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Effect of Healthcare Systems on Inequality in the UK and the US

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Abstract

Objective: Healthcare systems vary among nations. From public/private partnerships to national systems, quality and equality varies. The purpose of this review is to analyze the effect that the National Health Service (NHS) in the United Kingdom (UK) has on inequality in comparison to the mixed healthcare model in the US. **Materials/Methods:** A review was completed using the University at Buffalo catalog and database search. A general Google search for articles regarding US healthcare costs was also done. Pubmed was also utilized. **Results:** The UK national healthcare system correlates with decreased inequality among all groups, while the US healthcare system exacerbates inequality. By strengthening the primary care system, the NHS has been able to efficiently care for the large majority of the UK population. The effectiveness of the NHS can also be traced to the fact that it is available to all citizens and therefore allows citizens to get care without being burdened by cost of services. The NHS was also associated with better overall performance and equity compared to the US system. While the US has made some advances in reducing healthcare inequality, medical debt and inequity in care remains a large burden for the healthcare system. The Gini index in the US before and after consideration of medical expenses remains higher than the UK and these medical expenses have also pushed citizens into poverty. **Conclusion:** Addressing inequality necessitates analyzing how a nation's healthcare system impacts the poor. A more centralized system that scales costs in coordination with income and a progressive tax system could help prevent and keep people from going into poverty. The UK national healthcare system has made strides in reducing inequality and providing effective care for the population, while overreliance on employer-dependent private insurance in the US can overburden those with lower incomes. While the Patient Protection and Affordable Care Act has reduced the number of people who are uninsured, it has done little to reduce inequality.

Keywords

Inequality, Healthcare, UK, US, Poverty

1. Introduction

Healthcare systems vary among nations. From public/private partnerships to national systems, quality and equality varies. The United Kingdom (UK) has a government-sponsored universal healthcare program referred to as the National Health Service (NHS). Founded in 1946 in the aftermath of World War II, the NHS is responsible for the public healthcare division of the UK and guarantees healthcare to all permanent residents. The NHS is the largest employer in the UK with over 1 million staff (Chang et al., n.d.). A recent report by the Commonwealth Fund, that studied the performance of healthcare systems in 11 high-income countries, ranked the UK number 4 in overall ranking in terms of healthcare system performance (Norway was number 1, while the Netherlands ranked second and Australia followed). The same report ranked the UK number 4 in terms of equity (Australia ranked first, while Germany was second, and Switzerland followed). The United States (US) ranked last among the 11 nations in terms of overall ranking and equity (Schneider et al., 2021) (**Table 1**).

Before the establishment of the NHS, healthcare was usually available to those who were wealthy or well-off. Lower income citizens would rely on charity hospitals and clinics. In 1911, the National Insurance Act helped laborers and low paid workers attain access to general practitioners. This means-testing approach had its own struggles as fees were increasing for those in the middle class. By 1946, 40% of the population had access to a general practitioner ("What was health care like" n.d.).

In contrast, healthcare in the US is a combination of public, private, for and not-for profit hospitals as well as private and government sponsored healthcare (e.g. Medicare and Medicaid). There is no single national system of healthcare. Citizens often rely on their employers for insurance coverage, while the elderly and poor rely on government-sponsored insurance. It is important to note that access to health insurance is not the same as access to healthcare. Bureaucratic barriers often prevent US citizens from getting the care they need. Patients need

Table 1. Comparison of UK and US in different measures of health care (Schneider et al., 2021).

	US	UK
Overall Performance	11	4
Equity	11	4
Access to Care	11	4
Healthcare outcomes	11	9

to make sure the provider they want to see is "in-network" and that they can afford any co-payment or deductible. The US spends the most on healthcare compared to all other countries (Kamal et al., 2021). The NHS cares for the entire population of England, while the US public healthcare system covers approximately 30% of the population (Chang et al., n.d.).

While the UK chose the road of national healthcare post-WWII, the US chose a different path. Employer-based insurance became the norm, with tax laws giving tax advantages for health insurance. Insurers saw an opportunity to expand their influence as veterans returned home and looked for work (Carroll, 2017).

The United Nations defines inequality as the state of not being equal, especially in rights or opportunities (United Nations, 2015). The Gini coefficient (Gini index) is a measure that represents income inequality in a country. A value of zero represents perfect equality while a value of one indicates perfect inequality (United States Census Bureau, 2021). In 1960, the UK's Gini coefficient was approximately 0.27, lower than before WWII. For the next 20 years, that value remained consistent (Wikimedia Commons, n.d.). Part of the decline in post-WWII income inequality was higher tax rates on the wealthy which reduced their fortune and helped spread wealth more equally. In the US, a Gini index of 0.36 was present in 1967, while the figure lies at 0.48 as of 2020 (Wikimedia Commons, n.d.).

It is important to note the difference between inequality and inequity. Inequality refers to the uneven distribution of resources due to lack of resources or other factors. Inequity refers to avoidable differences due to poor governance or exclusion (Global Health Europe, 2009).

The purpose of this review is to analyze the effect that the healthcare system in the UK and US has on inequality in their respective countries. The findings of this review can potentially be used to guide future health policy.

2. Methods

This review relied on the University at Buffalo libraries database and catalog. Pubmed was also consulted. A general Google search for articles regarding US healthcare costs was also done. Keywords used in search included: UK; US; healthcare; inequality; income; systems.

3. Results

When it came to combating inequality, strengthening the NHS was key. In 2003, the UK government adopted an approach to reduce health inequality by 2010, by strengthening primary care. This would be done by increasing supply and quality of primary care, increasing investment in primary care, and enhancing primary care's interventions in chronic conditions (Asaria et al., 2016). As stated by Buck et al., the effectiveness of the NHS depends on it being available to all citizens. It is important to prevent inequality, but that is not its purpose. The NHS can "mitigate, reduce, or prevent poverty." Buck et al. discusses how adaptation

ensures that NHS services are accessible financially and physically for those in poverty. Mitigation of poverty is achieved by shielding people from debt (Buck & Jabbal, 2014).

The NHS also does well in terms of equity in delivery. The UK leads among other nations in general practitioner visits, no matter the income. The US ranked last among wealthy countries in this regard. A big method by which the NHS can reduce poverty is by lessening the impact on income inequality. Poorer individuals often need more health care services due to greater need. The NHS can provide necessary care without individuals needing to pay extra for services. Also, the NHS reduces poverty because it is a large employer of both medial and non-medical staff and pays employees a living wage (Buck & Jabbal, 2014).

A 2013 study by the Commonwealth Fund showed that among 11 high income countries, the UK ranked best in terms of 'cost-related access problem' (meaning the lowest percentage of citizens avoided getting recommended care due to inability to pay). It ranked second in terms of spending more than $1000 out-of-pocket (meaning few people spend more than $1000 out-of-pocket) (Schneider et al., 2021).

According to a study from Asaria et al., from 2004/2005 to 2011/2012, the NHS was successful in reducing inequalities in primary care supply, quality, and outcomes. Socioeconomic inequalities in primary care supply and need decreased over this time period. They also noted that by the end of 2012, inequality in primary care supply had been eliminated. However, no consistent trend was seen among preventable hospitalization and amenable mortality (Asaria et al., 2016).

The impact of healthcare systems in the US also has an impact on inequality, albeit in a different direction than seen in the UK. By not guaranteeing healthcare to all citizens, this can exacerbate inequality and push citizens towards poverty in the US. Medical debt is the top cause of personal bankruptcy filings in the US and the most common debt sent to collection agencies (Apex EDI, 2018). According to a study from the Kaiser Family Foundation, more than 25% of US adults have difficulty paying medical bills. This figure includes those who are covered by health insurance (Hamel et al., 2016). One of the drivers that advocates of the Patient Protection and Affordable Care Act (ACA) used for its passage was that it would help reduce bankruptcy and financial stress that people had. But a study from Christopher et al. pours cold water on this. They analyzed the effects of medical expenditures on income inequality over the course of 5 years. In 2011, the Gini index before considering medical expenses was 0.4752. After medical expenses were factored in, the index rose to 0.4895. In 2014, the Gini index before medical expenses was 0.4784 and increased to 0.4921 after medical expenses. This suggests a change in index of 0.137, which is lower than the previous 4 years (**Table 2**). According to Christopher et al., in 2014, 9.28 million Americans whose incomes before medical expenses were above the poverty line, were pushed into "near poverty" when medical expenses were factored in. 7 million were forced into poverty and 3.9 million were pushed to extreme poverty after medical expenses were factored in. These numbers were sim-

ilar to 2013. These numbers show that even insured patients experience inequality in costs and resulting poverty. Also, the US healthcare system has a regressive financing system. Health expenditures are fairly constant among income levels, with the rich and poor having similar costs, leading to a larger hit to the poor (Christopher et al., 2018).

The most recent Gini index in the US recorded in 2020 was 0.48 while it is 0.363 in the UK ("Gini coefficient", n.d.).

Proponents of the current system and those who question the validity of the impact on inequality suggest that the issue is not the high cost of care, it is that people seek care too often or take advantage of a new medication or treatment. This logic is disputed by data. A study by the Commonwealth Fund states that on average, Americans seek care approximately four times a year. This is less than half as often as citizens in other high-income countries such as Germany and Japan (Tikkanen & Abrams, 2020).

A study by Ketsche et al. studied the variability in spending on healthcare among different income quintiles in 2004. **Table 3** shows how much they spent in the year and what fraction of their total income that encompassed (Ketsche et al., 2011).

Table 3 demonstrates that while those in the lower income brackets paid less each year in healthcare costs, the burden of those costs was higher in the lower income groups.

According to Ketsche et al., financing of certain public programs also burdened the poor. While Medicare was progressively taxed across income quintiles, reliance on state funding for Medicaid resulted in the poorest quintile

Table 2. Gini indices over 3 years in the US* (Christopher et al., 2018).

Year	2010	2013	2014
Gini Index (before medical expenses)	0.4677	0.4740	0.4784
Gini Index (after medical expenses)	0.4822	0.4886	0.4921
Gini difference	0.145	0.147	0.137

*Data for 2011-2012 is unavailable.

Table 3. Amount of total income spent on healthcare expenditures in 2004 (Ketsche et al., 2011).

Quintile	Amount paid in the year ($)	Percentage of total income that went towards healthcare spending (%)
Lowest	3050	22.7
2nd	5546	16
3rd	8547	15.1
4th	13,003	14.8
Highest	30,288	15.3

group having to pay a larger proportion than those in higher quintiles (but lower than the highest income group). Their final conclusion was that financing healthcare in the US is regressive. This means that lower income families pay a higher share of their income on healthcare (Ketsche et al., 2011).

4. Discussion

This review has illustrated how healthcare policy affects inequality in the US and UK. The national health care system in the UK has made progress in reducing inequality across the nation while the reliance on employer-dependent private insurance in the US, along with a regressive tax system, often overburdens those with lower incomes. While the ACA did mildly help reduce income inequality and reduce the number of citizens who were uninsured, the millions of people that were forced into poverty or near-poverty, due to lack of income, is unacceptable.

One way in which the information laid out in this review can help address inequality would be re-analyzing the tax system to adopt a more progressive style based on income. Another way would be to scale copayment costs based on income. With a payment system that is not scaled to income, those in the lowest quintiles end up spending a larger portion of their income towards healthcare costs than those in higher income groups.

The US can be influenced by the success of the UK's NHS in reducing inequality and increasing equity. The UK ranked best in reducing the number of citizens who avoid getting care due to inability to pay with a very small percentage of citizens spending more than $1000 out-of-pocket for healthcare expenses (Schneider et al., 2021). It's also important to note the reduction in the Gini index post-introduction of the NHS.

A more equitable and affordable healthcare system in the US can also improve well-being and general health of citizens. Logically, if people were not concerned about ability to pay for care, they would be more willing to get it. Citizens in the UK also enjoy a higher life expectancy (80.7 years) while it is 77.3 years in the U.S. according to data from 2020 (Ortaliza, 2021).

A Vox news article described a family who needed to get an MRI for their child with a rare genetic condition. They decided to go to an out-of-network clinic that specialized in their child's condition. The cost of the MRI was $25,000 (Kliff, 2017). By having a national healthcare system, the concern of providers and clinics being out-of-network would be diminished as it would help create one large pool of in-network providers.

There are some limitations to the studies that were mentioned in this review. Asaria et al. did not include data regarding the effect of private healthcare in the UK on reducing inequality. Christopher et al. used family incomes that did not include benefits that those in poverty receive, such as Supplemental Nutrition Assistance Program (SNAP) benefits or housing vouchers. This could mildly affect the calculated Gini index.

5. Conclusion

In conclusion, this review described the current state of inequality in the UK and US and how it is being affected by their respective healthcare systems. While inequality exists in all countries, it is important to address the role that healthcare systems have on it. We analyzed changes in inequality using the Gini index as a measure and studying how it has changed before and after the adoption of the NHS and before and after the adoption of the ACA. While a slight decrease in inequality was seen after signing the ACA into law, it is clear that it has not gone far enough. The UK offers an example of how an efficient healthcare system can be maintained while helping keep people out of poverty.

Availability of Data and Materials

Available from corresponding author upon request.

Authors' Contributions

Jas Virk reviewed and compiled the information of this review article. David Holmes assisted in the research and literature search.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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