Spring 5-5-2016

A Comparison of Health Care Systems in the Western World

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Thesis Summary

When I was brainstorming ideas for my thesis during my junior year in the South Carolina Honors College (SCHC), it was an interesting time for me to be thinking about my interests since I had recently dropped my pre-med track, switched from a B.S. in Public Health to a B.A., and added my minor in Political Science. The idea of looking at the healthcare system in other western, industrialized nations and comparing them to the U.S. came from one of the study abroad trips I participated in through SCHC where I went to the Netherlands for a Maymester trip and learned about the Dutch healthcare system. There are many aspects of the Dutch system I thought the U.S. could learn from and wondered if other prosperous European nations had similar health systems as well.

While I discovered the set up of the healthcare systems in the Netherlands, Belgium, Switzerland, and Denmark were quite a bit different from one another, with some being completely privatized, some being public, and some being mixed systems, their overall systems and health outcomes from those systems were much more similar to each other than that of the United States. The information in each country's section of this thesis shows how all five are relatively prosperous countries that are in good economic standing, but the demographics of the populations in the European countries are very similar to one another while the U.S. has a wider variety of races and ethnicities. The population demographics, population size, and vast geography of the U.S. must be kept in mind when comparing it to countries that are much smaller and are logistically easier to handle in terms of healthcare. For instance, 99% of the citizens in the Netherlands have

health insurance but this means roughly around 17 million people are insured, while 99% of the U.S. population would equal more than 300 million people (U.S. Census, 2010).

Overall, looking at aspects of healthcare systems in these other countries is important and debate about whether the system in the U.S. could be improved to reflect similar health outcomes as the European countries is welcome as well. Comparing health systems can help inform public policy, highlight areas where nations could improve their systems, and yield standards for high performance (Squires, 2011). While there are major differences between the U.S. and these European countries, there may still be aspects of their healthcare systems that could be adapted and changed to fit the needs of a much larger population. It is also important to note that the European countries historically all moved to more socialist healthcare systems relatively quickly during and directly after World War II due to the chaos and need for structural stability in the area (Mossialos, 2016). If any changes were to happen to the healthcare system in the United Sates, they would need to happen more gradually then what happened with the European countries during and post-World War II.

I. Introduction

Over the last few decades, health care has been a major issue in the U.S. from Hillary Clinton's failed universal system plan in 1993, which had the aim of moving the U.S. to a universal healthcare system, to the different aspects of President Obama's Patient Protection and Affordable Care Act (Palosky, 2016). No matter whether or not the Affordable Care Act has helped the system or not, there are still many issues with the U.S. health care system. Unlike other political and national issues, the polls of American health care in the early 2000s could be defined simply: health care costs too much and too many Americans go without needed care, yet agreeing on a cure for those ills proved to be exceedingly difficult (Palosky, 2016). As multiple scholars have pointed out in the past, no health care system is perfect and reforming American health care does not mean that the United States could or should perfectly copy any country's institutions (Flintoff, 2012). Americans cannot adopt another country's structure, but the U.S. can attempt adapting the approaches of other nations to America's inherited healthcare conditions. Those involved in the health care reform debate are interested in specific features of other systems that could be adapted for use in the U.S. system. While the debate as slightly fizzled out due to factors such as the ACA being fully in place now and this year's presidential election, there is still much debate about what the next step is for health reform (Palosky). This is mostly revolving around what changes could be made to the ACA to make it more useful and efficient since the desire for having it repealed has also gone away for many Americans (Palosky, 2016).

The purpose of this paper is to evaluate the health care systems of the Netherlands, Belgium, Switzerland, and Denmark by examining each system's approach to cost, quality, and access of care, before looking at how their approaches could be adapted to the U.S. system. I picked these specific countries due to their similarity in geographic location, demographics, religious affiliations, and population size but have different styles of health care systems (public, mixed, and private) that are set up in varying ways. Additionally, these populations have similar health issues to one another, such as aging-populations, and to the U.S. as well like the top causes of death (Flintoff, 2012). However, these four western European countries have longer life expectancies and smaller percentages (or none) of their populations are uninsured (Mossialos et. al., 2016). Populations who face the same difficulties, for potentially the same reasons, can count on the same or similar responses to help. This is why it is important for the U.S. to look at how other nations approach healthcare as well as specific health problems that affect large portions of the population such as obesity and cancer; the way others approach healthcare could be more efficient and helpful than the U.S. system but that would not be known until studying the health systems of other nations.

All industrialized nations wish to balance the three shared concerns of modern health care which are cost, quality, and access (Mossialos et. al., 2016). This is why the search for solutions has become global in scope, as public and private healthcare officials in the U.S. look beyond our borders to examine how other industrialized nations provide and finance health care. Such lessons from abroad are made possible by cross-national comparisons and analyses of the extensive data and

information available through reports, such as the OECD and Commonwealth Fund reports on multiple countries (Mossialos et. al., 2016). In this paper I compare the systems of the Netherlands, Belgium, Switzerland, Denmark, and the United States.

II. The Netherlands

The Netherlands borders the North Sea, Belgium, and Germany, and has a population 16.8 million, about 80% of who are native Dutch ("Netherlands", 2013). As for the demographics of the Netherlands, the Dutch currently have a challenge of the aging population and overall decreasing population (Mossialos et. al., 2016). Their economy is ranked among the world's top 20 in terms of total GDP and among the top 10 in terms of export volume. Overall, the Netherlands is considered one of the wealthiest and most affluent nations in the world in terms of GDP per capita ("Netherlands", 2013).

Politics in the Netherlands is important in terms of their health care system as well. They are a Constitutional democracy (similar to the UK), so there is a monarch who is the ceremonial head of state and a prime minister who is the head of the government, leader of the political party with the most members elected to the national legislature, and oversees cabinet members who are in charge of various parts of the government. The Netherlands also belong to several international organizations, including the United Nations (since 1945), the North Atlantic Treaty Organization (NATO), the European Union (EU), the World Trade Organization (WTO), and the Council of Europe ("Netherlands", 2013). Further, the country has ratified several international treaties with relevance to health care, including the

General Agreement on Trade in Services (GATS), the Convention on the Rights of the Child, European Human Rights Convention and the International Bill of Human Rights ("Netherlands", 2013).

Historical events in the Netherlands are also important to how their health care system is set up. It was in 1941, under pressure of the German occupier, that a social health insurance system was introduced, covering the two-thirds of the population with lower incomes (Schäfer et al., 2010). Non-profit providers and insurers as well as self-employed practitioners dominated the health service provision and the role of the government was limited (Schäfer et al., 2010). Typical features of the Dutch social health insurance variant were General Practitioners (GPs) in a gatekeeping position and independent midwives in primary care responsible for healthy pregnancies and deliveries (ones who developed complications were still referred to the hospital) (Schäfer et al., 2010). I studied abroad in the Netherlands in the month of May 2014, and midwifery is still very popular in the Netherlands- roughly one-third of all babies there are born by midwives either at home or in these midwife hotels they have where the rooms are specifically designed for labor ("Netherlands", 2013).

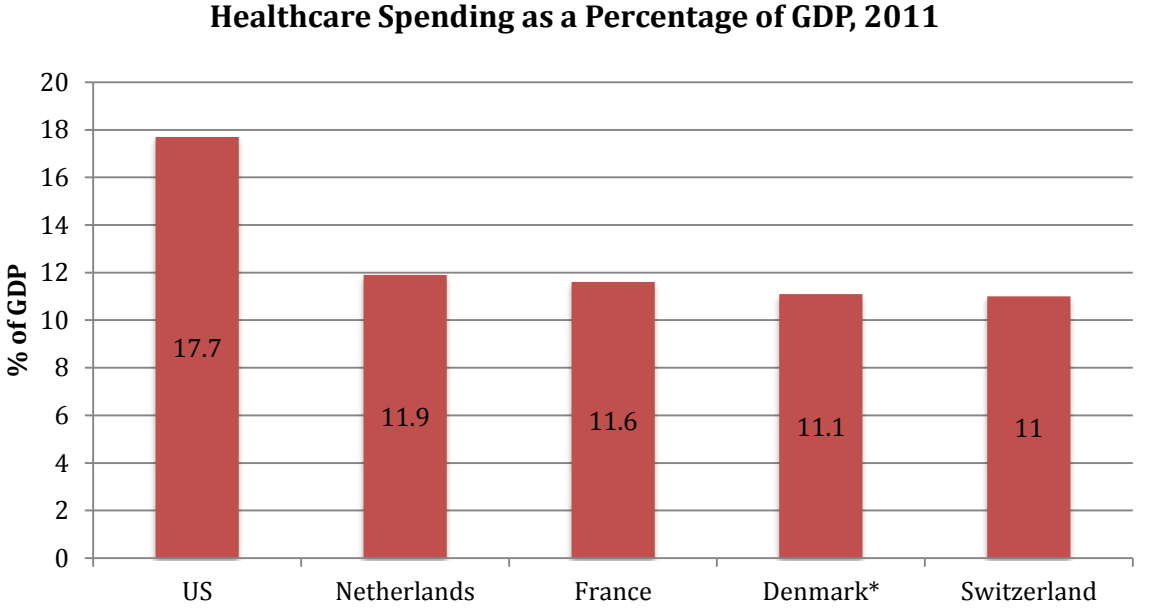
In 1967 a social insurance scheme replaced subsidies to inpatient long-term care, mental health and disability services. Eligibility was broadened with long-term care, elderly care and mental health services. Major policy trends since the 1970s have been cost-containment with policies such as the introduction of hospital budget caps, measures to solve the fragmented service provision, and several meaningless attempts to abolish the dual system of social and private health

insurance (Schäfer et al., 2010). This system remained unchanged until the 2006 health care reform, which can be seen as a further innovation of the old Bismarckian system. The reform introduced a single compulsory insurance scheme, in which multiple private health insurers compete for insured persons (Schäfer et al., 2010).

a. Cost

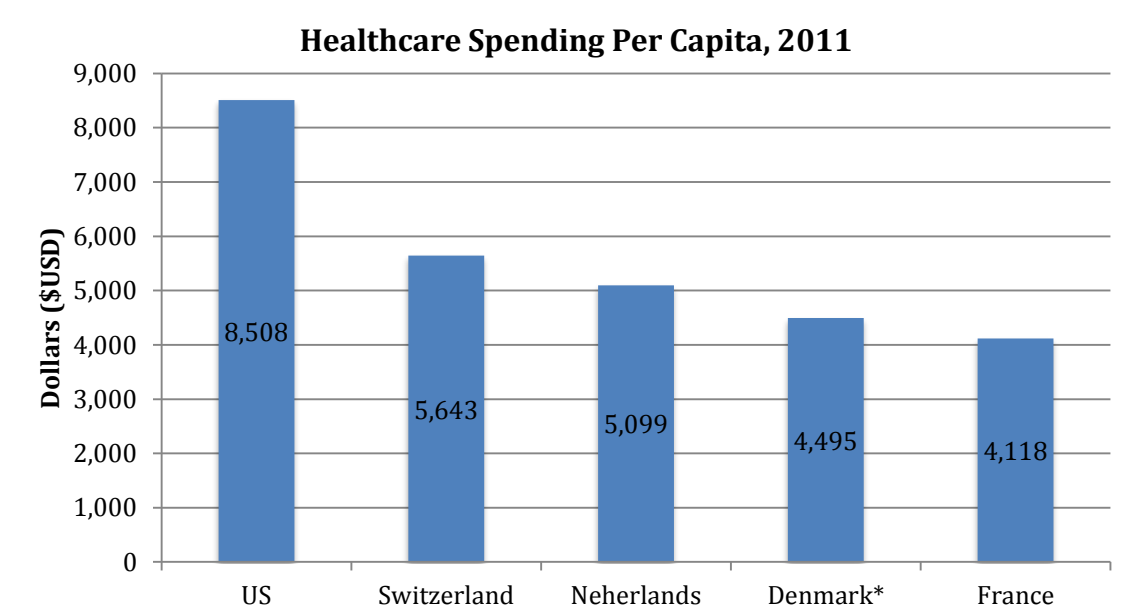
In 2011, the Netherlands spent about 11.9% of their GDP on healthcare expenditures, which can be compared to the U.S. expenditure of 17.7% in Figure 1-1 (Squires, 2013). In the same year, Figure 1-2 shows the health expenditures as $5,099 per capita compared to the U.S. at $8,508 per capita (Squires, 2013). Over 70% of curative healthcare services were publicly financed in 2011 as well (Squires, 2013). Another important measurement to look at when evaluating healthcare costs is the expenditures specifically on pharmaceuticals. As can be seen in Figure 1-3, expenditures on pharmaceuticals in the U.S. was $955 per capita in 2011, while the Netherlands was at $479 in the same year (Squires, 2013).

Figure 1-1



*2010 data
Source: Commonwealth Fund Multinational Comparisons of Health Systems Data 2013

Figure 1-2



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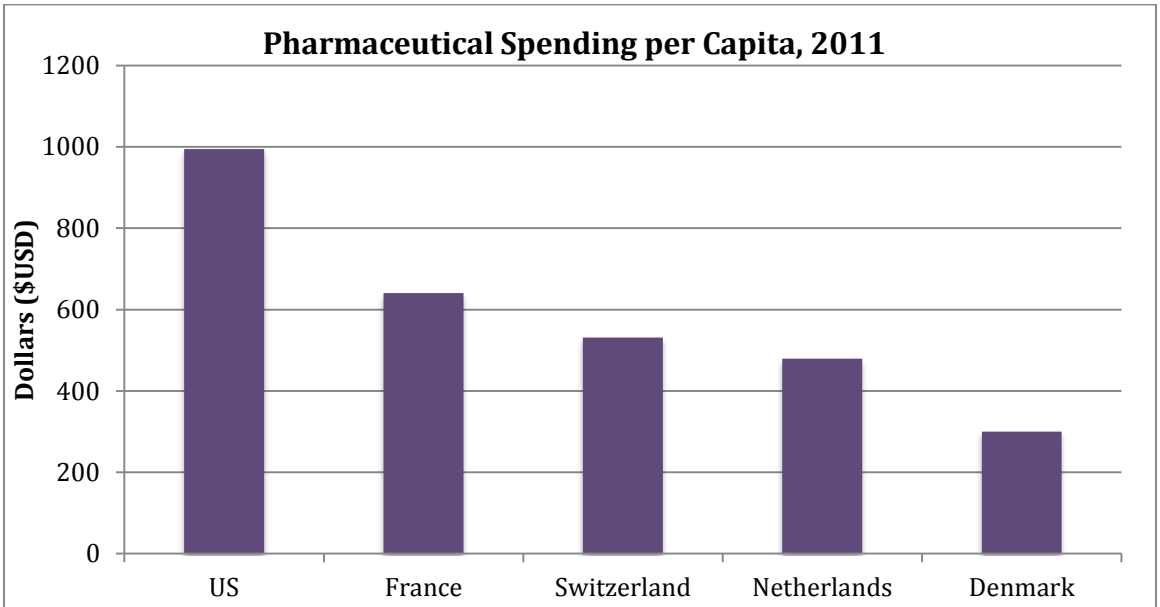
Source: Commonwealth Fund Multinational Comparisons of Health Systems Data 2013

Figure 1-3



Source: Commonwealth Fund Multinational Comparisons of Health Systems Data 2013

The Netherlands has a cost-sharing insurance payment system for anyone over the age of 18, meaning that as of 2015 all insured adults must pay a an annual deductible of 375 euros (455 USD) for health care costs before their health insurance starts covering it (Mossialos et. al., 2016). The costs covered with this deductible include hospital admission and prescription drugs but exclude some services, such as GP visits and certain services, such as medical transport and medical devices, are paid for through copayments, coinsurance, or direct payments that are reimbursed up to a limit (Mossialos et. al., 2016). Additionally, there are national programs in place to subsidize the cost of health coverage for low-income families and individuals; singles with annual income of less than 26,316 euros (31,896 USD) and households with income less than 32,655 euros (39,580 USD) receive some level of subsidies (Mossialos et. al., 2016). Approximately 5.4 million

people receive subsidies based on their income level, ranging from 5 euros (6.10 USD) to 78 euros (95.00 USD) per month for singles and from 9 euros (11 USD) to 149 euros (181 USD) for households (Mossialos et. al., 2016). There are also programs in place to cover children (under 18 years old) and the Ministry of Defense covers healthcare for members of the military (Mossialos et. al., 2016). Undocumented immigrants have to pay for healthcare themselves, except for acute care, long-term care, and obstetric care, because they cannot apply for any insurance policies (Mossialos et. al., 2016). Documented, permanent residents are required to purchase private insurance after residing in the country for 3 months, and visitors are required to purchase insurance for the duration of their stay if they are not covered through their home country (Mossialos et. al., 2016).

The statutory health insurance is financed under the Health Insurance Act, which set up a fund for income-related contribution, meaning that the government subsidizes families and individuals who are below certain income levels for their statutory health insurance plans, a government grant to insure children, and a community-rated premium system that is set by each insurer (Mossialos et. al., 2016). The community-rated premiums means that each insurance company, splits the premium costs evenly between everyone they insure who is over 18 (under 18 is still paid for separately through the government), so everyone under the same insurer pays the same premium each year no matter what their age or health status is (Mossialos et. al., 2016). The assistance low-income families and individuals receive can be used to help pay for their premium, along with other healthcare costs as well such as their deductibles (Mossialos et. al., 2016). Most of the insurance

companies are non-profits so there is not much incentive for making as much profit as possible, and even for the private companies there is currently a ban in place not allowing them to distribute profits to shareholders anyways, which also lowers the incentive to make as much profit as possible (Mossialos et. al., 2016).

In addition to the basic statutory health insurance, over 80% of the population also purchases voluntary, supplementary private health insurance which includes a mix of services such as dental care, alternative medicine, physiotherapy, spectacles and lenses, contraceptives, and the full cost of copayments for medicines (what the basic health insurance does not cover) (Mossialos et. al., 2016). Most of the population who purchases supplementary insurance buys it from the same company providing their basic insurance plan (Mossialos et. al., 2014). However, the premiums for supplementary coverage are not regulated and the insurance companies are allowed to screen applicants based on risk factors for the supplemental insurance plans (Mossialos et. al., 2016).

b. Quality

Quality in the Dutch healthcare system is ensured through legislation governing professional performance, quality in health care institutions, patient rights, and health technologies, and the National Health Care Institute was established in 2014 to further establish the process of quality improvement and evidence-based practice (Mossialos et. al., 2016). Providers, sometimes in close cooperation with patient and consumer organizations and insurers, carry out most quality assurance, and there are ongoing experiments with disease management and integrated care programs

for the chronically ill (Mossialos et. al., 2016). Speaking of chronic illnesses, the Netherlands, along with other European countries, have some differences in chronic illnesses such as their higher rates of smoking and the U.S.' higher rates of obesity. Both of these statistics are in Figures 1-4 and 1-5, which show the adult smoking rate in the Netherlands as 20.8% of adults compared to 14.8% in the U.S and the obesity rate among adults in the U.S. of 36.5% is over three times the Netherland's rate of 11.4% (Squires, 2013). Differences like these can lead to nations having slightly different priorities when it comes to quality in care and how preventative care may be approached by all levels of health officials and physicians. Although the Netherlands has recently started reporting on quality and provider performance, public reporting on quality of care and provider performance is still in the beginning stages (Mossialos et. al., 2016).

Figure1-4

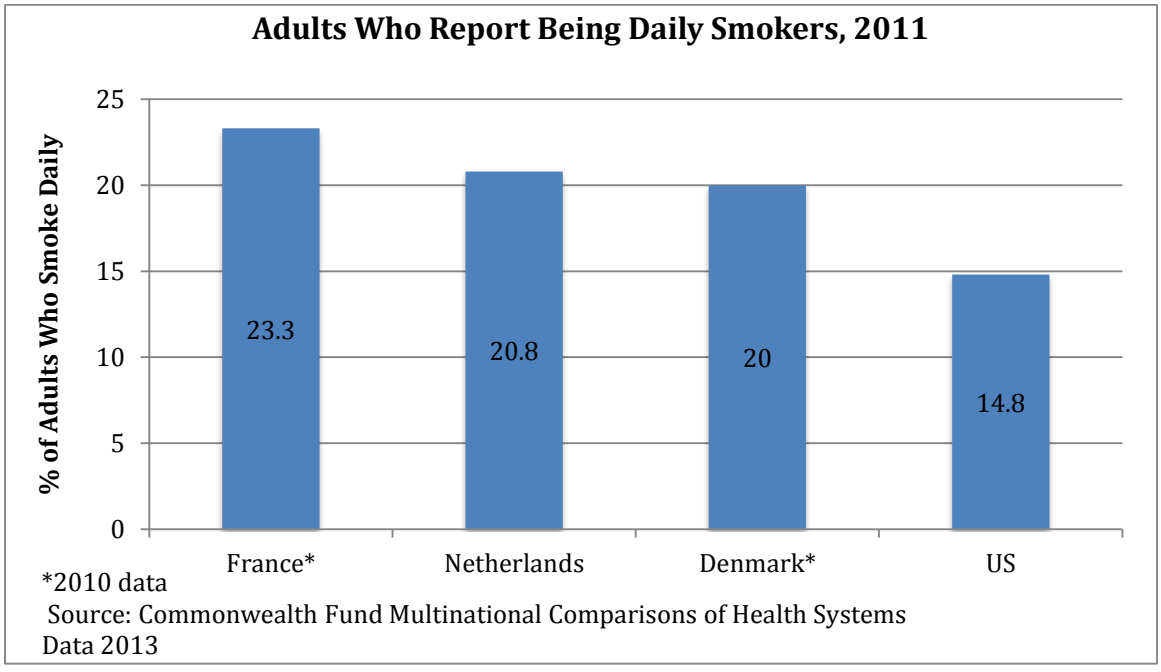
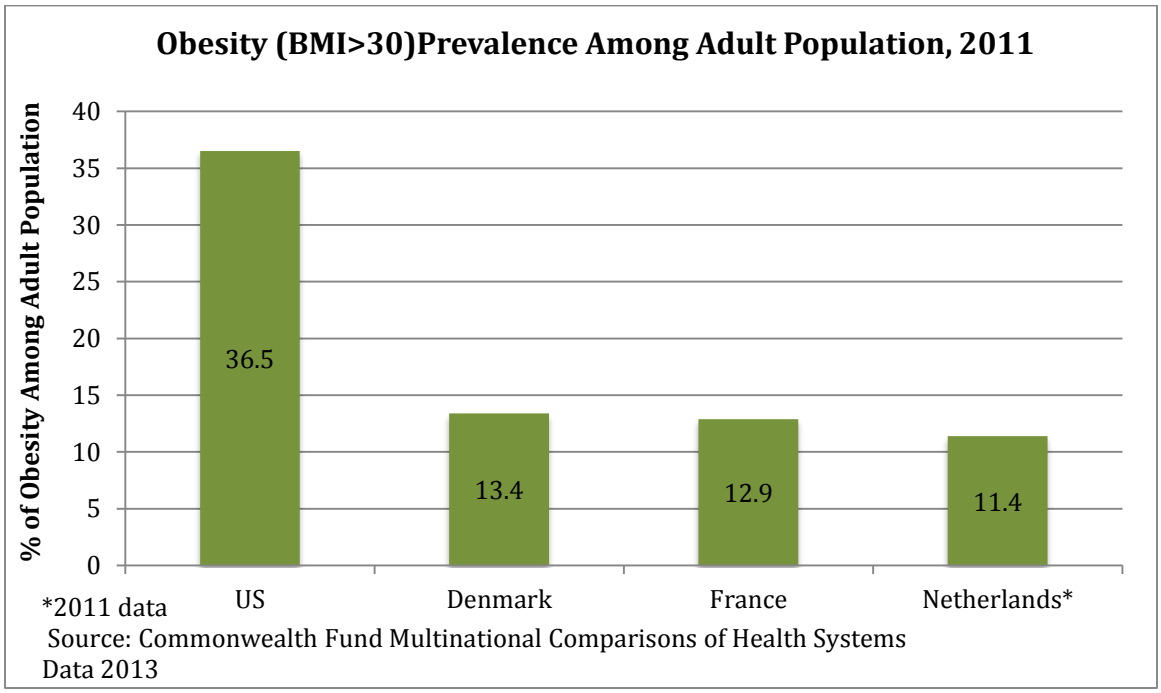
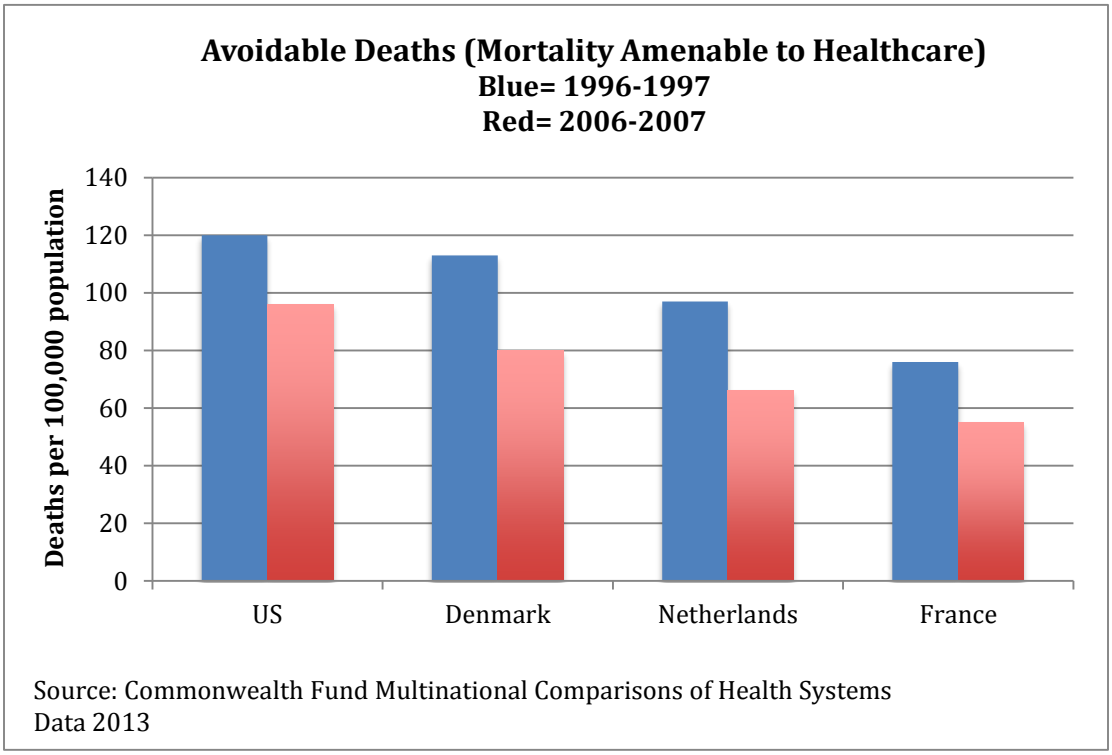


Figure 1-5



Another important topic when discussing quality of care is patient safety within hospitals and other parts of the healthcare system. While Figure 1-6 shows how the U.S. and all of the European countries in this report have had a large drop in the number of deaths due to healthcare in recent decades, there is still a significant difference between the U.S. rate at 96 per 100,000 and the Netherlands at 66 per 100,000 (Squires, 2013).

Figure 1-6



Source: Commonwealth Fund Multinational Comparisons of Health Systems Data 2013

*Countries' age-standardized death rates before age 75; including ischemic heart disease, diabetes, stroke, and bacterial infections. Analysis of World Health Organization mortality files and CDC mortality data for U.S.

In addition to statistics involving quality of care in hospital settings, other indicators of quality in a health care systems can be what are usually called health indicators such as life expectancy at birth and the infant mortality rate. Table 1-1 shows the life expectancy at birth for both males and females in the nations this paper is looking at. Female life expectancy in the Netherlands as of 2013 was 2 years higher at 83.2 years than the U.S. at 81.2 years, and for males, the Netherlands was over 3 years higher at 79.5 years compared to the U.S. at 76.4 (OECD, 2015). For infant mortality rates, Table 1-2 shows the U.S. with the highest rate of 6 deaths per 1,000 live births and the Netherlands with a much lower number of 3.8 (OECD,

2015). Unfortunately for the U.S., this is one of the few health indicators where having lower numbers is better.

Table 1-1

Country	**Female Life Expectancy at Birth, 2013**	**Male Life Expectancy at Birth, 2013**
France	85.6	79
Switzerland	85	80.7
Netherlands	83.2	79.5
Denmark	82.4	78.3
US	81.2	76.4

Table 1-2

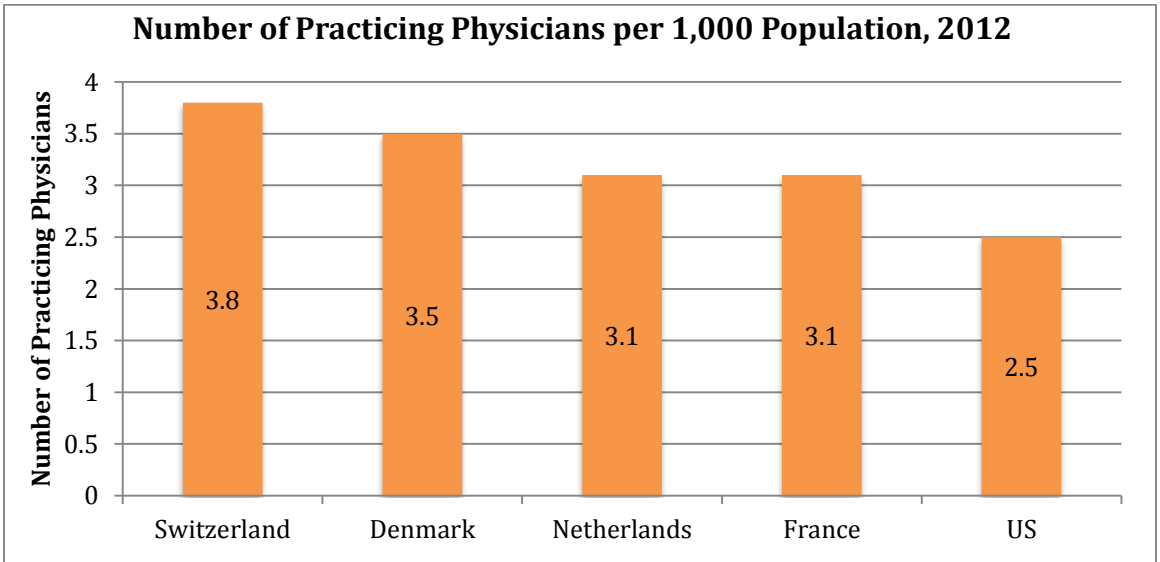
Country	**Infant Mortality Rate per 1,000 Live Births, 2013**
US*	6
Switzerland	3.9
Netherlands	3.8
France	3.6
Denmark	3.5

c. Access

Access to healthcare and services is an integral part of a well functioning healthcare system. Access can range from anything including the number of times people see physicians to the number of physicians in a population. Figure 1-7 shows the number of physicians per 1,000 people in each country in 2012 with the Netherlands in the middle at 3.1 physicians while the U.S. is in last with 2.5

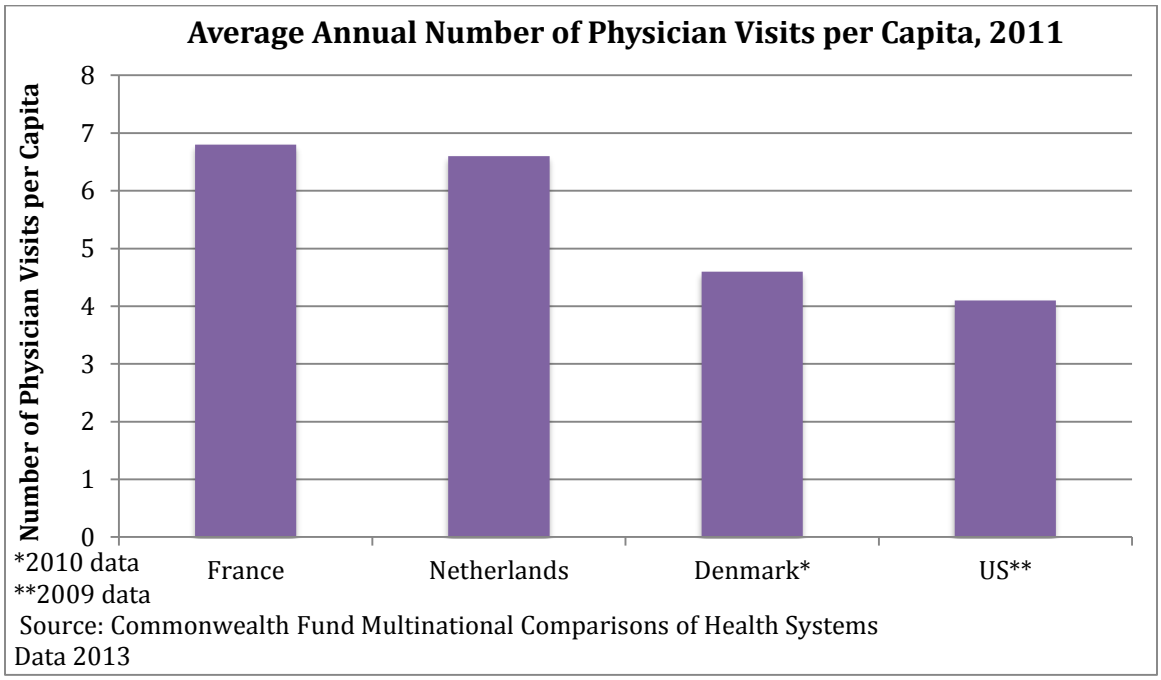
physicians per 1,000 people (Squires, 2013). This is only a slight difference, but having more physicians available in the population, especially in more rural areas, can make it easier for people to see physicians on a regular basis and therefore improve access to healthcare (Squires, 2011). There is a significant difference between the U.S. and the Netherlands in how many times the population visits a physician per year, which can be seen in Figure 1-8. The average annual number of physician visits per capita sits at 6.6 visits in the Netherlands and only 4.1 visits in the U.S. from data collected in 2011 (Squires, 2013). Another aspect of care is the access people have to hospital care and services if they are needed. The number of acute care hospital beds per 1,000 people for each country in 2011 is shown in Figure 1-9, and the Netherlands has the second highest number with 3.3 beds per 1,000 people while the U.S. is the lowest number with 2.6 per 1,000 (Squires, 2013).

Figure 1-7



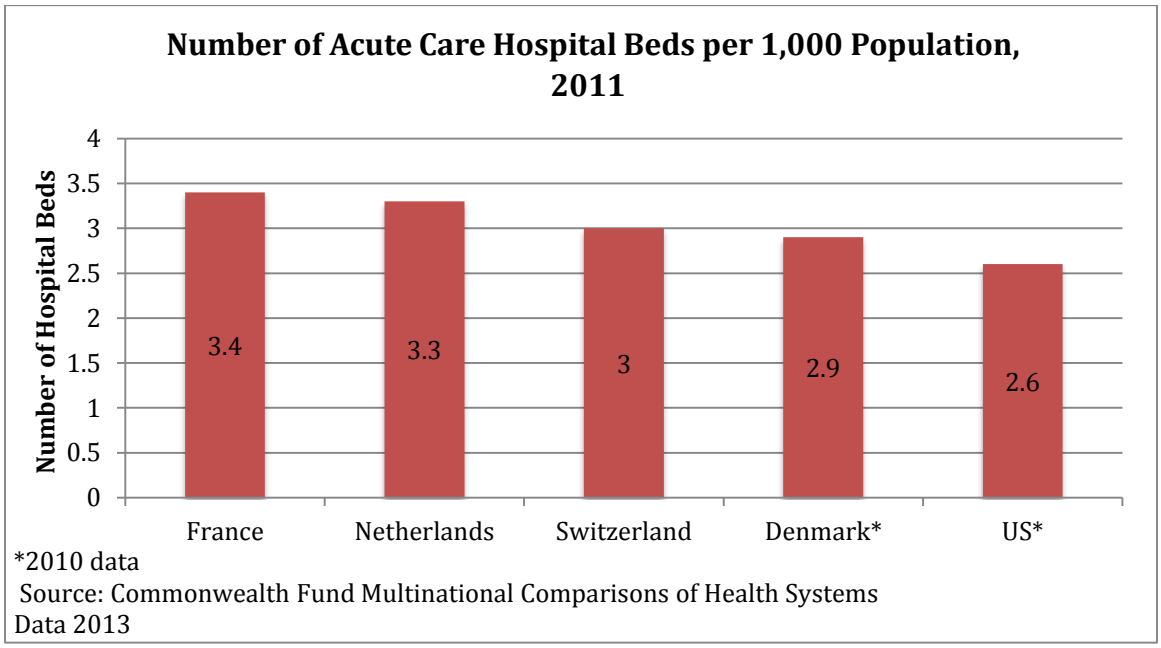
Source: Commonwealth Fund Multinational Comparisons of Health Systems Data 2013

Figure 1-8



*2010 data
**2009 data
Source: Commonwealth Fund Multinational Comparisons of Health Systems Data 2013

Figure 1-9



*2010 data
Source: Commonwealth Fund Multinational Comparisons of Health Systems Data 2013

III. France

The French healthcare system has evolved from a more Bismarckian, strictly socialist system to a mixed public-private system in modern day (Mossialos et. al., 2016). The French Republic, which includes the mainland, a few islands just off the mainland, and multiple overseas territories, is the second most populous country in the European Union (EU) after Germany, and has the fifth largest economy in the world (Chevreul, 2015). Health indictors such as life expectancy and healthy-life indicators show the French as having healthier lives on average than most other countries in the EU (Chevreul, 2015). However, they have major issues with premature deaths in males, due to causes such as smoking and large alcohol consumption, and have wider health disparities between socioeconomic classes and geographical groups than most other European countries (Chevreul, 2015).

The French government is a mixed Presidential-Parliamentary system, meaning that both the President and legislature (parliament) are elected, and the President appoints a Prime Minister (Chevreul, 2015). The President is considered the head of state, dealing more with foreign policy issues, while the appointed Prime Minister is the head of government and usually only handles domestic policy (Chevreul, 2015). France is a founding member of the EU and also belongs to the United Nations (UN), the World Health Organization (WHO), the European Economic Area (EEA), the OECD, the World Trade Organization, the North Atlantic Treaty Organization (NATO), and the Council of Europe (Chevreul, 2015).

In France, the current system of Social Security including the Statutory Health Insurance (SHI) was established after World War II (Chevreul, 2015). At first,

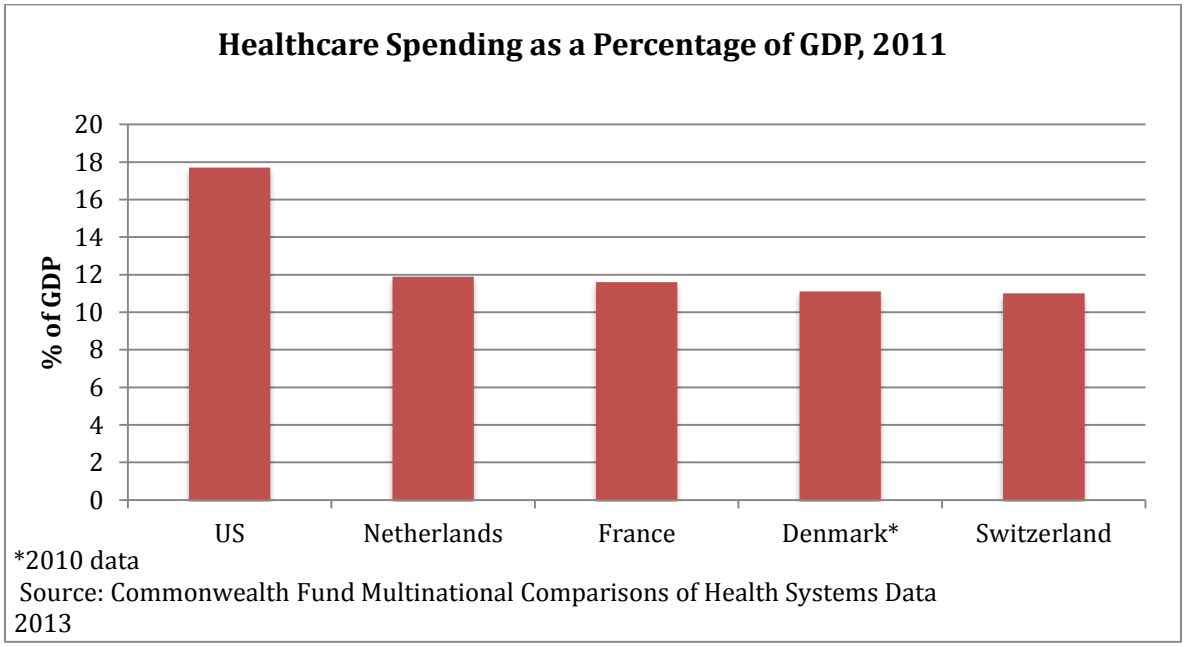
SHI only covered workers and their families (Chevreul, 2015). However, the principle of expanding coverage to the whole population had been raised as early as 1945 but was put into practice gradually in stages (Chevreul, 2015). The 1999 Universal Health Coverage Act instituted a residency-based right to SHI coverage and created a fund to provide free public coverage for individuals whose incomes fall below a certain level, individuals above this threshold who are not entitled to SHI on an occupation basis must pay a share of their income to be covered on a voluntary basis by SHI (Chevreul, 2015). Undocumented immigrants are not eligible for access through CMU, however, those who have lived in France for at least three months are eligible for free coverage under the state medical assistance (Chevreul, 2015), Additionally from the late 1990s, funding methods on the beneficiary side have shifted from an earned income-based social contribution to an earmarked tax instead (Chevreul, 2015).

a. Cost

The percentage of GDP spent on healthcare in 2011 can be seen in Figure 1-1 and in France was only 11.6% of the GDP expenditures were on healthcare, while the US spent 17.7% of the GDP on healthcare in the same year (Squires, 2013). As for how much money is being spent per person on healthcare, Figure 1-2 shows the amount spent per capita on healthcare in each country with France sitting at 4,118 USD, which is less than half the expenditure for the US at 8,508 USD per capita (Squires, 2013). Another important measurement to look at when evaluating healthcare costs is the expenditures specifically on pharmaceuticals. As can be seen

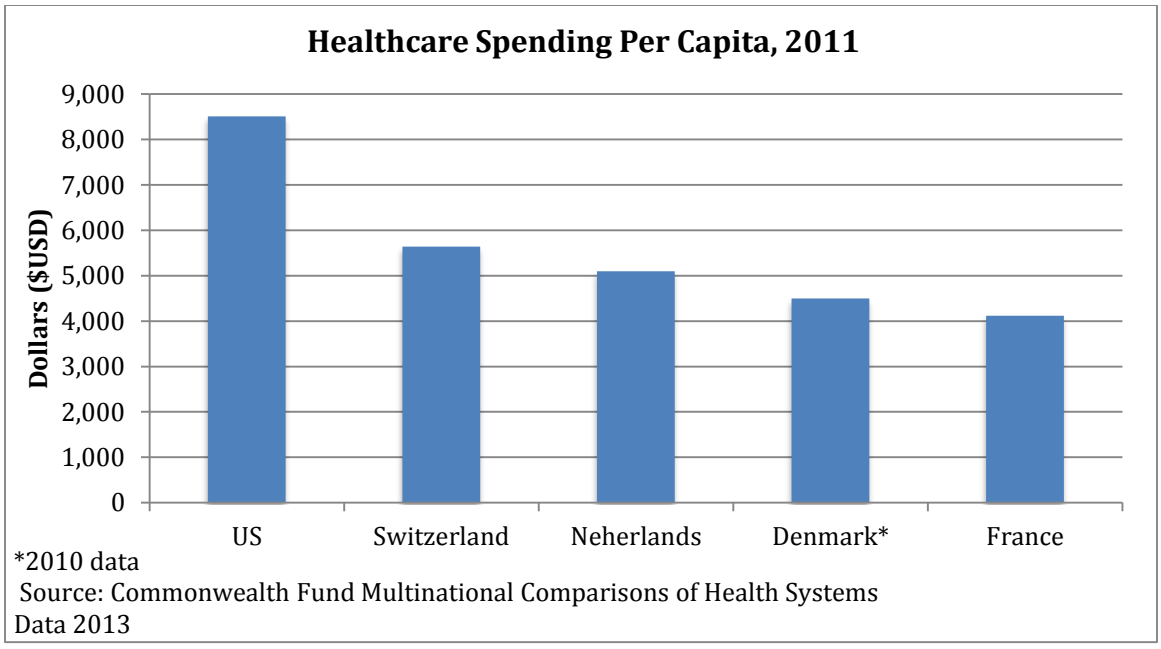
in Figure 1-3, expenditures on pharmaceuticals in the U.S. was $955 per capita in 2011, while France was at $641 in the same year (Squires, 2013).

Figure 1-1



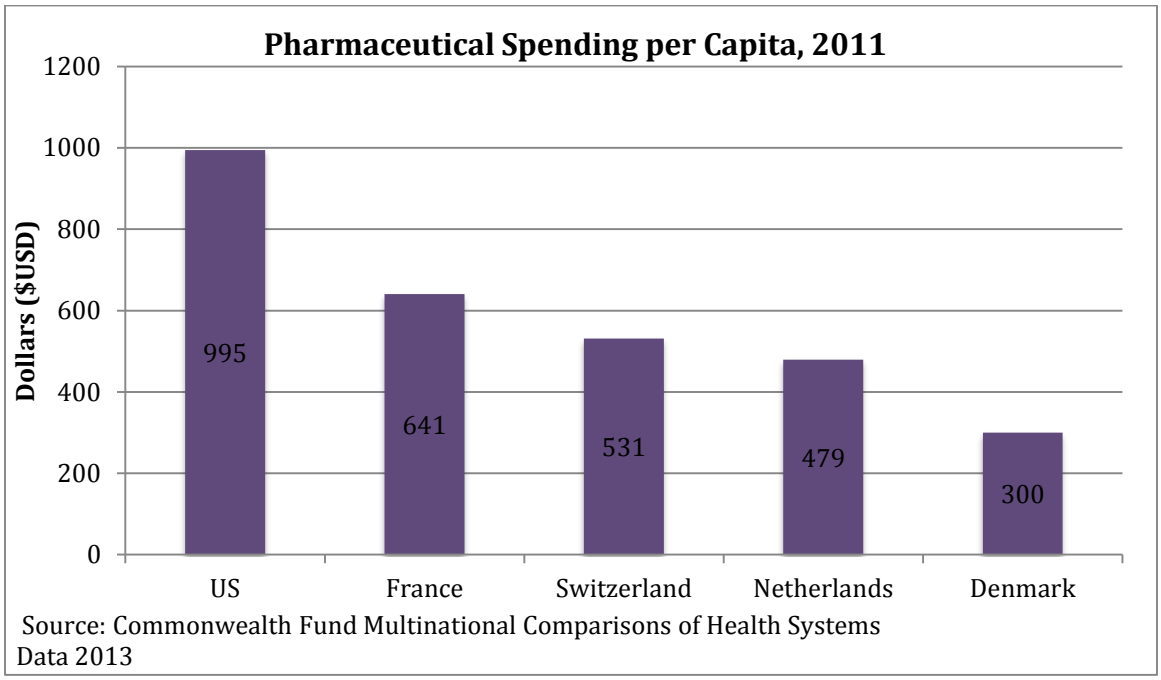
*2010 data
Source: Commonwealth Fund Multinational Comparisons of Health Systems Data 2013

Figure 1-2



*2010 data
Source: Commonwealth Fund Multinational Comparisons of Health Systems Data 2013

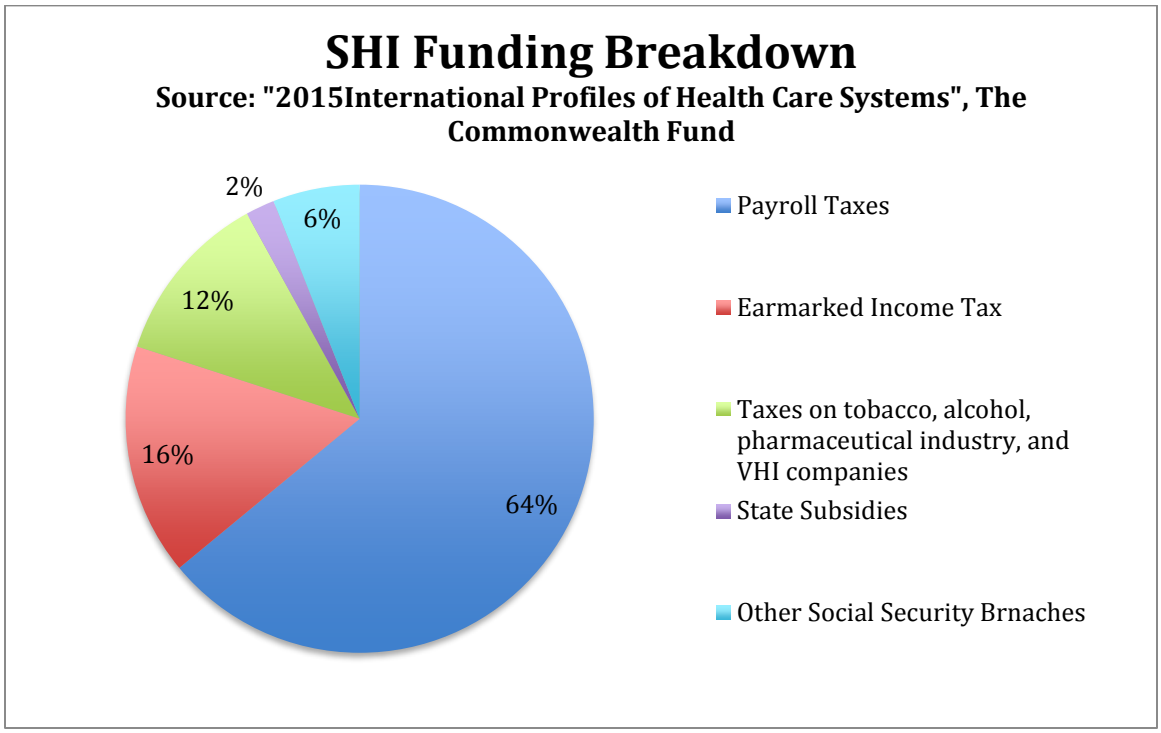
Figure 1-3



Source: Commonwealth Fund Multinational Comparisons of Health Systems Data 2013

The Statutory Health Insurance (SHI) is financed by employer and employee payroll taxes (64%); a national earmarked income tax (16%); taxes levied on tobacco and alcohol, the pharmaceutical industry, and voluntary health insurance (VHI) companies (12%); state subsidies (2%); and transfers from other branches of Social Security (6%) (Mossialos et. al., 2016). This breakdown of how the insurance system is financed is also displayed in the pie chart below (Figure 2-1).

Figure 2-1



Coverage is universal and compulsory, provided to all residents by noncompetitive SHI. Eligibility for SHI is both gained through employment or as a benefit to students, to retired persons, and unemployed adults who were previously employed (as well as their families) (Mossialos et. al., 2016). VHI finances 13.8 percent of total health expenditure in France, and the extent of VHI coverage varies widely, but all VHI contracts cover the difference between the SHI reimbursement rate and the service fee according to the official fee schedule (Mossialos et. al., 2016). Coverage of balance billing is also commonly offered, and most contracts cover the balance for services billed at up to 300 percent of the official fee schedule for health services in France (Mossialos et. al., 2016). The estimated population in France who are covered by SHI but do not have any VHI plan is about 4 million people (Mossialos et. al., 2016). With a population of around 66 million people, this

means that an estimated 90% of the French population has some sort of complementary or supplemental insurance plan (Mossialos et. al., 2016).

In France, cost-sharing for the health systems takes place in the forms of coinsurance, copayments (portions of service fees not covered by SHI but these are usually covered by VHI plans), and balance billing for primary and specialist care (Mossialos et. al., 2016). These fees make up the out-of-pocket expenses, which in 2013 accounted for only 8.8% of total health expenditures, excluding the portion covered by supplementary insurance (Mossialos et. al., 2016). This is a lower percentage than in past years, possibly due to an agreement signed between physicians' unions and the government to limit extra billing (Mossialos et. al., 2016). Dental and vision services are where most out-of-pocket expenses are incurred because while the official fees are very low, only a few euros for glasses and hearing aids and dental ranges a little bit more depending on the service, all of these are commonly balance-billed at amounts over 10 times the official fees (Mossialos et. al., 2016). However, the share of out-of-pocket spending on dental and optical services has been decreasing due to increased coverage through VHI plans while the out-of-pocket pharmaceutical expenses have been rising due to a rise in medications being de-listed and a rise in self-medication (Mossialos et. al., 2016).

Copayments for most health services are much lower in France than in the U.S., as shown below in Table 2-1, which converts the copayments for services from euros to USD (Mossialos et. al., 2016). Copayments in the U.S. can range in percentage being paid out-of-pocket but as an example, I pay $25 as a copayment for both primary care and specialist visits under a plan that includes more coverage

than most Americans have while the copayment for a doctor visit in France is only equivalent to $1.20 (or 1 euro) compared to my $25 per visit (Mossialos et. al., 2016).

Figure 2-1

	Copayments for Selected Services	
Service	**Euros**	**US dollars (USD)**
(Inpatient) Day in Hospital	18	22
Doctor visit	1	1.2
Prescription drug	0.5	0.6
Ambulance	2	2.4
Hospital	18	22

Source: The Commonwealth Fund, 2015

b. Quality

The French have developed national plans for numerous chronic conditions, such as cancer and Alzheimer's, rare diseases, prevention, healthy aging, and the 104 targets set by the 2004 Public Health Act (Mossialos et. al., 2016). They establish governance, develop tools, and coordinate with other organizations for each topic (Mossialos et. al., 2016). SHI and the Ministry of Health fund "provider networks" where participating professionals share guidelines and protocols, agree on best practice, and have access to a common patient record (Mossialos et. al., 2016). Regional authorities fund telemedicine pilot programs to improve care coordination and access to care for specific conditions and populations (Mossialos

et. al., 2016). Additionally, there is a new pilot program entitled the PAERPA program that was established in 2014 in nine pilot regions and is a nationwide endeavor to improve the quality of life and coordination of treatment and interventions for the elderly (Mossialos et. al., 2016).

Doctors, midwives, nurses, and other professionals must undergo continuous learning activities to ensure quality of their practices, which are audited every fourth or fifth year (Mossialos et. al., 2016). Optional accreditation exists for a number of high-risk medical specialties and accredited physicians can claim a deduction on their professional insurance premiums (Mossialos et. al., 2016). Hospitals must be accredited every four years, and criteria and accreditation reports are publicly available on the National Health Authority website (Mossialos et. al., 2016). Quality assurance and risk management in hospitals are monitored nationally by the Ministry of Health, which publishes online technical information, data on hospital activity, and data on control of hospital-acquired infections (Mossialos et. al., 2016).

Another important factor of quality care in a health system are health indicators, such as life expectancy and infant mortality. Table 1-1 shows the life expectancy at birth for both males and females in the five nations this paper is looking at. Female life expectancy in the France as of 2013 was over 4 years higher at 85.6 years than the U.S. at 81.2 years, and for males, France was over 2.5 years higher at 79 years compared to the U.S. at 76.4 (OECD, 2015). For infant mortality rates, Table 1-2 shows the U.S. with the highest rate of 6 deaths per 1,000 live births

and France with a much lower number of 3.6 (OECD, 2015). Unfortunately for the U.S., this is one of the few health indicators where having lower numbers is better.

Table 1-1

Country	**Female Life Expectancy at Birth, 2013**	**Male Life Expectancy at Birth, 2013**
France	85.6	79
Switzerland	85	80.7
Netherlands	83.2	79.5
Denmark	82.4	78.3
US	81.2	76.4

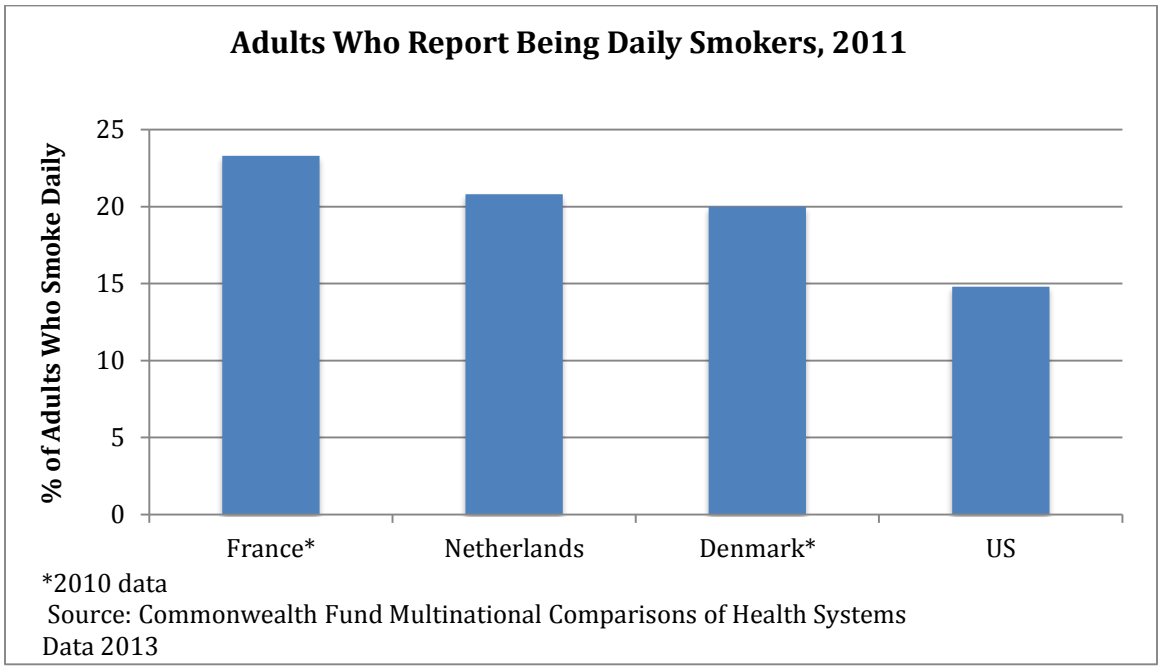
Table 1-2

Country	**Infant Mortality Rate per 1,000 Live Births, 2013**
US*	6
Switzerland	3.9
Netherlands	3.8
France	3.6
Denmark	3.5

In addition to these health indicators, looking at preventable conditions and health behaviors in a nation is also useful in evaluating the quality of the health system. Two avoidable conditions include obesity and lung cancer caused by smoking, and Figures 1-4 and 1-5 show how the U.S. may have a lower rate of adults who smoke daily (14.8% in 2011 compared to France at 23.3% in 2010), but

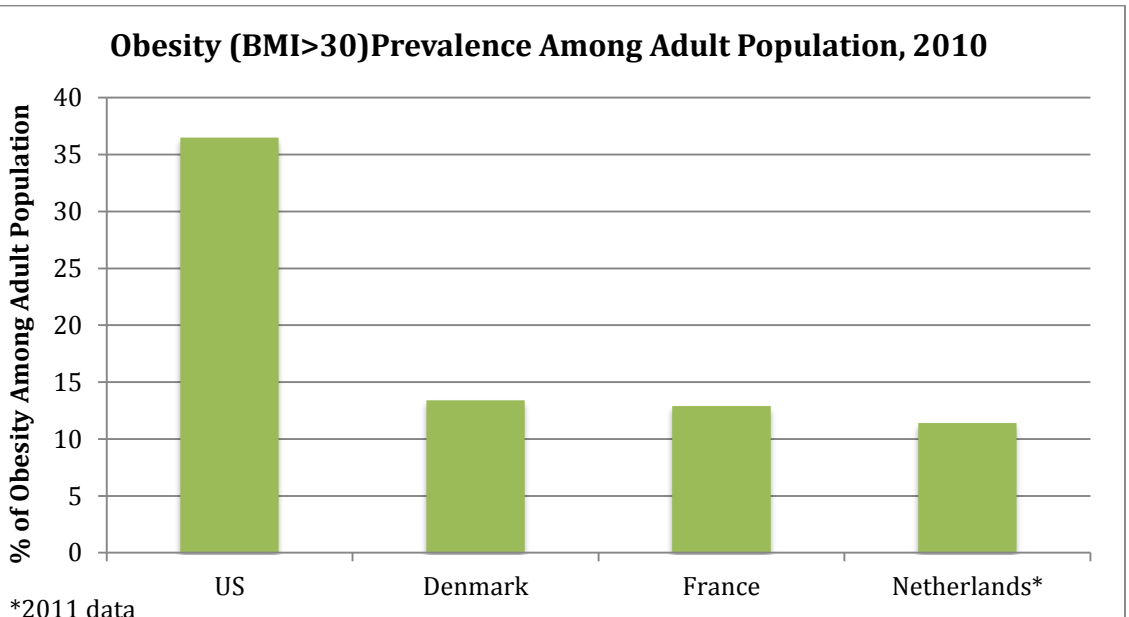
the U.S. had an adult obesity rate of 36.5% in 2010, which was almost three times the rate in France at 12.9% in the same year (Squires, 2013). Quality of care is also shown through patient safety within hospitals and other parts of the healthcare system. While Figure 1-6 shows how the U.S. and all of the European countries in this report have had a large drop in the number of deaths due to healthcare in recent decades, there is still a significant difference between the U.S. rate at 96 per 100,000 and France at 55 per 100,000 (Squires, 2013).

Figure 1-4



*2010 data
Source: Commonwealth Fund Multinational Comparisons of Health Systems Data 2013

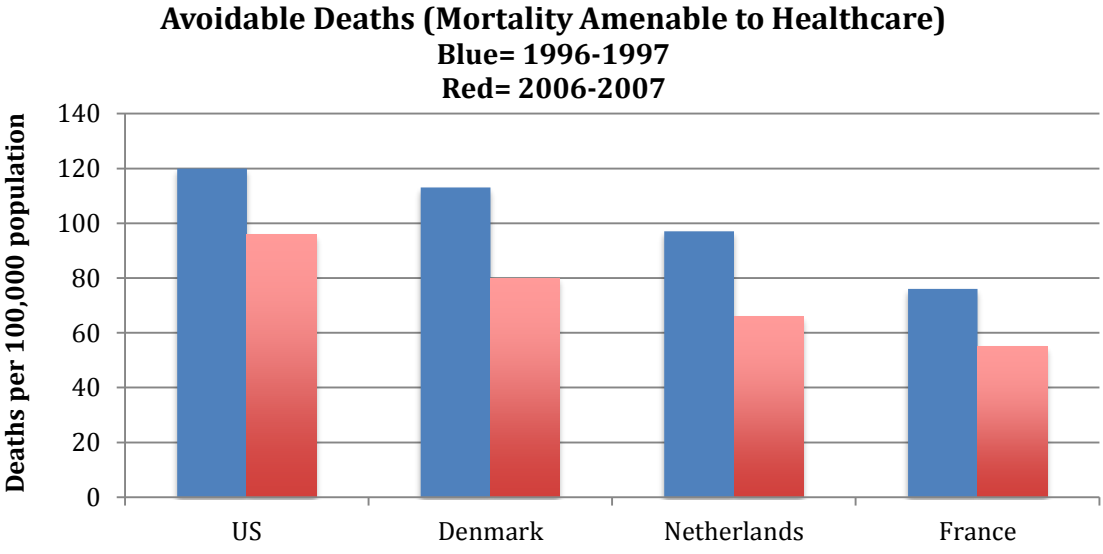
Figure 1-5



*2011 data

Source: Commonwealth Fund Multinational Comparisons of Health Systems Data 2013

Figure 1-6

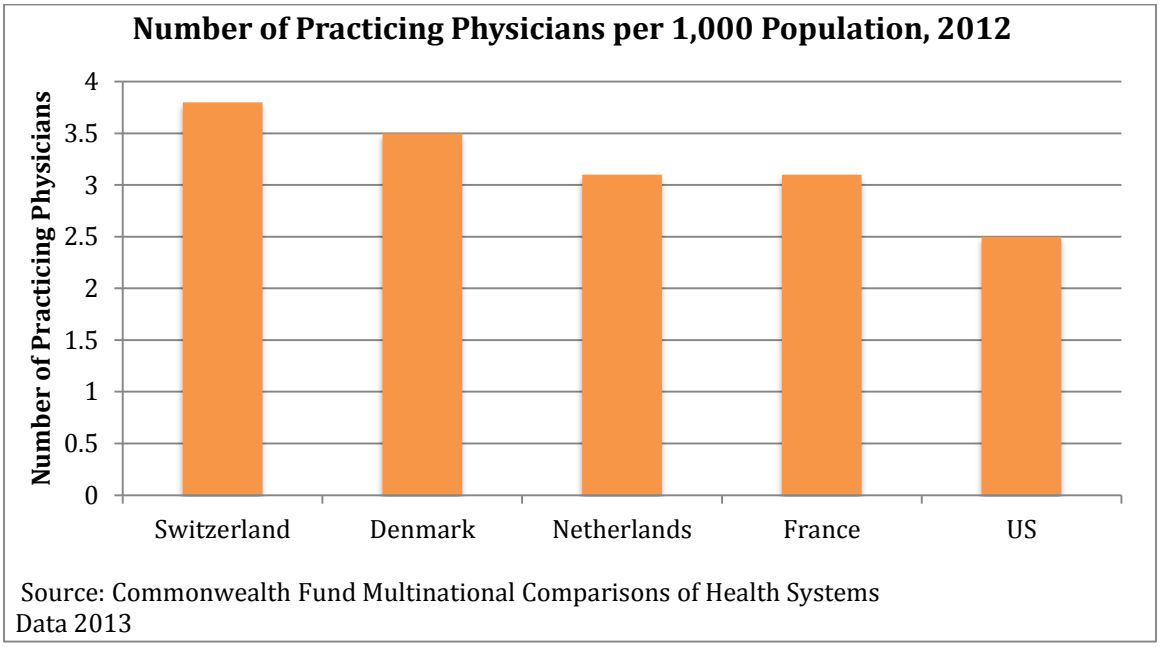


Source: Commonwealth Fund Multinational Comparisons of Health Systems Data 2013

c. Access

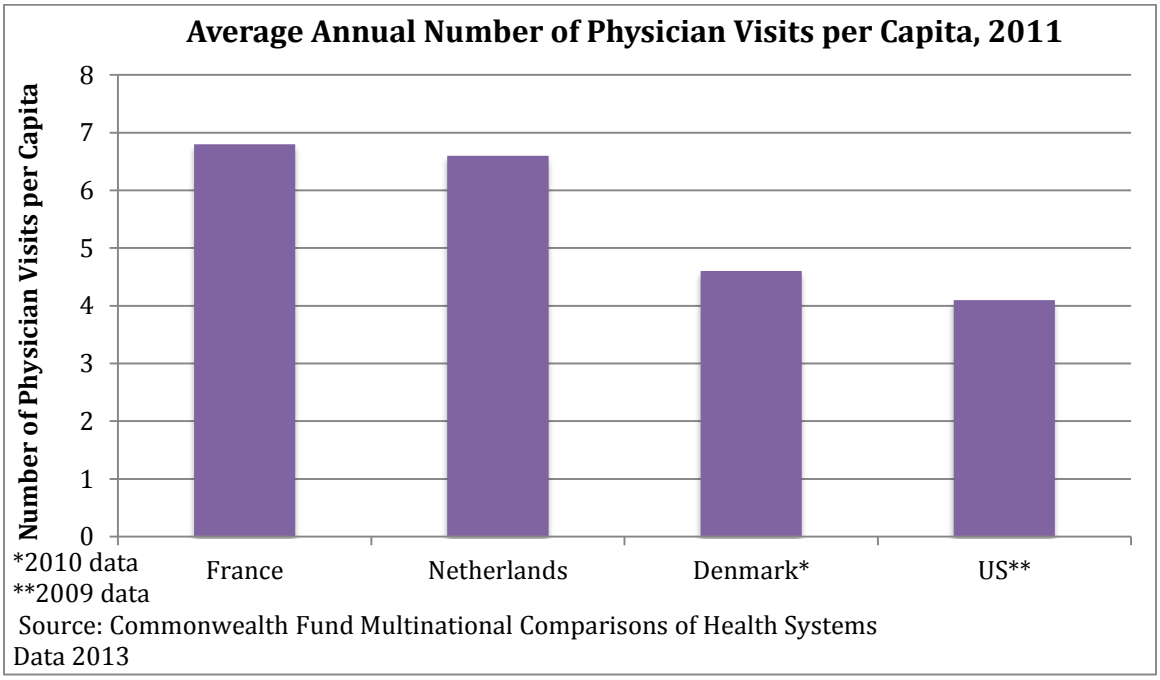
Access to care and health services are an integral part of a well-functioning healthcare system. While access to services can range in meaning, this includes the number of times people see physicians and the number of physicians in a population. Figure 1-7 shows the number of physicians per 1,000 people in each country in 2012 with France at 3.1 physicians while the U.S. only has 2.5 physicians per 1,000 people (Squires, 2013). This is only a slight difference, but having more physicians available in the population, especially in more rural areas, can make it easier for people to see physicians on a regular basis and therefore improve access to healthcare (Squires, 2011). There is a significant difference between the U.S. and France in how many times the population visits a physician per year, which can be seen in Figure 1-8. The average annual number of physician visits per capita sits at 6.8 visits in France and only 4.1 visits in the U.S. from data collected in 2011 (Squires, 2013). Another aspect of care is the access people have to hospital care and services if they are needed. The number of acute care hospital beds per 1,000 people for each country in 2011 is shown in Figure 1-9, and France has the highest number with 3.4 beds per 1,000 people while the U.S. is the lowest number with 2.6 per 1,000 (Squires, 2013). These numbers show how there tends to be better access to care in France than in the U.S. (Mossialos et. al., 2016).

Figure 1-7



Source: Commonwealth Fund Multinational Comparisons of Health Systems Data 2013

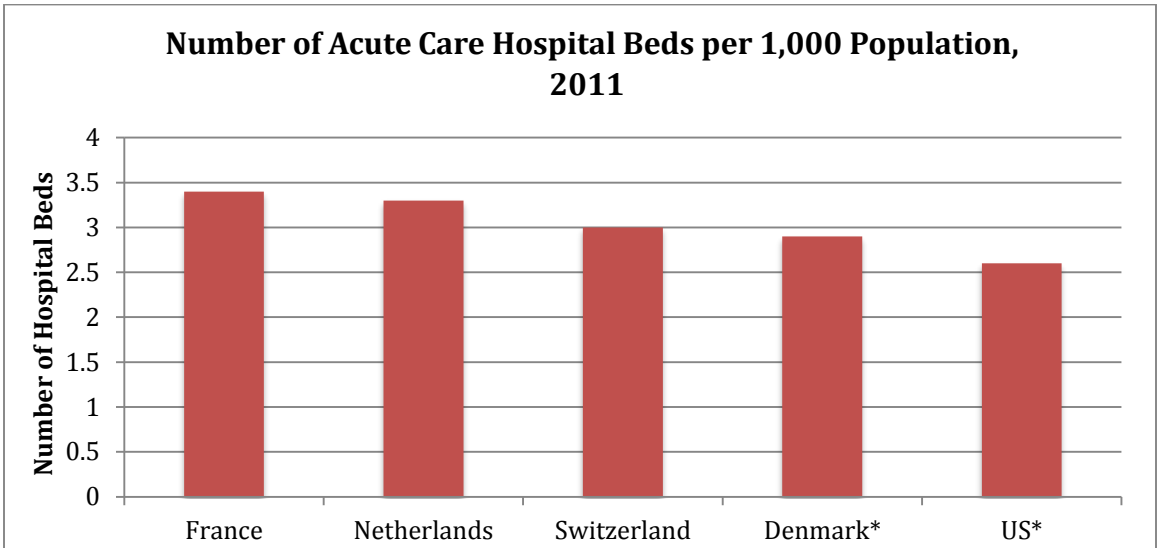
Figure 1-8



*2010 data
**2009 data

Source: Commonwealth Fund Multinational Comparisons of Health Systems Data 2013

Figure 1-9



*2010 data
Source: Commonwealth Fund Multinational Comparisons of Health Systems Data 2013

IV. Switzerland

Being situated between Italy, France, and Germany, Switzerland has four national languages, which represent the four principle communities: 63.5% of the population speaks German; 22.5% speak French; 8.1% speak Italian; and 0.5% speaks Romansh (a Rhaeto-Roman dialect) (De Pietro et al., 2015). The total population in Switzerland was 8.1 million in 2013 and, unlike other European countries, this shows a rise in the population by almost 30% since 1980 (De Pietro et. al., 2015). About 27% of the population was born abroad, making Switzerland the country with the second highest proportion of foreign-born inhabitants in Europe after Luxembourg (OECD, 2015). Immigration is dominated by those from other OECD countries (between 65% and 85%) and is characterized by a high proportion of persons with tertiary education (OECD, 2015). Switzerland's status of highly

skilled migrants reflects the historic need for qualified personnel in many sectors in Switzerland, such as in the health care sector. As in many other European countries, the Swiss also has an aging population and is a significantly wealthy country with one of the highest GDPs per capita in both Europe and the world. Life expectancy and healthy life expectancy are among the highest in Europe and well above the averages for the EU.

Duties and responsibilities in the Swiss health care system are divided among the federal, cantonal, and communal levels of government (Mossialos et. al., 2016). The system can be considered highly decentralized, as the cantons are given a significant role in governing the healthcare system (Mossialos et. al., 2016). The 26 cantons (including six half-cantons) are responsible for licensing providers, coordinating hospital services, and subsidizing institutions and organizations (Mossialos et. al., 2016). Cantons are like U.S. states in that they are sovereign in all matters, including health care, that are not specifically designated as the responsibility of the Swiss Confederation by the federal constitution, and each canton and half-canton has its own constitution articulating a comprehensive body of legislation (Mossialos et. al., 2016).

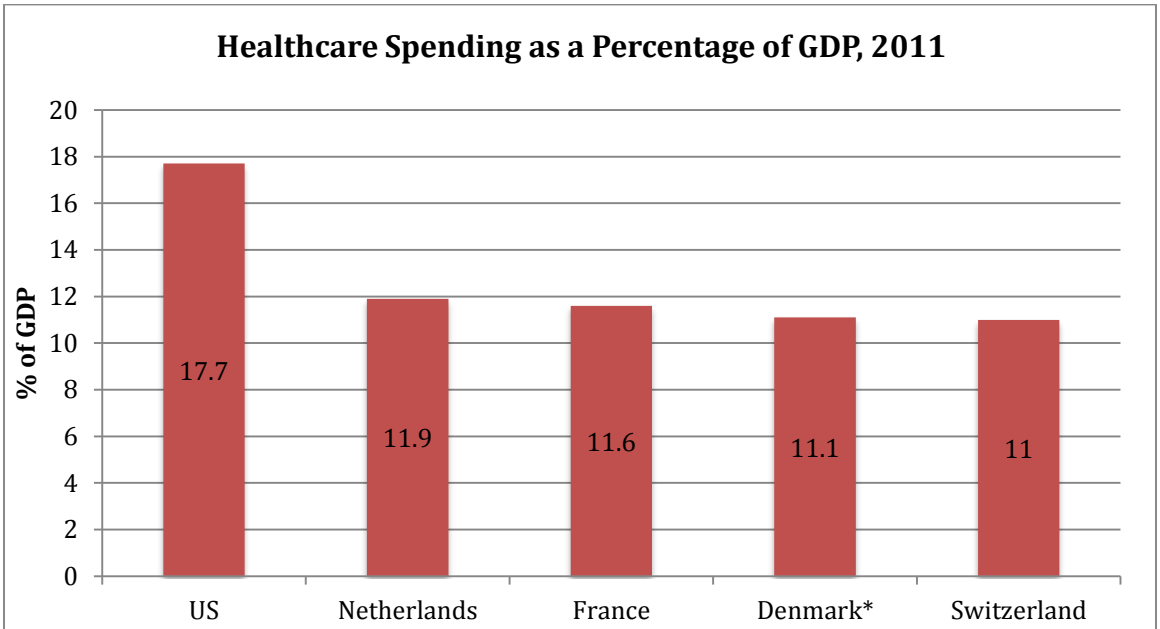
While the first canton to make health insurance mandatory happened in 1914, the health system underwent massive expansion, specifically after the Second World War (De Pietro, 2015). The proportion of the population with health insurance increased steadily from about 11% in 1915 to about 40% in 1930, 60% in 1947 and 80% in 1959, reaching almost full insurance coverage even before the introduction of MHI in 1996 (De Pietro, 2015). There were several attempts at

major reforms earlier than 1996, including an attempt to introduce mandatory insurance in 1974, and an attempt at improving the regulation of health insurers with the aims of controlling costs and expanding maternity insurance in 1987; however, both initiatives failed their respective referendums and did not become law (De Pietro, 2015).

a. Cost

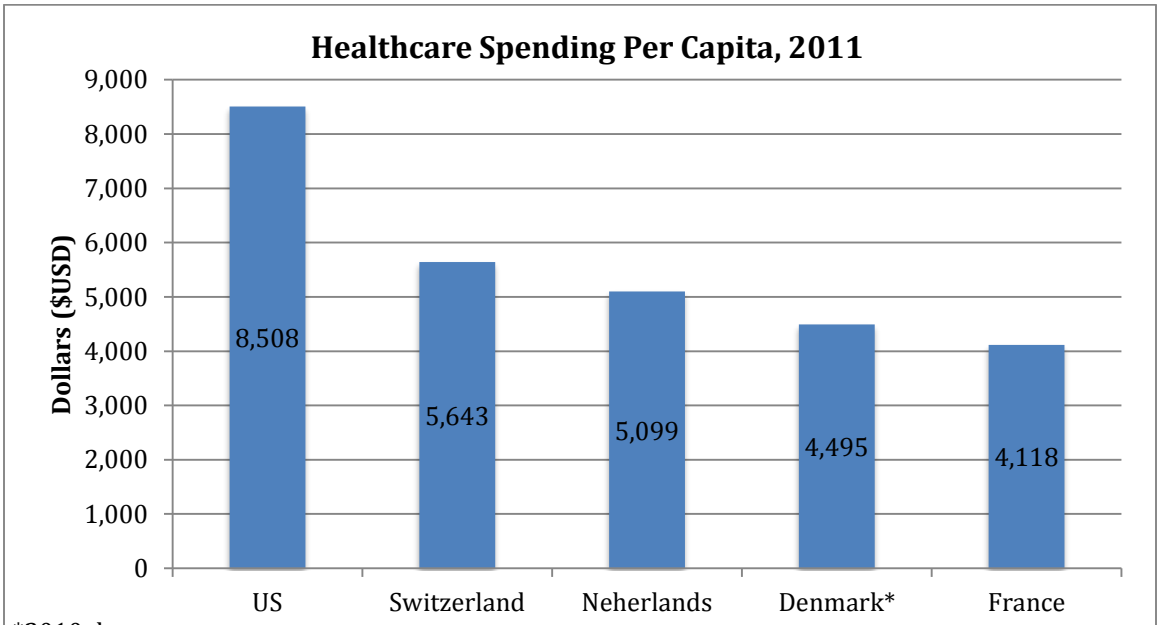
In 2011, the Swiss spent about 11% of their GDP on healthcare expenditures, which can be compared to the U.S. expenditure of 17.7% in Figure 1-1 (Squires, 2013). In the same year, Figure 1-2 shows the health expenditures as $5,643 per capita compared to the U.S. at $8,508 per capita (Squires, 2013). In 2013, direct spending by government accounted for 20.2 percent of total health expenditures (Mossialos et. al., 2016). Another important measurement to look at when evaluating healthcare costs is the expenditures specifically on pharmaceuticals. As can be seen in Figure 1-3, expenditures on pharmaceuticals in the U.S. was $955 per capita in 2011, while Switzerland was at $531 in the same year (Squires, 2013).

Figure 1-1



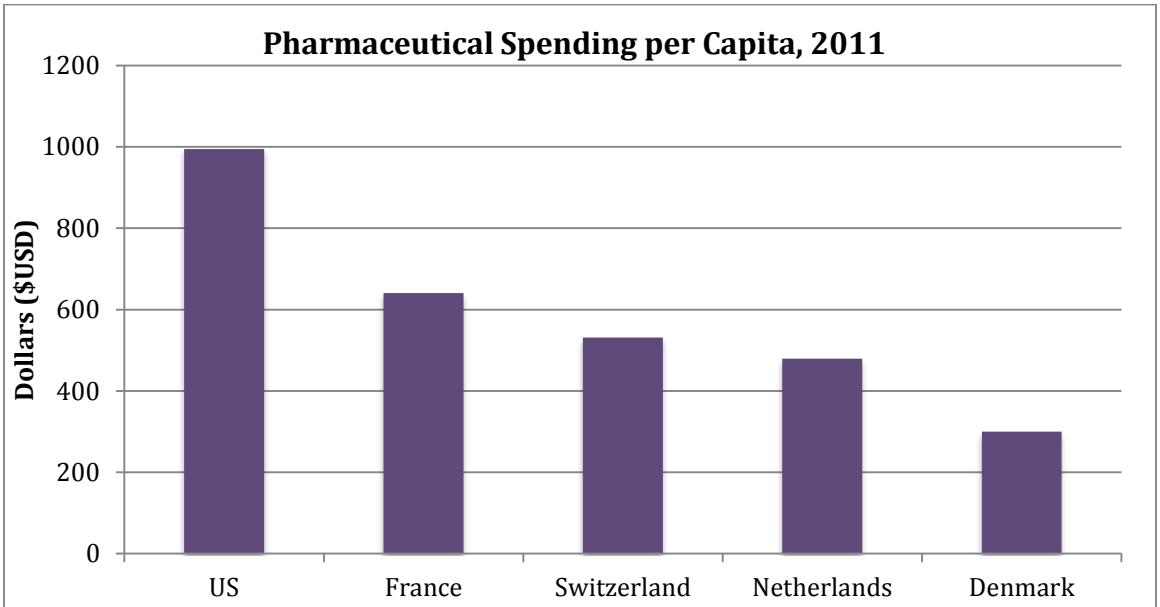
*2010 data
Source: Commonwealth Fund Multinational Comparisons of Health Systems Data 2013

Figure 1-2



*2010 data
Source: Commonwealth Fund Multinational Comparisons of Health Systems Data 2013

Figure 1-3



Source: Commonwealth Fund Multinational Comparisons of Health Systems Data 2013

The Swiss healthcare system has three streams of public funding involved (Mossialos et. al., 2016). The first is direct financing for healthcare providers through tax-financed budgets for the Swiss Confederation, cantons, and municipalities (Mossialos et. al., 2016). The largest portion of this budget is given as cantonal subsidies to hospitals providing inpatient acute care (Mossialos et. al., 2016). The second stream of financing comes from the premiums collected for the mandatory statutory health insurance (SHI) (Mossialos et. al., 2016). The final stream of financing in the system is from social insurance contributions from health-related coverage of accident insurance, old-age insurance, disability insurance, and military insurance (Mossialos et. al., 2016). Including SHI premiums (30.9% of total health expenditure, excluding statutory subsidies), other social insurance schemes

(6.5%), and old age and disability benefits (4.4%), publicly financed health care accounted for 67.9 percent of all spending (Mossialos et. al., 2016).

Private expenditure accounted for 32.1% of total health expenditure in 2013, which is high by comparison with other OECD countries (Mossialos et. al., 2016). There is complementary voluntary health insurance (VHI, 7.3% of total expenditure) for services not covered in the basic plan of SHI, and supplementary coverage for free choice of hospital doctor or for a higher level of hospital accommodation but no data is available on the number of people covered through VHI and supplementary plans (Mossialos et. al., 2016). The Swiss Financial Market Supervisory Authority regulates VHI, and insurers can vary premiums and refuse applicants based on medical history (Mossialos et. al., 2016). Service prices are usually negotiated directly between insurers and providers. Unlike statutory insurers, voluntary insurers are for-profit; an insurer will often have a nonprofit branch offering SHI and a for-profit branch offering VHI (Mossialos et. al., 2016).

All out-of-pocket expenses in the Swiss healthcare system come from premiums, deductibles, coinsurance, and copayments (Mossialos et. al., 2016). Insurers are required to offer minimum annual deductibles of 300 Swiss francs (about 219 USD) for adults under SHI, although insured people may opt for a higher deductible (up to 2,500 Swiss francs [1,825 USD]) and a lower premium (Mossialos et. al., 2016). In 2013, 23.5% of all insured persons opted for the standard 300 Swiss francs deductible, and the other 76.5% chose either a higher deductible or another model with a gatekeeping element (Mossialos et. al., 2016). Insured people pay 10% coinsurance above deductibles for all services, but this is capped at 700 Swiss francs

(511 USD) for adults and at 350 Swiss francs (255 USD) for minors (under 19 years old) in a given year (Mossialos et. al., 2016). There is also a 20% charge for brand-name drugs that have a generic alternative (Mossialos et. al., 2016). For treatment in acute-care hospitals, there is a 15 franc (11 USD) copayment per inpatient day (Mossialos et. al., 2016). Cost-sharing in SHI and VHI accounted for 5.6% and 0.1%, respectively, of total health expenditure in 2013 (Mossialos et. al., 2016). Additionally, out-of-pocket payments for services not covered by insurance (and in addition to cost-sharing) accounted for 18.1% of total health expenditure in 2013 (Mossialos et. al., 2016). Most of these direct out-of-pocket payments were spent on dentistry and long-term care (Mossialos et. al., 2016).

b. Quality

An addition to educational requirements, providers must also abide by certain regulations set at all levels of government and participate in mandatory continuing medical education programs (Mossialos et. al., 2016). Local quality initiatives include the development of clinical pathways, medical peer groups, and consensus guidelines (Mossialos et. al., 2016). However, there are no explicit financial incentives for providers to meet quality targets (Mossialos et. al., 2016).

The Quality Strategy, approved by the Swiss Federation Council (SFC) in 2009, takes a broad conceptual approach with different fields of action, including the implementation of a national pilot program by the Swiss Foundation for Patient Security on medication safety in acute-care hospitals, a pilot program to reduce hospital infections, and the publication of quality indicators for acute-care hospitals

(Mossialos et. al., 2016). At the end of 2013, the SFC mandated a task force led by the cantons and the Swiss Confederation to work out a national strategy for the prevention of non-communicable diseases (NCDs) by 2016 (Mossialos et. al., 2016). The strategy aims to improve the health competence of the population and promote healthy living conditions (Mossialos et. al., 2016).

Another important topic when discussing quality of care is patient safety within hospitals and other parts of the healthcare system. While Figure 1-6 shows how the U.S. and the other European countries in this report have had a large drop in the number of deaths due to healthcare in recent decades, there was no data found for Switzerland in terms of avoidable deaths and also for factors such as health behaviors like adult smoking and obesity rates, which were found for all of the other countries in this report.

Another important factor of quality care in a health system are health indicators, such as life expectancy and infant mortality. Table 1-1 shows the life expectancy at birth for both males and females in the five nations this paper is looking at. Female life expectancy in Switzerland as of 2013 was almost 4 years higher at 85 years than the U.S. at 81.2 years, and for males, Switzerland was over 4 years higher at 80.7 years compared to the U.S. at 76.4 (OECD, 2015). For infant mortality rates, Table 1-2 shows the U.S. with the highest rate of 6 deaths per 1,000 live births and Switzerland with a much lower number of 3.9 (OECD, 2015).

Table 1-1

Country	**Female Life Expectancy at Birth, 2013**	**Male Life Expectancy at Birth, 2013**
France	85.6	79
Switzerland	85	80.7
Netherlands	83.2	79.5
Denmark	82.4	78.3
US	81.2	76.4

Table 1-2

Country	**Infant Mortality Rate per 1,000 Live Births, 2013**
US*	6
Switzerland	3.9
Netherlands	3.8
France	3.6
Denmark	3.5

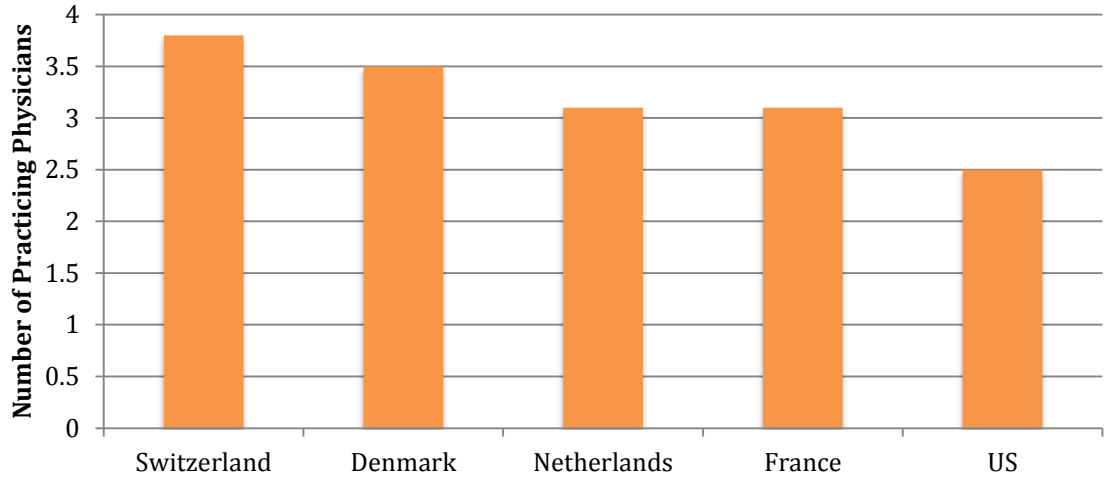
c. Access

There are virtually no Swiss residents without health insurance, and visitors are supposed to be covered through their home country (Mossialos et. al., 2016). Residents are legally required to purchase SHI within three months of arrival in Switzerland, which then applies retroactively to the arrival date (Mossialos et. al., 2016). Policies typically apply to the individual, are not sponsored by employers, and must be purchased separately for dependents (Mossialos et. al., 2016).

However, missing SHI for undocumented immigrants remains an unsolved problem acknowledged by the SFC (Mossialos et. al., 2016).

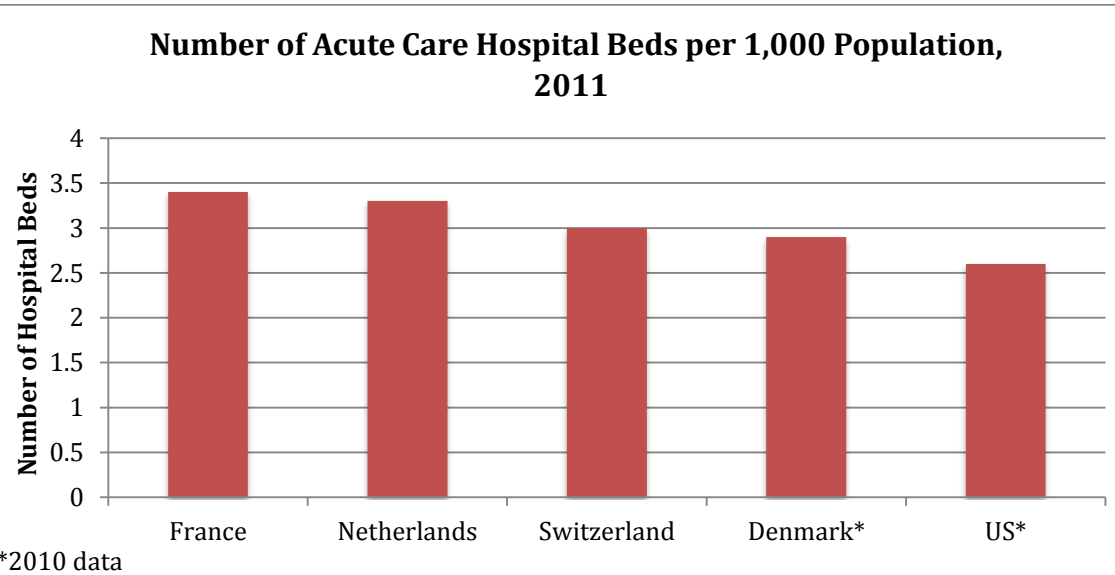
In addition to insurance coverage making healthcare more accessible, access to services can also include the number of times people see physicians and the number of physicians in a population. Figure 1-7 shows the number of physicians per 1,000 people in each country in 2012 with Switzerland having the highest number at 3.8 physicians while the U.S. only has 2.5 physicians per 1,000 people (Squires, 2013). This is a fairly significant difference, and having more physicians available in the population, especially in more rural areas, can make it easier for people to see physicians on a regular basis and therefore improve access to healthcare (Squires, 2011). Unfortunately there was no data for the average annual number of physician visits per capita in Switzerland, so there is nothing to compare to the U.S. equivalent statistic of 4.1 visits per capita in 2009 (Squires, 2013). Another aspect of healthcare is the access people have to hospital care and services if they are needed. The number of acute care hospital beds per 1,000 people for each country in 2011 is shown in Figure 1-9, and Switzerland has a middle number of 3 beds per 1,000 people in 2011 while the U.S. is the lowest number with 2.6 beds per 1,000 people in 2010 (Squires, 2013). These numbers show there is significantly more physicians (per 1,000 people) available to the public in Switzerland but the beds for acute care hospital services are only slightly higher (per 1,000 people).

Figure 1-7



Source: Commonwealth Fund Multinational Comparisons of Health Systems Data 2013

Figure 1-9



*2010 data

Source: Commonwealth Fund Multinational Comparisons of Health Systems Data 2013

V. Denmark

Seated in Scandinavia in between Sweden and Germany, Denmark is a small country with only a few inhabitants, but with high population density (Olejaz et. al., 2012). The demographic development is similar to other western European countries, including an increasing proportion of elderly people and a low birth rate (Mossialos et. al., 2016). Most inhabitants live in urban areas and approximately a third of the country's households are single-person households (Olejaz et al., 2012). Denmark is divided into five administrative regions and these regions do not reflect any fundamental socio-demographic or health differences, although variations in provision of services and in health status between the different regions may exist (Olejaz et. al., 2012). Denmark does not have an officially poverty threshold, but this issue is currently being debated (Olejaz et al., 2012).

On an international stage, Denmark is a member of the European Union (EU), the United Nations, the World Health Organization (WHO), the World Trade Organization, the OECD, the North Atlantic Treaty Organization and the Council of Europe (Olejaz et. al., 2012). Universal access to health care is the underlying principle inscribed in Denmark's Health Law, which sets out the government's obligation to promote population health and prevent and treat illness, suffering, and functional limitations (Mossialos et. al., 2016). The health system can be characterized as mostly decentralized since the law also assigns responsibility to regions and municipalities for delivering health services (Mossialos et. al., 2016). However, a process of re-centralizing the system has been taking place, which lowered the number of regions from 14 to 5 and the municipalities from 275 to 98

(Mossialos et. al., 2016). The regions own, manage, and finance hospitals and the majority of services delivered by GPs, office-based specialists, physiotherapists, dentists, and pharmacists (Mossialos et. al., 2016). Municipalities are responsible for financing and delivering nursing home care, home nurses, health visitors, certain dental services, school health services, and treatment for drug and alcohol abuse (Mossialos et. al., 2016). Municipalities are also responsible for general prevention and rehabilitation tasks while the regions are in charge specialized rehabilitation (Mossialos et. al., 2016).

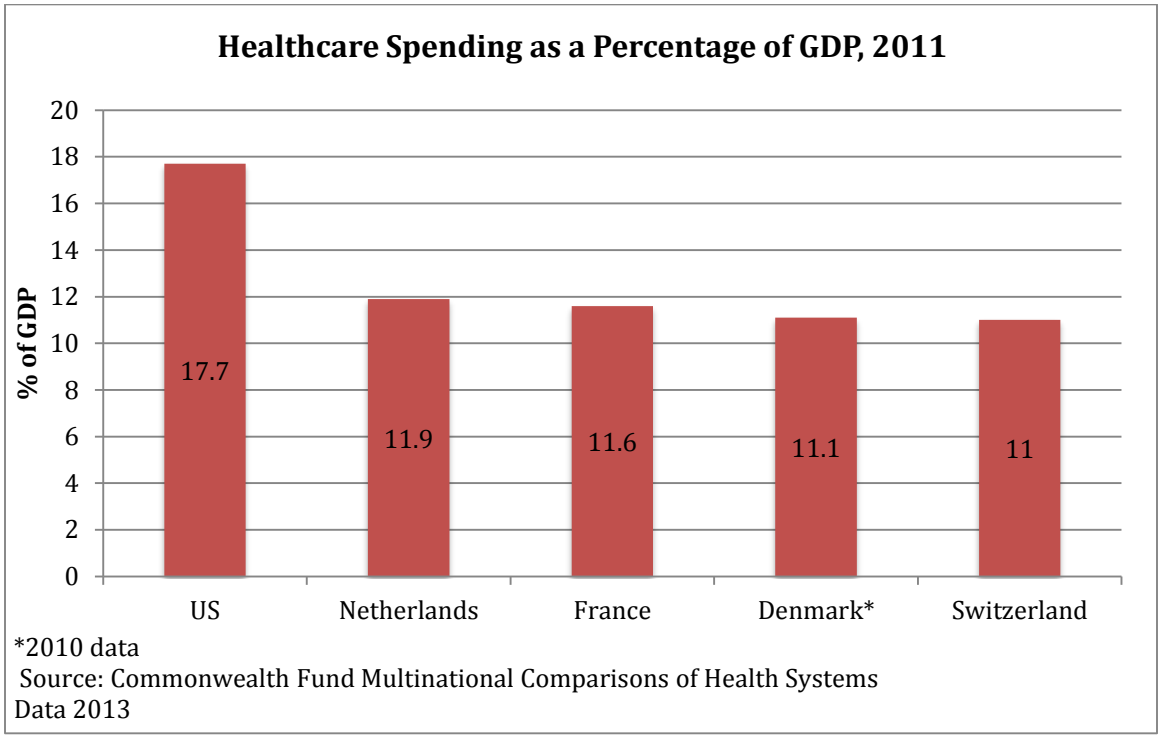
Historically, the Danish did not have issues with medical officers influencing health policy instead of it being an argument between political parties. Since the 1940s, there has been agreement among the political parties that access to health care should be independent of where one lives and of economic resources (Mossialos et. al., 2016). From 1945 to 1970, healthcare policy was characterized by a strong medical influence and consensus, and healthcare matters were discussed in technical rather than political terms (Mossialos et. al., 2016). However, since the 1980s, controversies about healthcare have been much more frequent, as in several other countries over the same period of time (Mossialos et. al., 2016).

a. Cost

In 2011, the Danish spent about 11.1% of their GDP on healthcare expenditures, which can be compared to the U.S. expenditure of 17.7% in Figure 1-1 (Squires, 2013). In the same year, Figure 1-2 shows the health expenditures as $4,495 per capita compared to the U.S. at $8,508 per capita (Squires, 2013). Another

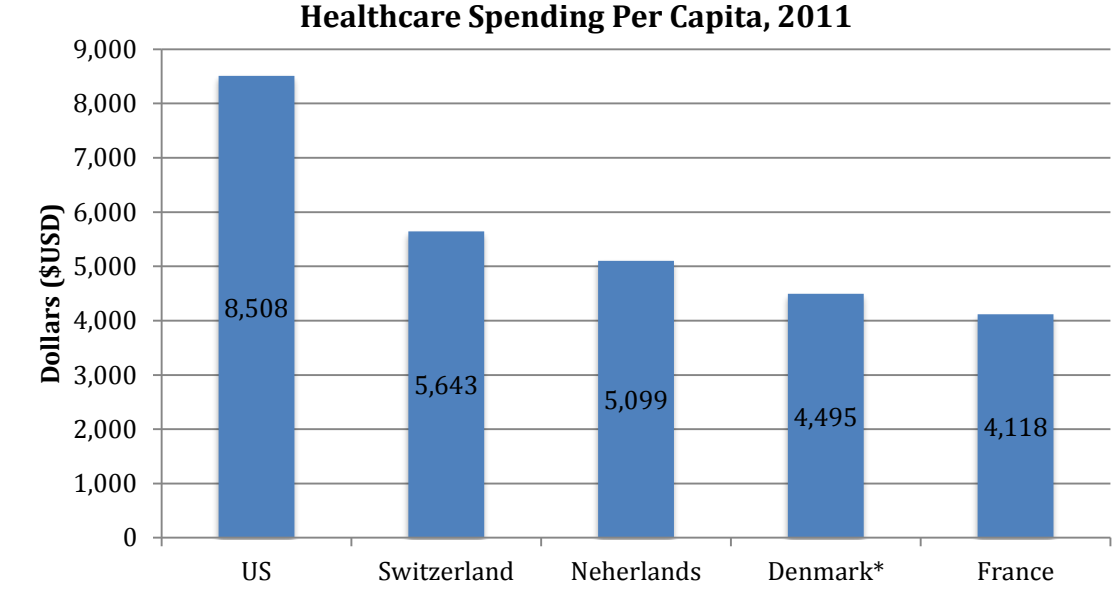
important measurement to look at when evaluating healthcare costs is the expenditures specifically on pharmaceuticals. As can be seen in Figure 1-3, expenditures on pharmaceuticals in the U.S. was $955 per capita in 2011, while Denmark was the lowest of the five countries at $300 in the same year (Squires, 2013).

Figure 1-1



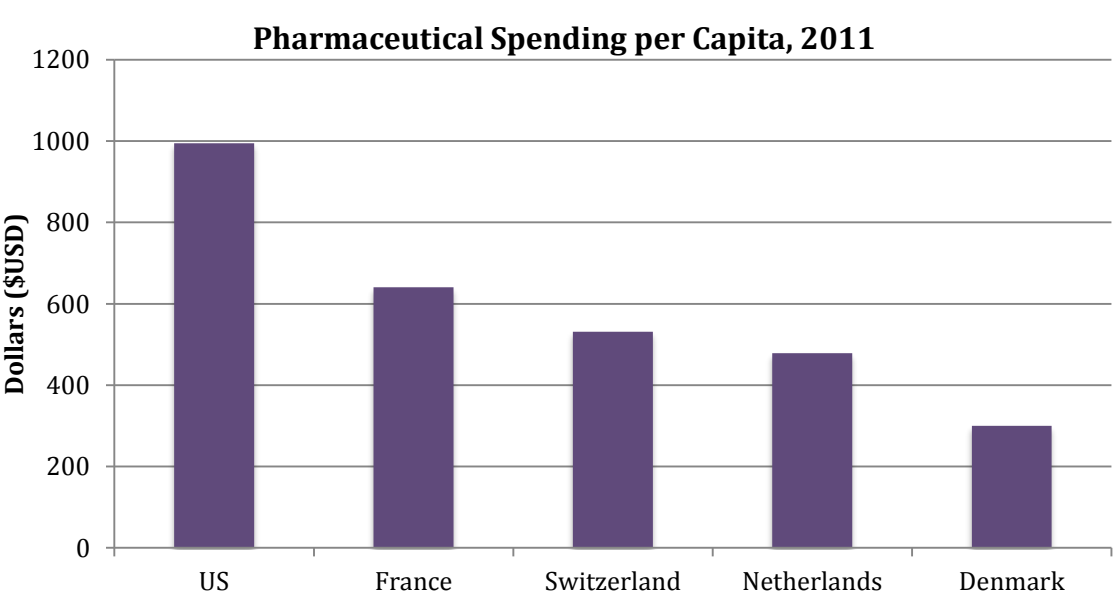
*2010 data
Source: Commonwealth Fund Multinational Comparisons of Health Systems Data 2013

Figure 1-2



*2010 data
Source: Commonwealth Fund Multinational Comparisons of Health Systems Data 2013

Figure 1-3



Source: Commonwealth Fund Multinational Comparisons of Health Systems Data 2013

Healthcare in Denmark is financed mainly through a national health tax, set at 8 percent of taxable income (Mossialos et. al., 2016). Revenues are allocated to regions and municipalities with amounts adjusted for demographic and social differences, and these grants finance 77 percent of regional activities (Mossialos et. al., 2016). A minor portion of state funding for regional and municipal services is activity-based or tied to specific priority areas, and the remaining 20% of financing for regional services comes from municipal activity-based payments, which are financed through a combination of local taxes and block grants (Mossialos et. al., 2016).

Complementary voluntary health insurance, purchased on an individual basis, covers statutory copayments (mostly for pharmaceuticals and dental care) and services not fully covered by the state that would usually require either copayments or coinsurance (Mossialos et. al., 2016). Roughly 2.2 million Danes have this type of coverage, which is provided almost entirely by the not-for-profit organization Danmark (Mossialos et. al., 2016). In addition to the 2.2 million with complementary insurance, nearly 1.5 million people hold supplementary insurance to gain expanded access to private providers and hospitals (Mossialos et. al., 2016). Policies are purchased mostly from among seven for-profit insurers and are provided mainly through private employers as a fringe benefit, although some public-sector employees are also covered (Mossialos et. al., 2016). Students, pensioners, the unemployed, and others outside the job market are generally not covered by supplementary insurance (Mossialos et. al., 2016). Private healthcare expenditures (including out of pocket costs and all types of private insurance)

accounted for nearly 16% of healthcare spending in 2013, and private insurance accounted for about 12% of total private expenditures (Mossialos et. al., 2016)

b. Quality

Quality of care is important enough to the Danish that they have a national program called The Danish Healthcare Quality Programme (DDKM), based on accreditation and a set of accreditation standards, which was in operation at the hospital level through 2015 (Mossialos et. al., 2016). It is currently being replaced in hospitals with a new program featuring fewer standards and more emphasis on clinical and local dimensions, due partially to pressure from the medical profession, but the DDKM continues to be used in primary and municipal health care (Mossialos et. al., 2016). T

The Danish Health Authority has laid out standard treatment pathways, with priorities including chronic disease prevention and follow-up interventions (Mossialos et. al., 2016). The authority monitors pathways and the speed at which patients are diagnosed and treated (Mossialos et. al., 2016). Regions develop more specific practice guidelines for hospitals and other organizations, based on general national recommendations (Mossialos et. al., 2016). There are no specific national economic incentives related to quality, but several regions are experimenting with such ideas (Mossialos et. al., 2016). In general, regions are obliged to take action in case of poor results, and may fire hospital managers or introduce other measures to support quality improvement, and the Danish Health Authority can step in if entire regions fail to live up to standards (Mossialos et. al., 2016).

Quality data for a number of treatment areas are collected in clinical registries and published online for institutions, but not for individual health providers at the hospital level (Mossialos et. al., 2016). General quality and efficiency data are also published in national level reports as a follow-up to national budget agreements between the state and the regions (Mossialos et. al., 2016). Patient experiences are collected though biannual national, regional, and local surveys (Mossialos et. al., 2016).

Another important factor of quality care in a health system are health indicators, such as life expectancy and infant mortality. Table 1-1 shows the life expectancy at birth for both males and females in the five nations this paper is looking at. Female life expectancy in Denmark as of 2013 was a little over 1 year higher at 82.4 years than the U.S. at 81.2 years, and for males, Denmark was over 4 years higher at 80.7 years compared to the U.S. at 76.4 (OECD, 2015). For infant mortality rates, Table 1-2 shows the U.S. with the highest rate of 6 deaths per 1,000 live births and Denmark with a much lower number of 3.5 (OECD, 2015).

Table 1-1

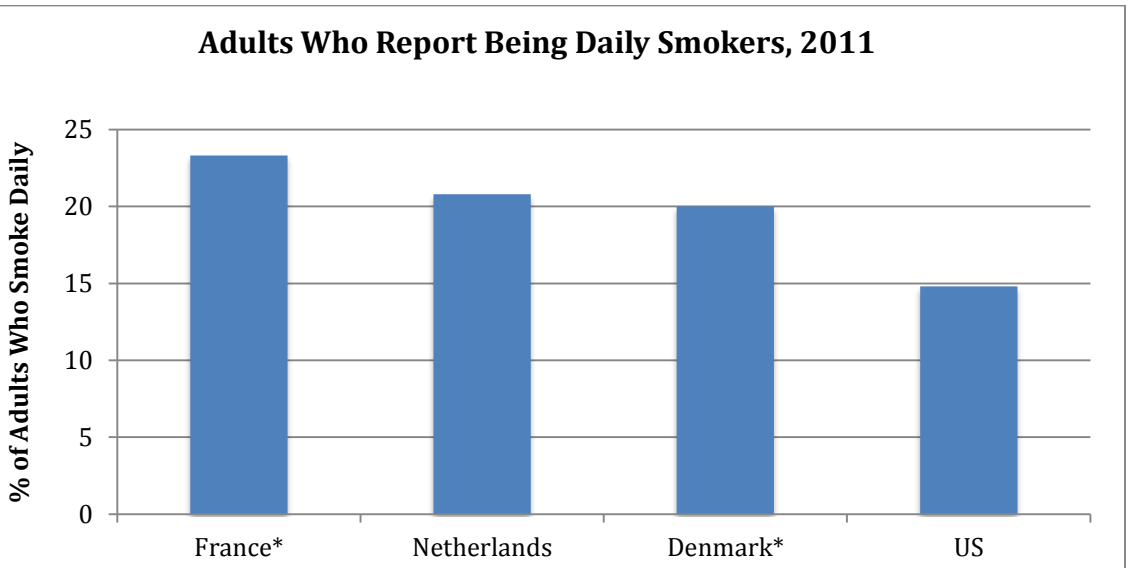
Country	**Female Life Expectancy at Birth, 2013**	**Male Life Expectancy at Birth, 2013**
France	85.6	79
Switzerland	85	80.7
Netherlands	83.2	79.5
Denmark	82.4	78.3
US	81.2	76.4

Table 1-2

Country	**Infant Mortality Rate per 1,000 Live Births, 2013**
US*	6
Switzerland	3.9
Netherlands	3.8
France	3.6
Denmark	3.5

In addition to these health indicators, looking at preventable conditions and health behaviors in a nation is also useful in evaluating the quality of the health system. Two avoidable conditions include obesity and lung cancer caused by smoking, and Figures 1-4 and 1-5 show how the U.S. may have a lower rate of adults who smoke daily (14.8% in 2011 compared to Denmark at 20% in 2010), but the U.S. had an adult obesity rate of 36.5% in 2010, which was slightly less three times the rate in Denmark at 13.4% in the same year (Squires, 2013). Quality of care is also shown through patient safety within hospitals and other parts of the healthcare system. While Figure 1-6 shows how the U.S. and all of the European countries in this report have had a large drop in the number of deaths due to healthcare in recent decades, there is still a large difference between the U.S. rate at 96 per 100,000 and Denmark at 80 per 100,000 (Squires, 2013).

Figure 1-4



*2010 data
Source: Commonwealth Fund Multinational Comparisons of Health Systems Data 2013

Figure 1-5

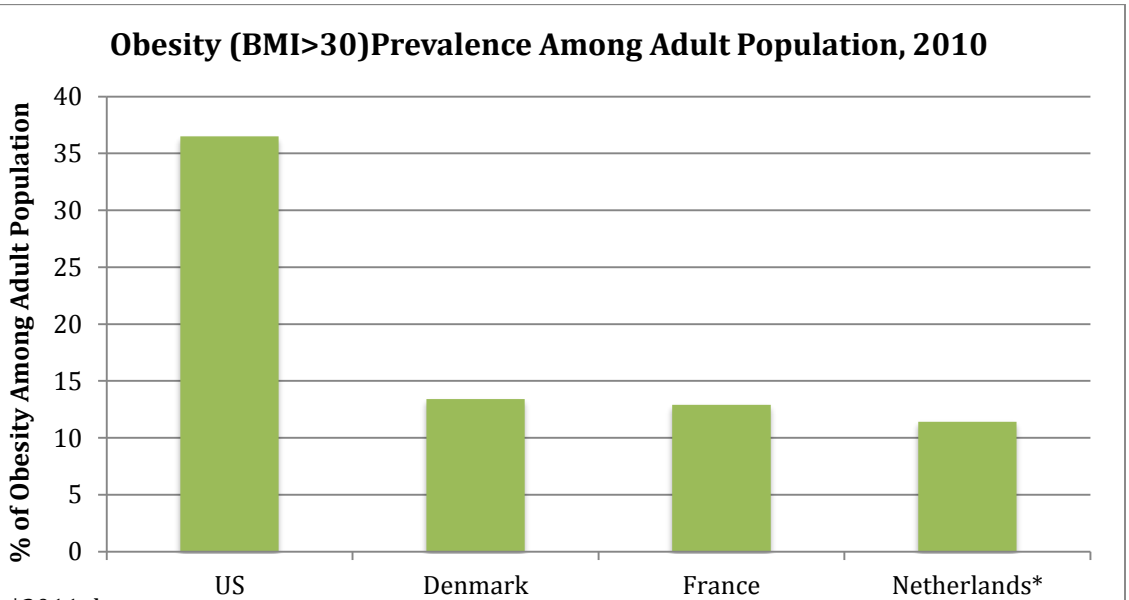


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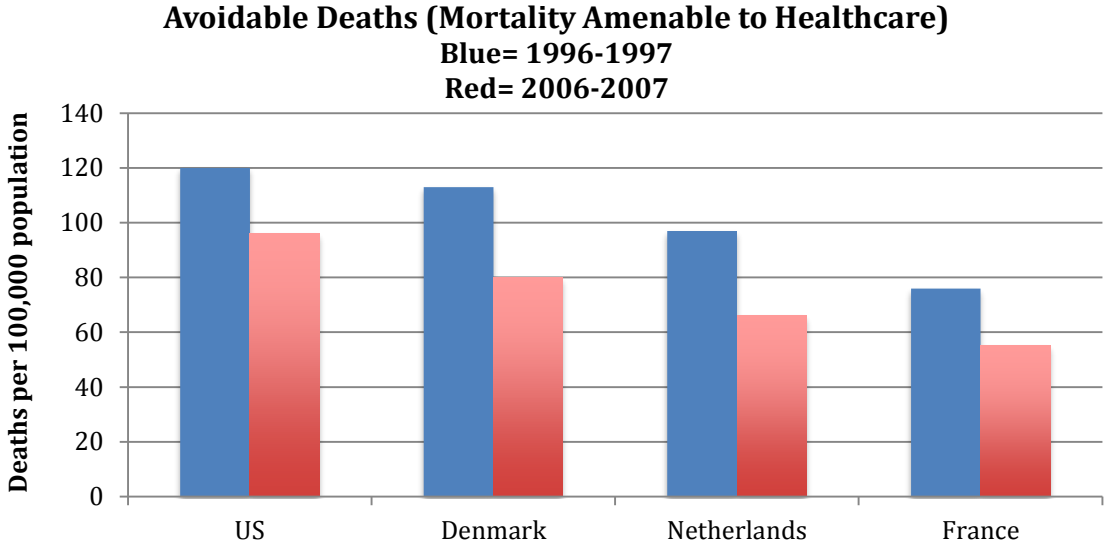
Figure 1-6



Source: Commonwealth Fund Multinational Comparisons of Health Systems Data 2013

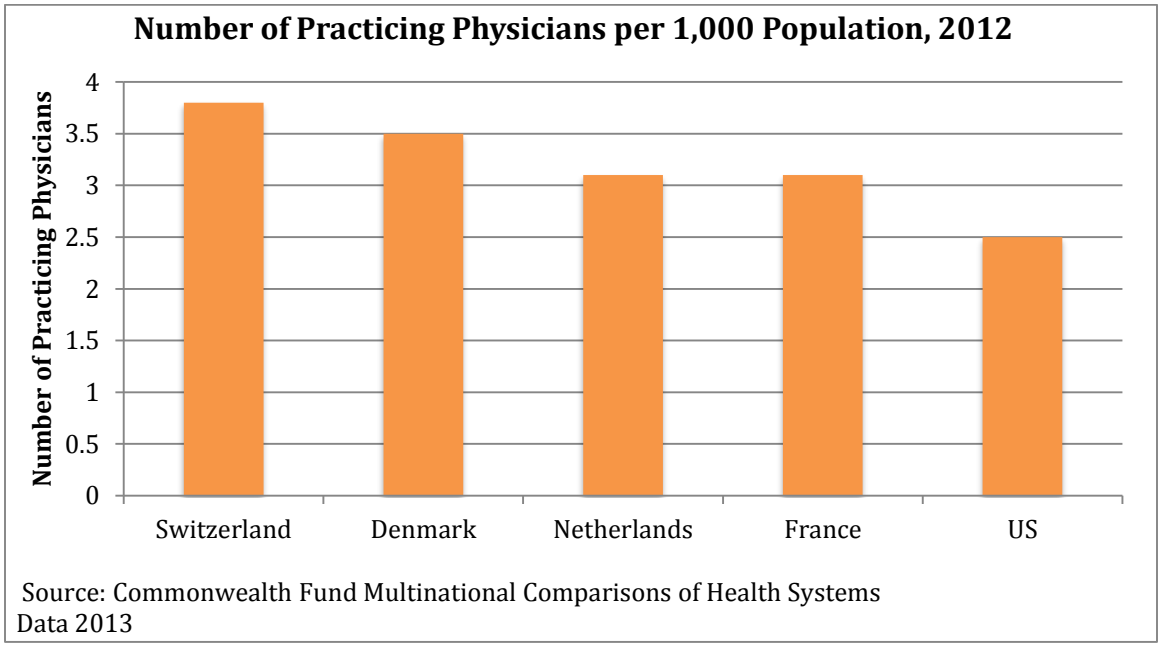
c. Access

All registered Danish residents are automatically entitled to publicly financed health care, which is free at the point of use (Mossialos et. al., 2016). In principle, undocumented immigrants and visitors are not covered, but a voluntary, privately funded initiative by Danish doctors, which is supported by the Danish Red Cross and Danish Refugee Aid, provides this group with access to care (Mossialos et. al., 2016).

In addition to insurance coverage making healthcare more accessible, access to services can also include the number of times people see physicians and the number of physicians in a population. Figure 1-7 shows the number of physicians per 1,000 people in each country in 2012 with Denmark at 3.5 physicians while the U.S. only has 2.5 physicians per 1,000 people (Squires, 2013). This is a fairly significant difference, and having more physicians available in the population,

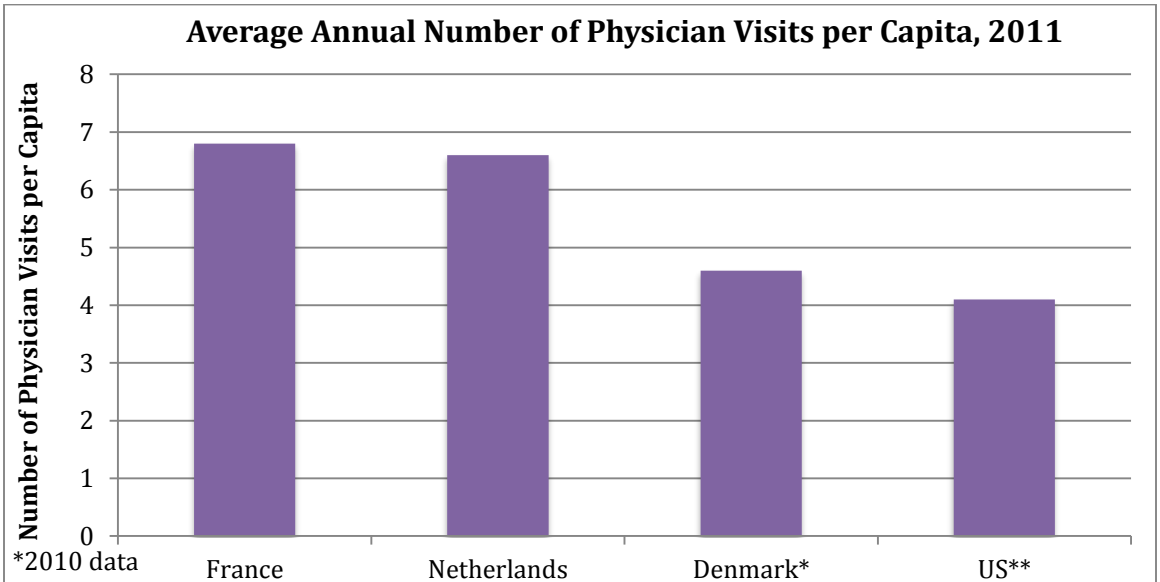
especially in more rural areas, can make it easier for people to see physicians on a regular basis and therefore improve access to healthcare (Squires, 2011). There is not as large of a difference as there is with the other European countries between the U.S. and Denmark in how many times the population visits a physician per year, which can be seen in Figure 1-8. The average annual number of physician visits per capita sits at 4.6 visits in Denmark and 4.1 visits in the U.S. from data collected in 2011 (Squires, 2013). Another aspect of care is the access people have to hospital care and services if they are needed. The number of acute care hospital beds per 1,000 people for each country in 2011 is shown in Figure 1-9, and as of 2010 Denmark had only a slightly higher number with 2.9 beds per 1,000 people while the U.S. is the lowest number with 2.6 per 1,000 (Squires, 2013). These numbers show that Denmark may have a similar level of healthcare access as the U.S. in recent years (Mossialos et. al., 2016).

Figure 1-7



Source: Commonwealth Fund Multinational Comparisons of Health Systems Data 2013

Figure 1-8



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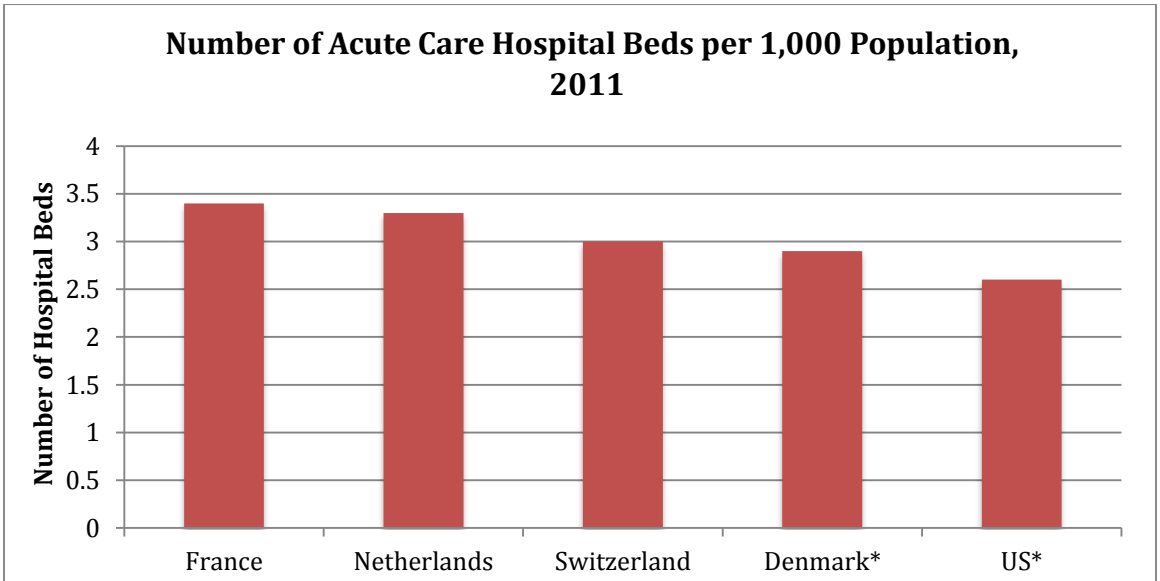
Source: Commonwealth Fund Multinational Comparisons of Health Systems Data 2013

Figure 1-9



*2010 data
Source: Commonwealth Fund Multinational Comparisons of Health Systems Data 2013

VI. United States

While the other four countries are small, western European countries, the United States is vast in geographical and population size, with 48 continental states and two separate states of Hawaii and Alaska, and a population of about 308 million (U.S. Census, 2010). The U.S. is run by a presidential system of government, meaning that while Congress handles most domestic policy issues, the president is formally both the head of state (dealing with foreign affairs) and the head of the government (overseeing the cabinet and all government agencies) (Rice et. al., 2013). The local and state-level governments have more power than a lot of regional governments in other countries; while the federal government has a large amount of power, it is more limited through documents such as the U.S. Constitution (Rice et. al., 2013). The U.S. can also be broken up into regions such as the Northeast, the Midwest, the South, and the Northwest/Pacific Coast regions. Historically, and still true to this day, the Northeast and Northwest regions are known for having healthier populations and lifestyles than regions such as the South and Midwest. In economic terms, the U.S. had a GDP of $14 trillion in 2010, nearly twice the amount of any other country, and the GDP per capita was ranked 10th highest in the world (Rice et. al., 2013).

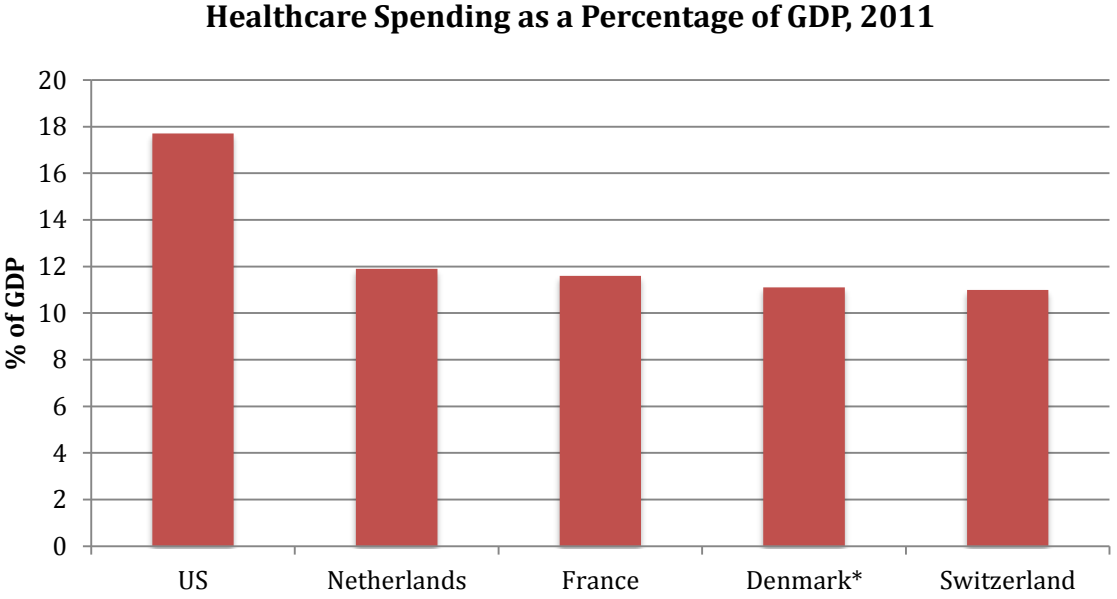
The Affordable Care Act (ACA), which became law in 2010, established "shared responsibility" between the government, employers, and individuals for ensuring all Americans have access to affordable and quality health insurance (Mossialos et. al., 2013). Other aspects of the ACA include a requirement that most Americans procure health insurance, the opening of the health insurance

marketplaces, and the expansion of Medicaid in many states, which increased coverage for low-income adults (Mossialos et. al., 2016). However, health coverage remains fragmented with many private and public insurance sources as well as wide gaps in insured rates across the U.S. (Mossialos et. al., 2016). In addition, states were given the option of participating in a federally subsidized expansion of eligibility for the Medicaid program (Mossialos et. al., 2016). The Centers for Medicare and Medicaid Services (CMS) administers Medicare, a federal program for adults age 65 and older and people with disabilities to have adequate health insurance, and works in partnership with state governments to administer both Medicaid and the Children's Health Insurance Program (CHIP), a complex web of programs with shared federal-state responsibility for certain low-income populations (Mossialos et. al., 2016).

a. Cost

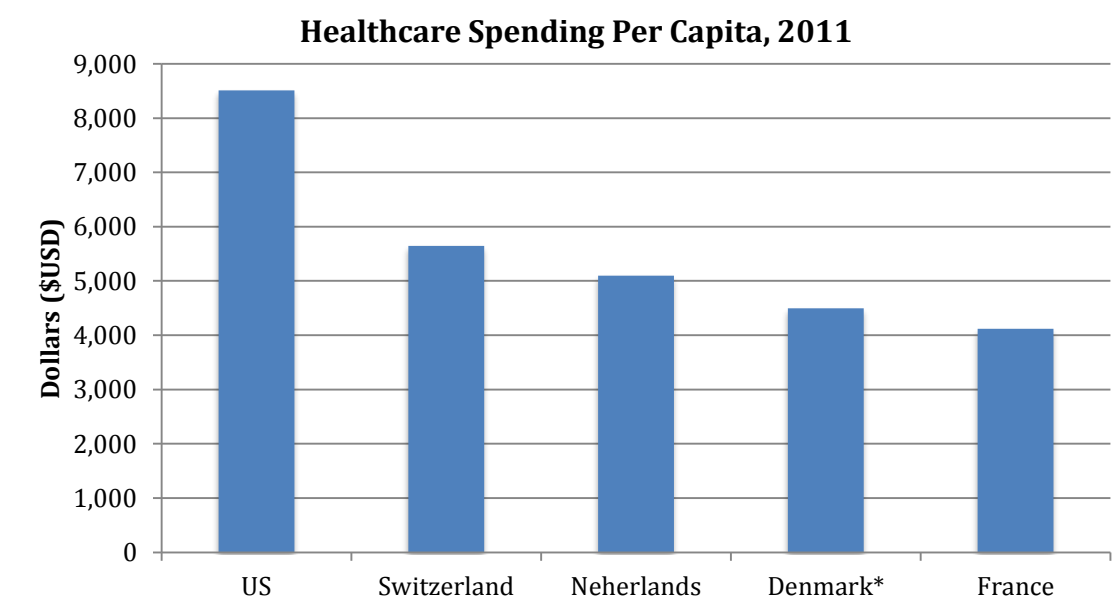
In 2011, the U.S. spent 17.7% of the GDP on healthcare expenditures, which can be compared to the European countries at only 11-12% each in Figure 1-1 (Squires, 2013). In the same year, Figure 1-2 shows the health expenditures as $8,508 per capita compared to the other countries ranging between $4,000-$6,000 per capita in 2011 (Squires, 2013). Another important measurement to look at when evaluating healthcare costs is the expenditures specifically on pharmaceuticals. As can be seen in Figure 1-3, expenditures on pharmaceuticals in the U.S. was $955 per capita in 2011, while the other countries were between $300-$650 per capita (Squires, 2013).

Figure 1-1



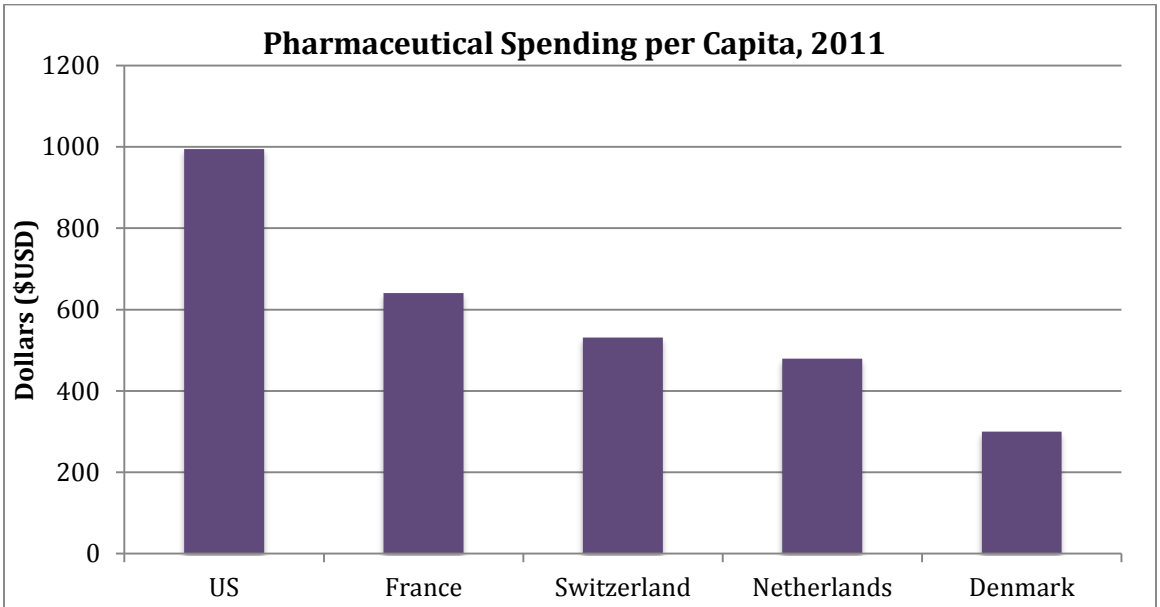
*2010 data
Source: Commonwealth Fund Multinational Comparisons of Health Systems Data 2013

Figure 1-2



*2010 data
Source: Commonwealth Fund Multinational Comparisons of Health Systems Data 2013

Figure 1-3



Source: Commonwealth Fund Multinational Comparisons of Health Systems Data 2013

Public programs provide coverage to various, often overlapping populations. In 2011, nearly 10 million Americans were eligible for both Medicare and Medicaid (Henry J. Kaiser Family Foundation, 2016). The Children's Health Insurance Program (CHIP), which in some states is an extension of Medicaid and in others a separate program, covered more than 8.1 million children in low-income families in 2014 (Mossialos et. al., 2016). Undocumented immigrants are generally ineligible for public coverage, and nearly two-thirds are uninsured (Mossialos et. al., 2016). Hospitals that accept Medicare funds, which are the vast majority, must provide care to stabilize any patient with an emergency medical condition, and several states allow undocumented immigrants to qualify for emergency Medicaid coverage beyond the stabilization-only care (Mossialos et. al., 2016). Some state and local

governments provide additional coverage, such as coverage for undocumented children and/or pregnant women (Mossialos et. al., 2016).

In 2013, public healthcare spending accounted for about 48% of total healthcare spending, although this figure is expected to increase post-ACA (OECD, 2015). Medicare is financed through a combination of payroll taxes, premiums, and federal general revenues (Mossialos et. al., 2016). Medicaid is tax-funded and administered by the states, which operate the program within broader federal guidelines (Mossialos et. al., 2016). States receive matching funds from the federal government for Medicaid at rates that vary based on their per capita income— for example, in 2014, federal matching ranged from 50 percent to 73 percent of states' Medicaid expenditures (Mossialos et. al., 2016). The expansion of Medicaid under the ACA is fully funded by the federal government through 2017, after which the funding share of the federal government will be phased down to 90% by the year 2020 (Mossialos et. al., 2016). Federal premium subsidies on the state and federal exchanges are offered as tax credits (Mossialos et. al., 2016).

Also in 2013, private health insurance spending accounted for about 33 percent of total health care spending (Mossialos et. al., 2016). Private insurers, which can be for-profit or not-for-profit, are regulated by state insurance commissioners and subject to varying state (and federal) regulations (Mossialos et. al., 2016). Private health insurance can be purchased by individuals but is usually funded by voluntary, tax-exempt premiums, the cost of which is shared by employers and workers on an employer-specific basis, sometimes varying by what type of position the employee holds in the business (Mossialos et. al., 2016). The

employer tax exemption is the government's third-largest healthcare expenditure (after Medicare and Medicaid), reducing tax revenues by $260 billion per year (Mossialos et. al., 2016). Some individuals are covered by both public and private health insurance. For example, many Medicare beneficiaries purchase private supplemental Medi-gap policies to cover additional services and cost-sharing (Mossialos et. al., 2016). Private insurers pay providers at rates higher than those paid by public programs, particularly Medicaid, and this disparity leads to wide variations in provider payment rates and revenues, which depend to a large extent on payer mix and market power (Mossialos et. al., 2016). Medicare's payment rates are typically determined according to a fee schedule, with various adjustments based on cost of living and other local and provider characteristics, while Medicaid rates vary by state and private health insurers typically negotiate payment rates with providers (Mossialos et. al., 2016).

Cost-sharing in private health insurance plans vary widely with most requiring copayments for physician visits, hospital services, and prescription drugs (Mossialos et. al., 2016). High deductible health plans, a minimum annual deductible of $1,250 per individual or $2,500 per family, can be paired with tax-advantaged health savings accounts (for example, deposited funds are not subject to federal income tax) (Mossialos et. al., 2016). The ACA includes cost-sharing subsidies for the purchase of plans through the insurance exchanges, with the largest subsidies aimed at people with incomes below 250% of the federal poverty level (FPL), which is $20,090 for a family of three as of 2015 (Mossialos et. al., 2016). Medicare requires deductibles for hospital stays, ambulatory care, copayments for physician visits, and

other services, while Medicaid requires minimal cost-sharing (Mossialos et. al., 2016). Most public and private insurers prohibit providers from balance billing (charging patients more than the copayment required by their insurance plan) if they have an agreement with the payer to accept their negotiated payment amounts (Mossialos et. al., 2016). Out-of-pocket spending accounts for 12% of total health expenditures in the U.S. (Mossialos et. al., 2016). The ACA caps cost-sharing for most private insurance plans at $6,600 for individuals and $13,200 for families per year in 2015 (Mossialos et. al., 2016).

b. Quality

The U.S. Department of Health and Human Services released the National Quality Strategy, a component of the ACA that lays out national aims and priorities to guide local, state, and national quality improvement efforts, supported by an array of partnerships with public and private stakeholders (Mossialos et. al., 2016). Current initiatives include efforts to reduce hospital-acquired infections and preventable readmissions (Mossialos et. al., 2016). CMS has moved toward increased public reporting of provider performance data in an effort to promote improvement and one of these initiative is Hospital Compare, a service that reports on measures of care processes, care outcomes, and patient experience over 4,000 hospitals (Mossialos et. al., 2016). In addition, with support from the ACA and groups like the Open Government Partnership, CMS is making Medicare data available to "qualified entities," such as health improvement organizations, which are beginning to release data on payments made by Medicare to individual

physicians and amounts paid to physicians and hospitals by pharmaceutical and medical device companies (Mossialos et. al., 2016). Release of such information is intended to both increase transparency and improve quality (Mossialos et. al., 2016). Additionally, Medicare and the majority of private insurance providers are implementing a variety of pay-for-value programs (Mossialos et. al., 2016). Starting in 2013, 1% of Medicare payments are redistributed to the highest performers on a composite of cost and quality measures (Mossialos et. al., 2016). The program was introduced to physicians in 2015 on a voluntary basis and is expected to become mandatory by 2017 (Mossialos et. al., 2016). Separate from the new federal initiatives, individual states have developed additional public reporting systems and measures, including some that address ambulatory care (Mossialos et. al., 2016).

Another important factor of quality care in a health system are health indicators, such as life expectancy and infant mortality. Table 1-1 shows the life expectancy at birth for both males and females in the five nations this paper is looking at. Female life expectancy in the U.S. was at 81.2 years, and for males, the U.S. was at 76.4 (OECD, 2015). The U.S. is behind the four European countries by multiple years each, both in the male and female categories (OECD, 2015). For infant mortality rates, Table 1-2 shows the U.S. with the highest rate of 6 deaths per 1,000 live births while the other four countries all sit in between 3.5-4 deaths per 1,000 (OECD, 2015).

Table 1-1

Country	**Female Life Expectancy at Birth, 2013**	**Male Life Expectancy at Birth, 2013**
France	85.6	79
Switzerland	85	80.7
Netherlands	83.2	79.5
Denmark	82.4	78.3
US	81.2	76.4

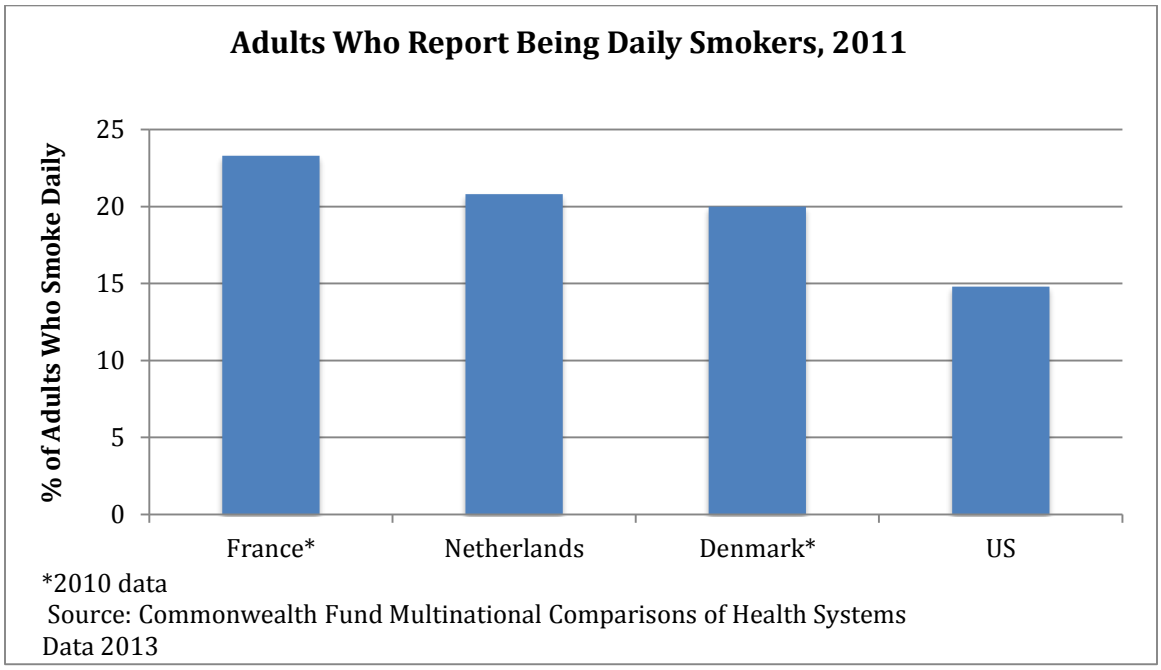
Table 1-2

Country	**Infant Mortality Rate per 1,000 Live Births, 2013**
US*	6
Switzerland	3.9
Netherlands	3.8
France	3.6
Denmark	3.5

In addition to these health indicators, looking at preventable conditions and health behaviors in a nation is also useful in evaluating the quality of the health system. Two avoidable conditions include obesity and lung cancer caused by smoking, and Figures 1-4 and 1-5 show how the U.S. may have a lower rate of adults who smoke daily (14.8% in 2011) but the U.S. had an adult obesity rate of 36.5% in 2010 (Squires, 2013). The U.S. obesity rate is, or almost is, three times the rates of the other four countries, which range from 11-14% (Mossialos et. al., 2016). Quality of care is also shown through patient safety within hospitals and other parts of the

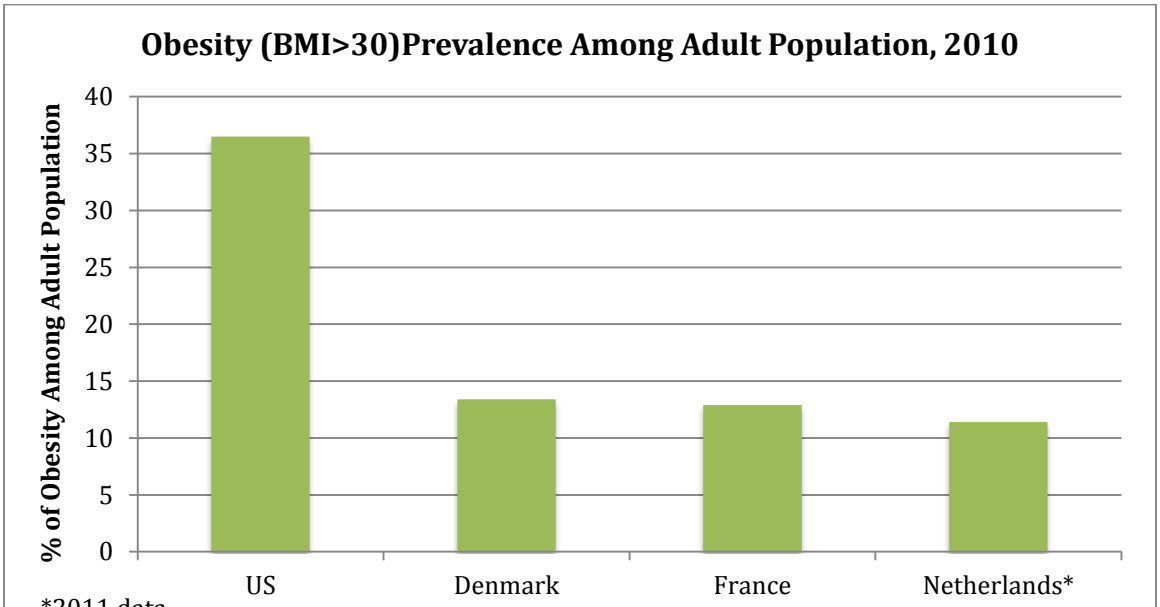
healthcare system. While Figure 1-6 shows how the U.S. and all of the European countries in this report have had a large drop in the number of deaths due to healthcare in recent decades, there is still a large difference between the U.S. rate at 96 per 100,000 and the others which range between 55-80 per 100,000 (Squires, 2013).

Figure 1-4



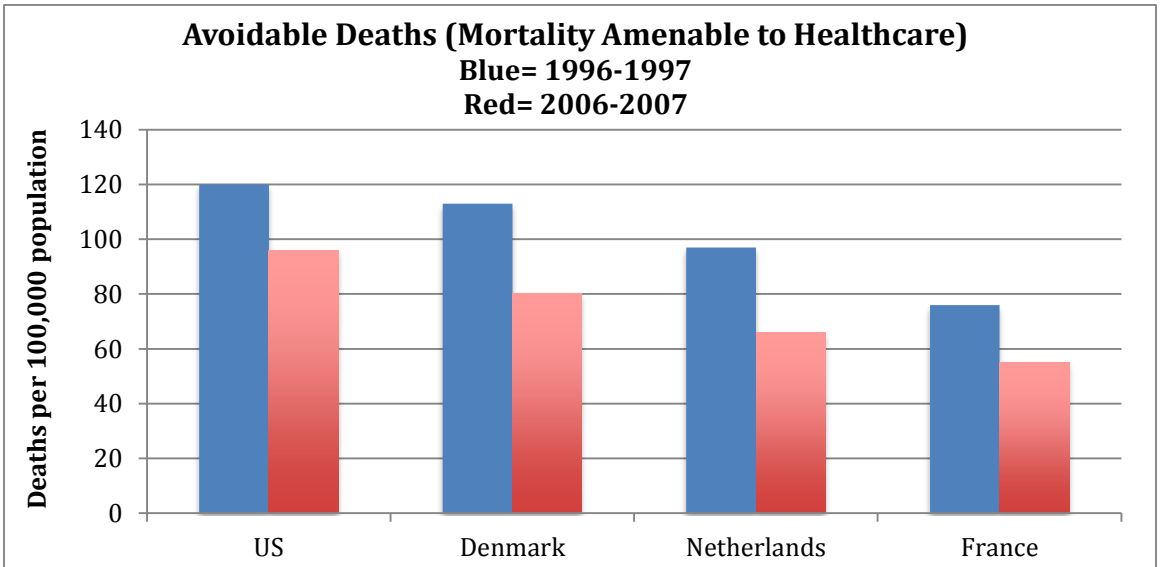
*2010 data
Source: Commonwealth Fund Multinational Comparisons of Health Systems Data 2013

Figure 1-5



*2011 data
Source: Commonwealth Fund Multinational Comparisons of Health Systems Data 2013

Figure 1-6



Source: Commonwealth Fund Multinational Comparisons of Health Systems Data 2013

For smoking rates, the differences between the U.S. and European countries began emerging in the 1970s, but cigarette prices and anti-smoking regulation is much higher in Europe than in the US (Cutler and Glaeser, 2006). About one-half of the smoking difference appears to be the result of differences in beliefs about the health effects of smoking, and Europeans are generally less likely to believe that cigarette smoking is harmful (Cutler and Glaeser, 2006). There are other theories about the factors contributing to smoking culture in Europe such as it being traditions in families that has been passed through generations, but right now they are only theories (Cutler and Glaeser, 2006). In terms of the difference in obesity rates, excess weight diminishes almost every aspect of health, from reproductive and respiratory function to memory and mood. Obesity increases the risk of several debilitating, and deadly diseases, including diabetes, heart disease, and some cancers ("Obesity Consequences", 2012). Rising obesity rates in the U.S. can be accounted to many factors including economic troubles, since healthy foods and exercise activities can be expensive, lack of public education concerning obesity, and lack of promoting physical activity in the American society, along with numerous other potential factors ("Obesity Consequences", 2015). The economic cost of obesity in the U.S. were estimated to be as high as $190 billion in 2005, a number that is double earlier estimates, and that is expected to rise, along with obesity rates, over the coming decades ("Obesity Consequences", 2012).

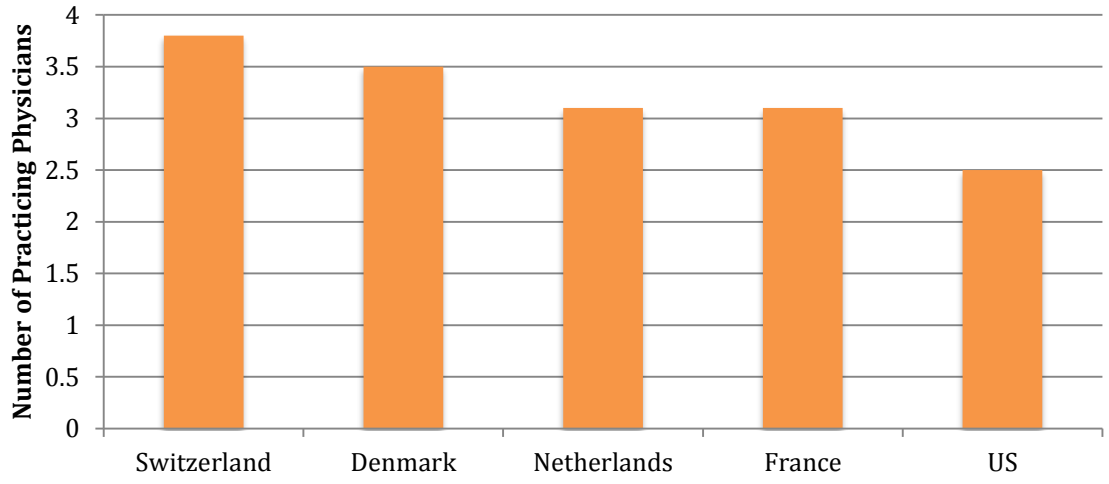
c. Access

In 2014, about 66% of U.S. residents received health insurance coverage from private voluntary health insurance (VHI): 55.4% received employer-provided insurance and 14.6% acquired health coverage directly (Mossialos et. al., 2016). Public health insurance programs covered roughly 36.5% of residents: Medicare covered 16%, Medicaid 9.5%, and military healthcare insurance 4.5% (Mossialos et. al., 2016). In 2014, 33 million Americans were uninsured, representing 10.4% of the population (Mossialos et. al., 2016). However, the implementation of the ACA's major coverage expansions in January 2014 has increased the share of the population with insurance (Mossialos et. al., 2016). It is projected that the ACA will reduce the number of uninsured Americans by 24 million people by 2018 (Mossialos et. al., 2016).

In addition to issues with health insurance coverage, and coverage can make healthcare more accessible, access can also include the number of times people see physicians and the number of physicians in a population. Figure 1-7 shows the number of physicians per 1,000 people in each country in 2012 with the U.S. only at 2.5 physicians per 1,000 people while all the other countries are above 3 physicians per 1,000 people (Squires, 2013). This is a fairly significant difference, and having more physicians available in the population, especially in more rural areas, can make it easier for people to see physicians on a regular basis and therefore improve access to healthcare (Squires, 2011). There is not a large of a difference between the U.S. and Denmark in how many times the population visits a physician per year, but the Netherlands and France are much higher, which can be seen in Figure 1-8. The

average annual number of physician visits per capita sits at 4.1 visits in the U.S.. 6.6 in the Netherlands and 6.8 in France from data collected in 2011 (Squires, 2013). Another aspect of care is the access people have to hospital care and services if they are needed. The number of acute care hospital beds per 1,000 people for each country in 2011 is shown in Figure 1-9, and as of 2010 Denmark had only a slightly higher number with 2.9 beds per 1,000 people while the U.S. is the lowest number with 2.6 per 1,000 (Squires, 2013). These figures, with the U.S. coming in last for each figure, shows the U.S. may have considerably less access to healthcare services than citizens in the Netherlands, France, Switzerland, and Denmark (Mossialos et. al., 2016).

Figure 1-7



Source: Commonwealth Fund Multinational Comparisons of Health Systems Data 2013

Figure 1-8

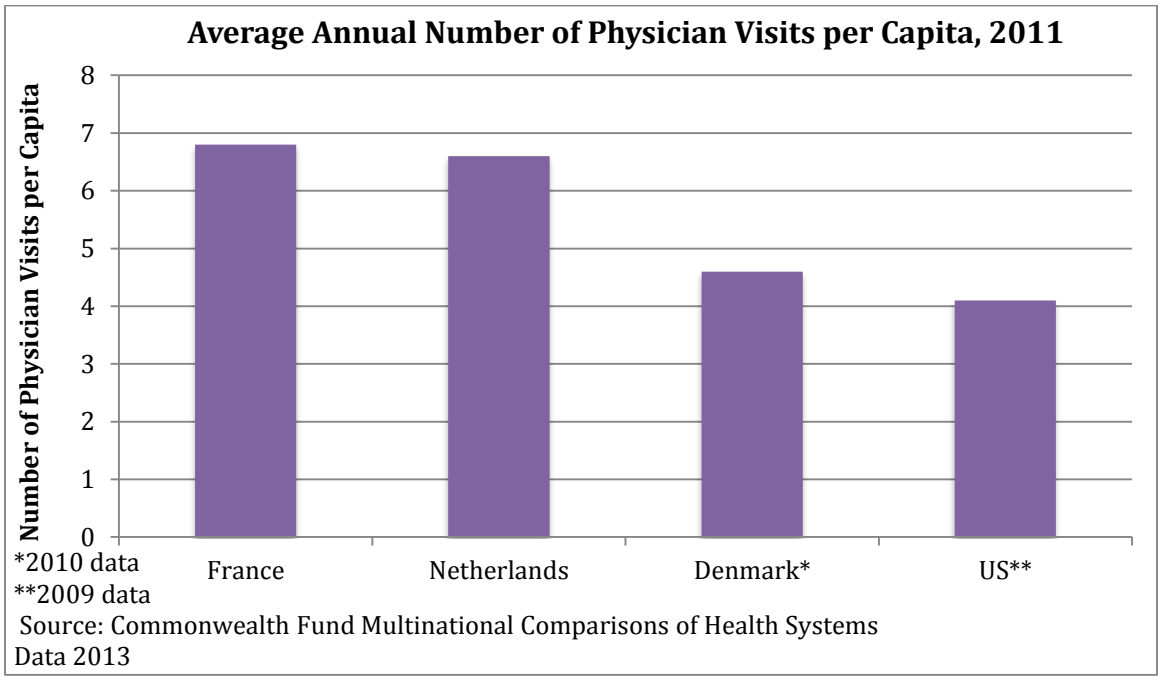
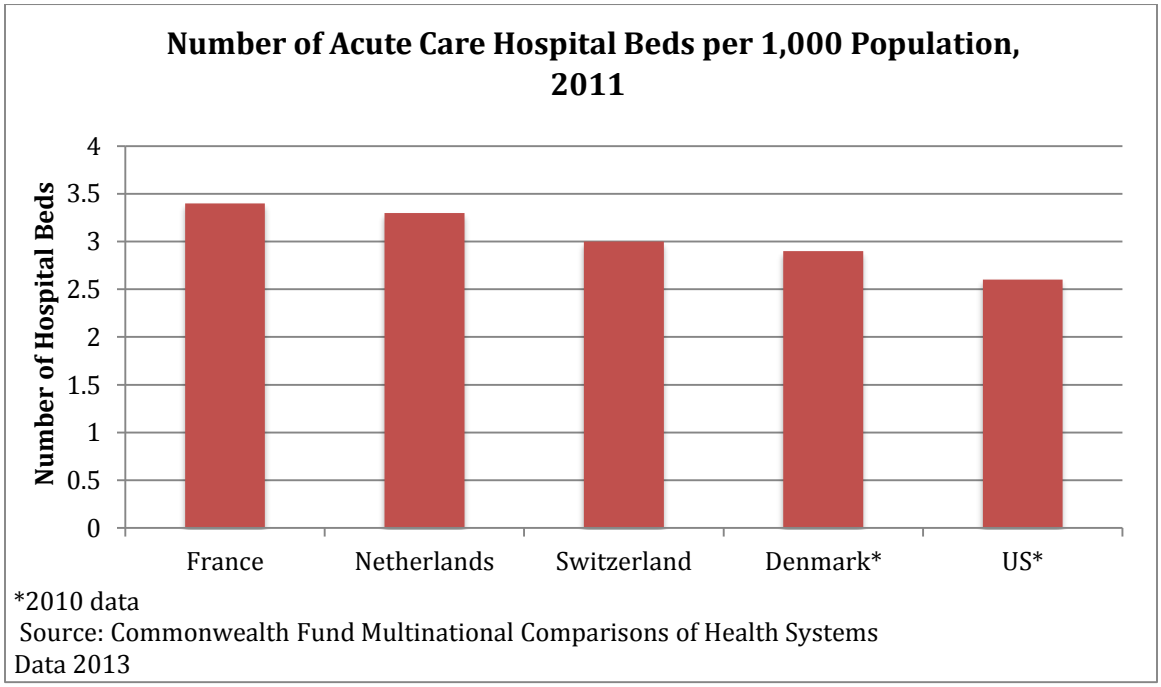


Figure 1-9



VII. Conclusion

Since the Affordable Care Act has not been in effect for long, it is hard to tell how extensively it will help the issues in the American system concerning the cost, quality, and access of healthcare. While many in the U.S. view a stable, nationally-run or private but nationally-regulated healthcare system as "evil", it's been proven by other developed and industrialized nation that having a system where everyone, or nearly everyone, is insured and has access to quality healthcare which is affordable contributes greatly citizens' health and well-being (Squires, 2011).

Out of the four European systems looked at in this paper, I think the system with the best outcomes that the U.S. is also closest to achieving a similar system is the Netherlands. Part of this is due to changes the ACA introduced, such as being required to purchase health insurance or being fined for not being covered, private insurance companies competing for each insured person (on the state and federal exchanges), and insurance companies not being able to turn health insurance applicants down based on their health status and/or pre-existing conditions (Mossialos et. al., 2016). Also similar to the subsidies given to low-income individuals and families in the Netherlands, the subsidies given through the health plan exchanges and coverage through Medicaid cover the same economic level of individuals in the U.S. Additionally, the systems are also similar in the fact that most of the Dutch receive their health insurance plans through their employers like how over half of the U.S. population receives their health insurance through their work as well (Mossialos et. al., 2016).

While most of the insurance companies in the Netherlands are not-for-profit, the U.S. could still have a system with for-profit insurance companies but look at how to better limit price-gauging and out of pocket costs (limiting deductibles, premiums, and looking at cost-sharing/copayments for health services). Additionally, there are insurance companies in the Netherlands that range anywhere from regional to international and different insurance companies are accepted in different regions, also similar to the U.S. system where in some regions certain insurance companies have more deals with healthcare providers than others do (Mossialos et. al., 2016). These are all similarities between the two systems but of course there are differences as well. For instance, one aspect of the U.S. system there would not be any easy way to fix is the cost of pharmaceuticals. In most western European countries the government systems are the only large drug buyers, giving them substantial negotiating power (Whalen, 2015). On the other hand, the U.S. market is highly fragmented with bill payers ranging from employers to insurance companies to federal and state government (Whalen, 2015). Additionally, Americans fund much of the global drug industry's earnings, its efforts to find new medicines, and is also responsible for the majority of profits for most large pharmaceutical companies (Whalen, 2015). These are just some of the factors that have led to the differences in spending per capita on pharmaceuticals, such as expenditures on pharmaceuticals in the U.S. per capita in 2011 was $955, while the four European countries were between $300-$650 per capita (Squires, 2013). The next highest number was France with an expenditure at about $650 per capita, which was over $300 less than the U.S. average for the same year (Squires, 2013).

As mentioned before, some of the largest differences between the U.S. and the four European countries are the population and geographical sizes. While more decentralized healthcare systems may work well for Switzerland and Denmark, the U.S. needs a strong, centralized, national system because of our vast geography and population size; having 50 different health systems, a different one for each state, would potentially lead to organized chaos as U.S. citizens are constantly traveling and moving between many different states. Having a strong centralized system would help guarantee that U.S. citizens covered by insurance where they currently live will also be covered in other areas of the country as well (Squires, 2011). France has a centralized system that works well for them but it is so much different than the current U.S. system, so adapting aspects of the Dutch system is more realistic than adapting parts of the French system.

Aspects of the healthcare system in the Netherlands that would be helpful in the U.S. include needing to see a GP first before being referred to a specialist or a hospital with the exception of emergency care. Many Americans tend to run to specialist physicians if they have insurance instead of seeing a general physician first who in many cases would be able to treat certain afflictions and diseases without charging the same prices as specialists would (Mossialos et. al., 2016). Additionally, Americans without insurance tend to go to the hospital (emergency rooms specifically) for anything from a bad cold to the flu to broken bones and rack up huge medical bills for the more simple medical issues that a GP could easily treat if they only had health insurance coverage (Squires, 2011). Hospitals tend to have astronomical prices for some, or even occasionally all, of their services to help pay

for the uninsured who are treated there that cannot afford their own medical bills, and this is because any hospital who accepts Medicaid insurance plans must treat the general public until they are stabilized even if they cannot afford it (Mossialos et. al., 2016). If the uninsured had health coverage, went to GPs instead of the hospital for minor afflictions, and hospitals no longer need to overcharge to cover their expenses, this could possibly relieve financial burdens on everyone who does need to be treated in a hospital by slightly lowering their medical bills (Squires et. al., 2016). However, something to keep in mind is that the exact Dutch healthcare system that exists today has only been around for 10 years, since the most recent law passed in 2006, and whether the system will be effective in the long-term is still unknown (Mossialos et. al., 2016). While the system is currently working well and looks like it will still be going well in the near-future, far into the future can still be unpredictable.

No matter which system or country that is looked at in this report, it can be argued that the American healthcare system needs large changes and reform quickly, and it is impossible to make everyone involved in the system completely happy with the changes. While the Affordable Care Act may have helped the system a little bit, it is acting like a Band-Aid trying to hold the system together that can be ripped off and prove to be ineffective at any point. The effects, both positive and negative, of the Affordable Care Act may not be known for another 5, 10, or 15 years. Can Americans afford to wait that long before the system is widely, and significantly, reformed?

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