

The US and High Health Care Spendings: A Comparative Case With OECD on the Three Prominent Factors

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ABSTRACT: Attaining state of good health and accessing to decent health care are desirable for human beings. The access to health care has been enshrined in several human rights declarations, notably the Article 12 of the International Covenant on Economic, Social and Cultural Rights. The Article recognises the right to health and role of governments to create and ensure universal coverage to healthcare. An indication of a good standard of health is measured through having equal care access at an affordable price. In reality, the health statistics from the Organization for Economic Cooperation and Development (OECD Health Statistics, 2018) indicated that the health expenditures in many developed countries are relatively high in comparison with their Gross Domestic Product (GDP). This paper starts out by attempting to find an explanation as to why the U.S. health care spending is high relative to its OECD counterparts. The review on existing literatures found that all OECD members have rising healthcare and the United States is indeed the highest of all.

KEYWORDS: health care expenditure, health care spending, high spending factors

Introduction

Attaining state of good health and accessing to decent health care are desirable for human beings. The access to health care has been enshrined in several human rights declarations, notably the Article 12 of the International Covenant on Economic, Social and Cultural Rights. The Article recognises the right to health and role of governments to create and ensure universal coverage to healthcare. An indication of a good standard of health is measured through having equal care access at an affordable price. In reality, the health statistics from the Organization for Economic Cooperation and Development (OECD Health Statistics 2018) indicated that the health expenditures in many developed countries are relatively high in comparison with their Gross Domestic Product (GDP). In 2017, the United States had the highest annual healthcare expenditure at 17.2% of its GDP or USD 9,111 per capita, which was much higher than the expenditures of its OECD counterparts, which was at 8% of their GDP or USD 3,368.10 per capita (Table 1 and Figure 1). However, the growth rates of all OECD countries' healthcare expenditures were similar (Figure 2).

Table 1. Current expenditure on health on all functions, 2017
(Share of gross domestic product; %)

Year 2017					
Country	%	Country	%	Country	%
Australia	9.1	Iceland	8.5	Poland	6.7
Austria	10.3	Ireland	7.1	Portugal	9.0
Belgium	10.0	Israel	7.4	Slovak Republic	7.1
Canada	10.4	Italy	8.9	Slovenia	8.0
Chile	8.1	Japan	10.7	Spain	8.8
Czech Republic	7.1	Korea	7.6	Sweden	10.9
Denmark	10.2	Latvia	6.3	Switzerland	12.3
Estonia	6.7	Lithuania	6.3	Turkey	4.2
Finland	9.2	Luxembourg	6.1	United Kingdom	9.6
France	11.5	Mexico	5.4	United States	17.2
Germany	11.3	Netherlands	10.1		
Greece	8.4	New Zealand	9.0		
Hungary	7.2	Norway	10.4		

Source: OECD Health Statistics

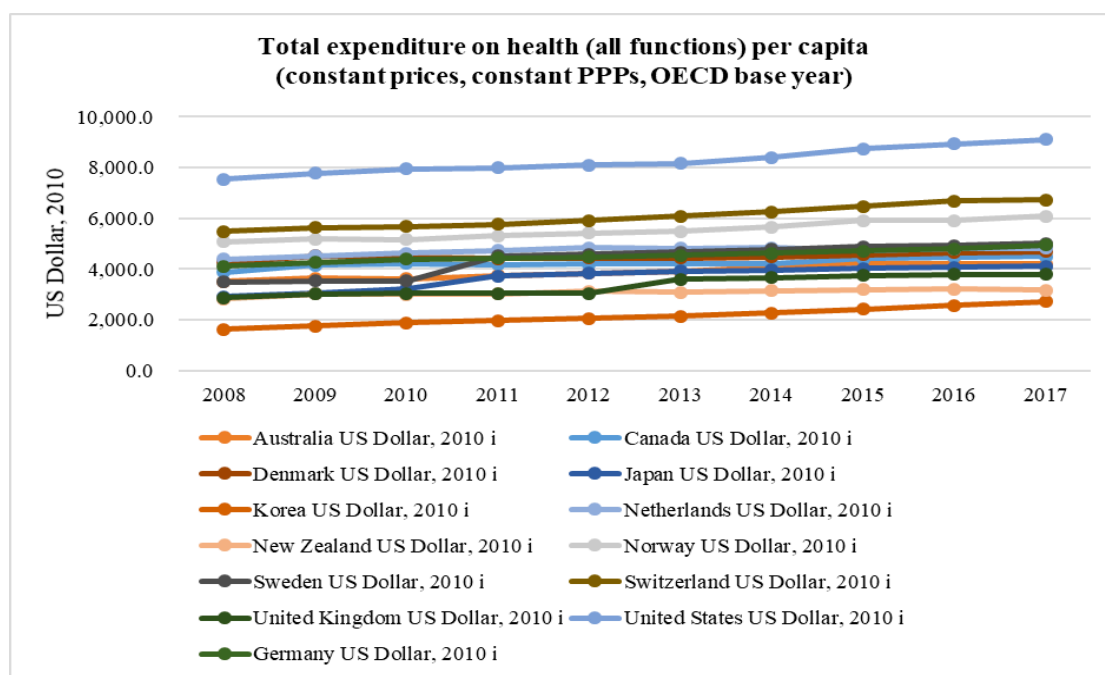


Figure 1. Total Expenditure on Health per Capita in selecting OECD countries, 2008 – 2017

Source: OECD Health Statistics

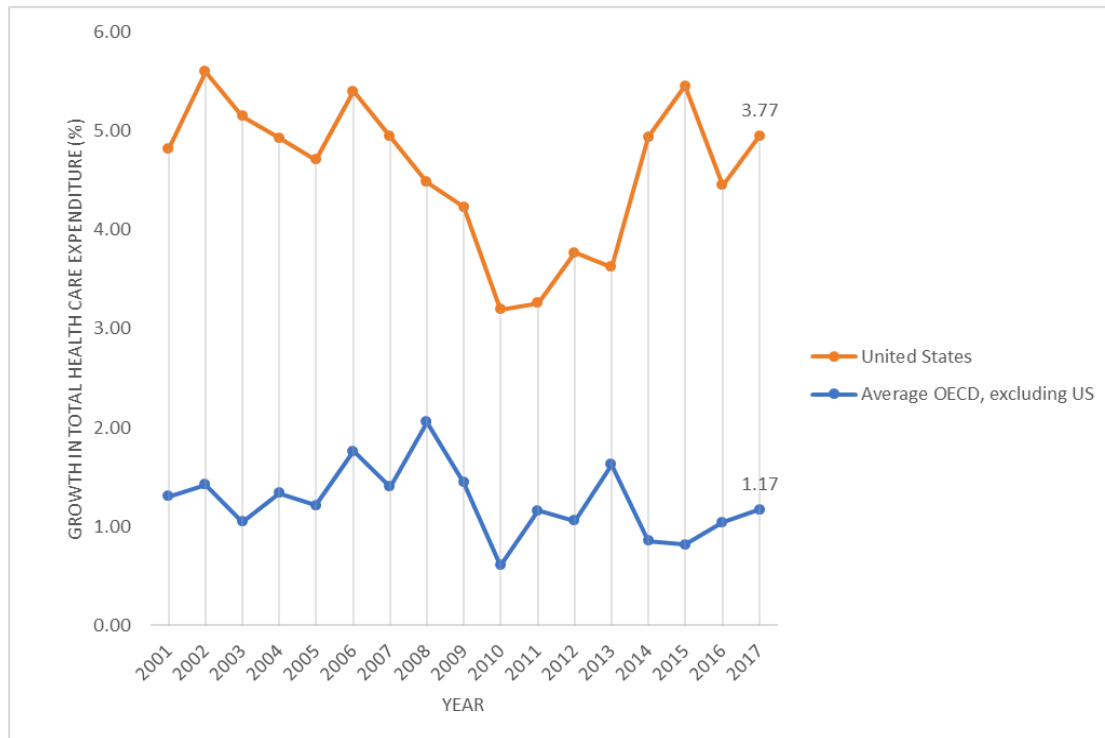


Figure 2. Growth Rate of Total Expenditure on Health in United States and on Average OECD Countries from 2008-2017

Source: OECD Health Statistics

For the United States, the high and increasing cost of healthcare is not a new issue, but the topic still receives a lot of attention because of the country's rising healthcare spending which has direct negative impacts on the nation's economy and its population's quality of life (Alliance for Health Reform 2012). For example, the government receives its funding for public health spending from tax revenue. Thus, the increased healthcare spending requires increased taxes. Furthermore, there is an implication on the private sector as well. The increased cost of healthcare means that the unemployment rate will increase because employers are responsible for paying their employees' insurance premiums. Also, higher rates of unemployment could result in lower national output along with the quality of life and increased public health costs due to sickness benefit payments (Kuhn, Lalive, & Zweimüller 2009). In the 1940s, healthcare represented only 5% of the United States per capita income growth whereas the figure had risen to 90% during the 2000-2009 period. (Alliance for Health Reform 2012). The implication is that the majority of earning from income growth is directed toward health care leaving just 10% on other spending. The overall trend goes in the same direction; the proportion of the U.S. national health expenditures in the U.S. GDP raised from 5% in 1960 (Getzen 2017) to 17.9% in 2016 (National Health Expenditure Accounts, Centers for Medicare & Medicaid Services 2018).

Main Factors in the High U.S. Healthcare Expenditures

Factor 1: High Price of Prescription Drugs

At present, the per capita prescription drug spending in the United States is USD 1,208.40, which is higher than the average of the other OECD countries at USD 539.63

(Table 2; Pharmaceutical spending, OECD Data 2016). Prescriptive drug spending was valued at USD 329 billion or 1.77% of the U.S. GDP and approximately 10% of the U.S. healthcare spending in 2016 (American Academy of Actuaries, 2018). Furthermore, the price increase of specialty drugs¹ exceeds Consumer Price Index growth. It was predicted that, by 2017, the country will spend up to 44% of its overall drug spending on specialty drugs (America's Health Insurance Plans 2015; Express Scripts 2016). In addition, the international health policy survey by Commonwealth Fund (2013) found that among 11 studied countries, the U.S. and New Zealand had the highest adult drug consumption rate (2.2 drug per adult) whereas the average rate of the remaining nine countries were at 1.47 drugs per adult.

Table 2. Pharmaceutical Spending (Total, US dollars/capita, 2016 or latest available)

Country	Per Capita Pharmaceutical Spending (US dollars)	Country	Per Capita Pharmaceutical Spending (US dollars)
Australia	639.98	United Kingdom	475.69
Austria	631.12	Greece	594.76
Belgium	683.59	Hungary	565.70
Canada	832.84	Ireland	676.21
Switzerland	1,080.40	Iceland	487.59
Costa Rica	171.02	Israel	314.71
Czech Republic	432.59	Italy	606.96
Germany	777.47	Japan	873.93
Denmark	335.22	Korea	573.09
Spain	620.99	Lithuania	540.99
Estonia	378.22	Luxemburg	554.45
Finland	516.06	Latvia	451.82
France	662.67	Mexico	231.81
Netherlands	405.96	Slovak Republic	565.62
Norway	470.86	Slovenia	507.17
Poland	368.99	Sweden	524.44
Portugal	418.97	United States	1,208.35
Russia	375.45	Average, excluding United States	539.63

Source: Pharmaceutical spending, OECD Data

As a consequence of high health care spending in the U.S. in comparison with its OECD counterparts, there have been many studies that attempt to identify the actual cause and give explanations of the major factors affecting the high cost in the U.S. In this essay, three major factors commonly reported in the existing literatures are discussed: the high price of prescription drugs, the high-cost diagnostic technology, and the high rate of chronic diseases.

This essay identifies two prominent causes of the high drug prices in the United States. Firstly, the U.S. patent system grants monopolistic power to pharmaceutical firms in drug pricing (Kesselheim, Avorn, & Sarpatwari 2016; Parente 2018). As a

¹ Specialty drugs are defined as high-cost, high complexity and/or high touch drugs.

result, all pharmaceutical companies that develop new drugs can price the products without outside interference, and other off-patent pharmaceutical companies are not allowed to compete during the patent period.

The new drugs that receive patent approval are called brand-name drugs or original drugs. The advantage of granting monopolistic power is to encourage pharmaceutical companies to develop new drugs which, in turn, will improve the population's quality of life. In 2017, Brand-name drugs account for approximately 10% of the total number of drug prescriptions in the United States. However, they account for 77% of total drug spending (Association for Accessible Medicines 2018). Moreover, the price index of brand name drugs has been rising since 2008. The prices of brand-name drugs had increased by 208% from 2008 to 2016, whereas the generic drug prices dropped by 74% during the same period (Association for Accessible Medicines, 2017). However, there is no evidence to prove that the high prescription drug prices significantly motivate drug development (Kesselheim, Avorn, & Sarpatwari 2016). Furthermore, the pharmaceutical companies spend twice as much money on promotions of their drugs compared to their research and development (R&D; Gagnon & Lexchin 2008).

This monopolistic power with its implication on pricing is less pronounced in other OECD countries—such as Australia, Canada, Germany, and the United Kingdom—where the national health insurance systems are applied, and drug prices are negotiated by government representatives. These representatives are also able to refuse to cover several drugs, resulting in lower drug prices in the abovementioned countries (Kanavos, Ferrario, Vondoros, & Anderson 2013).

The use of generic drugs can solve the problem of the expensive prescription drugs given their much lower prices. There are, however, questions on the differences in the effectiveness between the original drugs and generic drugs. According to the U.S. patent regulations, the pharmaceutical companies must disclose the ingredients of the patented drug, but are not required to reveal their manufacturing processes. Consequently, the undisclosed manufacturing processes lead to a possibility that the generic drugs can be less effective than the original drugs. The U.S. government resorts to addressing the effectiveness issue through drug content and bioequivalency assessments (Harvard Women's Health Watch 2018). In fact, generic drugs may not always be an answer as Kesselheim, Avorn and Sarpatwari (2016) found that the cost of approximately 400 generic drugs had risen by 1,000% during the 2008–2015 period.

Secondly, the results of supply-induced demand from doctor's prescription decisions. The patients often do not have sufficient information regarding the effectiveness of the drugs options for their treatments and therefore doctors have to make the decision on patient's behalf. It is believed that doctors who prescribe the new drugs receive commission fees from the pharmaceutical companies and thus might be compelled to prescribe the new drugs more often than necessary. Nevertheless, the literature still lacks empirical evidence to confirm whether this belief is true (Ornstein, Tigas & Jones 2016).

Factor 2: High-Cost Diagnostic Technology

Diagnostic technology has progressed at a fast pace, particularly in developed countries. An example is the diagnostic imaging technologies, which provide highly accurate results but at a high cost (Squires & Anderson, 2015). These technologies include computed tomography (CT) scanners, magnetic resonance imaging (MRI), and positron emission tomography (PET) scanners. Great amounts of money were spent on the R&D of such technologies. For example, it was found that, spending on medical technology

development in Germany in 2017 was as high as EUR 3.24 billion (Germany Trade & Invest 2017), whereas an estimated USD158.7 billion was spent on medical and health R&D investments in the United States in 2015 (ResearchAmerica 2016). Furthermore, it is anticipated that the growth rate of medical technology R&D budgets worldwide will be approximately 5.4% per year (Iversen & Grünfeld, 2012), which is relatively high. The implication is that the resulting technology will also be expensive to acquire and operate. According to the International Federation of Health Plans (2015), the average U.S. commercial MRI fee is USD 1,119, and the average fee for a computed tomography scan of the abdomen is USD 844. These fees are much higher than those of other OECD countries, which have average MRI fee around USD 579.25 and average CT scan fee approximately USD 433 —with the exception of the fee for the computed tomography scan, which costs more in the United Kingdom (Table 3).

Table 3. Average Diagnostic Imaging fees in selecting OECD countries, 2015
(US dollar)

	MRI	CT Scanner
Australia	215	-
Switzerland	503	383
New Zealand	811	483
United Kingdom	788	860
United States	1,119	844

Source: International Federation of Health Plans

A number of studies indicate that technological progress is considered one of the main factors for high healthcare expenditures and the growth of healthcare expenditures (Alliance for Health Reform 2012; Catlin & Cowan 2015; Department for Professional Employees 2016; Sorenson, Drummond & Kahn 2013; Squires 2012; White 2007). A paper by Xu, Saksena & Holly (2011) found that studies using cross-sections models yield similar conclusions to those using time series models.

In addition to the higher cost of technological applications compared to other diagnostic methods such X-rays or traditional diagnostic methods, OECD Health Statistics (2018) showed that these expensive technologies' frequency of use in the United States is significantly greater than that in other countries. Furthermore, a positive correlation between the MRI units available per million people and the frequency of use of MRI examinations per 1,000 people was found; however, the same correlation could not be found in other countries. It was also found that the units available and frequency of use in the United States were higher than the average frequency of use in other OECD countries. Such a correlation might be the consequence of medical practice patterns or cultural trends in using new technologies for treatment (Kamal & Cox 2018).

Although these diagnostic imaging technologies offer relatively accurate diagnoses, they also result in high expenditures in healthcare. The situation gives rise to questions regarding cost-effectiveness (Anand, 1996; Institute of Medicine, 1991; Skinner 2013) and the quality of healthcare services. The OECD Health Statistics (2018) shows that the U.S. healthcare is not better than that of other OECD countries, despite its higher frequency of technological applications.

Factor 3: High Rate of Chronic Diseases

Chronic disease is another cause of higher spending in the U.S. compared to other OECD countries (Alliance for Health Reform 2012; Department for Professional

Employees 2016; Squires 2012; Thorpe 2006; Table 4). An example is the case of Medicare which is the American's national health insurance programme for the disabled and elderly. It was reported that five following chronic diseases are the major causes of high Medicare spending: diabetes, arthritis, kidney disease, hypertension, and mental disorders (Alliance for Health Reform, 2012). The expenditure is higher than other EU countries; the average Medicare spending on chronic diseases in United States is equivalent to USD 1.1 trillion or approximately 6% of U.S. GDP (Waters & Graf 2018) whereas the average of health care spending in other EU countries are EUR 115 billion or approximately 0.8% of GDP (OECD-EC report, 2016). The notable feature of chronic diseases is that they require lifelong treatment; accordingly, Medicare spending will continue to rise. It also means that chronic disease patients require lifelong drug consumption, the aforementioned high cost of prescription drugs exacerbate the problem further. In 2010, it was found that the spending on brand-name prescription drugs in the United States was approximately 5%–198% (Kavarnos, Ferrario, Vadoros, & Anderson 2013) higher than in other OECD countries.

Table 4. Chronic Diseases (Diabetes, arthritis and hypertension) in the selected OECD countries, 2017 or the latest year (Share of adults; %)

	Diabetes	Arthritis	Hypertension
Netherlands	4.6 ^a	10.9 ^f	17 ^e
United Kingdom	4.2 ^a	13 ^f	25 ^g
United States	9.4 ^b	23 ^c	33.2 ^d

Source ^a IDF Atlas, 8th Edition, 2017

^b American Diabetes Association

^c Arthritis Foundation

^d National Center for Chronic Disease Prevention and Health Promotion

^e OECD/European Observatory on Health Systems and Policies (2017)

^f Models of Care in Arthritis, Bone & Joint Disease

^g Public Health England

Furthermore, it was found that the spending on end-of-life treatment is very high. According to Medicare reports, it was suggested that spending on chronic diseases was responsible for around 32% of total Medicare spending during the last 2 years before death (The Dartmouth Atlas of Healthcare 2013).

Apart from chronic diseases, the lifestyles and behaviours of the population have direct impacts on health. It was found that high sugar and high fat consumptions are prevalent in the United States. Americans' eating habits are the major cause obesity (Schembre et al., 2012). The Centers for Disease Control and Prevention (2018) defined any person whose BMI range is equal to or over 30 as being obese. Based on the statistic retrieved from OECD data, 71% of Americans aged 15 years and older are considered obese. The number of clinically obese in the United States is greater than those in other OECD countries, except in Chile and Mexico (Overweight or Obese Population, OECD Data 2017). The average percentage of people in obese populations aged 15 years and above in other OECD countries is 52.12%.

Obesity leads to many chronic diseases such as cardiovascular diseases, diabetes, and cancer, which require high spending on Medicare treatment (Wang, McPherson, Marsh, Gortmaker & Brown 2011). It is forecasted that about 65 million people in the U.S. population will become patients with obesity in 2030, which will result in a greater number of patients with other chronic diseases, such as diabetes, stroke, and heart

disease. Thus, the annual government spending on Medicare is anticipated to be about USD 48 billion – USD 66 billion more by 2030 (Wang, McPherson, Marsh, Gortmaker & Brown 2011). Another study indicated that medical costs on obesity treatment in the United States almost reached 10% of all medical spending in 2008 (Finkelstein, Trogon, Cohen & Dietz 2009).

Discussion

This paper found that many other studies have been conducted to identify the cause of higher healthcare expenditure in the United States compared to that of the rest of the world. All studies reported in this essay employed secondary data published by international organisations and local government agencies. It must be noted that some of the data is incomplete; for example, the OECD Health Statistics Database. Also, in some countries where English is not the official language, such as Japan, the information available in English might not be accurate or up-to-date.

The methodologies for these studies can be divided into two main approaches, the graphical and trend depictions and regression models. The first approach explains the cause of the situation by visualising and interpreting the graphs to provide an overall picture of different health aspects. These studies can provide some clues to identify the factors which might be related to healthcare expenditure; however, they are unable to examine the causation and cannot prove each factor's significance. The strength of this type of research is that the reported trends can be used as a basis for identify potential factors to be included in regression models.

For the regression model approach, its strength lies that the fact that the methods has to have a sound theoretical underpinning or empirical evidence before running the model. The numerative nature of the results makes it easier to understand and quantify.

The limitation of the regression approach is that the researchers have to selected a limited number of factors across the whole range of possible factors, thereby leaving some factors unaccounted for. Such factors may be logically trivial but may be proven to be a significant factors had it been included into the models. Additionally, the issues on correlations within the independent variable were not robustly examined.

This study have also found a number of factors that yield inconclusive results such as income per capita and aging population. The conclusion made by Das and Martin (2010) and by Gerdtham et al. (1991) regarding per capita income stated that per capita GDP impacts healthcare expenditure; in contrast, according to the research conducted by Squires (2012), high income is not the factor that contributes to rising medical costs. It is possible that the cause of different conclusions is related to a newer set of data. As time progresses, the factors surrounding this might affect the data and the results indirectly. Also, each paper applies a different regression model according to the type of data that the researcher used.

Apart from the three factors discussed in this essay, there are other dominating factors in the domain of high U.S. healthcare expenditure, such as unsuitable fiscal policy in the United States since healthcare system began (Parente 2018), the growing aging population in the United States (White 2007), the extremely high administrative cost (Department for Professional Employees 2016), and rising costs of insurance premiums (White 2007).

Conclusion

This paper starts out by attempting to find an explanation as to why the U.S. health care spending is high relative to its OECD counterparts. The review on existing literatures found

that all OECD members have rising healthcare and the United States is indeed the highest of all. The available studies reveal three commonly discussed cost-implicated factors: the significantly higher costs of prescription medicines as a result monopolistic power granted through the U.S. patent system, the high cost of diagnostic technologies which is a by-product of high R&D cost and the U.S. medical practice that favours the more frequent use of such technologies, and lastly, the higher rate of chronic diseases, including obesity owing to the American's health behaviours. There are also other factors that are, by intuition, should contribute to the high cost but the empirical evidences are inconclusive such as high income per capita and aging populations.

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