



Review of the Literature: Causes Behind Health Outcome Differentials Among First World Countries

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Abstract

This paper explores disparities in healthcare outcomes among high-income countries, focusing on the U.S., which, despite its wealth and advanced technology, suffers from high costs and relatively poor health outcomes compared to other high-income nations. In 2021, the U.S. spent around 17.8% of its GDP on healthcare, significantly more than its OECD counterparts. This research investigates the causes of these health outcome differences, focusing on baseline health factors and healthcare system structures. It examines lifestyle factors such as obesity and physical activity, as well as the relevance of "Deaths of Despair," a term for deaths from drug overdoses, alcohol-related liver disease, and suicide, which are alarmingly high in the U.S. It compares different healthcare models in OECD countries, emphasizing the U.S.'s mix of high costs and private sector dominance. The findings point to the need for significant reforms in the U.S. healthcare system to address disparities and improve efficiency. This paper aims to examine the complexities of the U.S. healthcare system and provide insights into potential paths to achieve better health outcomes.



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Introduction

In global healthcare, the United States stands out for its unique contradictions. Despite being one of the wealthiest nations with advanced medical technologies, the U.S. healthcare system is full of inefficiencies, marked by excessive costs and relatively poorer health outcomes compared to other high-income countries.

The U.S. healthcare industry is immense, accounting for about 17.8% of the GDP in 2021. It is a major economic force, involving trillions of dollars. Employment-wise, it encompasses a vast range of jobs, from medical professionals to technology experts, and is constantly expanding due to factors like an aging population and technological advances. In research and development, the industry leads with significant investments in new drugs and medical technologies, though these also contribute to high healthcare costs.

An article by Robert Pear in 2002 reported a sharp increase in national health spending in 2000, with a 6.9% rise to \$1.3 trillion, marking the largest one-year percentage increase since 1993. Later, a 2015 Commonwealth Fund report revealed that the U.S. spent more per person on healthcare in 2013 than twelve other high-income nations yet experienced the lowest life expectancy and worst health outcomes. Despite the highest health expenditure at \$9,086 per person annually, the U.S. had a life expectancy of 78.8 years, whereas Switzerland, the second highest spender, had a longer life expectancy of 82.9 years with only \$6,325 being spent per person. According to the Kaiser Family Foundation's 25th Employer Health Benefits Survey, the average annual premium for employer-sponsored health insurance was \$8,435 for individual coverage and \$23,968 for family coverage. And, most recently, in 2021, the U.S. health expenditure per capita was approximately \$12,914, still significantly higher than its OECD country counterparts. In Figure 1, the U.S. stands out significantly with the highest spending, reaching approximately 17.8% of its GDP in 2021, with the next highest being Switzerland at around 11.8% and Germany at 12.8%, while the OECD average is 9.6%. These investments have not led to superior health outcomes. Such discrepancies raise critical questions about the underlying structures and policies governing the U.S. healthcare system.

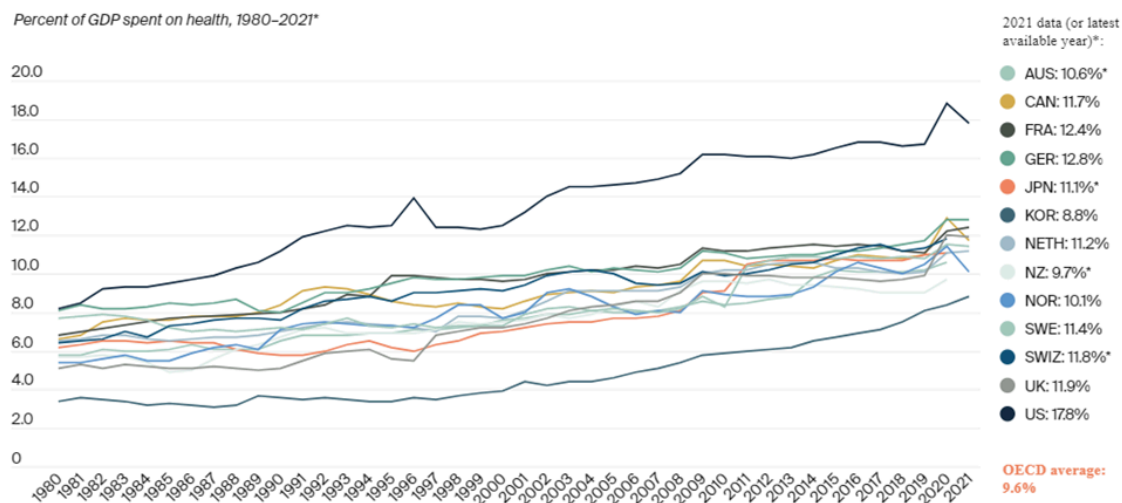


Figure 1. Percent of GDP spent on health, 1980-2021

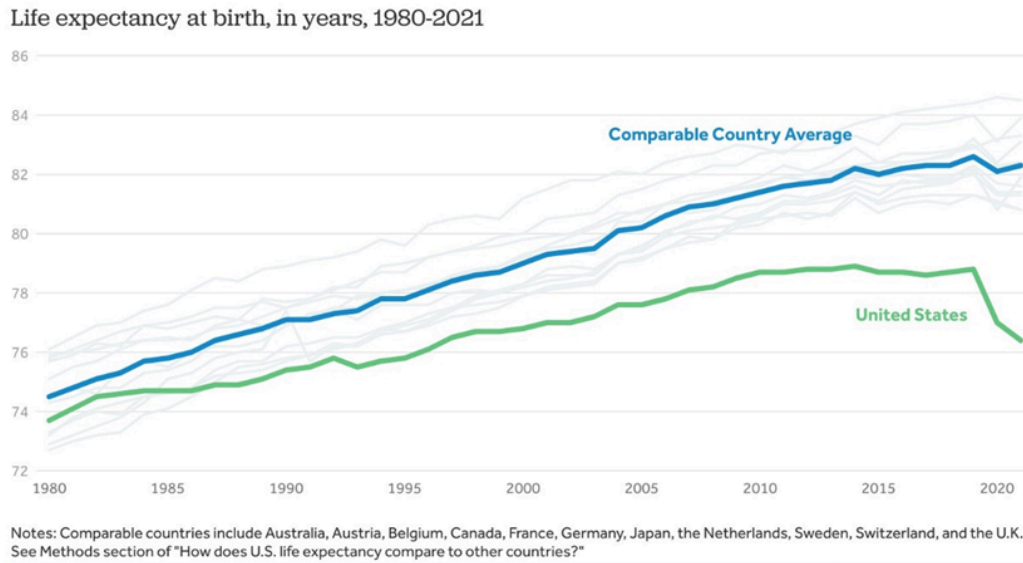


Figure 2. Life expectancy at birth, in years, 1980-2021

Figure 2 displays the life expectancies of comparable countries to the U.S. Although the life expectancy in the U.S. is increasing with its comparable country counterparts, a significant gap remains. Furthermore, the sharp decline in 2020, which is primarily attributed to deaths from the pandemic, is a much greater dip.

Expanding on this, the COVID-19 pandemic, which although was a challenge for healthcare systems worldwide, revealed the U.S. healthcare's deeper systemic issues. For instance, life expectancy in the U.S. declined greatly, with studies showing a drop to 77 years in 2020 – a significant decrease compared to the OECD average. This decline in life expectancy, along with the highest rates of avoidable deaths, maternal and infant mortality, and chronic conditions among high-income nations, suggests a struggling healthcare system.

Additionally, the U.S. healthcare system is involved in many controversies, primarily around cost and accessibility. High healthcare and insurance costs create barriers and disparities. Drug pricing, especially for new treatments, sparks debates over ethics and affordability. The mix of private and public healthcare raises questions about quality of care versus profit motives, and technological advancements bring ethical and logistical challenges, such as data privacy and the cost of high-tech treatments. An example of these inefficiencies and controversies is the high cost of drugs in Medicare, particularly for physician-administered drugs. This issue is demonstrated by the case of Aduhelm, an Alzheimer's drug priced at \$56,000 annually. With over 95% of Alzheimer's patients being covered by Medicare, drug manufacturers like Biogen can set high prices, knowing Medicare's policy is to pay what other customers pay. Efforts in Congress to change these payment policies have been unsuccessful, leading to rising costs. Proposals such as authorizing private insurers to negotiate drug prices and government regulation of prices have been suggested, but they risk impacting patient access and pharmaceutical development.

This all raises the question: What are the causes behind health outcome differentials among

first-world countries? This paper aims to explore the causes of current healthcare challenges, with the ultimate goal of understanding how the United States, despite its vast resources and advancements in medical technology, can realign its healthcare system to better serve the health and well-being of the population.

Review of the Literature

Baseline Health

This overview looks at important lifestyle factors like weight and exercise, the impact of drug consumption, and the phenomenon known as "Deaths of Despair" on public health. By examining these elements, we can gain valuable insights into how different determinants of health contribute to disparities in health outcomes and quality of life across various populations.

Weight and Exercise

The impact of lifestyle factors on global health and well-being has been the subject of extensive research in recent years. The balance between body mass and physical activity levels plays a crucial role in determining an individual's overall health.

The studies by Walpole et al. (2012) and Bauman et al. (2009) offer valuable insights into two significant lifestyle aspects: body mass and physical activity.

Walpole et al. (2012) conducted an innovative study to estimate global human biomass, emphasizing the growing prevalence of overweight/obesity rates, especially in the U.S. Additionally, Recent research by McIver KL et al. (2020) using data from the TEDDY study provides new insights into physical activity levels among 5-year-old children across various countries and regions within the U.S, revealing that U.S. children are generally less active and more sedentary compared to their European peers.

Bauman et al. (2009) examined the prevalence of physical activity across 20 countries, highlighting its critical role in influencing health outcomes. The study found that physical inactivity is a major risk factor for chronic diseases such as heart disease, diabetes, and certain cancers. Countries with higher levels of physical activity tend to have lower rates of obesity and related health issues, demonstrating the connection between exercise and weight management. Regular physical activity helps regulate body weight and improves metabolic health, whereas physical inactivity often leads to weight gain and increased chronic disease risk.

In conclusion, the U.S.'s baseline health, marked by higher obesity rates and lower physical activity levels, plays a significant role in its differing health outcomes. Addressing these lifestyle factors is crucial for enhancing the nation's health and reducing the prevalence of chronic diseases.

Drug Consumption & Deaths of Despair

Drug consumption significantly impacts healthcare outcomes, leading to higher rates of chronic diseases and mental health challenges, as well as contributing to the rise in "Deaths of Despair,". This section explores the broad implications of drug use on public health, highlighting its effects on overall healthcare systems and societal well-being.

According to a report measured using Disability-Adjusted Life Years (the sum of years of lives lost and years lived with disabilities) in 2019, the U.S. leads the world in illicit drug consumption, with about 6.7 healthy years of life lost due to participation in such activities. This high rate of drug use has significant implications for public health and the burden on healthcare resources. Furthermore, global and domestic trends indicate a rise in drug use, driven by stressors like the pandemic, economic instability, etc.

The study by Martins et al. (2015) analyzes global trends in unintentional drug overdoses, emphasizing the growing public health issue. It shows an increase in drug-related deaths, with a notable shift towards prescription opioid overdoses, as well as highlights the U.S. experiencing a higher rate of drug overdoses compared to other countries. Moreover, the findings underscore the rising concern of drug overdoses not only as an urban problem but also affecting rural areas, with substances like cocaine, prescription opioids, and heroin being the most involved in these unintentional overdoses. Similarly, a data brief by Tikkanen et al. (2020) highlights the comparative burden of mental health issues and substance use in the United States relative to other high-income nations, positioning the U.S. among the nations with the highest rates of reported mental health issues, resulting in the U.S. facing poorer health outcomes.

Furthermore, Schnell conducted a study that examined the impact of the illegal secondary market for prescription opioids on physicians' prescribing practices and patient health outcomes. Strict prescribers become more cautious to reduce unnecessary prescriptions and abuse. In comparison, lenient prescribers prescribe more, in part to prevent patients from obtaining them illegally elsewhere. This is also partially explained by Currie's research, which explores the effects of competition on physician prescribing behavior. Using detailed panel data, Currie found that increased competition led to more opioid prescriptions for patients, highlighting how competition among healthcare providers and potentially the illegal secondary market drives demand and influences practice styles, contributing to inefficiencies and lower healthcare quality in the US by promoting unnecessary and harmful opioid overprescribing as it can cause addiction and overdose. Considering this, the U.S. needs strategies that balance effective pain management and drug prescription to prevent opioid misuse.

The data below from BioMed Central presents a breakdown of the risk of suicide by substance use disorder category, considering factors of different drug types, both individually and in combination. The table shows that the odds of suicide are significantly higher in individuals with a substance use disorder compared to those without, with the highest odds being observed in individuals using a combination of alcohol, drugs, and tobacco.

Substance use disorder category	Odds ratio ^{a*}			Adjusted odds (adjusted for age, gender, poverty level, education, Charlson index, psychiatric diagnoses)		
	OR	CL ^{b*}	p-value	aOR	CI	p-value
Alcohol only	15.5	13.1, 18.4	0.001	5.8	4.7, 7.1	0.001
Drug only	11.3	8.8, 14.4	0.001	5.3	3.9, 7.0	0.001
Tobacco only	3.5	3.1, 4.0	0.001	2.0	1.7, 2.3	0.001
Alcohol + drug	21.8	16.2, 29.3	0.001	8.1	5.7, 11.5	0.001
Alcohol + tobacco	19.5	15.8, 24.2	0.001	6.1	4.8, 7.9	0.001
Drug + tobacco	14.1	10.2, 19.6	0.001	5.0	3.4, 7.4	0.001
Alcohol + drug + tobacco	30.7	23.3, 40.6	0.001	11.2	8.0, 15.6	0.001

a* - All conditional logistic regression models are conditions on site

b* - CI denotes 95% confidence interval

[Table 2 Risk of suicide by substance use disorder category, whole sample](#)

Furthermore, the United States is notable for its pattern of "Deaths of Despair" (DoD)—a term describing fatalities due to drug overdose, alcohol-related liver disease, and suicide. This trend greatly contrasts with the declining mortality rates observed in other high-income countries prior to the COVID-19 pandemic, highlighting significant baseline health inequalities. The review by Beseran et al. explores the social determinants behind these disparities, such as economic instability, occupational hazards, educational disparities, geographical isolation, and racial/ethnic inequities. Correspondingly, Case and Deaton (2018) challenge the view that the DoD crisis is only about drugs, with their analysis presenting similar insights into DoD's relation to deeper societal problems, not just standalone health issues. For instance, if economic hardships were solely to blame, mortality rates would be expected to fluctuate with economic downturns and recoveries. However, this was not the case, as mortality rates continued to rise even when the economy was recovering, emphasizing how issues of substance use, mental health, and socioeconomic factors are connected. While economic downturns can increase stress and instability, leading to more substance abuse and mental health problems, the continued rise in death rates during economic recovery shows that these problems are deeply within society. Multiple factors like ongoing job insecurity, lack of quality healthcare, educational inequalities,

and systemic racial and ethnic disparities create an environment full of despair, regardless of the economy. The ongoing rise in deaths highlights the need to address these social issues to effectively combat the crisis.

Healthcare System & Access

Healthcare systems are essential in determining how people receive medical care and how accessible it is within a country. These systems include the organizations and resources that provide healthcare services to the population. The way a healthcare system is structured and managed has a significant impact on overall health outcomes. Different countries use various healthcare models, which influences how healthcare is funded, regulated, and delivered. Understanding these systems is needed to evaluate healthcare access and outcomes, especially in first world countries where differences in system design can lead to differing levels of healthcare quality and accessibility.

A research study by Wendt et al. examined health care systems in 29 OECD countries and identified five main types based on data related to quantity and institution:

Supply and choice-oriented public systems prioritize doctors' autonomy, offer diverse healthcare providers, and rely on public funding. Patients have freedom in provider selection, with specialists often operating on a fee-for-service basis, emphasizing choice and accessibility. Countries that have adopted this model include Australia, Austria, Belgium, the Czech Republic, Germany, France, Ireland, Iceland, Luxembourg, and Slovenia.

Performance and primary care-oriented public systems emphasize primary care services with a focus on performance management, prevention, and quality care. Public financing is prominent in these systems, with limited access to specialists and strong gatekeeping mechanisms ensuring quality care provision. Countries following this model include Finland, Japan, Korea, Norway, New Zealand, Portugal, and Sweden.

Regulation-oriented public systems rely on medium public financing and strong public regulation governing provider access and services. Limited patient choice, low out-of-pocket costs, and access regulations characterize these systems. Countries following this model include Canada, Denmark, Spain, Italy, the Netherlands, and the United Kingdom.

Low supply and low performance mixed-type systems require improvements in infrastructure and service delivery due to challenges in resource availability and care quality, despite medium public funding. Countries adopting this model include Estonia, Hungary, Poland, and Slovakia.

Supply and performance-oriented private systems focus on performance management through a predominantly private sector approach. These systems prioritize private financing, high healthcare supply, and cost-sharing regulations. Countries following this model include Switzerland and the United States.

While Switzerland also has the same general health care system like the U.S., there are several factors that contribute to its superior health outcomes. Switzerland mandates universal health coverage with subsidies for low-income individuals, ensuring broad access, while the U.S. lacks

this, leading to disparities. Switzerland's regulated insurance market requires standardized benefits, focusing on quality and cost-efficiency, unlike the more fragmented U.S. system. Additionally, Switzerland has pricing transparency and controls healthcare costs, which reduces financial burdens on patients. In contrast, the U.S. faces higher costs, less accessible preventive care, and inefficiencies. These differences potentially explain Switzerland's higher healthcare ranking compared to the U.S.

Additionally, the Oregon Health Insurance Experiment, led by Finkelstein et al. (2012), revealed that extending Medicaid to low-income, uninsured adults significantly increased hospital, outpatient, and drug utilization; reduced out-of-pocket expenses and medical debts; and enhanced self-reported mental and physical health. These findings suggest Medicaid offers many benefits beyond non-Medicaid alternatives available through safety-net options. This is relevant to why the U.S. has differing healthcare outcomes compared to other countries with universal healthcare systems, where consistent access to care leads to better overall health outcomes and lower costs. The U.S. system is more fragmented and relies on programs like Medicaid, therefore often resulting in inconsistent access and disparities.

Conclusion

This literature review explored disparities in healthcare outcomes among high-income countries, focusing on the U.S. Baseline health factors, such as higher obesity rates and lower physical activity levels in the U.S. contribute to poorer health outcomes. Additionally, the U.S. leads in illicit drug consumption, which is perpetuated by the existence of secondary markets and competition among physicians, resulting in chronic diseases and deaths of despair, which connects to mental health challenges. Furthermore, the U.S. healthcare system's structure, with its mix of private and public funding, creates barriers to access and drives up costs. Unlike countries with universal coverage, the U.S. system's fragmentation leads to inefficiencies and disparities.

While this paper provides a general analysis, it could explore deeper into the causes of the identified baseline factors and into the different health care systems in detail through recognizing specific parts of varying systems that are working well. It could also explore the role of healthcare technology, how it affects outcomes, and where the United State's advancements stand compared to other first world countries.

Next steps for the U.S. should include conducting analyses of high-performing healthcare systems to identify best practices and exploring ways to enhance baseline health through targeted interventions. Hopefully by taking these steps, the U.S. can provide more comprehensive solutions to the healthcare challenges they face.

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