European Research Studies Journal
Volume XXVI, Issue 4, 2023

pp. 238-254

A Complex Relationship Price / Quality: The Case of the US Health Care System

Submitted 02/10/23, 1st revision 20/10/23, 2nd revision 15/11/23, accepted 30/11/23

Giuliana Campanelli Andreopoulos[1], John Malindretos[2], Alexandros Panayides[3], Alfred Verrios[4]

Abstract:

Purpose: *The US has the most expensive health care system among the developed countries, however, the higher prices that its citizens pay do not seem associated with a better quality. The scope of this paper is to analyze this complex relation price/quality and recall some important historical events to understand its fragmented system as well as the prohibitive prices of its doctors.*
Design/Methodology/Approach: *Using a graphical analysis on published data we came to a conclusion that the US Health Care System although, it is considered among the most developed systems in the world it needs improvements.*
Findings: *US health care is expensive and inferior to other advanced nations health care.*
Practical Implications: *Expensiveness does not guarantee higher quality in health care.*
Originality/Value: *Analysing the trends in US healthcare providing an explanation for its higher costs based on published data.*

Keywords: *Health Care Systems, US economy, Monopoly power of providers.*

JEL Classification: *I1, I18, I3, I31, I38.*

Paper type: *Research article.*

[1]*Prof., William Paterson University of New Jersey, andreopoulosg@wpunj.edu*
[2]*Prof., William Paterson University of New Jersey, malindretosj@wpunj.edu;*
[3]*Prof., William Paterson University of New Jersey, Pananayidesa@wpunj.edu;*
[4]*Assoc. Prof., William Paterson University of New Jersey, verriosa@wpunj.edu;*

1. Introduction

Oscar Wilde, once wrote "With age comes wisdom." In reality with age come many medical problems and, especially in America, enormous expenses. With the growing population of 65 and older the need for healthcare increases; however, in the US the increase in the cost of healthcare is much higher than that of other developed countries and does not seem associated with an increase in its quality.

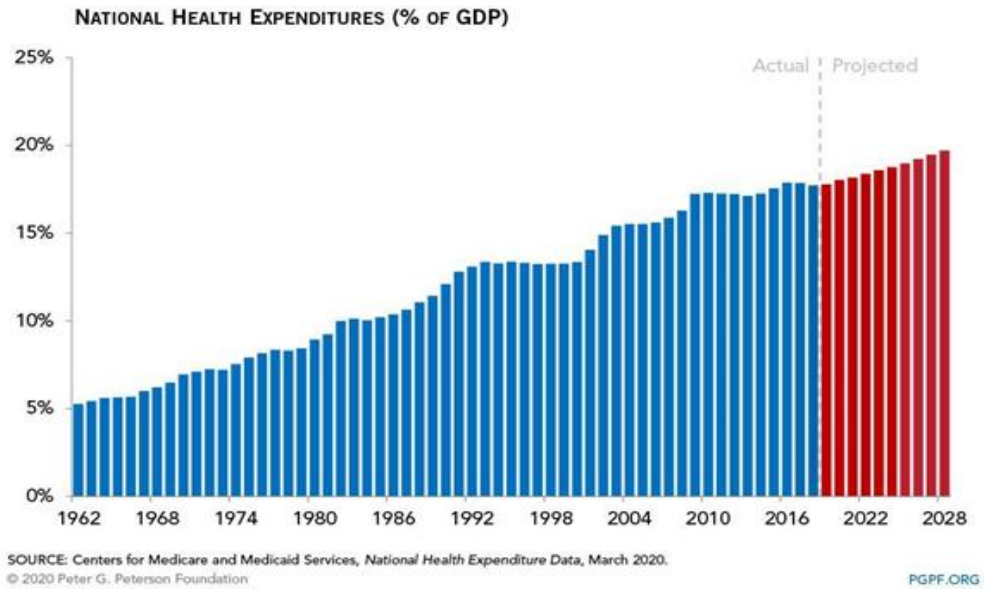
The scope of this paper is to look at the trends in US healthcare and provide an explanation for its higher costs. In addition, we will go back in history to understand its fragmented system and the reasons for the prohibited prices of its doctors.

The paper is structured as follows: section 2 deals with the empirical evidence on US healthcare costs, section 3 discusses the main indicators of US healthcare quality, section 4 provides an explanation of the main phenomena illustrated in the two previous sections, section 5 recalls some important historical events to understand its fragmented system as well as the high price charged by its doctors, and section 6 summarizes the main conclusions.

2. The Cost of US Health Care: Empirical Evidence

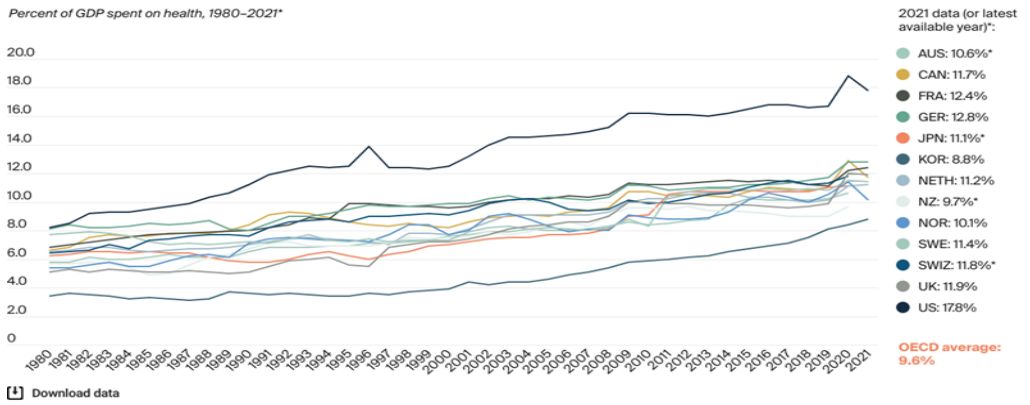
We used published data from various sources to perform our analysis on this commentary report. As one can see from Figure 1, Health Expenditure in the US as a percentage of GDP, has tripled over the 1962-2016 period and is expected to continue to rise until 2028.

Figure 1. *Natural health expenditures (% of GDP)*



An international comparison - see Figure 2 - clearly shows that the United States has the highest percentage of GDP spent on health care, well above that of the other developed countries considered over the whole 1980-2022 period.

Figure 2. *Developed countries, % of health care system to GDP*



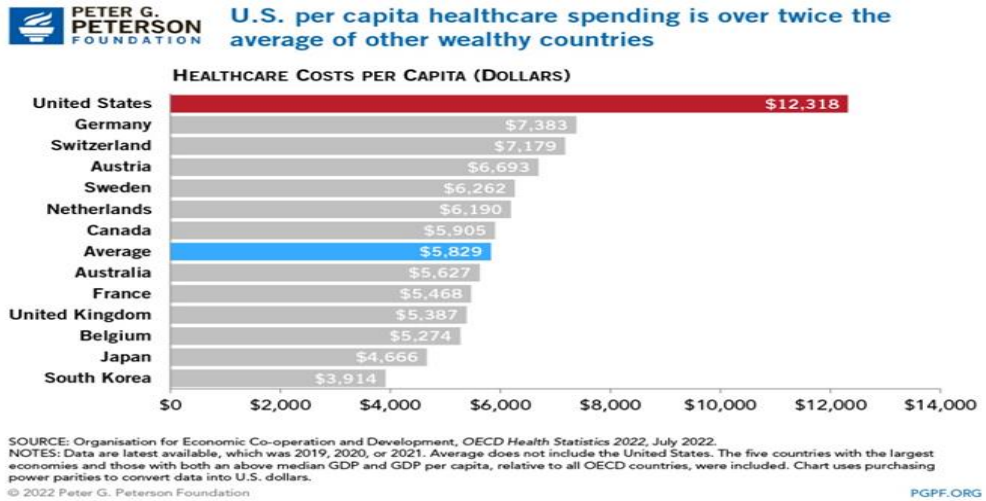
Notes: * 2020 data. Current expenditures on health for all functions by all providers for all financing schemes. Data points reflect share of gross domestic product. Based on System of Health Accounts methodology, with some differences between country methodologies. GDP = gross domestic product. OECD average reflects the average of 38 OECD member countries, including ones not shown here.

Data: OECD Health Statistics 2022.

Source: Munira Z. Gunja, Evan D. Gumas, and Reginald D. Williams II, *U.S. Health Care from a Global Perspective, 2022: Accelerating Spending, Worsening Outcomes* (Commonwealth Fund, Jan. 2023). https://doi.org/10.26099/8ejy-yc74

Looking at healthcare expenditure per capita – see Figure 3 - we have a similar result: the US ranks first and well above that of the other developed countries considered.

Figure 3. Developed countries, % of health care system to per capita GDP



SOURCE: Organisation for Economic Co-operation and Development, *OECD Health Statistics 2022*, July 2022.
NOTES: Data are latest available, which was 2019, 2020, or 2021. Average does not include the United States. The five countries with the largest economies and those with both an above median GDP and GDP per capita, relative to all OECD countries, were included. Chart uses purchasing power parities to convert data into U.S. dollars.

© 2022 Peter G. Peterson Foundation

PGPF.ORG

Looking at the ten top categories of US Federal Spending in 2022 - see Table 1 - one can see that health is the second largest category, after social security, and, combined with Medicare, it represents almost thirty percent of the budget.

Table 1. *Categories of US Federal Spending*

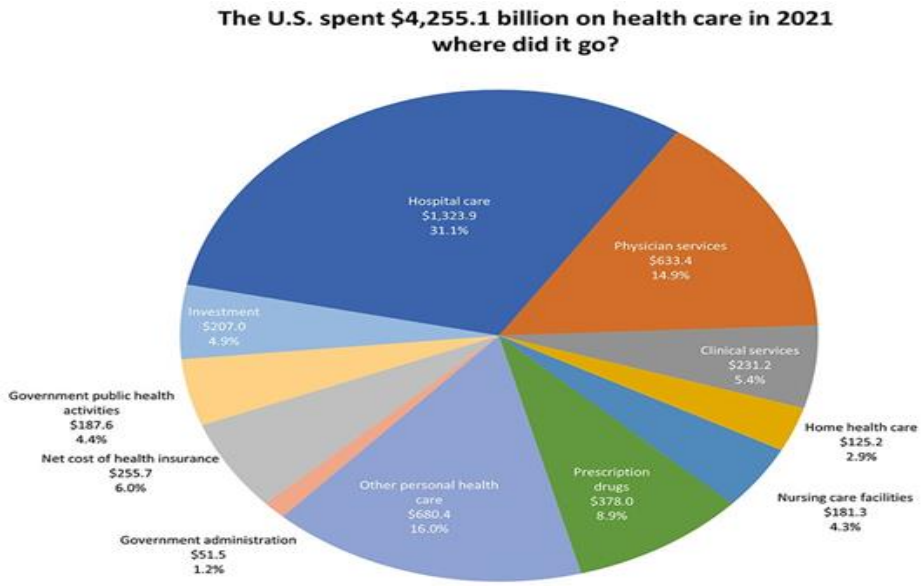
US Government Spending, FY 2022 Top 10 Spending by Category and Agency
Social Security 19%
Health 15%
Income Security 14%
National Defense 12%
Medicare 12%
Education, Training, Employment and Social Services 11%
Net Interest 8%
Veterans Benefits and Services 4%
Transportation 2%
General Government 1%

Source: *Congressional Budged Office.*

In 2022 the total expenses for Health were 70 billion and adding Medicare, the total reaches 124 billion.

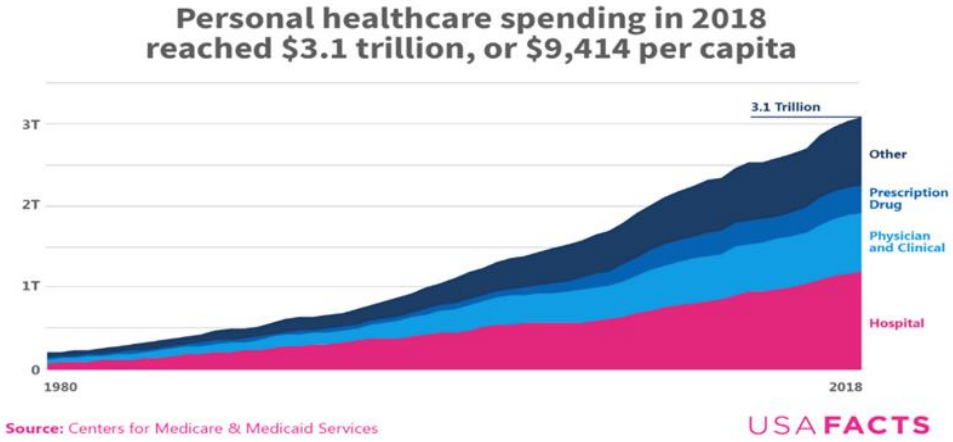
A more disaggregated picture- see Figure 4 - shows that the US has been spending most on hospitals, other personal health care, physicians, and prescription drugs.

Figure 4. Disaggregation of spending in the US Health Care System



As one can see from Figure 5, the spending on hospital, physician and clinical, and prescription drugs all show a substantial increase over the 1980-2018 period.

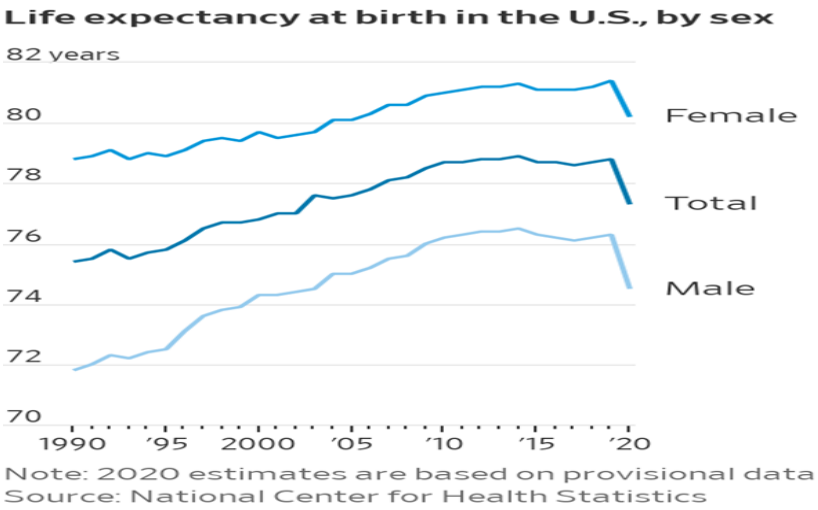
Figure 5. *Personal Health Care spending*



3. The Quality of Health Care: Empirical Evidence

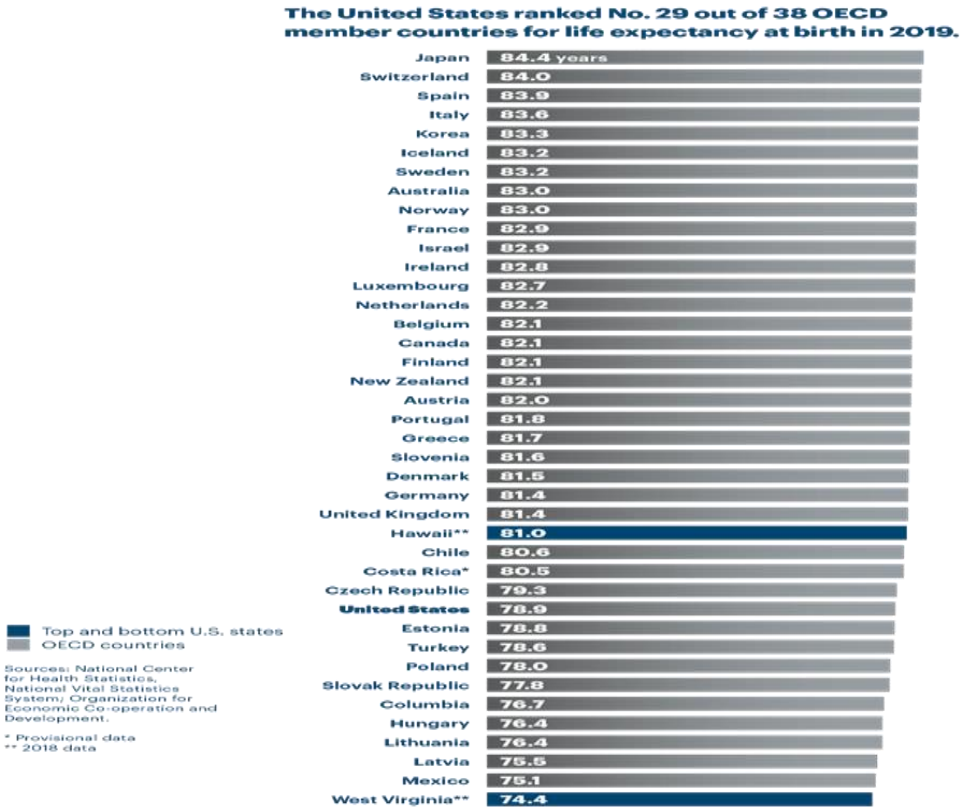
Considering the exceptional high spending of US on healthcare, it is reasonable to ask whether these expenditures result in a higher standard of health for its citizens. For this purpose, we will look at some of the most common indicators of health quality. Starting with life expectancy, as Figure 6 shows- it has declined over the last 5 years for the total population, as well as for females and males.

Figure 6. *Life expectancy*



An international comparison of life expectancy- see Figure 7 - shows that in 2019 the US ranks well below several countries, both developed and developing.

Figure 7. *International Comparison of health care Systems (OECD)*



Turning to premature death, its rate for the US has increased over the last years by approximately three percent mainly due to diseases like diabetes, Alzheimer's, and high blood pressure.

Since the start of the Covid-19 pandemic, the diabetes death rate has increased by fifteen percent, Alzheimer's has increased by twelve percent, and high blood pressure has increased by eleven percent. “Prolonged economic stress on families during the pandemic could also be contributing to increased deaths among those with chronic illnesses” (Lu, 2020).

“Many of them are most likely indirectly related to the virus and caused by disruptions from the pandemic, including strains on health care systems, inadequate access to supplies like ventilators or people avoiding hospitals for fear of exposure to the coronavirus” (Lu, 2020).

Many people also lost jobs due to Covid-19 which had a negative impact on the ability to buy medicine to survive.

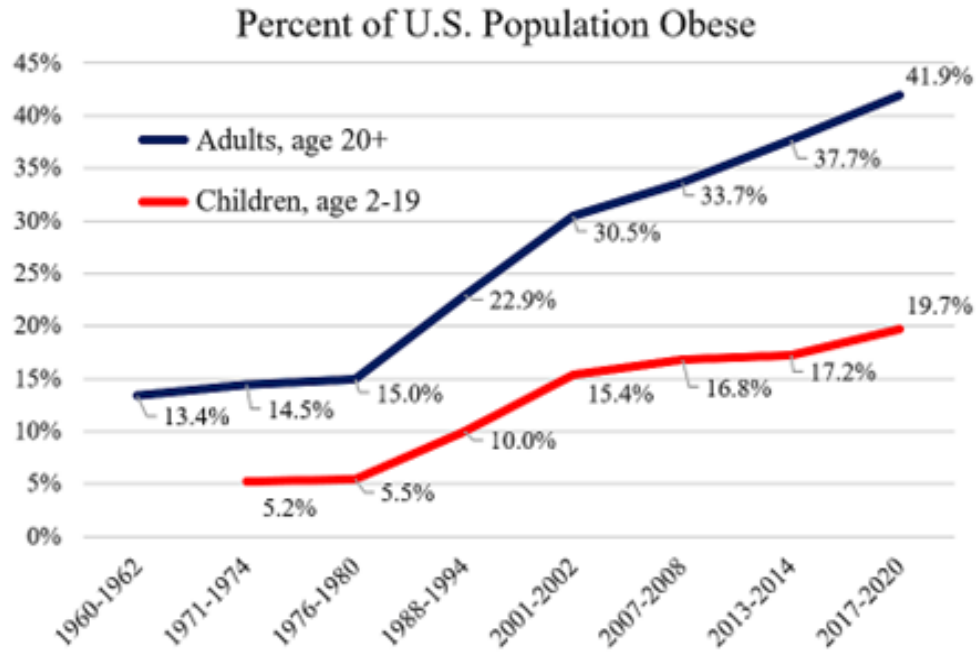
Obesity has been a leading cause of death and problems that lead to premature deaths. “People who are overweight or obese face a lot of health complications, negative consequences, and concerns.

In fact, being overweight or obese increases a person’s risk for many diseases and health conditions. Unfortunately, obesity rates in the United States are rising” (Holland, 2017) and diseases like diabetes, heart problems, and cancer are more common in people who are obese.

Over the 1960-2020 period - as Figure 8 shows- the obesity rate rapidly increased and today, more than forty percent of the US adult population is obese and approximately 20 percent of the children are also obese. Obesity is one of the top five leading causes of death.

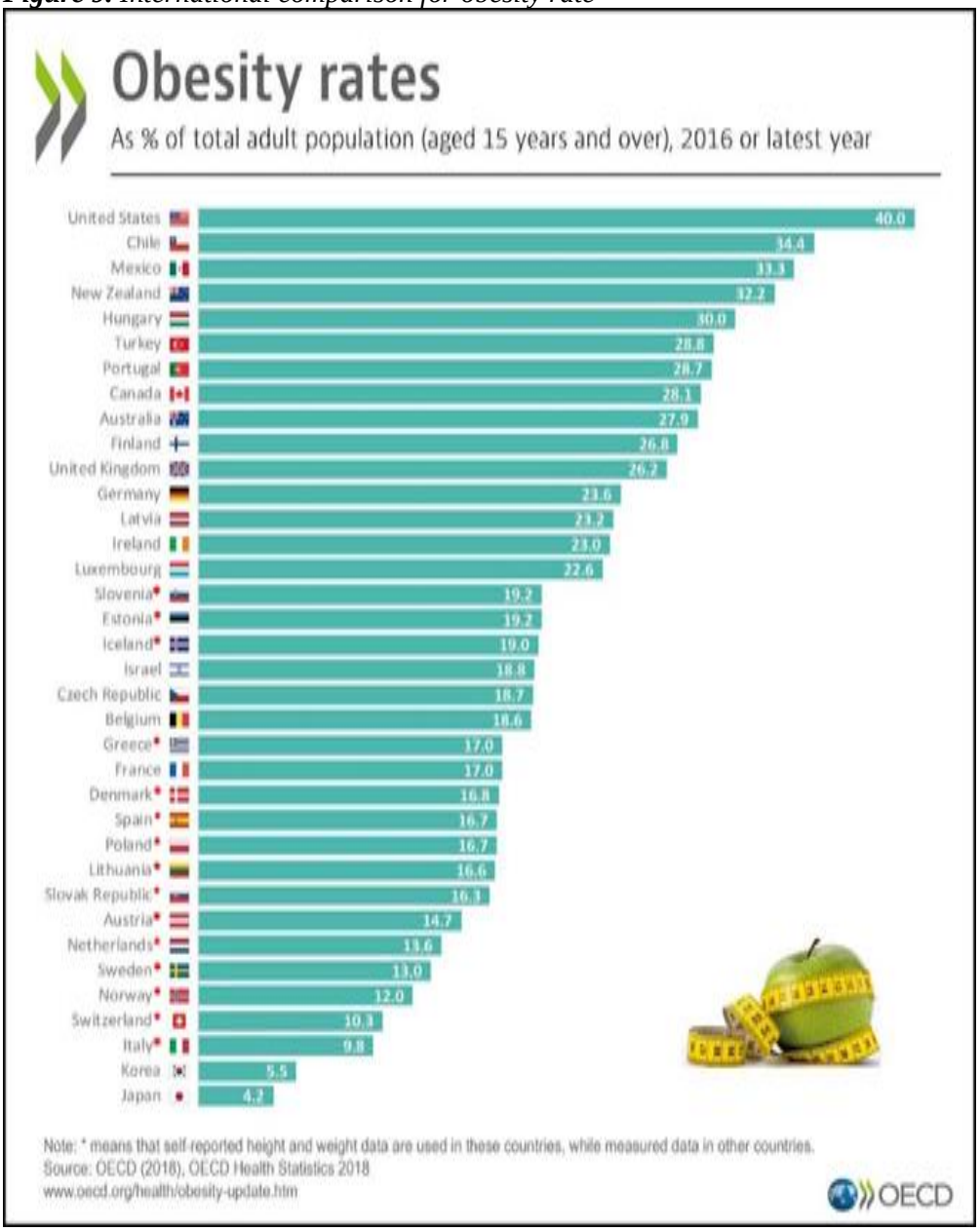
It causes more than 2.8 million deaths each year” (Kimberly, 2017). “Today, Americans eat 23 percent more calories than they did in 1970. One of the leading causes of overweight and obesity is an imbalance of calories” (Kimberly, 2017).

Figure 8. *Obesity rate*



An international comparison-see Figure 9 - shows the US is number 1 for obesity, well above the selected developed and developing countries considered.

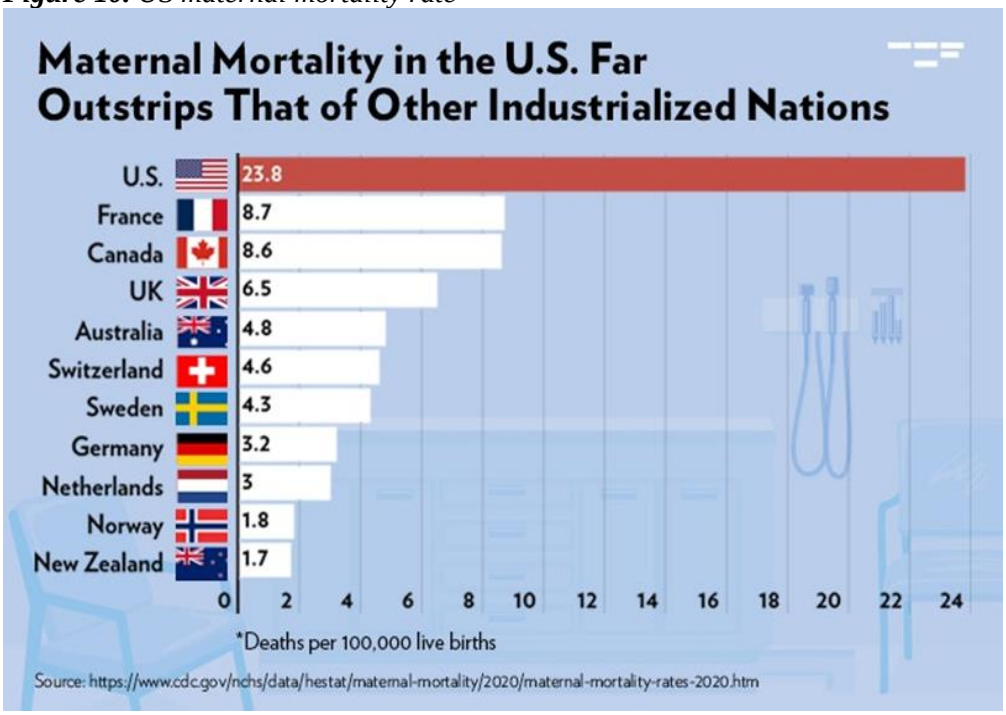
Figure 9. *International comparison for obesity rate*



The infant mortality rate has declined over the 1990-2020 period, however the US ranks 33 out of the OECD countries in 2019. This is mainly caused by congenital disabilities, pre-term birth, low birth weight and maternal pregnancy complications.

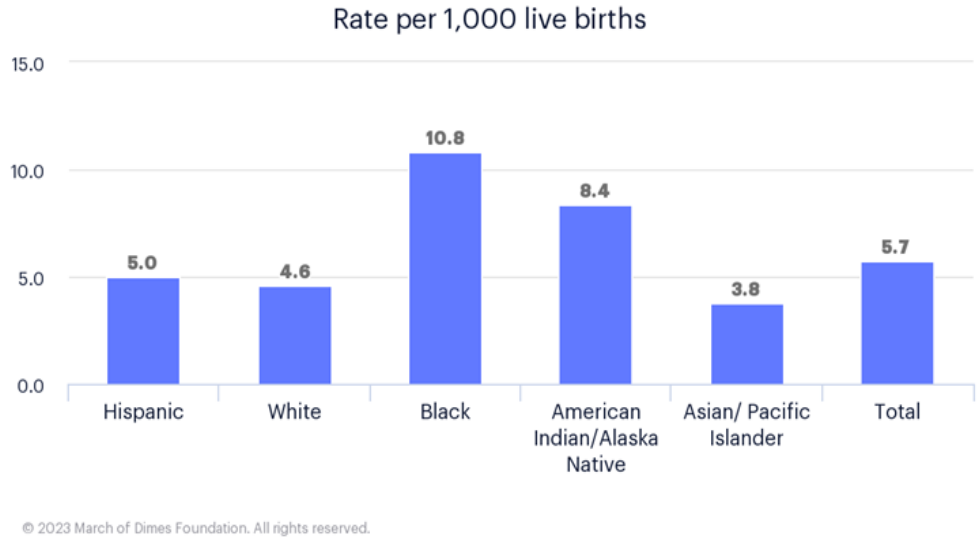
In addition, as Figure 10 shows, the US has a maternal mortality rate well above that of the developed countries considered.

Figure 10. *US maternal mortality rate*



We should add, however, that the quality of health care in the US varies enormously among racial and ethnic groups. As one can see from Figure 11, in 2023 the mortality rate of Blacks is the highest and more than double that of the whites.

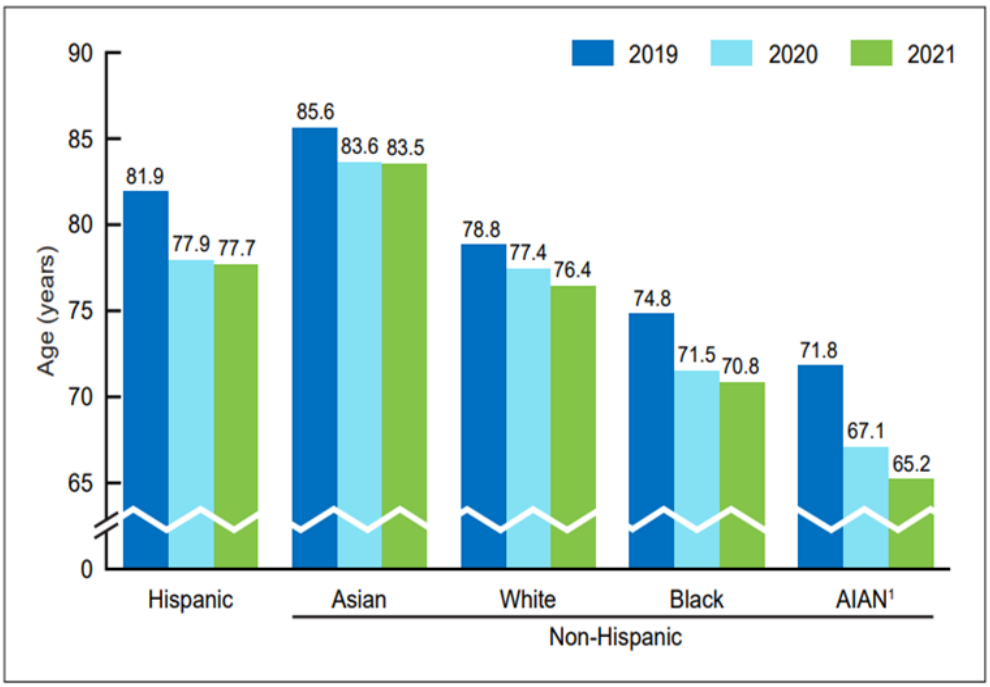
Figure 11. *Mortality rate by races*



In the case of life expectancy- see Figure 12 - in addition to its reduction which is common to all the races, we also notice substantial differences among the races: in 2021 the Asian/Pacific Islanders life expectancy was 11.2 years less that the Whites followed by the Blacks.

This result is largely driven by drug overdose (particularly fentanyl-derivatives and opiates) and suicide which show the highest increases among American Indian and Alaska Native ethnic groups (Ratna, 2020).

Figure 12. *Life expectancy by race*



4. Why is the US Health System so Expensive?

To explain the main phenomena discussed in the previous sections we need to recall several factors which increase health prices in the US, more than in other industrialized countries, and are not necessarily associated to higher quality.

1. **Defensive medicine:** in the US doctors protect themselves from charges of malpractice, thus they tend to order innumerable tests to avoid litigation. Two examples are the high number of C-sections, Ct scan, and MRI requested even when they are not necessary This defense medicine leads to higher demand for medical care, higher incomes for the doctors, and higher costs for the insurance as well as for the patients.

2. **Fragmented Heath care system:** The US Health care system is characterized by multiple actors- policy makers, health care providers, insurers- and this fragmentation produces a complex system. The result is that hospitals, clinics, and doctors have numerous employees to handle billings, referrals, and appeals. This produces administrative costs much higher than in countries with more centralized systems due to a lot of duplications and inefficiencies. In addition, this fragmented organizational structure leads " to disrupted relationships, poor information flows, and misaligned incentives that combine to degrade the quality of health care in important ways" (Randall *et al.*, 2008).

3. **Higher labor cost:** The cost of labor in US health care is much higher than in other advanced countries and this applies to nurses, administrators, primary as well as specialized doctors.

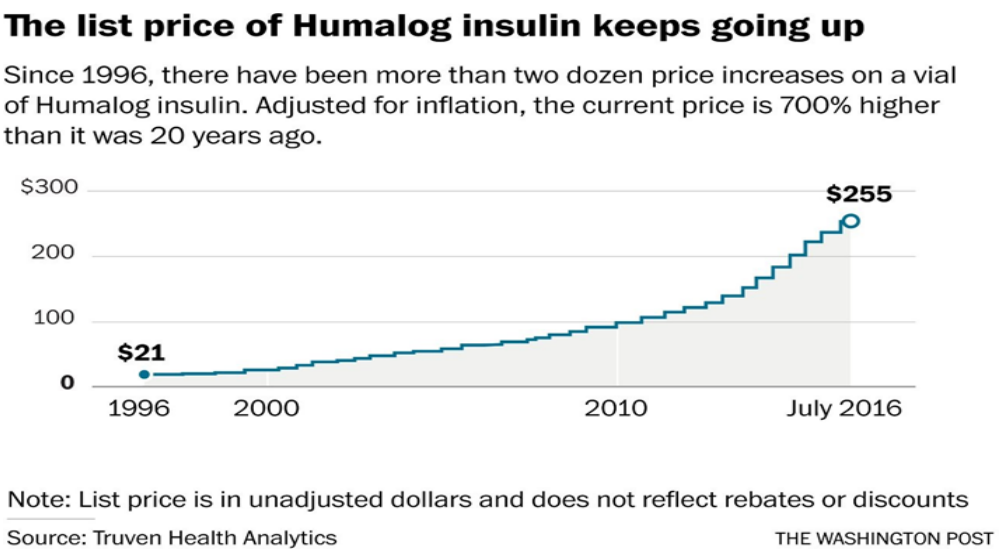
4. **More advanced medical technology:** The US is a leader in medical technology. Over the last decade there has been enormous improvement in technology like nuclear medicine, robotics, minimal invasive surgery, 3D printing, wearable devices, and many others. These innovations are very expensive and when hospitals invest in highly specialized equipment their prices go up.

5. **Higher cost of prescription drugs:** The US has much higher drug prices than the other advanced countries mainly due to the limited negotiation power between the government and the pharmaceutical industries. "Congress's decision to abdicate its ability to regulate drug prices can be directly linked to the financial influence of the pharmaceutical industry on politics. Annual political donations by the pharmaceutical industry have traditionally hovered around the $30 million range.

   However, these numbers have continued to rise" (Ratna, 2020). In many cases the pharmaceutical companies have monopoly power due to strong patent protection laws. "One notable driver is a lack of competition resulting from the U.S. patent system for brand-name drugs, which gives the manufacturer monopolistic control over a given market and therefore the ability to increase prices without competition" (Silverman, 2016).

   Since 2014, some brand-name drugs have increased by sixty percent. In the case of insulin, as figure 13 shows, its price increased by 1114.2 percent at current price over the 1996-2016 period. Prescription drugs play a vital role to the American population since nearly 70 percent of Americans are on at least one prescription drug, and more than half take two. Unfortunately, about a quarter of the population has struggled to afford the prescriptions because of their high prices.

Figure 13. *The list price of Humalog insulin*



In some cases, "expensive new therapies are adopted without good evidence that they improve patient outcomes" (Burke and Rayan, 2014). For example, a new cancer drug was approved whose cost is over $100,000 per year and is expected to extend life for little more than a month (Cutler and McClellan, 2001).

6. **Cost shifting:** In the US many patients do not pay the bills with the results that hospitals and physicians charge higher prices to insured patients in an effort to recover the unpaid bills. In some cases, patients receive fake bills for procedures they never had. The result is that private health insurance subsidizes the cost of charity and public care (Ratna, 2020).

7. **Higher poverty and income disparities:** The US faces enormous challenges related to poverty and income disparities more than other advanced countries. These disparities are associated with lack of access to primary care, chronic illnesses, mental challenges, all leading to emergency situations that require more expensive procedures and higher costs. The care of patients with chronic diseases because of lack of preventive care "accounts for 75 percent of annual healthcare expenditures (National Center for Chronic Disease Prevention and Health Promotion, 2005).

All the abovementioned factors contribute to higher demand and higher cost of health care without necessarily improving its quality. We should also add that the price of the same service in the US varies, based on different factors like the geographic region, the cost of medical education, and the hospital' s share and there is very little relation with quality (Orzag, 2008).

In addition "variation in prices paid by private insurers is due largely to bargains struck with doctors, rather than quality of care (Burke and Rayan, 2014).

This complex and highly defensive US model seems to incentivize the quantity of the health care services delivered rather than the quality of the outcome. One of the consequences of this model is that in the States medical bills, together with the loss of jobs, are the most common reasons for personal bankruptcy.

5. Why Is the US Health Care System so Fragmented and why Do its Doctors Charge Prohibitive Prices?

Particularly important in the debate on US health care is how this fragmented system developed and why the doctors charge such exorbitant prices. Undoubtedly there is a linkage between the two because the doctors' incomes not only reflect the US higher cost of medical education, but also the fear of malpractice as well as the additional administrative duties due to the fragmented health system.

However, when we come to the crucial determinants – the demand and supply of doctors- the story is not so simple, and we need to go back in history to see how the US fragmented system developed and what happened to "the market forces" behind the doctor incomes.

A somewhat systematic healthcare started in the 19th century in the US and in 1920 the hospital insurance was introduced. The first people to enroll in this program was a group of teachers called "subscribers." The hospital insurance was cheap, and the hospital bill was roughly the same whether the patient had a baby or a brain tumor.

At one point, patients had no idea how much the costs of medical services were and became indifferent to the cost of medical care. This often led to consumers demanding more services, which increased their costs. In addition, the insurance only paid off if the medical service was incurred in the hospital, thus treatments that could have been outpatient were treated in the hospital even though that was the most expensive form of medical care.

State insurance departments tried to regulate and push insurance companies and medical professions to adhere to the same standard insurance policies, but that did not happen. If the medical industry did listen to the state insurance department, the economic history of modern American medicine and healthcare insurance may have taken a different turn.

A new healthcare insurance policy was developed in 1940 known as employer paid healthcare. Free healthcare from employers became a major benefit. The National Labor Relations Board ruled that health benefits were subject to collective bargaining while the IRS made employee healthcare insurance a tax-deductible business expense (Gordon, 2018).

Insurance companies began to look at the data of companies' employees to drive up the costs for employers (Cristea and Thalassinos, 2016). Some Americans had no choice but to take whatever healthcare plan their employer chose to provide while others who bought their own health insurance could pick the better and most cost-effective plans.

The government began to have some control over health insurance, but it was not until the establishment of Medicare and Medicaid that gave it a lot of power over hospitals. In 1965, Medicare health insurance was developed to help the elderly (sixty-five years and older) and Medicaid health insurance was developed to help the poor. Medicaid did increase the number of people who could afford medical care, but these medical plans brough other problems into effect.

Medicare and Medicaid were known as "socialized medicine" because these plans were owned and operated by the government. Additionally, the Affordable Care Act (ACA) introduced by Obama in 2010 increase health insurance coverage for the uninsured and reduced the cost of coverage for those who qualified.

These events show that the US health care system has been populated at various stages by different stakeholders such as hospitals, insurers, and physicians. Over the years they acquired significant influence and high profitability and did not have any intentions to lose them. One should also add that many Americans, and not only the conservatives, believed in the free market and were against a socialized health care system which would have required a substantial role for the government.

Going back in history, it is also important for the explanation of the extremely high price of US doctors. For this issue we need to go back to 1910 when Alexander Flexner published a seminal report, known as the Flexner Report (Flexner, 1910).

This report recommended that a substantial fraction of the existing medical schools should be closed. Flexner believed that medical education in the US varied widely in terms of quality and curriculum, many schools lacked rigorous standards and practice, and there was an overpopulation of not properly qualified doctors. Thus, he concluded that it was better to have fewer, but better trained doctors.

To make this possible, schools had to be approved by the American Medical Association (AMA) and the Association of American Medical Colleges (AAMC). This gave the AMA and AAMC a substantial control over the supply of medical schools and the rate of production of doctors. From 1920 to 1944 the number of medical schools decreased from eighty-five to sixty-nine (Kowarski, 2017).

Still to this day, getting into medical schools is hard. From 2006 to 2016, the number of applicants to US medical schools increased more than thirty-five percent but the average acceptance rate has decreased (Kowarski, 2017).

According to the data of the AAMC for the 2021 application cycle the average acceptance rate was 41 percent. However, some highly competitive medical schools have an acceptance rate of 5 percent. There is a long waiting list of qualified students willing to pay tuition, however the availability of open slots is not growing nearly as fast.

Another important factor which influences the supply of doctors is the immigration policy; the US has had a limited number of visas available each year with the result that demand exceeds supply. In addition, the certification process for a foreign doctor is the same as that of an American student.

This means that she/he must pass the same exams and then do three or more years of residency and fellowship training even though the foreign doctor has practiced for years in her/his home country. Considering that the number of residencies has not kept pace with the medical schools, and without residency it is impossible to earn a medical license, many foreign doctors become discouraged and abandon the idea of coming to the US.

Turning to the demand for doctors, the main determinants are, population growth- in particular that of senior citizens- as well as the increase in chronic diseases and by 2030 the number of US resident aged 65 and older is expected to increase by 55 percent.

A supply higher than demand means higher incomes for doctors and, if more physicians are added, their incomes will be reduced. In this context one should remember that the US is the only developed country where the aspiring doctors first take a four-year undergraduate degree, then go to medical schools for another four years then there is the residency and training.

In most European countries students go directly to medical schools and get a degree in six years. The result of the American system is that many of its doctors start their career with extremely high debt- it can reach $ 400,000- and a greater supply of doctors would mean an inability to pay their debt.

However, the shortage of doctors is becoming a serious problem in the US: according to AAMC there will be a shortage ranging from 54,100 and 139,000 physicians by 2033. This includes both primary care and specialists.

It is very important to address this shortage not only because it keeps the cost of doctors and health care incredibly high but also because it increases the waiting times, limits access to care, particularly in rural and poor areas where is difficult to attract doctors, and puts pressure on the existing doctors with the result that they are overworked, spend less time on patients, and reduce the quality of care.

The American Medical Association (AMA) bears a substantial responsibility for the shortage of doctors since in the past it has been lobbied for reducing the number of medical schools, and cutting the residency.

However, in recent years the AMA has recognized that its actions had negative consequences and it is now encouraging the Congress to remove the limits that it created. This, together with more flexible policies for immigrant doctors, will reduce the doctor shortages and make their services more accessible.

These changes, however, will require a greater federal expenditure in a period in which the government is already facing high deficits and debt. In addition, it will be necessary to overcome the strong opposition to expanding the role of the government which is not easy in the US Congress.

6. Conclusion

The scope of this paper is to understand why the US health care system is more expensive than that of many other developed countries and not necessarily associated with better quality.

We suggested that the main reasons behind the higher cost of the US health care are defensive medicine, fragmented Heath Care System, higher labor cost, more advanced medical technology, higher cost of prescription drugs, cost shifting, higher poverty, and income disparity.

We also went back in history to understand why the US health care system is fragmented and why its doctors' prices are so prohibitive. We found that over the years various stakeholders like- hospital, insurers, health care providers and physicians populated the US health system; they acquired significant influence, high profits and did not have any intention to lose them.

Turning to the high prices of doctors, we suggest that at the origin of their high prices are institutional factors like the Flexner report and the influential lobbying of the AMA which limited their supply. An important role was also played by the restrictive immigration policies imposed by the government.

These policies resulted in serious shortages of doctors with negative effects on the cost and quality of healthcare. In recent years the AMA has changed position and is asking the Congress to reduce the restrictions.

However, this is not easy to achieve since it will require two difficult things: greater federal expenditure in a period of high deficits and debt and to overcoming the political opposition of those congressman who believe in limited government intervention.

References:

Cutler, D., McClellan, M. 2001. Is Technological Change in Medicine Worth it? Health Affairs, 20(5), 11-29.

Cristea, M., Thalassinos, E. 2016. Private Pension Plans: An Important Component of the Financial Market. International Journal of Economics & Business Administration (IJEBA), 4(1), 110-115.

Flexner, A. 1910. Medical Education in the United States and Canada. Washington, DC: Science and Health Publications,

Gordon, J. 2018. A Short History of American Medical Insurance. Imprimis, 47(9).

Holland, K. 2017. Obesity Facts. Healthline, 5 Dec.

Kowarski, I. 2017. Getting into Medical Schools is Becoming Harder. US News, 31 Oct.

Leah A.B., Ryan, M.A. 2014. The complex relationship between cost and quality in US health care. AMA Journal of Ethics, 16(2), 124-130.

Lu, D. 2020. 2020 Was Especially Deadly. Covid Wasn't the Only Culprit. The New York Times, 13 Dec.

National Center for Chronic Disease Prevention and Health Promotion. 2005. Chronic Disease Overview.

Orzag, P. 2008. Geographic variation in health care spending. Congressional Budget Office.

Randall, D., Cebul, J., Rebitzer, B., Taylor, J.L., Votruba, E.M. 2008. Organizational Fragmentation and Care Quality in the U.S. Healthcare System. Journal of Economic Perspectives, 22(4), 93-113.

Ratna, H. 2020. Medical neoliberalism and the decline in U.S. healthcare quality. Journal of Hospital Management and Health Policy, 4.

Silverman, Ed. 2016. What's behind skyrocketing insulin prices? PBS News, 5 Apr.

Woolf, S. 2020. Excess Deaths From COVID-19 and Other Causes, March-July 2020. Jama Network, 12 Oct.