



Challenges and Opportunities in Implementing a Universal Social Health Protection Model: a Comparative Analysis of Low, Middle, and High-Income Countries

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Abstract

This article explores the dynamics of a social model associated with redistribution policies. We compare this model with Universal Health Coverage (UHC), specifically examining their influence on social health protection systems and the demand for health services across various countries. This influence is reflected in healthcare expenditures. To achieve this, we conducted a literature review. We employed descriptive statistics to analyze the relationships between key indicators, including the UHC Service Coverage Index and the proportion of direct (out-of-pocket) expenditure in healthcare. These indicators help assess the impact of social health protection systems on both the demand for health services and access to necessary care. The findings indicate that UHC coverage is lower in low- and middle-income countries compared to high-income countries. Additionally, we observe an increase in direct healthcare expenditures in low-income nations, while such expenditures are declining in high-income countries.

Keywords: *UHC, social health protection systems, out-of-pocket, Low, middle- and high-income countries.*

JEL Classification: I14, I15.

Introduction

The COVID-19 pandemic underscored the critical need for universal access to healthcare and financial security, especially for vulnerable populations. While some social protection systems were reinforced, the pandemic exposed significant gaps and inequalities that demand urgent action. In response, several countries have adopted a social model that extends social protection in healthcare, grounded in principles of social justice.

This approach aims to ensure healthcare coverage and contribute to the broader goals of universal health coverage (UHC) and universal social protection (USP) as outlined in the 2030 Agenda.

Social philosophers such as Rawls (1971) and Sen (1992) see this approach as a driver of economic development, arguing that redistribution improves the general welfare of society. However, critics warn that this model can encourage opportunistic behaviour, such as corruption and inefficiency, as well as presenting economic and financial risks, including increasing national debt and disrupting development policies. To meet the challenge of extending social protection to regions with inadequate health services, finding solutions that improve care availability and guarantee economic viability is essential. One of the main challenges for developing countries is integrating various initiatives into cohesive systems capable of effectively coordinating the programs and institutions responsible for implementing, financing, and evaluating these efforts, all of which are aimed at improving living conditions (Cecchini and Martínez, 2011).

While UHC is widely recognized as a way to improve access to healthcare and provide financial protection against medical costs, its actual impact remains insufficiently evaluated, particularly in developing countries. Access to healthcare continues to be a significant global challenge. A report by the World Health Organization (WHO) and the World Bank (2015) estimates that 400 million people worldwide lack access to essential health services, and 6% of the population in low- and middle-income countries is pushed further into poverty due to catastrophic health expenses. Policy responses differ across governments but generally fall into two categories: supply-side interventions, such as direct healthcare provision, and demand-side approaches, including social health insurance and conditional cash transfer programs (Cotlear et al., 2015).

Social health protection systems, including social assistance programs, are viewed by Yokobori et al. (2023) as vital for improving access to healthcare among vulnerable populations. Numerous systematic studies have demonstrated the positive effects of social insurance on health outcomes. For instance, social protection and social insurance have been linked to better utilization of maternal and child health services (Comfort et al., 2013). Spaan et al. (2012) also identified health benefits resulting from improvements in health insurance systems. However, Acharya et al. (2013) found that while health insurance system reforms improved the population's overall health, they did not significantly benefit vulnerable groups. Well-managed and sustainable social programs can enhance individual health and contribute to public health by fostering an environment that promotes health development and maintenance. These findings carry significant practical and managerial implications (Yokobori et al., 2023).

The study emphasizes the role of the state in implementing redistribution policies, which are designed to reduce economic and social inequalities by promoting a fairer distribution of wealth. In the healthcare sector, these policies specifically aim to ensure equitable access to care by reallocating medical and financial resources from wealthier populations to those in need.

This research offers several significant contributions. First, it presents a global analysis of indicators used to assess the impact of social health protection systems, highlighting their key features at the time of implementation. Second, it examines the implementation of universal health coverage across high-, middle-, and low-income countries. Third, the study draws on previously unpublished data collected from a sample of

82 countries. Finally, it seeks to enrich the existing literature on the origins of social protection in healthcare.

This research addresses a key question: how can social health protection ensure UHC that guarantees access to care for all citizens, including those in developing countries? Unlike much of the existing literature, we adopt an innovative approach by utilizing unobserved factors rather than merely assuming their effects. Specifically, we leverage a large-scale natural experiment to control for potential biases linked to unobserved heterogeneity, allowing us to accurately estimate the overall impact of social health protection systems on healthcare demand.

Our findings reveal that social health protection systems positively influence healthcare demand in high-income countries. However, the opposite effect is observed in low-income countries. While we did not find a direct impact on access to healthcare, the introduction of UHC has contributed to reducing healthcare costs, particularly in developing nations. This reduction in expenditure has indirectly led to improvements in overall population health.

The article is organized as follows: the second section outlines the data analysis and research methodology used. The third section provides an analytical and documentary review. The fourth section presents the results and discusses them in relation to existing literature. The final section concludes with recommendations for future research.

1. Research methods

To initiate our analysis, we conducted a literature review that incorporated official reports and empirical studies. These sources helped us identify the key indicators used to evaluate national social health protection strategies. The literature review also highlighted important characteristics for monitoring and comparing data across countries. We categorized countries into two groups—developed and developing—to analyze the evolution and updates of their social health protection systems, as well as their respective outcomes. Reports from health ministries were particularly valuable in identifying specific targets and collecting data on key indicators.

We also incorporated international statistics from organizations such as the OECD and the World Bank, along with databases of global indicators. To enhance our comparative analysis, we employed descriptive statistical methods and conducted additional tests, which allowed us to create comparative tables and graphs. Using these descriptive statistics has deepened our understanding of the social health protection strategies adopted by each country and their impact on UHC for the population. To achieve this, we utilized the specific categorization of countries based on income as defined by the World Bank. The categories are as follows:

1. Low-Income Countries (LICs): These economies are characterized by a per capita Gross National Income (GNI) of \$1,145 or less as of 2023, according to the World Bank's Atlas method.
2. Lower-Middle-Income Countries (LMICs): Economies in this bracket have a GNI per capita ranging from \$1,146 to \$4,515. These countries are in a transitional phase towards higher income levels.
3. Upper-Middle-Income Countries (UMICs): Countries in this category have a per capita GNI between \$4,516 and \$14,005, indicating a more advanced stage of development, though still below that of high-income economies.

High-Income Countries (HICs): These economies are defined as having a per capita GNI exceeding \$14,005. Such countries are regarded as economically advanced with a higher standard of living.

We analyzed the Service Coverage Index for Universal Health Coverage (UHC) in each country category for 2021. Additionally, a second key indicator for assessing the applicability of UHC and the demand for healthcare is the proportion of direct expenditure on care, commonly referred to as out-of-pocket expenses.

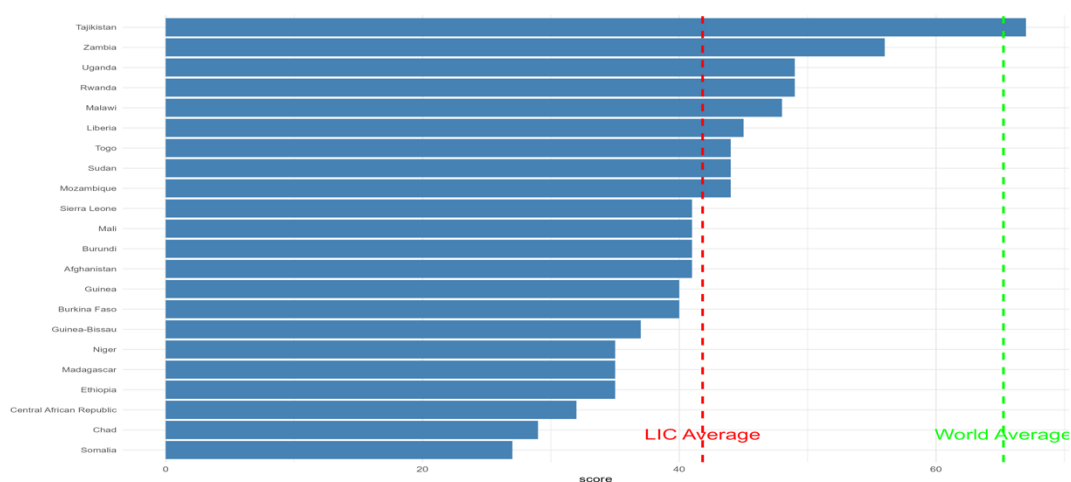
2. CSU Linked to the social health protection system

Rising costs and increasing demands for healthcare have placed significant pressure on health authorities to develop effective resource allocation strategies. To ensure the effectiveness of healthcare services, it is essential to identify mechanisms that allocate scarce resources cost-effectively and maximize benefits for patient populations (Bhatia, 2020). However, healthcare allocations often vary based on economic performance, which can lead to suboptimal outcomes when the healthcare system is underfunded (Spasova and Ward, 2019). A proactive healthcare financing policy is crucial, as a healthy population fosters stronger economic growth and requires fewer social protection services.

The figures below clearly illustrate the disparity in the integration of UHC across countries with varying income levels. Notably, the first two categories—low-income and lower-middle-income countries (see Fig. 1)—have scores of 41 and 57, respectively, both falling below the world average of approximately 64. In contrast, upper-middle-income and high-income countries exceed the world average, with scores of 69 and 81, respectively. Additionally, there is a distinct visual difference among low-income countries; almost all of these countries are below the world average, with the exception of Tajikistan, which is the only country in this group to surpass the average score.

Figure 1.

Service coverage index of universal health coverage for Low-income countries (2021)



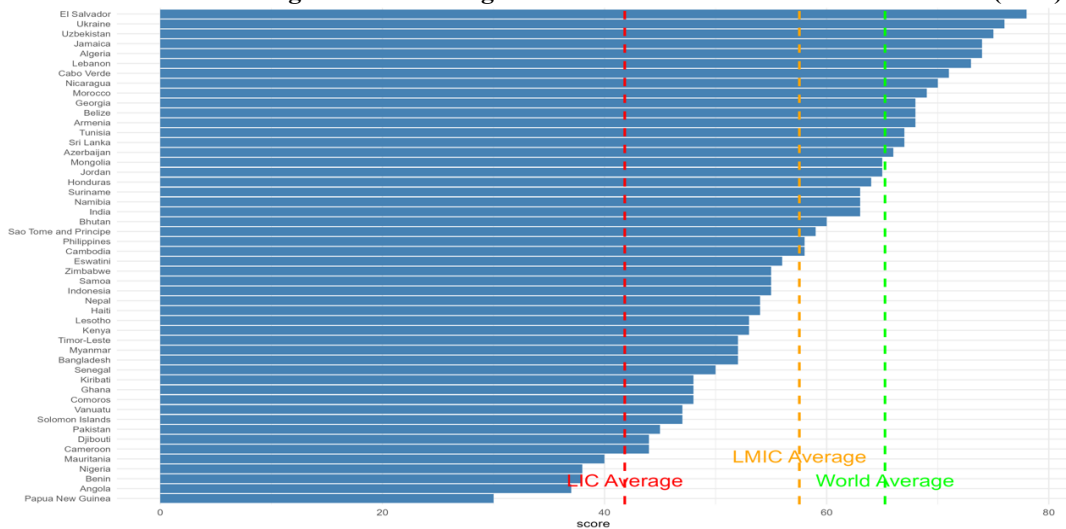
(Source: Authors' Analysis Based on WHO Data (2024))

Among lower-middle-income countries (see Fig. 2), only 16% exceed the world average, with Mexico, Algeria, and Morocco being notable examples. The average Service

Coverage Index (SCI) score in these countries significantly surpasses that of low-income countries. In upper-middle-income countries, over 69% have scores above the world average, making this group the closest to the global average, with an average score of 69. High-income countries demonstrate the highest levels of SCI integration, boasting an average score of 81, with Canada leading at a score of 90. All high-income countries have scores above the world average, with the exceptions of Nauru and Palau, both of which are island nations in the Pacific Ocean.

Figure 2.

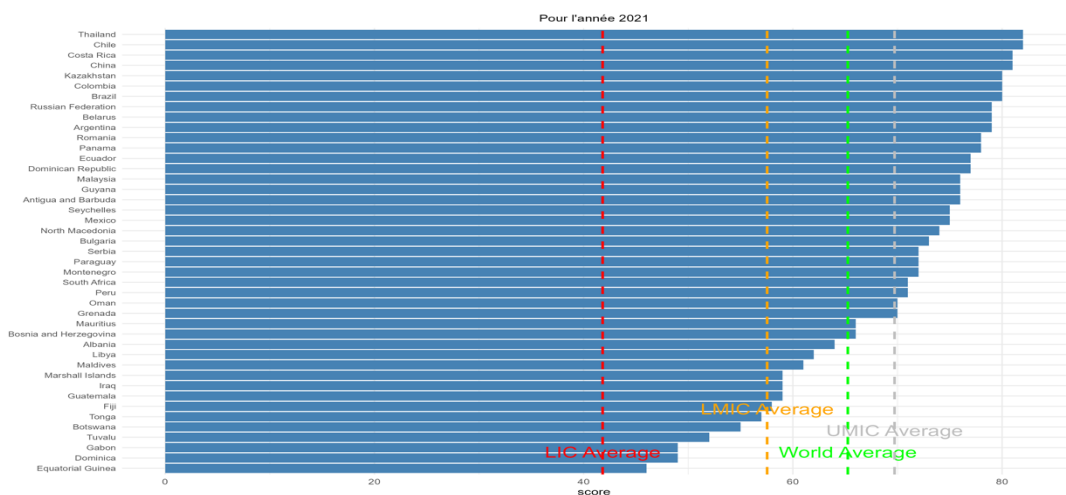
Universal health coverage service coverage index for Lower-middle-income countries (2021)



(Source: Authors' Analysis Based on WHO Data (2024))

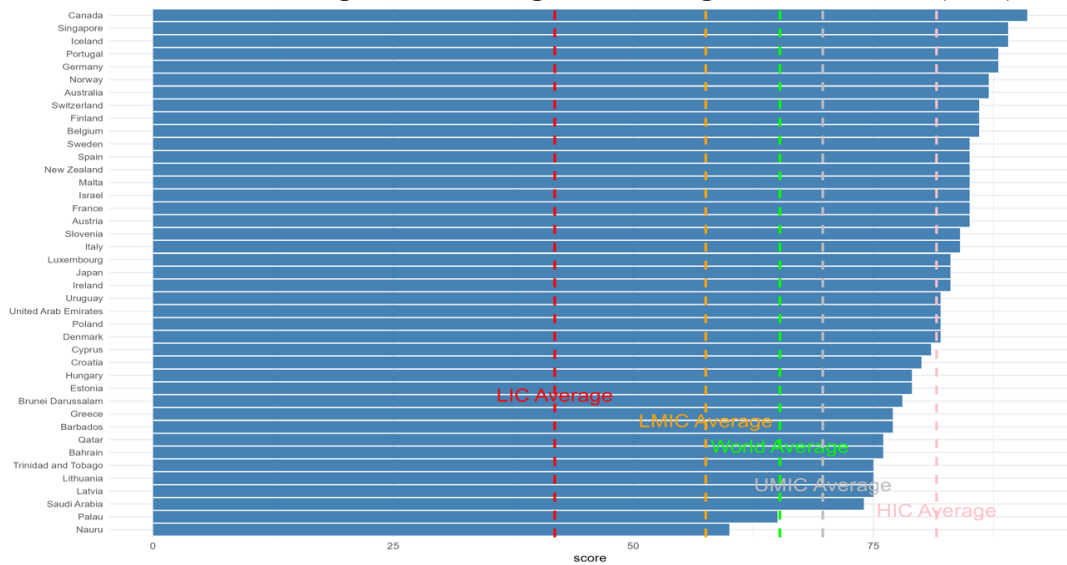
Figure 3.

Universal health coverage service coverage index for Upper-middle-income countries (UMICs)



(Source: Authors' Analysis Based on WHO Data (2024))

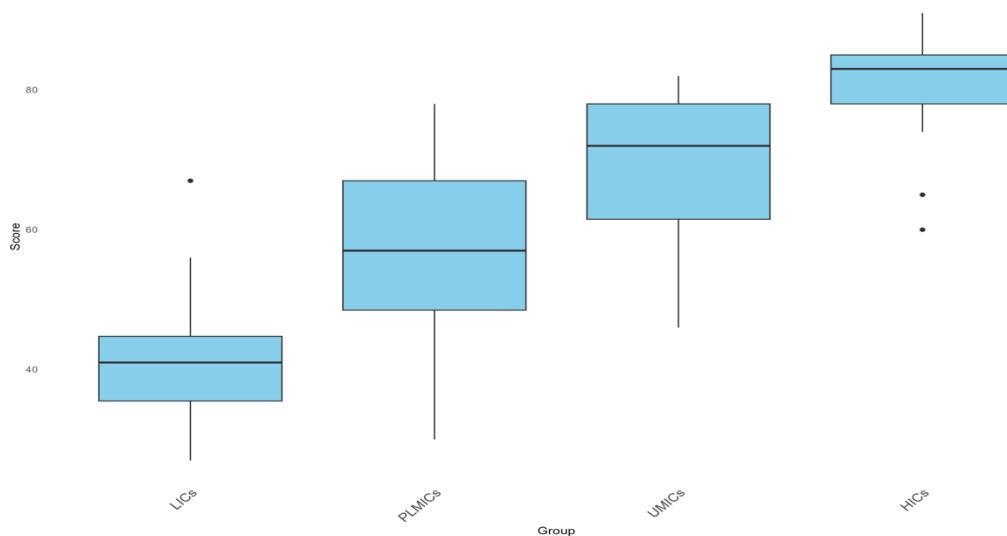
Figure 4.

Universal health coverage service coverage index for High-income countries (HICs)

(Source: Authors' Analysis Based on WHO Data (2024))

The boxplots for each category reveal notable variability among them. First, the medians are positioned at different levels, indicating disparities in SCI scores across these categories. Second, there is variability in the scores within each category. In low-income countries, the boxplot displays a slightly flattened whisker, suggesting limited variation, except for one extreme high value representing Tajikistan. The variability among low-income countries falls within a score range of 25 to 55.

Figure 5.

Box-and-Whisker plot for country groups

(Source: Authors' Analysis Based on WHO Data (2024))

In low-middle-income countries, the whisker box illustrates a wide variability in SCI scores, ranging from 30 to over 70. This indicates a significant divergence in the integration of health coverage within these countries, with more pronounced variability occurring below the median. Upper-middle-income countries also display considerable variation below the median, but their scores are generally higher than those of lower-middle-income countries. In contrast, high-income countries have a very flat whisker box, signifying minimal variability among them; however, there are two extreme values corresponding to the island nations of Nauru and Palau. Overall, the whisker boxes indicate that low-income countries face significant challenges in adopting UHC. This difficulty can be attributed to the poverty and political instability prevalent in some of these nations, such as the Central African Republic, Afghanistan, and Somalia. Low-middle-income countries exhibit considerable variability in scores, which can be attributed to the differences in governance and policies implemented in these nations. The other two categories, which generally represent developed countries, show a high degree of applicability for the UHC.

We conducted statistical tests to evaluate the significance of differences among various country categories. This included performing ad hoc tests, as well as tests for normality and homogeneity of variances. However, as the data were non-parametric, we proceeded with the Kruskal-Wallis test.

Table 1.

Test de Kruskal-Wallis

	Statistics	Value	DF	P-value
Kruskal-Wallis	chi-squared	104.31	3	< 2.2e-16

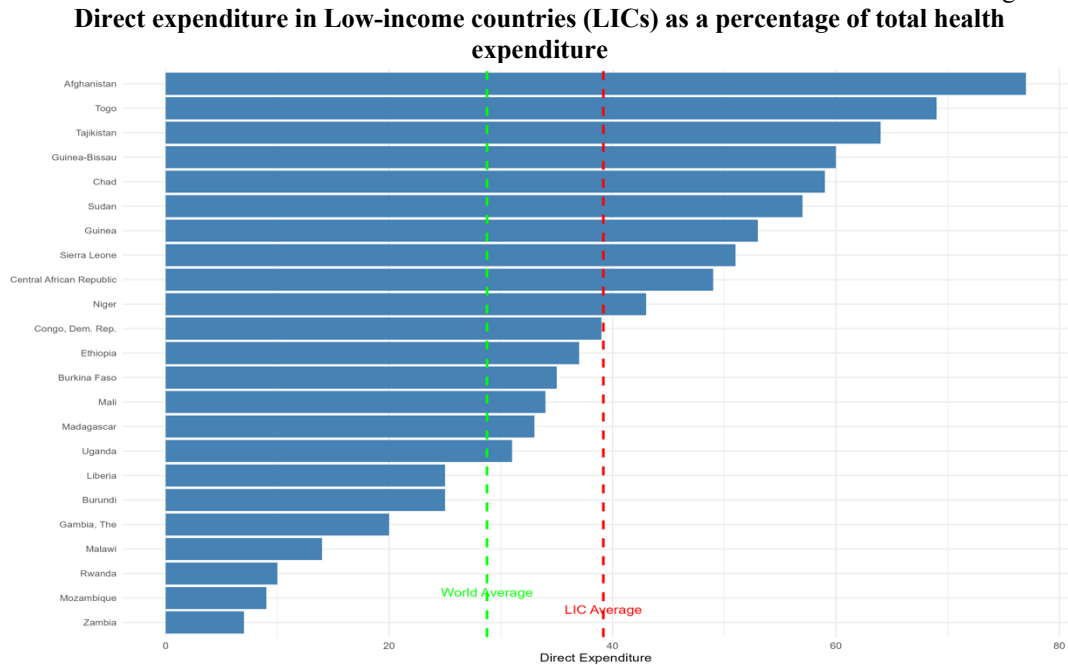
(Source: Authors)

The results reveal a Kruskal-Wallis statistic of 104.31 with 3 degrees of freedom and a p-value of less than 2.2e-16. This very low p-value allows us to reject the null hypothesis (H_0), which posits that the score distributions are identical across groups. Consequently, these findings suggest that significant differences exist between at least two of the groups analyzed. The Kruskal-Wallis test supports our earlier observations of disparities among the various groups.

A key indicator of the effectiveness of Couverture Maladie Universelle (CMU) and the demand for healthcare is the proportion of direct out-of-pocket expenditures. To illustrate the differences across country categories based on income levels, we created several histograms. Notably, all histograms display a triangular shape for each category, indicating significant disparities in out-of-pocket expenditure relative to total healthcare spending. These disparities are evident both among different countries and within the same income category.

However, there is a notable divergence in the averages, as developing countries tend to exhibit higher rates of direct financing for healthcare, with averages exceeding the global average of 28% (see Figs. 1 and 2). Specifically, the average for low-income countries is 39%, while for lower-middle-income countries, it is 31%. This level remains alarmingly high, with approximately 40% of the population in low-income countries financing their healthcare out of pocket. Afghanistan serves as a prime example of this situation, where 70% of the population relies on direct financing to meet their health needs.

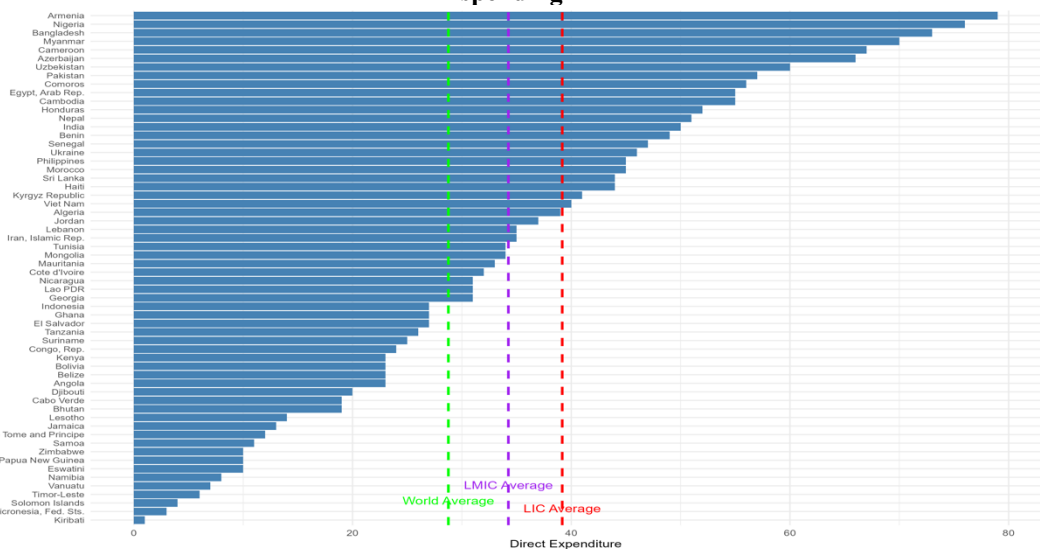
Figure 6.



(Source: Authors' Analysis Based on WHO Data (2024))

Figure 7.

Direct spending in Low-middle-income countries (LMICs) as a percentage of total health spending



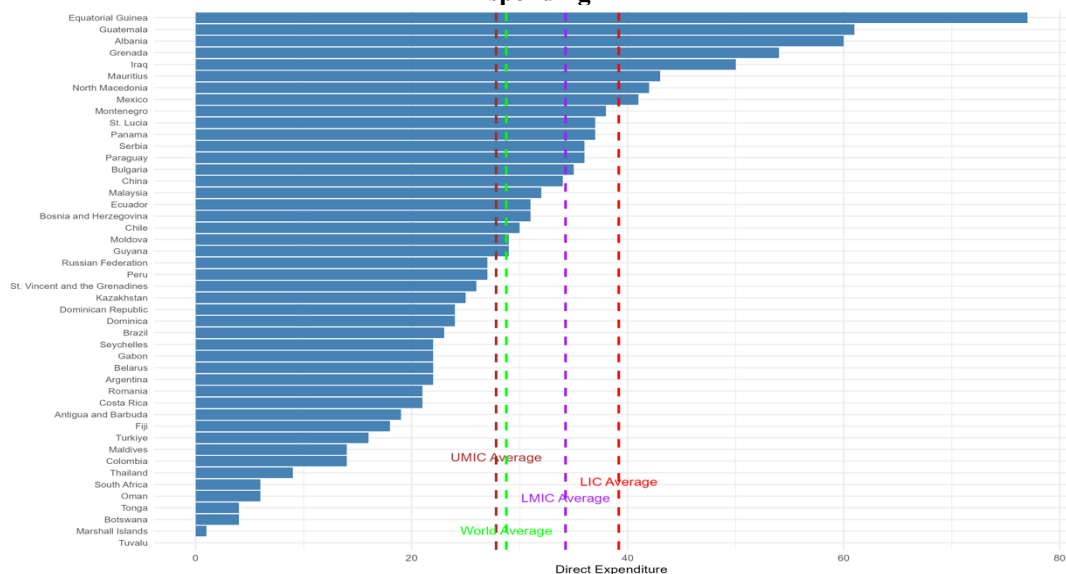
(Source: Compiled by the Authors Using World Bank Data (2024))

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Figure 8.

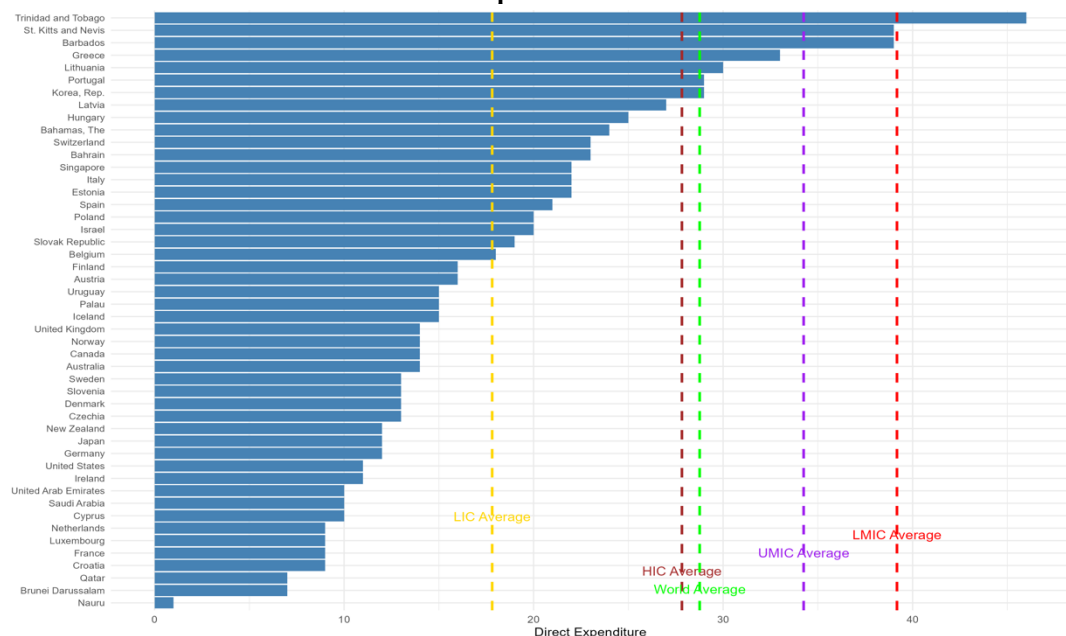
Direct spending in Upper-middle-income countries (UMICs) as a percentage of total health spending



(Source: Compiled by the Authors Using World Bank Data (2024))

Figure 9.

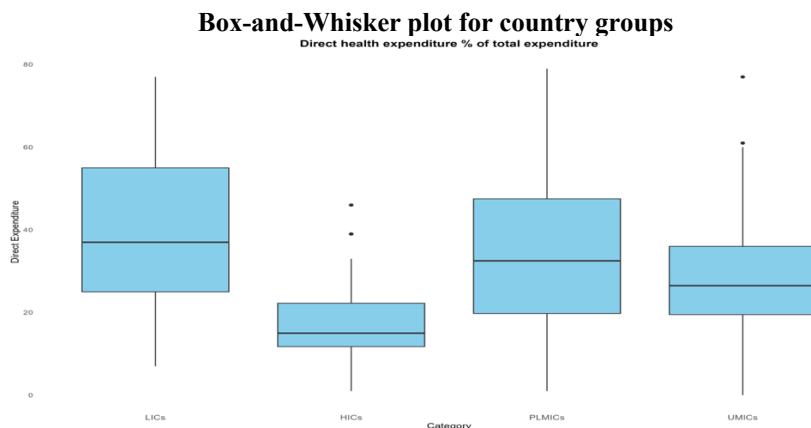
Direct expenditure in High-income countries (HICs) as a percentage of total health expenditure



(Source: Compiled by the Authors Using World Bank Data (2024))

In developed countries (see Figs. 3 and 4), the average percentages of direct expenditure on healthcare are below the world average, with values closely aligning with those of upper-middle-income countries. However, certain island nations, such as Nauru and Tuvalu, report exceptionally high rates of direct expenditure, approaching 100%.

Figure 10.



(Source: Compiled by the Authors Using World Bank Data (2024))

Boxplots reveal significant variability in direct spending among low-income and lower-middle-income countries, attributed to differences in public policy within these nations. In contrast, high-income countries exhibit lower medians than the two low-income categories, accompanied by flatter boxplots, which indicate reduced variability, although some variation still exists. The Kruskal-Wallis test supports our observations, demonstrating a significant difference with a p-value below 0.05. This result enables us to reject the null hypothesis (H_0) of no difference between the groups, with a 5% risk of error.

Table 2.

Test de Kruskal-Wallis				
	Statistics	Value	DF	P-value
Kruskal-Wallis	chi-squared	30.376	3	1.15e-06

(Source: Authors)

3. Discussion of Results

The results of the analysis of the indicators used in this study highlight that investment in the universal healthcare system is crucial for developing countries to address the challenges identified in their healthcare strategies, especially in light of the intensified impact of the economic crisis. Low-income countries, in particular, are confronted with critical issues, such as a growing demand for medical assistance. To effectively meet these challenges, it is essential to implement meaningful reforms in the social health protection system. Through efficient management of resources and a more strategic allocation of healthcare funds, these countries can achieve cost savings and improve health outcomes for their populations (Seychell and Hackbart, 2013).

In this article, we aimed to investigate the relationship between CMU linked to social health protection systems and access to healthcare across different countries, focusing on how this influence is mediated by healthcare expenditure. To achieve this, we employed

a literature review and descriptive statistics to analyze the connections between various indicators that measure the effect of the social health protection system on the demand for health services and access to essential care.

The results indicate that the cost sharing unit is lower in low-income countries, while the opposite holds true for high-income countries. This leads to an increase in direct health expenditure in low-income countries, contrasted with a decrease in high-income countries. This situation illustrates the negative impact of social health protection systems on access to necessary care in low-income nations.

Adopting a USP system is associated with lower mortality rates, higher life expectancy, and improved access to healthcare resources. This underscores the vital role that robust social protection programs play in health promotion, particularly in developed countries. Consequently, developed nations prioritize the public health and social security implications of their policies to ensure equal access to affordable, high-quality medical and social services.

In health policy formulation, developed countries concentrate on strategic objectives such as promoting health, safeguarding citizens against cross-border health threats, supporting dynamic healthcare systems, and enhancing access to medical services. However, several challenges persist, including addressing the specific healthcare needs of an aging population, adapting to demographic changes, reducing preventable diseases, and tackling emerging health issues like antimicrobial resistance.

In contrast, the situation is markedly different in low-income developing countries, where the population cannot fully benefit from such a system. Although the introduction of universal coverage may increase demand for healthcare services, this demand often becomes unsustainable due to low income levels (Yousef et al., 2021). Moreover, the costs associated with accessing care further hinder service utilization. The high poverty levels in these countries pose significant obstacles to the success of a USP system.

International comparisons of the redistributive effects of social indicators face several limitations. Contributions vary significantly across different schemes, as tax systems differ; contribution scales and ceilings are typically based on individual wages rather than household income; and many social insurance schemes are not universal, with eligibility often determined by individual criteria. Additionally, some schemes do not account for additional contributions for household members without income (van Doorslaer et al., 1999).

For low-income countries to address this issue and achieve their goals, structural reforms in social health protection systems are essential. Effective resource management, along with improvements to the labor market to increase the number of contributors, is vital for building a sustainable universal system. Programs such as CMU, income support, and other social initiatives aim to enhance access to essential resources and services (ILO, 2019). By addressing the social determinants of health, these initiatives contribute to reducing morbidity and mortality rates while improving overall well-being (Yokobori et al., 2023).

This study examines the role of social health protection systems in enhancing the health and well-being of citizens in both developed and developing countries. Adequate social protection provides financial support that improves access to essential medical services and treatments. This, in turn, encourages early detection of illnesses and more effective treatments, helping to reduce health inequalities, particularly in developing countries. Such policies are crucial for narrowing disparities between socio-economic groups and promoting greater equity in healthcare access.

Moreover, social protection schemes serve as a safety net against unexpected economic shocks that can adversely affect health outcomes. By mitigating these impacts, these systems contribute to overall improved health. Our analysis emphasizes the significance of redistribution policies in promoting general well-being. However, it is vital to tailor these policies to the specific needs of each country to ensure their effectiveness.

Conclusion

This study emphasizes the importance of prioritizing and investing in redistributive policies, including social health protection systems, to enhance access to healthcare in developing countries. Well-designed and coherent social protection measures are crucial for improving individual health, fostering social cohesion, and reducing health disparities among different segments of the population. Strategic resource allocation and alignment of policies with citizens' health needs are essential for creating a healthier and more equitable society. Future research should continue to investigate the various social, economic, and cultural factors that influence this complex interplay, recognizing the intricate relationship between universal health coverage linked to social health protection systems and healthcare demand. As developing countries grapple with ongoing health challenges and societal risks, sustained efforts to design and implement inclusive social health protection measures and reforms are vital for improving access to health services for all citizens. Additionally, further research is necessary to better understand how social health protection systems contribute to improved health outcomes, considering other factors such as socio-economic determinants and cultural influences.

This study equips decision-makers with essential insights for refining policies aimed at enhancing universal health coverage and well-being in developing countries. It offers solutions for adapting redistributive policies, supporting vulnerable groups, improving access to healthcare services, and reducing disparities among different segments of the population. Additionally, the study provides crucial data on universal healthcare systems to facilitate more efficient allocation of financial resources in both developed and developing nations.

By presenting an overview of the interaction between social protection systems and access to healthcare, this research serves as a valuable resource for decision-makers in the social and medical sectors. It highlights the dynamics that can encourage policy reforms prioritizing vulnerable populations and ensuring their access to essential services. Integrating these findings into public policy can foster a more inclusive and equitable society, where health outcomes are not determined by socio-economic status.

Furthermore, by aligning social protection mechanisms with health promotion efforts, decision-makers can maximize the impact of interventions, leading to sustainable improvements in public health. This research charts a course for more effective collaboration between policymakers and practitioners, enabling a better understanding of the complex links between social factors and health outcomes while promoting a healthier, more resilient population.

While this study enhances our understanding of the relationship between social health protection systems and the demand for healthcare access services, it also presents certain limitations. A significant limitation pertains to how the social health protection system and access to care are measured. These concepts are complex and can be influenced by various indicators, including socio-economic and cultural factors. Consequently,

accurately describing and quantifying these indicators may present methodological challenges.

Furthermore, future research should delve deeper into the determinants used in confirmatory studies, including field studies that elucidate the connections between social health protection schemes and access to care. Gaining insight into the precise mechanisms through which a universal system affects healthcare access and the health status of specific populations can yield valuable information for developing effective policies and interventions.

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