Tax-based or social health insurance funding for healthcare

Which works better?

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On the path towards universal health coverage, securing adequate funding represents a key contributor to successful implementation ([Figure 1](#fig-challenges)). Funding influences the priority setting and breadth of coverage while reflecting the needs of several stakeholders. Various strategies have been proposed to fund healthcare, which fall into two main categories: tax-based and social health insurance (SHI)-based funding. In the present essay, I will 1) compare the design and main features of tax- and SHI-based funding schemes, 2) critically appraise their key differences, and 3) evaluate their performance under the UHC framework, with an emphasis on applied real-world examples of the use of resources, equity, and resilience.

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| Figure 1: Challenges on the path towards universal health coverage. |

# Funding strategies: structural and organizational features

Tax- and SHI-based financing schemes differ in several aspects (1) ([Figure 2](#fig-features)). In tax-based systems, entitlement is granted to a country’s citizens, money is raised through public revenue by the state and administered by the central or federal government. Hospitals and other providers are publicly owned, and the final user does not get to choose coverage options. In these systems, shortages (e.g. in staff or resources) lead to queues. In SHI schemes instead, entitlement is based on contribution; money is raised by workers, and the insurers are linked to employers. One or multiple sickness funds manage the healthcare budget, which is typically distributed to privately-owned providers, which offer multiple explicit packages. Rationing occurs by increasing prices.

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| Figure 2: Features of tax- and social health insurance-based healthcare funding schemes. |

While the two funding models may appear truly dissimilar, their implementation varies greatly, so that among countries adopting seemingly identical schemes, major distinctions would be observed. Despite such heterogeneity in real-world implementation, inherent structural and organizational characteristics of tax- and SHI-based systems result in fundamental differences (1,2) concerning outcomes and healthcare delivery. Six main areas of differentiation will be discussed.

## 1. Entitlement

Tax-based systems typically achieve better accessibility, especially for the poorest and sickest segments of the population; SHI schemes, however, can achieve accessibility by providing subsidized care, despite evidence of persisting uninsurance in these systems (3).

## 2. Funding

Criticalities also exist regarding funding itself. In tax-based systems, health is not entirely free – as residual price rationing typically occurs. These systems are also vulnerable to tax abuse or avoidance. SHI systems also have their drawbacks. Having employer-sponsored health insurance has been linked to job lock (4) and does not eliminate the problem of adverse selection (1) possibly leading to long-term sustainability issues.

## 3. Insurers

In SHI-based countries where multiple agents are at play, higher expenditure is reported, due to multiple reasons. Since providers in these countries operate for profit, they charge more for services, despite providing coverage to fewer people. Additionally, the decentralization of resources relates to higher expenditure (5). It follows that SHI countries where a single insurance fund dominates spend on administration comparably to tax-financed countries (5). In contrast, due to a simpler organizational structure, tax-based systems have historically achieved reduced healthcare expenditure and waste (5). Wasteful expenditure due to poor implementation of the priority setting and inefficient administration amounts to ~20% of the healthcare budget in OECD countries, and up to 40% in developing countries (6); among OECD countries, SHI systems waste significantly more (5). As a result, SHI-based countries have larger healthcare expenditures, but their population does not benefit in terms of overall health and lifespan (7).

## 4. Management

As money is collected through public revenue in tax-financed systems, these countries face almost incessant political debate on healthcare spending. This is the case in countries like Italy (8), 308 and the UK (9), 613, where political decisions such as increased decentralization and Brexit affected healthcare system performance in the last decade, particularly by hampering workforce planning; this is often tackled by hiring agency workers at the expense of quality of care and reliability (10), 308, 615. Tax-funded schemes in Europe have also been criticized for their inert bureaucracy (11) that appears resistant to the «information revolution» and has caused delays in the adoption of novel technologies and services. However, the political discourse around healthcare has also demonstrated the potential to improve public participation; in Thailand, where three-quarters of the population receive UHC through a tax-based fund, participatory governance through consistent citizen involvement led to improved access to quality care (12).

## 5. Providers

In tax-based systems, little competition is present between providers (1), which may be seen as a disadvantage over SHI-funded schemes, where the regulations on competition may allow for widespread, affordable coverage. However, there is evidence that aiming for increased competition may affect population health in unexpected ways. In 1991, the UK NHS was the subject of a reform aimed at increasing provider efficiency, the «NHS internal market». In this system, hospitals were encouraged to reduce waiting times and overall price-for-service. This was later shown to have a detrimental effect on the health outcomes of patients presenting with acute myocardial infarction (13). Quasi-private reforms are thus seen as ineffective and reduced competition may be seen as a structural feature of tax-based systems.

## 6. Rationing

In tax-based systems, staff or resource shortages introduce queues, which are seen negatively by the general public and may consequently take a central stage in the country’s political debate. Additionally, queues are shown to exacerbate existing socioeconomic inequalities by rendering healthcare less accessible to the poor and sickest (14). On the other hand, in SHI-based countries, queues are not a major issue, and health policy aims to control the larger healthcare spending. To do so, price schedules are utilized, although these may produce clinical distortions by inducing or aggravating a prominence effect (15) on physicians.

# A shared objective: Universal Health Coverage

UHC is a common-shared goal of developed and developing countries (16) ([Figure 3](#fig-uhc)). This consists in ensuring widespread access to quality health interventions (17) while avoiding exposure to individual catastrophic spending. Universal health coverage has demonstrated benefits in terms of both population finances (18) and health outcomes (19). It holds three key principles: 1) that coverage should be based on actually need, rather than ability to pay; 2) that health policy should be aiming for the greatest overall health improvement for the population; and 3), that individual contributions (taxes) should be based on ability to pay. The path towards UHC is a hard one and still ongoing for most countries. The relative performance of tax-based and SHI-based funding schemes will be compared under the framework of UHC, in relation to its key objectives of cost-effectiveness, equity, and financial protection.

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| Figure 3: Decisive moments in the history of universal health coverage. |

## 1. Cost-effectiveness

UHC promotes efficient use of resources through the exclusion of ineffective services and expansion of high-value care, in an effort to maintain healthcare expenditure at a sustainable level. Evidence from low- and middle-income countries (20) shows that healthcare funding based on tax revenue is a major determinant of UHC progress. This finding was later confirmed in OECD countries, where the promotion of cost-effective services – and, consequently, progress towards UHC – depends largely on the underlying funding scheme, even after accounting for a country’s gross domestic product and socioeconomic gaps, a retrospective analysis showed (21).

By observing OECD countries transitioning from a tax- to an SHI-based system, A. Wagstaff demonstrated that the adoption of an SHI scheme increased health expenditure by as much as 4% (2) ([Figure 4](#fig-wagstaff)); increased expenditure not only did not reduce attributable mortality but came at the cost of reduced employment rates – by up to 10% in the healthcare sector. This builds on the concept that employers might be discouraged from hiring new workers in SHI-funded systems. Another important point regarding the cost-effectiveness of healthcare systems is effective resource utilization. As previously pointed out, health expenditure is wasted more in OECD countries with an SHI scheme in place (5), in relation to the multiplicity of providers offering similar services in a decentralized fashion and at greater administrative costs (6).

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| Figure 4: Outcomes in OECD countries transitioning from tax-based to SHI-based schemes. Adapted results from Wagstaff A. The World Bank (2). |

## 2. Health equity

UHC mandates a primary focus of healthcare systems on the disadvantaged, poor, and rural segments of the population, as these are most likely to benefit from improved access. SHI schemes, however, prioritize coverage for formal workers, to later expand to informal workers and the unemployed; thus, SHI schemes are in open contrast with UHC’s equity principle (16). SHI-based schemes are also affected by adverse selection, whereas risk adjustment strategies are detrimental to the sickest by overestimating their risk (22).

## 3. Financial protection

Despite significant advances in the previous 20 years, rates of catastrophic health spending are now increasing worldwide as progress toward UHC has halted since 2015 (23). A systematic review of evidence from 133 countries showed that SHI funding was a significant predictor of increased catastrophic spending (24). The authors concluded that to reduce out-of-pocket pay, countries should increase prepayments, especially channeled through taxes and mandatory contributions. Low financial protection has an interplay with reduced health equity, as 100 million people worldwide are pushed into extreme poverty each year, facing poorer health outcomes as a result (6).

# Future challenges: inclusivity and resilience

The 2008 global financial crisis and the 2020 COVID-19 pandemic have affected healthcare systems worldwide (25), 312. In such circumstances, resilient health systems should ideally prevent catastrophic spending and individual financial hardship while minimizing disruptions and costs through preparedness and dynamic adaptation. SHI-based countries were shown to be less resilient during both shocks (26). This resulted from more fluctuating, economy-dependent service coverage, which mostly affected the poorer segments of society – again, in contrast with the UHC principle to protect the poor and sickest. As a result, these countries might have suffered greater social pressure, morbidity, and mortality. However, it should be noted that funding is only one of several determinants of health system resilience (27), which also include effective governance, health service delivery, workforce, public health function, and technologies, along with achieving community engagement.

## SHI countries are less inclusive

In 2010, more than 3 percent of the world’s population incurred catastrophic health spending (24). In an analysis of 133 countries, catastrophic spending occurred more frequently in SHI-based systems than in tax-based systems, despite increased health expenditure in the former (24). The authors stated that to protect people from catastrophic out-of-pocket payments, what is needed is to increase «the share of total health expenditure that is prepaid», especially «through taxes and mandatory contributions». In other words, to shift towards tax-funded health systems would lead to broader coverage and better population health (19).

# Is tax-based funding better?

The main challenge in appraising the respective advantages and drawbacks of tax- and SHI-based funding schemes lies in the fact that no single country perfectly embodies a model; rather, each country adapted the models developed by Bismarck and Beveridge to their own needs. Each country’s approach to health policy reflects social and cultural values other than economic interests alone (28). Another layer of complexity lies in transitions from one system to another over time. Additionally, the literature on the subject is inevitably observational, and residual confounding is very likely as even large consortia such as the OECD rely on pooled self-reported statistics which are prone to error. No two countries have perfectly similar population demographics and burdens of disease, and to what extent the incidence of a disease is a cause or consequence of health policy is largely undetermined. What’s certain is that, given the recent slowdown in UHC progress, greater, focused international efforts in policymaking are warranted to adapt to aging, increasingly morbid populations.

In countries with tax-based healthcare funding, budgetary pressure and discourse dominate the stage of political discussion, and tax abuse is a serious threat to population health. Governments can leverage funding as needed, and benefit from participatory governance and resilience. This can be a bad thing for healthcare, such as with austerity following the 2008 crisis – or it can be a good thing, as during COVID, where at the cost of increased deficit, people were offered greater protection from catastrophic spending. While they may not be faultless, tax-based systems are less expensive, more inclusive, and offer greater financial protection and preparedness. Wider adoption of prepaid contributions under a tax-based healthcare financing framework appears justified.

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