequality in the health care sector is that this is a "difference in information as to the consequence of a purchase of medical care" (Arrow, 1963). There are a number of examples of asymmetric information in the production of goods between the buyer and seller. When purchasing a mattress, for instance, the consumer does not know exactly how the mattress was produced and under what conditions. What he or she does know relatively well, however,

is how much utility they will receive from purchasing the mattress. In health care transactions, the buyer does not know how much better or worse off they will be after purchasing the medical care. While the doctor may not be 100 percent certain of the consequence of the care administered, the information they have is much greater than the information known by the patient. Uncertainty in what is actually received once medical care is purchased is a defining characteristic of the industry.

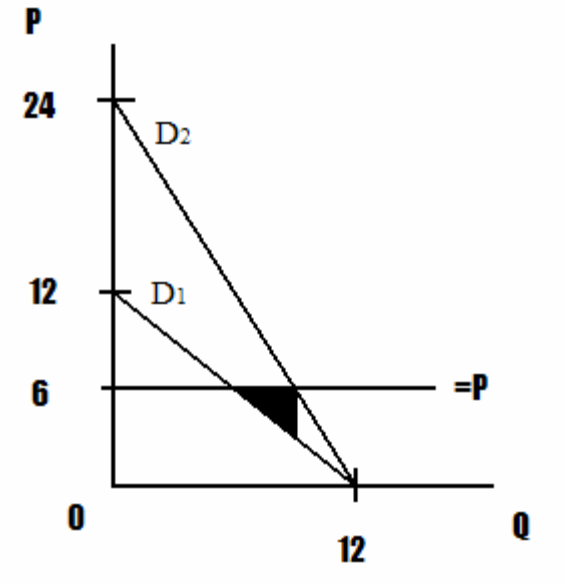
The presence of asymmetric information is not solely limited to poor information on the buyer's side. In fact, the buyer has a considerable informational advantage over the seller when purchasing health insurance. This advantage stems from individuals having more knowledge than the insurer regarding their risk of becoming ill or injured and utilizing medical services. Consequently, those who believe they are at a high risk for illness or injury will be more likely to purchase health insurance than those who are at a low risk. This *adverse selection* problem causes the average buyer of insurance to have a higher risk than the average person in his or her class (Rosen, 2008). Facing a higher level of risk in its policyholder pool, insurance companies are forced to raise premiums. This further discourages healthy, low-risk individuals from purchasing insurance. Due to adverse selection, there is considerable market failure in the provision of health insurance.

As health premiums rise due to higher levels of risk within the market, it is not just low-risk individuals who end up leaving the market. For low-income individuals with a high risk of illness, premiums may become too expensive and they may be forced to drop their insurance coverage. While the individual will not be able to pay the costs of large-scale medical treatment in the future, neither are they able to pay the high insurance premiums. As evidenced by the high rate of uninsured people in low-income households

as compared to high-income homes, this appears to be the case. In 2008, 24.5 percent of households with an income under $25,000 did not have health insurance, while only 8.2 percent of those earning $75,000 or more in income were uninsured (Census 2009). Unless people earning higher incomes are relatively less healthy than low-income individuals, high health insurance costs seem to be the cause of this disparity in insurance rates. Statistical evidence, however, suggests that individuals in higher income brackets are actually healthier. Based on data from 1998-2000, those in the lowest income decile (earning the lowest 10% of incomes), had a life expectancy of 74.7 years. Those in the highest income decile had a life expectancy of 79.2 years (Singh & Siahpush, 2008), 4.5 years greater than the most deprived segment of the population. Therefore, it appears low-income households are pushed out of the insurance market because of the higher premiums caused by adverse selection.

Economic theory rests upon individuals responding to incentives, and in the case of health insurance, these incentives are strong. When people know that they have insurance to cover some or most of the costs of medical treatment, they become less concerned with avoiding risk. This leads individuals to engage in unhealthy or dangerous lifestyles that they would normally not consider. Further, since insurance subsidizes the cost of medical care, it creates the incentive for individuals to overconsume health care. This notion, called “moral hazard,” is important to understand when attempting to determine the cause of inefficiency and cost inflation in the health care industry. Moral hazard occurs as a result of third party payments, meaning when someone other than the policyholder pays for health care costs. For example, if the insured are only responsible for paying 20% of the cost of the service or product received, they will continue to

consume additional units of health care until the marginal benefit of that last unit is equal to their personal marginal cost. What happens is that the social marginal cost will be five times as much as the individual's marginal cost, meaning that a portion of care purchased is inefficient (marginal cost is greater than the marginal benefit). Consider the following example:



In the figure above, D_1 represents an individual's demand for doctor visits with a 100% coinsurance rate. D_2 represents that individual's demand with a 50% coinsurance rate. Assuming a doctor charges $6 per visit, the patient consumes an inefficient amount of visits when responsible for 50% of the visit's cost. This inefficiency is represented by the shaded region in the graph. While the above example is basic, it sheds light on the inefficiency that pervades the health insurance market. When consumers do not face the full cost of their purchasing decisions, they tend to act inefficiently, purchasing care that is not cost-effective for society. This effect is amplified if the extra care consumed by patients with health insurance does not result in discernibly better health outcomes.

Evidence of these problems in the United States

Research has provided conclusive evidence of the existence of moral hazard in health insurance markets in the United States. Dave and Kaestner (2009) studied the effects of Medicare on the behavior of elderly persons. Their research observed changes in health behavior pre- and post-age 65 for those who were uninsured and those who were insured prior to age 65 (the age when citizens become eligible for Medicare). They hypothesized that those uninsured before turning the age of 65 would engage in riskier and unhealthier behavior upon the receipt of Medicare. The results of their research confirmed this, finding that among elderly men, the moral hazard effects associated with the receipt of Medicare are:

- a 39.7% decrease in the probability of engaging in vigorous physical exercise;
- an 18.0% lower probability of quitting cigarette use;
- a 15.8% higher prevalence of daily smoking;
- 22.7% higher cigarette consumption;
- a 14.8% increase in the probability of daily alcohol consumption;
- and a 31.8% increase in the probability of current alcohol use
    - Source: Dave and Kaestner 2006

As individuals transitioned from not having health insurance to being covered by Medicare, their tendency towards unhealthy behavior increased. The theory of moral hazard is an important phenomenon that has a profound effect on the behavior of individuals in response to receiving health insurance. In designing health policy, these effects should be taken into consideration.

Evidence of adverse selection is provided in Browne's 1992 study, "Evidence of Adverse Selection in the Individual Health Insurance Market." Browne tests for the presence of adverse selection in the market for individual health insurance by comparing the amount of insurance purchased by low-risk families in the individual market with the

predicted amount they would have purchased through the group market (Browne, 1992). This predicted amount is derived from the demand equation specified with group market data provided by the National Medical Care Expenditures Survey. The group market is believed to suffer less from adverse selection because insurance is typically received through employment. When insurance is a benefit tied to employment, it is more difficult for low risk people to leave the insurance pool, thus decreasing the amount of adverse selection. Browne's model specifies the dummy variable LOW RISK in the model to determine the effect of an individual's risk on their insurance purchasing decisions. The estimated coefficient on this variable was found to be positive and significant, indicating that the difference between predicted and actual insurance purchases is greater for those with low risk than high risk. This is indicative of the presence of adverse selection within the individual health insurance market.

A common suggested solution to the pervasive problems of health care systems is incorporating more consumer choice and cost sharing. The movement of this idea started with a well-known RAND Experiment by Joseph Newhouse. This experiment assigned families to randomized health insurance plans that had varying degrees of cost sharing. One plan included no cost-sharing on the consumer's part (0% coinsurance rate), while others were given a coinsurance rate as high as 95 percent with a stop-loss limit of $1,000 in 1970 dollars. The study observed that those families with large deductibles used 25-30 percent fewer services than those with no coinsurance, which amounted to just less than two physician visits per person per year. These numbers provided evidence that those who paid a larger share of the costs of health care ended up significantly reducing their expenditures. Even more noteworthy was that the discrepancy in use between plans

appeared to have "no effect on health status" (Newhouse, 2004). This implies that the additional services used by those with lower cost-sharing plans were essentially unnecessary. This system has evolved to be known today as Consumer-Directed Health Care (CDHC) and has gained momentum both domestically and abroad.

The core concept of CDHC is the same as the implication of the Newhouse study. Essentially, CDHC attempts to involve consumers more in the process of buying health care. By having a larger stake in considering the cost of the healthcare they demand, the efficient (or a more efficient) quantity will be purchased (Hughes-Cromwick, Root, & Roehrig, 2007). Given the unique characteristic of healthcare that consumers base their buying decisions on the judgment of the doctor or health professional, consumers need to be aware of the quality of the products and services they receive. Within the United States, many critics of CDHC assert that a lack of accurate and accessible information makes the system unfeasible. Those in favor of CDHC respond that the necessary information will become available after CDHC is implemented. The prediction asserts that consumers will increase their demand for the information to make informed healthcare decisions (Hughes-Cromwick, 2007). Given the benefits of CDHC and the problems with the current U.S. system, CDHC is worthy of consideration by policymakers who wish to address many of the fundamental impediments of the health insurance industry.

Asymmetric information, moral hazard, and adverse selection are not merely theoretical phenomena that takes place within a vacuum. They are observable influences that have profound effects on the market for health care and health insurance. These are problems faced not only within the U.S. industry but worldwide. The way in which governments and markets have attempted to mediate these problems between countries,

however, is different. In the following section we will observe these strategies and the potential lessons learned from each.

Examining Foreign Health Systems

Attempting to use other countries' health care systems as a model for U.S. reform has provided valuable reform implications in the past. There are several sources which compare the U.S. system to the British, Canadian, French, and Swiss systems in an attempt to determine the superior aspects of each. This research has been sparked primarily by publications by organizations such as the World Health Organization, which ranked the United States 37th in overall health system performance in 2001 (*Health Systems,* 2000). While the methodology of the WHO's research has been questionable by many standards, it has facilitated deeper discussion on the strengths and weaknesses of different health systems. As costs have risen more rapidly in the U.S. than any other country in the world, the possibility of its extra spending not improving the performance of the U.S. health system is alarming. At the same time, the desire to establish universal coverage in the U.S. is equally pertinent. How should the U.S. go about achieving both of these goals simultaneously?

One country that has solved some of the problems facing U.S. health insurance while struggling with others is the United Kingdom. The U.K. has, to its credit, been able to establish universal coverage while controlling its healthcare expenditures at the same time. In 2009, British health expenditures were 8.4% of GDP, which is less than the 8.9% OECD average and just over half the 16.0% of GDP the United States spends (OECD, 2009). Given the policy goals of health care reform in the U.S., why not attempt to imitate the British system? The reason is that the U.K. is one of the best examples of the problems associated with third party payments. With its single-payer system, the

British have controlled the monetary costs of its healthcare system via restrictions on price and access. Even though Great Britain's system mediates the financial strain of health care relative to the U.S., there are additional costs that are unaccounted for in its monetary health expenditures. The average wait time in National Health Service Hospitals was 78 days in 2006 (Godden & Pollock, 2007). Consumers do not face the full cost of their health care decisions, so they tend to consume more than the efficient amount of care. In 2004, the government set an 18-week target for waiting times, but as of June 2007, less than half were actually treated within this time period (Rose, 2007).

With nearly all health care funding coming from the government, hospitals and other health care producers must adhere to strict budgets. Due to producers' inability to raise prices and in turn their profits as demand increases, extensive wait times have been the result. In fact, waiting times have been imposed for some producers by the National Health Service itself. The British government feared that patients would seek out the more efficient hospitals with short wait times and that these hospitals would end up spending their budgeted resources too quickly. While Great Britain has achieved the important goals of cost-containment and universal coverage, the rationing of care associated with this system of national health insurance makes it a poor model for U.S. health care reform.

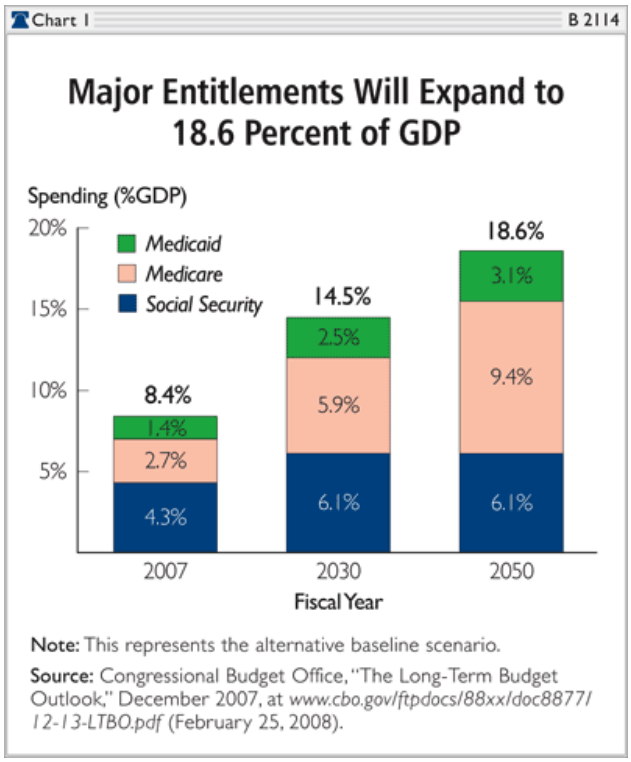
Many researchers consider the French system to be the best functioning system in the world. The French system is characterized by a system of national health care much like other European countries, but one which employs market forces as well. The entire population is forced to pay compulsory health insurance provided by non-profit agencies. These organizations negotiate with the state regarding funding of health care in France.

While these private entities operate the insurance market, the government sets the price and benefits of insurance packages. Essentially, these are quasi-public organizations supervised by the government. Between 99 and 100 percent of the population is covered by this national system (Mossé, 1994). Medical fees are paid up front by patients and are then reimbursed by insurers for most (usually 75-85%) of the cost. Patients have the freedom to choose where to receive care, with little regulation prohibiting access to specialists and hospitals. In order to fund the national system, workers are taxed roughly 18.8 percent of their income.

The French system has been able to avoid many of the pitfalls of other national insurance systems because of its utilization of market forces. Wait times are often a consequence of providing highly accessible care to the general population, but this has historically not been problematic in France. The system has not encountered significant problems with rationing of care by incorporating some level of cost-sharing. While co-payments, on average, are less than in the U.S., this cost sharing has removed some of the moral hazard that induces patients to over-utilize health care resources. In recent years, however, there have been slowly increasing wait times for specialized treatments and technologies such as MRI and CAT scans. In response to this, the government began imposing restrictions on access to physicians in 2005, adopting a system of "coordinated care pathways" (Petkantchin, 2007). In some respect, the French system is moving towards a U.S. system of HMOs and PPOs in order to curb its health care expenditures.

Despite its ability to establish universal coverage and generally avoid the problems with rationing of care that confront the U.K., France faces many of the same problems the U.S. system does. Similar to Medicare/Medicaid in the U.S., the health care

system is the largest single factor driving France's overall budget deficit (Tanner, 2008). In 2006, the French health care system ran a €10.3 billion deficit as part of the nation's €49.6 billion total deficit. If expenditures had continued to follow their trend leading up to 2006, health care expenditures in 2010 would contribute €29 billion to the deficit (Mossé, 1994). A large contributor to growing costs is patients seeking second and third opinions from doctors until they receive a diagnosis they prefer. These escalating costs are mirrored by U.S. Medicare, Medicaid and social security costs. Consider the figure below:



Source: http://www.heritage.org/Research/Reports/2008/03/A-Guide-to-Fixing-Social-Security-Medicare-and-Medicaid

While the French system is a useful health care model to examine because of its relative success in achieving universal coverage and access to all levels of care, it is not the best. Non-government sources account for roughly 20 percent of all health care spending, which is less than most countries with national health care systems. This

utilization of market forces has reduced the effects of moral hazard within health care, but only somewhat. Though access in France to medical care is perhaps the best in the world, some form of limitation of access to specialists will be necessary in the future to reduce costs. The early signs of this have been shown by the recent "coordinated care pathways" adopted by the French government. A system that utilizes market forces and higher levels of cost-sharing would provide a more useful comparison with the U.S. system.

While debate has continued over the theoretical merits of Consumer-Directed Health Care, there have been examples of its effects taking place in the real world. Herzlinger and Parsa-Parsi (2004) examined health insurance within the consumer-oriented health care model of Switzerland compared to the employer and government-based U.S. system. In their research, they attempt to discuss the true merits of what they refer to as "Consumer-Driven Health Care" or CDHC. Studies released by iPlan, a United Health Group company, asserted that enrollees in CDHC realized substantial decreases in their number of surgeries, specialty visits, and laboratory services (Herzlinger & Parsa-Parsi, 2004). While many believe that these cost reductions can be maintained long-term through consumer engagement, some believe that the savings are one-time items and that "typical cost trends will reemerge" (Herzlinger & Parsa-Parsi, 2004). Despite its mandated basic health insurance benefits, the writers believed that Switzerland was an appropriate case-study to examine the merit of CDHC.

In order to control for income and education level for their analysis, Herzlinger and Parsa-Parsi selected U.S. states whose sociodemographic characteristics most closely matched Switzerland's. In comparing Switzerland with Connecticut, Maryland, and

Massachusetts, Switzerland performed markedly better in controlling health care expenses per capita, infant mortality rates, and number of inpatient beds per capita. The majority of their findings indicated that the Swiss system was superior, though the authors did offer some criticism. Patients receive subsidies for inpatient care but not outpatient or short-stay inpatient care in the Swiss system. This may lead to patients being unnecessarily admitted to hospital care. Additionally, in order for a procedure or treatment to be covered by basic insurance, it must be approved by the Swiss Federal Office of Public Health. As a result of this system, innovations in the delivery of care are constrained by payments being tied to specific benefits outlined by the Federal Health Insurance Act (Herzlinger & Parsa-Parsi, 2004). Overall, however, they conclude that the Swiss system is more efficient in providing care given the country's lower per-capita health costs and universal coverage. These results are possible in the eyes of the authors through "high cost transparency of the system, requirement for universal coverage, and risk adjustment for the insurers" (Herzlinger, 2004).

In contrast to Herzlinger and Parsa-Parsi, Uwe Reinhardt (2004) sees the Swiss model as an imperfect representation of Consumer-Directed Health Care. In Switzerland, as Reinhardt points out, there is tight government regulation throughout the entire system. While insurance is purchased in the private market, the government sets the price and stipulates the benefits of such insurance policies. Additionally, in a purely consumer-directed system, cost sharing by patients leads to a demand for superior quality information. Swiss patients, however, have very little information on the quality of care received. Instead, the Swiss government is in charge of regulating the quality of health care delivered and this information is not openly distributed to citizens.

Aside from subsidies to low-income individuals for the purchase of compulsory health insurance, the Swiss government acts strictly as a regulator. Under this regulation, the free market pays for and provides health care. Although Reinhardt is correct in his assertion that the Swiss system is not entirely based on Consumer-Driven Health Care, it does have many of the core elements of such a system. Most importantly, the Swiss system is characterized by high levels of cost-sharing through high deductibles and co-insurance rates. The Swiss system is quite similar to the French national system except it employs more cost-sharing and private market forces. For these reasons, Switzerland is an appropriate system to attempt to observe the effects of consumer-directed health care.

Additional research comparing the Swiss and U.S. systems attempts to explain the disparity in health care efficiency based on differences in national character. Michael Tanner, in his look at different health care systems around the world, suggests that "Swiss national character… may not be replicable in the United States where the record of complying with mandates is much more mixed" (Tanner, 2008). He points out that only 83% of U.S. drivers carry mandated auto insurance, while 100 percent of Swiss drivers comply with an equivalent mandate. Taking Tanner's view, any type of government mandate would be only marginally successful at best, not because the concept is flawed, but because Americans are unwilling to follow the rules. If cultural differences are too extensive, any lessons to be taken from one country to the other may be diluted or even worthless.

In recognition of the specific goals of current U.S. reform legislation, universal coverage and cost containment, Switzerland provides the most appropriate case study. Although the Swiss system has encountered rising costs, its market-oriented approach

provides the most likely and innovative solutions to America's health care system problems. As mentioned earlier, previous studies have attempted to analyze the Swiss system in order to observe effective strategies that can be translated to the U.S. This has involved comparing the costs of basic health insurance in Switzerland, the country's expenditure per capita on health, and overall cost trends. What research has failed to account for, however, is what patients actually receive from their respective health care plans.

Current research seems to reiterate the fact that the Swiss health care system is less expensive and more people are covered in Switzerland than the U.S. Most of this research has been very general in nature, comparing the two systems based on their characteristics as described by rhetoric in legislation and big-picture reports such as the WHO Health Systems Report. What is missing is a more specific approach that determines what the insured actually receive for what they are paying. What if it were the case that Swiss insurance, while less expensive than its American counterpart, did not cover emergency services? Perhaps it is the case that most U.S. health policies cover procedures such as Gastric Bypass Surgery, but the Swiss policy does not because obesity is a lifestyle choice. It is these types of considerations that I aim to factor out in order to better control for price and quality differences. Once it is possible to consider the two systems at a more precise level and compare them, more accurate suggestions for improving each system, particularly that of the U.S., can be made. By taking a step-by-step approach in comparing what consumers pay for health care and what they actually receive, this analysis can take place.

III. Explanation of Methodology/Data Sources

A. Swiss Health Insurance

To facilitate a comparison of costs and benefits of health insurance policies, a deeper understanding of each system must first be established. The Swiss health insurance system was transformed in 1996 when the *Federal Health Insurance Act of 1994* was implemented. The principal component of this legislation was to create a mandate for every resident of Switzerland to purchase a standardized health insurance policy within three months of taking up residence. Insurance companies are required to accept all applicants and offer the same package of benefits within the compulsory insurance package. Additionally, premiums are community-rated, meaning they are the same for each person with a particular company within a Swiss state, called a canton (Jacobs & Goddard, 2000). This means that an 80 year old and 30 year old from the same canton pay equal premiums if they hold health insurance under the same company.

Patients, on the other hand, have freedom to choose their provider and insurer. Given that all compulsory health insurance plans contain the same benefits, insurers compete primarily on price. Furthermore, all insurance companies that offer compulsory insurance cannot pursue profit and must comply with the requirements of the health insurance law. Considering their inability to pursue profit in offering compulsory insurance, what is the incentive for insurance companies to stay in the market? The reason is that consumers may also purchase supplementary insurance, usually from the same company from which they purchase compulsory coverage. Once residents purchase compulsory health insurance, they have the opportunity to scale up their plans by purchasing supplementary insurance. For this coverage, insurance companies are allowed to refuse to insure certain people and base premiums on the risk that an individual represents. Roughly 40 percent of Swiss citizens have purchased supplemental insurance (Daley, 2000). Accordingly, insurers earn profit through the supplementary market. Given the tendency of consumers to purchase their supplementary care from the

same insurer which they purchased compulsory coverage from, insurance companies have an incentive to offer basic coverage.

While insurance companies do compete on the basis of price, there is significant government regulation of insurance costs to protect the consumer. Swiss health insurance is characterized by higher consumer cost-sharing compared to other European and North American healthcare systems. Premiums vary within cantons because each cantonal authority places their own limits on insurance premiums. Across all of Switzerland, the average monthly health insurance premium in 2009 was CHF 323, or $306.54. A standard deductible of CHF 300 ($282.30) per year is paid for those over 18 years of age and who are not exempt based on military, educational, or occupational considerations. On top of this deductible, policy-holders pay a retention fee of 10 percent of the remaining invoiced amount, with a maximum of CHF 700 ($648.70) per year. Therefore, cost-sharing contributions (which do not include premiums) to insurance policies by the insured for compulsory coverage amounts to a maximum of CHF 1,000 ($940.47) per year. This amount may be different for those who select a higher optional deductible in order to reduce their premiums, which many residents choose. Residents are also eligible for subsidies to purchase compulsory health care based on their income. These subsidies ensure that no person or family has to pay more than 10 percent of their total income (Jacobs & Goddard, 2000). The system does make sure that everyone contributes some amount to their health insurance. Even the lowest income brackets are required to contribute towards premiums and deductibles on some level.

Despite the significant amount of government regulation involved with Swiss health insurance, Switzerland has one of the more market-oriented systems in the world. The Swiss government pays a significantly smaller percentage of total health expenditures than the U.S., accounting for 24.9 percent of costs as opposed to 44.7 percent (Daley, 2000). Since the insured are fully exposed to the cost of their insurance purchases, many Swiss have chosen the optional, high-deductible insurance. Out of

pocket payments represent 31.5 percent of health care in Switzerland, over twice the percentage in the United States (Daley, 2000). With the onus of purchasing health insurance and paying for a large percentage of the costs placed squarely on the shoulders of consumers, the moral hazard that plagues health insurance is strongly reduced

B. U.S. Health Insurance

The majority of those with health insurance in the United States receive it through their employers. Roughly 60% of the American population receives coverage through a private plan, while 25% are covered through a government agency. Within private plans, 88 percent is employment-based, while the rest purchase insurance directly (Kaiser 2008). Instead of conventional health plans, the majority of health insurance policies are under a managed care model. Managed care is a technique that is meant to reduce the cost of health benefits and improve the quality of care. These network-based plans may be "closed" or "open-paneled." Insurance companies contract with a network of health care providers and enrollees participating in a closed network are only covered when they go to the specified network providers. In an open plan, some coverage is provided when the insured use a non-network provider, but less coverage is provided than if the patient were to use one of the network providers. Preferred Provider Organizations (PPOs) are generally open paneled, while many Health Maintenance Organizations (HMOs) are close paneled. According to the 2009 Kaiser Family Foundation Employer Benefits Survey, 58% of covered workers are enrolled in Preferred Provider Organizations, while 20% are in HMOs and the remaining 12% participate in Point of Service (POS) plans. POS plans are essentially a combination of an HMO and PPO plan.

The market for health insurance is highly concentrated, with large insurance companies possessing significant market power. Nearly all non-governmental insurance companies are for-profit entities and are able to charge different premiums based on the implied risk that an individual or family represents. By providing insurance for large groups of people, the insurer is able to pool risk in order to dilute the financial effects of

major medical costs. In 2006, the nation's top two insurers had total membership of 67 million (Fletcher, 2007). In many regions in the U.S., only one or two insurance companies offer health insurance, leading to monopolistic and oligopolistic behavior. Although many companies operate across the entire nation, the insurance industry is regulated primarily by individual state insurance departments. As a result, insurance regulation varies significantly from state to state in its severity. The role of state insurance departments is primarily to set licensing requirements for companies and brokers. Generally, these departments have little influence on the premiums and other associated costs of health insurance within the state.

While the majority of health insurance is purchased on the private market in the U.S., Medicare and Medicaid are two governmental programs that provide "medical and health-related services to specific groups of people in the United States" (Fletcher, 2007). Medicaid is primarily meant to serve families with low incomes and few resources, a group who most likely could not afford the cost of purchasing a private health insurance policy. People with disabilities are also often eligible to receive Medicaid benefits. It is a federal program, but each state defines its own eligibility standards, scope of services, and rate of payment for services. While intended for the poor population in America, it is estimated that about 60% of America's poor are not covered by the program (Fletcher, 2007).

Medicare is a federal insurance program that covers hospital and medical care for elderly Americans. The program is split into 4 parts which cover different aspects of care. Part A deals with hospital insurance, paying for stays in a hospital or skilled nursing facility, as well as some forms of home health care. Part B pays for physician visits and services, outpatient hospital visits, and other examinations and equipment. Part C allows users to create a customized plan which is more closely aligned with their needs. This often involves a coordinated effort with Health Maintenance Organizations or Preferred Provider Organizations. In 2006, Medicare Part D, a prescription drug plan, was

included as part of the Medicare program. It is administered by private insurance companies which offer plans with varying costs depending on the drugs that are covered. The program is meant to ease the financial burden that many elderly Americans face related to their prescription drug bills.

Despite the availability of these government programs, many Americans do not hold health insurance. According to the U.S. Census Bureau, 46.3 million people were without health insurance in 2008, representing 15.4 percent of the population (Census 2009). With the majority of health insurance sponsored by employers, the 9.5% of people unemployed as of March 5th face difficulties in obtaining coverage (BLS, 2009). Programs meant to address this issue, such as Medicaid, have been largely unsuccessful. As one of the few industrialized nations with a high rate of uninsured families, providing universal coverage is a primary health care reform goal.

Comparing U.S. and Swiss Health Insurance

Given the complexity of the U.S. insurance market, it is neither feasible nor valuable to attempt to compare a standardized Swiss insurance policy to one over-arching U.S. policy. The variety of private, public, employer-based, and individual insurance policies issued in the U.S. poses a challenge in comparing the two. In order to represent the American insurance system as close as possible, three different types of insurance are presented. Between these three insurance policies, a representative cross-section of American health insurance may be realized. These three programs are:

- Medicare Part A (Hospital Insurance) and Part B (Medical Insurance)
- Federal Employees Health Benefits (FEHB) Program
- LACCD (Los Angeles Community College District)

As of 2008, roughly 87% of private insurance was purchased through an employer, while Medicare accounted for 49% of all government health insurance programs (Census, 2008). As subsidized Swiss compulsory care will not be considered in this analysis, Medicaid is not included either. By including two employer-provided insurance plans and Medicare parts A& B, the general principle sources of health insurance are included.

Ideally, a comparative analysis which observes the price of each benefit package while controlling for benefits would occur. That way, a definitive statement regarding benefits received per dollar spent on health insurance could be made. Given the structure of health insurance programs in each country, however, this precise quantitative analysis is not possible. Instead, policies must be compared on more of a qualitative level. By determining which benefits are and are not included between packages and observing the costs of each, we can approximate the marginal cost of the extra benefits provided in either plan. Even though definitive cost savings or premiums paid between American and Swiss plans cannot be made, valuable conclusions of health benefits and their costs can.

To begin this comparison, first consider the benefits provided through the Federal Employees Health Benefits Program and the compulsory Swiss package. The FEHB program covers government employees in organizations such as the Department of Defense, U.S. Postal Service, the Environmental Protection Agency, among others. It is the largest employer-sponsored health program in the United States. Employees have a number of different plans available to them, but only the most common, Blue Cross and Blue Shield Standard Service Benefit Plan (USOPM, 2010) will be considered in this comparison. The table below offers a side-by side comparison:

Benefit	Swiss Compulsory Policy	FEHB Policy
Physician Services	• "Normally pay for all treatments carried out by a doctor." • Psychotherapy (under certain conditions). • Nutritional Advice	• Diagnostic and treatment services in office. • Office visits, home visits, outpatient consultations, outpatient 2nd surgical options. • Nutritional Counseling
Inpatient Hospital Care	• Stays and treatment in **general wards**. • Maternity care (7 routine antenatal exams and two ultrasounds) • Birth of the baby. • One post-natal examination. • Basic health insurance will only cover costs for hospitals within the holder's canton of residence except in case of emergency. • Cannot choose physician freely	• Room and board: semiprivate or intensive care accommodations. • General nursing care. • Operating, recovery, maternity, and other treatment rooms. • Internal prosthetic devices. • Can go outside of network for physician services, but non-PPO charges apply.
Outpatient hospital care	• Outpatient services covered	• Special treatment rooms, tests, chemo/radiation therapy and 15% of the plan allowance, • Outpatient surgery and related services • Ambulance transport services
Prescription Drugs	• Covers cost of all medicines prescribed by doctor. • 2400 medicines are currently covered, with the list expanding.	• All drugs prescribed by a physician. • Insulin and diabetic test strips. • Drugs to aid smoking cessation that require a prescription by Federal Law. • Limited Contraceptive drugs and devices.
Coverage abroad	• Only emergency treatment is covered abroad. • Basic insurance will only pay up to twice the amount the same treatment would cost in Switzerland. • Will not cover transportation costs back to Switzerland and only 50% of emergency transportation to the next hospital abroad.	• Are able to file claims for inpatient facility care for you—without an advanced payment. • Drugs purchased overseas must be the equivalent to drugs that by Federal U.S. Law require a prescription.
Maternity	• Everything covered • Must buy supplementary insurance to choose gynecologist.	• Prenatal care • Delivery • Postpartum care
Dental Care	• No Dental Benefits (only	• Under the Standard Option,

	those connected to serious general illness).	fixed, scheduled amounts are paid as determined by the type of treatment/operation received.
Medical Prevention	• costs to detect early stages of disease are covered.	• Home and office visits for routing (screening) physical exams.
Vision Services	• CHF 180 ($168.70) per year towards spectacle lenses up to the age of 18. • CHF 180 every 5 years towards spectacle lenses after 19th birthday.	The following benefits are prescribed for accidental ocular injury or intraocular surgery: • One pair of eyeglasses or contact lenses • 1 pair of replacement lenses Otherwise, only routine eye examinations are provided.
Physical/Mental Health Therapy	• 10 clarification and therapy sessions are covered. • Physical therapy prescribed by a doctor (up to 9 sessions in 3-month period). • Treatment by a chiropractor is covered even if not prescribed by a doctor. • Advice for diabetic patients • Speech therapy • Occupational Therapy	• Physical therapy, occupational therapy, and speech therapy when performed by a licensed therapist or physician. • Cognitive rehabilitation therapy. • Hearing tests

Sources: USOPM, 2010 and FOPH, 2010

As the table demonstrates, there is significant overlap in the services covered by Swiss compulsory health care and the FEHB policies. The major differences between the two plans seem to consist primarily of issues of patient privacy and choice. These differences will be discussed in more detail later.

Next, consider the benefits provided by Medicare Parts A&B compared to the compulsory Swiss policy.

Benefit	Swiss Compulsory Policy	Medicare A & B
Physician Services	• "Normally pay for all treatments carried out by a doctor."	• Physician and nursing services. • X-rays, laboratory and diagnostic tests.

	• Psychotherapy (under certain conditions). • Nutritional Advice	• Vaccinations • Blood transfusions. • Chemo & Radiation therapy
Inpatient Hospital Care	• Stays and treatment in **general wards**. • Maternity care (7 routine antenatal exams and two ultrasounds) • Birth of the baby. • One post-natal examination. • Basic health insurance will only cover costs for hospitals within the holder's canton of residence except in case of emergency. • Cannot choose physician freely	• All care a doctor says you need in inpatient hospital care to treat illness or injury. • Inpatient hospital stays (including semiprivate room, food, tests, and doctor's fees). • Stay in skilled nursing facilities if diagnosed by doctor.
Outpatient hospital care	• Outpatient services covered	• Does not cover long-term care activities. • Outpatient hospital procedures.
Prescription Drugs	• Covers cost of all medicines prescribed by doctor. • 2400 medicines are currently covered, with the list expanding	• Requires Medicare Part D: Prescription Drug Plans. Coverage is not standardized, but companies choose which drugs they wish to cover.
Coverage abroad	• Only emergency treatment is covered abroad. • Basic insurance will only pay up to twice the amount the same emergency treatment would cost in Switzerland. • Will not cover transportation costs back to Switzerland and only 50% of emergency transportation to the next hospital abroad.	• No abroad coverage
Maternity	• Everything covered • Must buy supplementary insurance to choose gynecologist.	N/A
Dental Care	• No Dental Benefits (only those connected to serious general illness).	• No dental care covered.
Medical Prevention	• costs to detect early stages of disease are covered.	• Extensive preventive services
Vision Services	• CHF 180 (($168.70) per year towards spectacle lenses	• Only covers eyeglasses or contact lenses following cataract surgery with an implanted intraocular lens. • No coverage for routine eye exams, except for glaucoma and certain cases of macular degeneration.

Physical/Mental Health Therapy	• 10 clarification and therapy sessions are covered. • Physical therapy prescribed by a doctor (up to 9 sessions in 3-month period). • Treatment by a chiropractor is covered even if not prescribed by a doctor. • Advice for diabetic patients • Speech therapy • Occupational Therapy	• Cardiac rehabilitation program(includes exercise, education, and counseling) for those who are referred to doctor after certain cardiac events/surgeries. • Diabetes Self-Management Training • Counseling to stop smoking

Source: Centers for Medicare & Medicaid Services, 2009.

Medicare Part D, the prescription drug plan of Medicare, is not included in this comparison because of its complexity of benefits and costs. As such, the differences in prescription drug coverage are not considered in any further analysis.

The last U.S. insurance policy observed is the Los Angeles Community College District (LACCD) insurance plan. As with the FEHB program, employees have a few different insurance options at their disposal. Again, only the most commonly selected plan, the CalPERS Select Health Plan, is considered.

Benefit	Swiss Compulsory Policy	CalPERS Select
Physician Services	• "Normally pay for all treatments carried out by a doctor." • Psychotherapy (under certain conditions). • Nutritional Advice	• Office visits • Periodic Health Exam/Preventive Care • Gynecological exam • Immunizations • Allergy Testing/Treatment • X-Ray
Inpatient Hospital Care	• Stays and treatment in **general wards**. • Maternity care (7 routine antenatal exams and two ultrasounds) • Birth of the baby. • One post-natal examination. • Basic health insurance will only cover costs for hospitals within the holder's canton of residence except in case of emergency. • Cannot choose physician freely	• Stay in semi-private or intensive care accommodations. • Skilled nursing care. • Medical and behavioral care. • Emergency services • Ambulance Services

Outpatient hospital care	• Outpatient services covered	• Outpatient facility services (medical and behavioral)
Prescription drugs	• Covers cost of all medicines prescribed by doctor. • 2400 medicines are currently covered, with the list expanding.	• Brand name and generic ($30 and $15 co-pay, respectively). • Medical necessity/Partial waiver. • Mail order pharmacy program.
Coverage abroad	• Only emergency treatment is covered abroad. • Basic insurance will only pay up to twice the amount the same treatment would cost in Switzerland. • Will not cover transportation costs back to Switzerland and only 50% of emergency transportation to the next hospital abroad.	• Inpatient hospital care outside of the U.S. • Access to prescription medication
Maternity	• Everything covered • Must buy supplementary insurance to choose gynecologist.	• Pre-natal/Post-natal care visits • Delivery • Postpartum care
Dental Care	• No Dental Benefits (only those connected to serious general illness).	• Not covered (purchased separately)
Medical Prevention	• costs to detect early stages of disease are covered.	• Periodic health exams/preventive care
Vision Services	• CHF 180 ($168.70) per year towards spectacle lenses	• Vision exam/screening • Eyeglasses not covered
Physical/Mental Health Therapy	• 10 clarification and therapy sessions are covered. • Physical therapy prescribed by a doctor (up to 9 sessions in 3-month period). • Treatment by a chiropractor is covered even if not prescribed by a doctor. • Advice for diabetic patients • Speech therapy • Occupational Therapy	• Substance abuse treatment • Physical therapy • Occupational therapy • Speech Therapy • Limited hospice care covered • Hearing aid services.

IV. Results of Analysis

After reviewing the benefits of three different American health insurance plans, the tables on the following pages summarize the differences of each with Basic Compulsory Health Insurance Plan of Switzerland.

		Swiss Compulsory Coverage	
		Yes	No
FEHB Program Coverage	Yes	• Diagnostic and treatment services in office • General Nursing Care • Nutritional Counseling • Maternity care (routine antenatal, ultrasound, and post-natal examinations). • Home nursing care • Partially covered emergency treatment abroad. • Preventive medical care (i.e. screening for HIV, gynecological screenings, diphtheria and tetanus shots, etc.) • Vision examinations • Limited physiotherapy • Psychological testing	• Room and board: semiprivate or intensive care accommodations. • Some choice of physician. • Abroad inpatient facility care and prescription purchases. • Fixed schedule, payment amounts for various dental procedures/services. • Jump 4 Health Weight Management Program (for obese children ages 5-17).
	No	• 3 Breast-feeding advice sessions. • Spa treatment prescribed by a doctor. • Treatment by chiropractor without prescription	• Exercise Programs • Services provided by massage therapists • Acupuncture • Hypnotherapists

		Swiss Compulsory Coverage	
		Yes	No
Medicare A & B Coverage	Yes	• Diagnostic and treatment services in office • General Nursing Care • Nutritional Counseling • Home nursing care • Emergency treatment abroad is partially covered. • Preventive medical care (i.e. screening for HIV, gynecological screenings, diphtheria and tetanus shots, etc.) • Blood transfusions • Vision examinations • Limited physiotherapy • Psychological testing	• Room and board: semiprivate or intensive care accommodations. • Some choice of physician. • Cardiac Rehabilitation Program • Diabetes Self-Management Training • Smoking cessation counseling
	No	• 3 Breast-feeding advice sessions. • Spa treatment prescribed by a doctor. • Treatment by chiropractor without prescription	• Dental Care • Exercise Programs • Services provided by massage therapists • Acupuncture • Hypnotherapists

		Swiss Compulsory Coverage	
		Yes	No
Cal PERS Select	Yes	• Diagnostic and treatment services in office • General Nursing Care • Outpatient Care Services • Prescription Drug Coverage • Nutritional Counseling • Speech and occupational therapy • Home nursing care • Emergency treatment abroad • Preventive medical care (i.e. gynecological screenings, diphtheria and tetanus shots, etc.) • Vision examinations • Limited physiotherapy • Psychological testing	• Room and board: semiprivate or intensive care accommodations. • Some choice of physician. • Substance abuse treatment • Inpatient hospital care outside of the U.S. • Access to prescription medication abroad.
	No	• 3 Breast-feeding advice sessions. • Prescribed spa treatment • Treatment by chiropractor without prescription.	• Dental Care • Exercise Programs • Services provided by massage therapists • Acupuncture • Hypnotherapists

As outlined in the preceding table, the observable differences between Swiss basic health insurance and the U.S. plans primarily involve receiving semiprivate rooms during hospital stays, coverage abroad, and various rehabilitation and therapy programs. All plans cover the general scope of in-office and inpatient services, general nursing care, and preventive medical care. The FEHB Program is the only policy which covers dental care in some way without the purchase of supplementary care. The ability to choose physicians on a limited basis is common throughout all three U.S. plans. While the costs of seeking such out-of-network care are high, this is an option that is not available under the Swiss compulsory plan. Conversely, the Swiss plan covers chiropractic care without a prescription, as well as spa treatments prescribed by a doctor. Considering all of the information presented, it appears that the U.S. plans represented in this comparison offer a slightly more comprehensive benefits package. The Swiss Basic Compulsory Health Plan is by no means unsatisfactory or even "basic" based on its benefits. Only a small subset of patients seeking very specific types of care and coverage would require the coverage provided by the U.S. plans.

After comparing the various benefits included in the compulsory Swiss plan and three American plans, the costs of such plans must be considered. Part of the purpose of this research is to determine the coverage patients actually receive from the insurance they pay for in their respective countries. Due to the cost-sharing characteristics of each health insurance plan, a definitive cost for coverage under each policy cannot be determined. We can, however, approximate costs under each policy based on premiums

and coinsurance/copayment rates. Out of pocket payments for policies for one individual (with Swiss costs converted into U.S. dollars) are presented in the following table:

Payment Type	Swiss	FEHB	Medicare A&B	LACCD
Annual Premium Paid by Consumers	Average across all cantons: $3678.48	$1,495.78	For following Individual Tax Returns: <$85,000: $1326.00 $85,001-$107,000: $1856.40 $170,001-$214,000: $2652.00 $160,001–$214,000: $3447.60 >$214,000: 4243.20	$422.35
Total Annual Premium	$3678.48	$5,962.08	N/A	$5,458.44
Deductible	Min.: $284.66 Max:$2365.63	$300	• $1,100 for hospital stay (Part A) • $155 for Part B	$500
Coinsurance (%)	10% of amount above $284.66	15%	20% for doctor services	20%
Copayment	$9.49 per day during stay in hospital	$20-$30 $200 per hospital admission.	$10-$20	$5-$15
Max out of pocket payment	10% of personal income (FOPH, 2010)	$5,000	N/A	$3,000

*Note: Medicare Part A is generally paid if Medicare Taxes are paid while working. Therefore, Medicare A & B costs reflect costs for only Part B.

The most glaring difference between the cost structures of the different plans is the size of an average annual premium for basic insurance in Switzerland compared to the three American plans included. At $3,678.48, it is nearly three times the premium paid by those covered under the FEHB and Medicare programs (for those earning under $85,000), and over 8 times larger than the LACCD CalPERS Select Plan. The important aspect to consider is the ability of Swiss consumers to increase their deductibles in exchange for lower premiums. In fact, in 2008 60% of Swiss consumers elected to receive a higher deductible in exchange for a lower premium, resulting in an average deductible of roughly $700 and a premium of $3352 (FOPH). This is in line with

Switzerland's characterization as a market-oriented model. Patients are held responsible for their health care decisions, and as a result they pay for a large portion of the costs. Even while paying significantly higher insurance premiums than the insured population in the U.S., deductibles are larger and co-pays are comparable to those paid in the United States. Aside from Medicare, which includes a $1,100 deductible for hospital stays, the $700 average deductible for Swiss care is only greater than the $300 and $500 for the FEHB and LACCD health programs.

Important to keep in mind in this comparison is who is paying for this coverage. The statistics presented represent costs paid entirely by the policyholder. In Switzerland, aside from government subsidies for low-income households, this covers all health insurance costs. The United States, however, is characterized largely by employer-sponsored insurance, with most of the costs of health insurance being paid by the employer (or in the case of Medicare, the government). For the LACCD CalPERS Select package, for instance, the total annual insurance premium is $5,458.44 (USOPM, 2010). Under the Standard Blue Cross and Blue Shield Benefit Option of the FEHB Program, total annual premiums amount to $5,962.08 (USOPM, 2010). According to the Kaiser Family Foundation's Employer Health Benefits Survey for 2009, the average annual premium for employer-sponsored health insurance was $4,824 for single coverage. Within that amount, employers contributed on average $4,045 (83.9%) and workers contributed $779 (16.1%) of the total premium.

Even though consumers pay less directly for health insurance in the U.S. than in Switzerland, they are by no means saving money. Since health insurance is tied to employment in most cases, the benefit of employers paying for health insurance results in

the cost of receiving lower salaries. Companies do not cover health insurance charges out of good will; they simply provide it as a form of compensation. Additionally, health benefit contributions for workers are tax-exempt, incentivizing employers to provide health benefits. Given the option, workers might prefer higher salaries instead of comprehensive health benefits provided by their employer.

Often overlooked in the analysis of the high cost of health insurance are the physicians which administer the care. Given that physicians in the United States and Switzerland pursue profit for their services, physician compensation is an important component of health care costs. For years, American doctors have been known to receive significantly higher salaries, not just in absolute terms, but also relative to per-capita GDP. A 2006 study by the Organization for Economic Co-operation and Development found that specialists in the U.S. earned $230,000, or 5.7 times per-capita GDP. General practitioners (GP), while earning less at $161,000 on average, still earned 4.1 times the per capita level. In Switzerland, specialists received $130,000, amounting to 3.8 times their per capita income level, while GPs earned $116,000, or 3.4 times per-capita income. The average of all OECD countries for GP and specialist salaries was 3.7 and 2.9 times per-capita GDP, respectively. While the disparity in physician salary seems substantial, when the costs of becoming a physician are considered, they seem more reasonable. Medical school tuition in Switzerland ranged between $3,000-$4,000 in 2009 (FOPH), while resident tuition for public medical schools in the U.S. was $20,233 on average (Gaillord). Considering that tuition costs are lower for resident students and public schools, the opportunity cost of becoming a physician is clearly much greater in the U.S. Although the full effect of higher tuition on physician salary is unknown, it is clear that

higher physician salaries do not account for the entire difference in health insurance costs between the U.S. and Switzerland.

Research in the past has attempted to identify the specific causes of increasing health care costs in the United States. Various scholars have pointed towards, among other factors, an aging American population, increased insurance, and supplier-induced demand. Newhouse (1992) identifies a number of these factors and determines how much each change accounts for the growth in real health care expenditures in the United States. Based on his analysis, Newhouse believes that the "bulk of the residual increase [in health expenditures] is attributable to technological change… and the increased capabilities of medicine" (Newhouse, 1992). Based on Newhouse's analysis, the extra costs of American insurance could be due to increased technological capabilities. Is this necessarily the case in comparison with Switzerland?

In order to facilitate this analysis, the type of care delivered in each system must be considered. After all, countries may define certain types of care in different ways. For example, both Swiss and American programs could provide "preventive services," but the nature of those services may not be the same. Essentially, the question is: What is *actually* being paid for in each country? By measuring the penetration and utilization of advanced technology in each system, a more accurate comparison of the type of care provided can be provided. Consider the rate of the following health procedures made in the U.S. and Switzerland.

Figure 8. Percentage of Live Births that Are Caesarean Sections, 2003

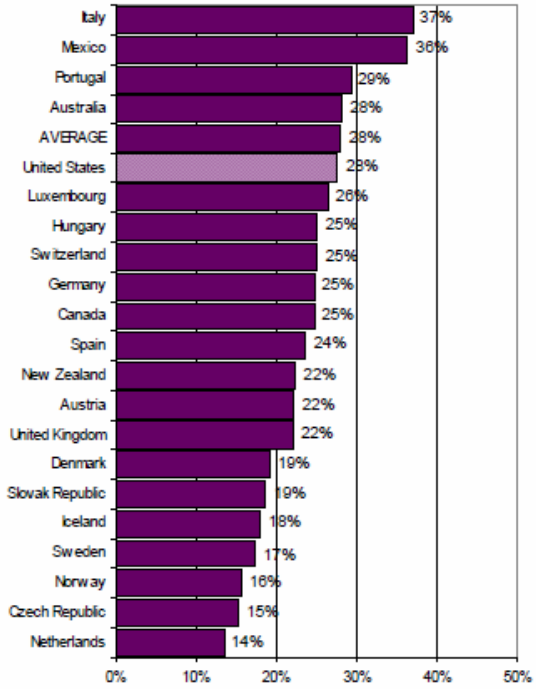
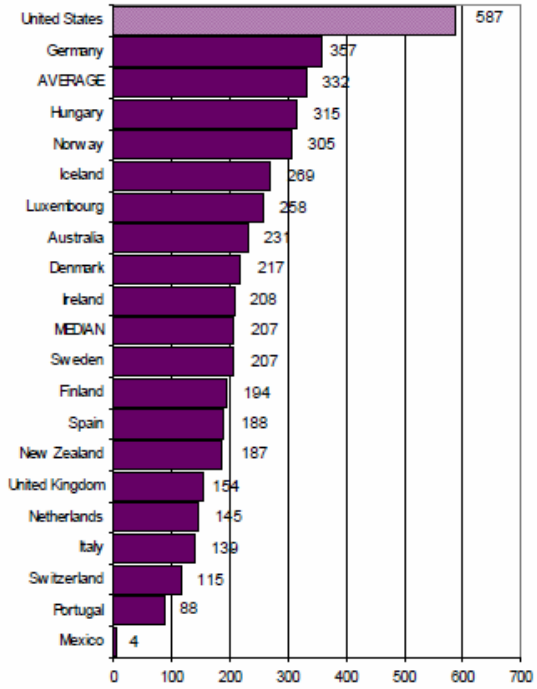


Figure 9. Rate (per 100,000 population) of Coronary Revascularization Procedures, 2003

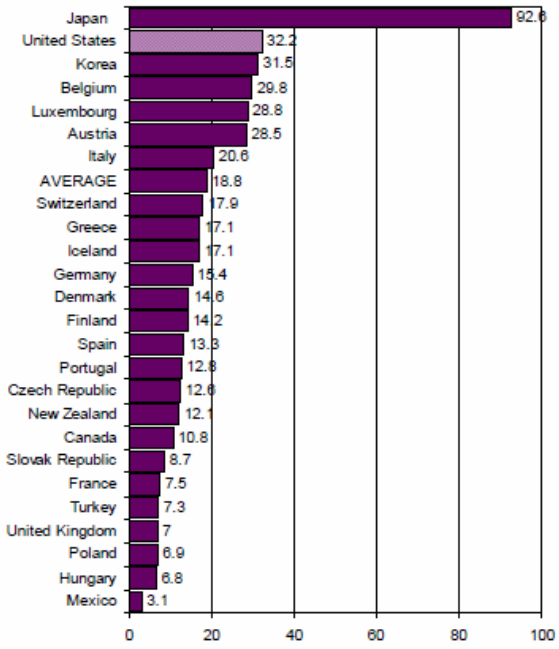


Source: OECD Health Data 2006 (October 2006).
Website: http://www.oecd.org/dataoecd/46/4/38980557.pdf

In the case of Caesarean Sections, the United States delivered only slightly more births through Caesarean sections than Switzerland (28% versus 25%). For Coronary Revascularization Procedures, however, the U.S. administered over five times the rate of these procedures as Switzerland (587 versus 115 per 100,000 population). Coronary revascularization procedures are any procedure used to increase coronary artery blood flow, including coronary bypass grafts and coronary angioplasties (OECD, 2009). These procedures involve advanced technology and are believed to produce superior health outcomes when compared to traditional medical treatment (OECD, 2009). Based on the large disparity of use of these procedures, it appears that higher use of technology in the U.S. may contribute significantly to the higher cost of insurance and health care services.

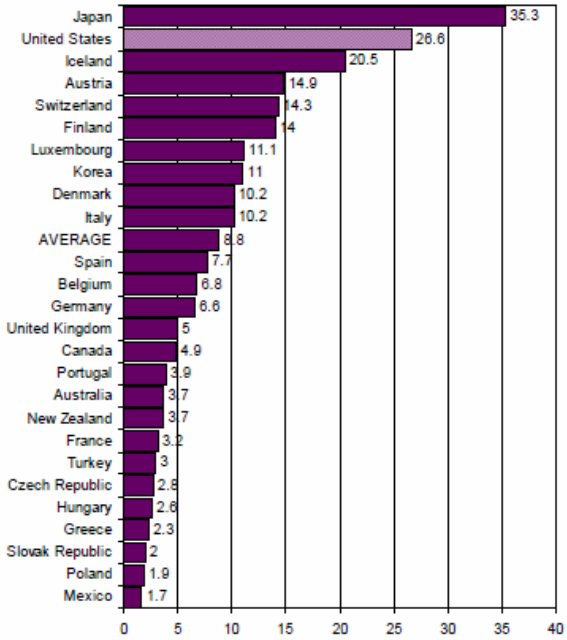
An additional measure of the level of technological innovation within a health care system is to compare the number of machines which conduct advanced procedures or analyses. The following figure shows the number of CT Scanners and MRI Units per 1 million population as of 2004. As shown, the U.S. has nearly double the number of CT Scanners and MRI Units per 1,000,000 population. This is not to say that Switzerland necessarily has an unusually low number of these machines. Their number of CT Scanners is just below the OECD average, while they are well above the MRI average. The possibility exists of U.S. numbers being inefficiently high due to supplier-induced demand (doctors recommending excessive care).

Figure 12. Number of CT Scanners per 1,000,000 Population, 2004



Source: OECD Health Data 2006 (October 2006).
Notes: Data for Belgium, Portugal, the Slovak Republic, and Turkey are from 2003; data for Greece and Japan are from 2002. Data on CT scanners from 2004 are available for only 25 of the 30 OECD countries.

Figure 13. Number of MRI Units per 1,000,000 Population, 2004



Source: OECD Health Data 2006 (October 2006).
Notes: Data for Belgium, New Zealand, Portugal, and the Slovak Republic are from 2003; data for Greece and Japan are from 2002. Data on MRI machines from 2004 are available for only 26 of the 30 OECD countries.

Website: http://www.oecd.org/dataoecd/46/4/38980557.pdf

Utilization of advanced technology does provide insight into the causes of higher costs for health care in the U.S., but it does not provide complete information on health outcomes. It appears to be the case that American physicians are trained to utilize more technology when treating patients than physicians in other countries. We do not know whether that technology actually serves patients better than more traditional, less expensive treatment methods. The difficulty in this analysis is that comparisons of outcomes using international data used to measure quality of treatment are not always accurate. "Infant Mortality per 1,000 live births" is often used as a proxy to measure quality of care received, but this statistic is reported differently between countries. The United States often scores poorly for these statistics because it counts very premature babies with low chances of survival as "live births." Switzerland, on the other hand, does not. As a result, the U.S. infant mortality rate was 6.9 in 2004, compared to 4.2 for Switzerland (OECD, 2009).

Another statistic often used to measure quality of care is deaths from certain diseases per 100,000 population. Based on this indicator, Switzerland had lower death rates per 100,000 population for cancer, cerebro-vascular diseases, diseases of the respiratory system, and Diabetes in 2006 (OECD, 2009). These statistics are not, however, an accurate measure of the capabilities of medical care in treating each of these diseases. Statistics for the U.S. are inherently skewed because such a large proportion of the population is underinsured or not insured at all. Death rates are expected to be higher because many people with these conditions are receiving little to no care at all. While these statistics may provide insight into the success of the system as a whole, it is not an

accurate representation of the effectiveness of treatment given to patients with cancer, diabetes, and other diseases.

Although insurance premiums paid by citizens for compulsory coverage in Switzerland are comparably larger than what is paid by those insured in the U.S., many households are offered government subsidies offered to help pay their premiums. Roughly a third of the population in Switzerland receives subsidies for health insurance, on top of the clause which states that no household must commit more than ten percent of their total income towards paying for health insurance. In the United States, any attempt to alleviate the financial burden of health care has proved futile. A joint study by the Harvard Law School and Harvard Medical School found that medical bills are the leading cause of bankruptcy in the U.S. (Dranove, 2006).

The analysis of benefits and costs of health insurance plans in the U.S. and Switzerland provides valuable information regarding the costs of similar services in each country. Though there are limitations in measuring the quality of care delivered through each health care system, notable conclusions can be made regarding cost-cutting and access strategies. While aforementioned statistics such as deaths per 100,000 from certain diseases and infant mortality provide some information regarding health care quality, it does not control for many external factors. Lifestyle factors such as diet and exercise habits have a significant effect on the outcomes of certain health treatment. Even if doctors in Switzerland and the United States are treating the same conditions, American cases may be more severe and difficult to treat because of lifestyle considerations.

V. Lessons from the Swiss System

Examining the strengths and weaknesses of the Swiss system in mediating the problems of asymmetric information, moral hazard, and adverse selection can provide useful lessons for U.S. health care reform.

- ***For similar benefits, Swiss consumers pay less for health insurance***

The analysis of specific benefits provided and their costs has shown that basic compulsory care within Switzerland is comparable to common U.S. benefit packages. Though U.S. insurance policies generally contain extended benefits in areas of patient privacy and coverage in foreign countries, the Swiss compulsory plan includes chiropractic and spa treatment that is not part of American insurance. It is still uncertain given current research whether care delivered in the United States is superior to care delivered in Switzerland. Though the U.S. does utilize more advanced technology in treating patients, additional research is required to determine whether this technology leads to improved health outcomes.

- ***To reduce the cost of health insurance, all citizens must hold health insurance***

While this research is not able to quantify its effects, adverse selection plays a large role in the high cost of health insurance in the United States. As more high-risk individuals demand insurance, premiums are driven up, further discouraging low-risk people to purchase insurance. By mandating citizens to purchase health insurance, Switzerland has effectively mediated much of the consequences of adverse selection. In the U.S., however, purchasing health insurance is not a requirement, and 15 percent of the population does not. As a result, those who purchase insurance are the people more likely to get sick or injured and need the medical care covered by insurance. As evidenced by the insurance benefit and cost analysis in this paper, health insurance costs

more in the United States for a very limited amount of extra benefits. A mandate similar to the Swiss basic insurance mandate would decrease the average amount of risk per policyholder, effectively decreasing the average price of insurance policies.

- ***A standardized insurance plan will reduce administration costs***

An important facet of the cost-containment conversation in health care has to do with administration costs of health insurance. The United States and Switzerland both have multi-payer systems, with a number of different health insurance companies making payments on the policyholder's behalf. Switzerland is able to control its administrative costs relative to the U.S. because every person receives the same standardized benefits package. Furthermore, because insurers providing basic coverage compete primarily on price, they have strong incentives to reduce their operating costs. In the U.S., there are a plethora of different coverage programs and policies, raising the administration costs significantly. As consumers do not face the full costs of their purchasing decisions, insurers in the U.S. tend to compete more on benefits. In 2004, spending on health administration and insurance in the United States was $465 per capita, which was seven times the OECD median (OECD, 2009). In the same year, Switzerland spent less than half that per capita amount, $198. The extensive number of insurance plans available to U.S. citizens is a large contributing factor to high administrative costs and in turn high health care costs.

- ***Involving more cost-sharing can reduce moral hazard in medical care***

Perhaps the greatest achievement of the Swiss system is its ability to reduce the incidence of moral hazard through cost-sharing strategies. Out-of-pocket payments by households constituted 31.5% of total Swiss national health spending in 2002 (Reinhardt,

2004). In the U.S., these payments were only 14.0% of total health expenditures. Many Swiss actually opt to pay a higher deductible and lower premium in order to attempt to reduce the costs of health insurance. It is clear that the more financially involved consumers are in their health care purchases, the less inefficiency there will be in the market. Even with this high level of cost-sharing, health expenditures are still relatively high in Switzerland. In fact, as a percentage of GDP, Swiss health expenditures were 10.8% of GDP in 2007, the third highest among OECD countries (with the U.S. first at 16.0 percent) (OECD, 2009). Since Swiss health care consumers are exposed to the costs of their health care use, these high costs are more a reflection of Swiss preferences for additional health care rather than inefficient spending. If cost-sharing for consumers were set at a similar rate in the U.S., health care expenditures would represent consumer preferences for health care rather than inefficient use of care.

- ***Universal coverage does not have to be entirely government-financed***

There exists a common misconception that universal coverage can only be achieved through a single-payer system. Swiss health care covers nearly 100 percent of citizens through a market-oriented system. While there is significant government regulation, health care is purchased and sold on the private market. Additionally, there is still a market for insurers to earn profits through supplementary coverage. Switzerland is proof that universal coverage can be achieved without placing a huge financial burden on federal or state governments. Furthermore, it does not have to specify all of the care that patients receive. Consumers are given the freedom to decide how much coverage they want; the mandate simply sets a minimum.

- ***Some level of restriction to access is necessary to keep costs down***

The Swiss system, while providing a comprehensive set of benefits, does restrict access to some physicians and treatments. Given the scope of the compulsory insurance package, the system is already jeopardizing the consumer-driven aspects of the system. Any additional benefits would move Swiss health care further away from its successful market-oriented strategy and could lead to spiraling health care costs similar to the United States. If the United States were to institute a mandate for health insurance, it would need to find the right balance of benefits to provide appropriate access to patients but at a reasonable price.

VI. Conclusion

The Swiss health care system provides a useful model for U.S. policymakers to consider. It has avoided the non-price rationing that has plagued other European systems that provide universal care, while maintaining a high level of quality. While it remains one of the most expensive in the world, this is largely a result of consumer preferences rather than financial support from its government. An in-depth comparison of the compulsory Swiss package and three representative American plans reveals that the Swiss receive similar benefits for a smaller (overall) cost. While consumers pay more out-of-pocket, this has kept costs lower due to a smaller moral hazard effect.

Certainly, sweeping U.S. reform would and should not look exactly like the Swiss system. Due to the intricacies of each country's population, politics, and health care history, imposing the Swiss model would be undesirable. The positive aspects of health care in Switzerland, however, should be incorporated in some way to the American system. Cost-sharing, mandating the purchase of health insurance, and standardizing plans to reduce administrative costs will have positive effects on the performance of the

U.S. system. Inherent challenges of moral hazard and asymmetric information that face the health care industry cannot be completely eliminated, but they can be reduced. Switzerland's health care system is one of the best examples of reducing the effects of these problems. By translating Swiss consumer-oriented policies into the American health insurance system, the U.S. can address the prevailing deficiencies in access and cost-containment practices that characterize the current health care system.

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