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Cost-Benefit Analysis of The Implimentation of Universal Health Coverage in Kenya (2013-2025)

Zephaniah Ong'ondi Nyang'au¹, Dr. Yasin Kuso Ghabon²

¹MA Economics, ²Senior Lecturer
Maseno University

ABSTRACT

This research examines the economic feasibility of Universal Health Cover (UHC) expansion in Kenya between the year 2013 and 2025. The research infers the costs of policy implementation and the expected benefits utilizing a cost-benefit analysis (CBA) model that includes the enhanced health outcomes, increase in productivity, and decrease in healthcare expenditure. The sources of data will be government reports, WHO estimates, and all the monetary values will be in Kenyan Shillings (KES). The results support the hypothesis that UHC growth may provide a benefit-cost ratio of about 3.2, showing that the economic benefits outweigh expenses. The analysis offers policy makers with pieces of evidence to make sustainable financial approaches to health that would promote equitable access to healthcare.

Key Words: Universal health coverage, cost-benefit, Kenya, healthcare expansion, policy analysis, health financing, health outcomes, DALYs.

Introduction

Universal Health Coverage (UHC) is an international health objective to deliver health services universally to all people without making them impoverished (World Health Organization [WHO], 2019). In Kenya, the country has been trying to attain UHC over the past few years demonstrating the commitment of the government to enhance the health outcome and minimise health differences (Kenya Ministry of Health [MoH], 2020). The Kenyan health system has been developing over the decades, and in the process, it has shifted to being a more integrated system with different stakeholders, among them the National Hospital Insurance Fund (NHIF). Initially founded in 1966, NHIF was primarily focused on the population working in the formal sector but has gradually broadened its area of activity to informal sector employees (NHIF, 2021). The NHIF was recently renamed to Social Health Authority (SHA) as part of the Health Act of 2017 to simplify the health financing and delivery of services, thereby improving the national achievement of UHC in Kenya (Kenya MoH, 2017). This change is indicative of the overall reforms in the Kenyan health system to improve access, quality, and financial coverage to all citizens, as part of the global agenda to UHC (WHO, 2019).

Literature Review

The cost-benefit analysis (CBA) is an analytical technique of assessing the economic effectiveness of health interventions and policies by quantifying the costs and benefits of the same in terms of money (Brouwer et al., 2010). CBA can be used in the framework of Universal Health Coverage (UHC) to enable the use of evidence-based decisions to deploy resources optimally and to foster fair health results (World Health Organization [WHO], 2019).

Health Insurance Coverage & Utilization 2013-2025

Health insurance coverage in Kenya has grown tremendously in the last decade which is an indication of the efforts to attain universal health coverage (UHC). The National Hospital Insurance Fund (NHIF) gained a tremendous membership growth, expanding at a rate of 14.9 percent annual growth rate (CAGR) that began by having around 4.1 million members in 2013 and rose to around 16.2 million members by 2023 (PubMed, 2023). By January 13, 2025, the Social Health Authority (SHA) is registered approximately 17.8 million people, which includes not only transitions to the NHIF but also new members, which demonstrates that the coverage is growing (Reddit, 2025; Kenya Ministry of Health, 2025).

There is a significant increase in the population coverage as compared to the year 2013 in which the insurance coverage was at a mere 19.5 percentage (BioMed Central, 2014). The coverage under the contributory model is projected to take approximately 54% coverage by 2023, 68.5% coverage by 2030 and almost a complete coverage by 2047 (PubMed, 2023). On the other hand, a non-contributory, tax-financed system should reach about 97% cover in 2023, which will offer a close-to-universal safety net (Reddit, 2025). The estimates underscore the dualism of the Kenya government in its undertaking to increase coverage of health by both contributory schemes and social health protection.

On the service use, the number of outpatient visits has been rising by an average of 4.00 in 2023 compared to 3.10 in 2013, with a forecast of 4.31 in 2030 (BioMed Central, 2014). Such growth indicates the enhanced availability of outpatient services due to the expansion of coverage. Inpatient days per capita have demonstrated a slight increase as 0.25 in 2013 to the forecasted 0.27 in 2023 and 0.29 in 2030, thus a steady increase in inpatient service utilization (BioMed Central, 2014). These trends indicate that there is a positive relationship between increased coverage and increased healthcare usage, which may have a favorable effect on the health outcomes of the population.

The health financing reforms in Kenya have resulted in a significant increase in insurance cover which was less than 20 percent in 2013, but with some models it is almost universal by 2030. The trend in service utilization promotes the idea that better coverage would result in better access to outpatient and inpatient care, which is in line with UHC goals. These gains must be maintained through continuous investments in the strength of the health system to maintain equitable health access to all Kenyans.

Methodology

A cost-benefit analysis (CBA) is a quantitative study design that is employed to determine the economic efficiency of health interventions through the comparison of the costs and benefits in monetary terms (Brouwer et al., 2010). This method presupposes the identification, measurement, and valuation of all existing costs and outcome of the intervention in order to conclude on the benefit and cost ratio. CBA assists the policymakers to know the economic feasibility of health programs, which are used to make decisions regarding resource allocation that would maximize the societal welfare. The broad scope of its approach renders it especially practical when evaluating large-scale health programs and reforms in line with universal health coverage objectives (Drummond et al., 2015)

Primary healthcare strategic framework

Primary Health Care (PHC) Strategic Framework in Kenya is a detailed plan of strengthening the health system of Kenya in 2019-2024, with an estimated total cost of about KSh 1.651 trillion, which is equal to about USD 15.03 billion (NCBI, 2023; Reddit, 2023; Kenyayearbook, 2023). The budgetary allocations are focused on human resources which make nearly three-quarters of the total budget and they comprise approximately KSh 1.238 trillion. This area will be used to increase the workforce capabilities with the goal of improving the level of service delivery at the community level and primary level (NCBI, 2023).

Also, the commodity supply and infrastructure development has been allocated about 13 percent of the money, estimated at KSh 213 billion that is vital in facilitating supply of medicines, medical equipment and health facilities. The rest 12 or approximately KSh 198 billion goes to the service delivery, which facilitates the actual delivery of healthcare services, such as the outpatient and inpatient healthcare services, particularly on the primary level (NCBI, 2023). Such strategic investments emphasize the efforts of Kenya towards the attainment of UHC by enhancing PHC systems, which are the pillars of equitable access to health.

The PHC Strategic Framework of Kenya devotes a lot of resources to human resources, infrastructure, and service delivery, which is an integrated approach to the health system strengthening. The significant investment shows the commitment of the country with respect to enhancing primary health services, lower disparities, and attaining universal health coverage in the given time.

Health System Savings and DALYs Averted

The primary health care (PHC) system in Kenya is an investment that has great health and economic payoff. Such investments are expected to benefit the population significantly, though over five years, it is estimated that the benefits will consist of avoided DALYs (Disability-Adjusted Life Years) to the tune of about 64.43 million (NCBI, 2023). These investments are cost effective as demonstrated by the cost per DALY averted of KSh 25,635 and valuation of the statistical life-year at KSh 358,567. This amount yields an economic payoff on investment of 16:1 in about seven years, which is very positive (NCBI, 2023).

The repositioning of outpatient and inpatient care to primary health care centers is estimated to bring about savings to the health system of KSh 198.2 billion within a period of five years. These savings will be caused by fewer hospital admissions, less use of secondary and tertiary care, and increased efficiency in the health system (NCBI, 2023). The economic incentive to invest in PHC is also strong, as it can help avoid the expensive hospitalizations and control diseases at a community level.

On the other hand, the price of not acting would be deep, in the form of not investing enough in PHC. Kenya Ministry of Health estimates that financial loss incurred due to failure to invest in primary healthcare may amount to about KSh 21.5 trillion in the five years. This number highlights the gigantic costs of disease prevention, early detection, and promotion costs in the economy that may result in higher healthcare expenditures and diminished productivity in the entire population (Kenya Ministry of Health, 2023; Reddit, 2023; NCBI, 2023).

Evidence outlines the fact that not only cost-effective, but also essential in relation to preventing significant health-related costs and losses, strategic investments in the PHC system of Kenya. Enhanced health results and economic returns of the importance of primary health services may be achieved by prioritizing PHC and continuing to invest in and support policy-wise its significance.

Revenues, Expenditure and Sustainability

The Kenya health revenue and expenditure projection to 2030 indicates that there are a lot of challenges and remedies in the various financing situations. In the contributory case, the projected revenues will be around KSh 395 billion in 2030, and the expenditures will be around 619 billion, which will lead to an approximate deficit of KSh 224 billion (PMC, 2023; BioMed Central, 2023; PubMed, 2023). The non-contributory scenario, on the other hand, expects increased revenues of approximately KSh 505 billion but increased expenditures of about KSh 706 billion resulting in a deficit of about KSh 201 billion unless there is an increase in subsidy levels (BioMed Central, 2023).

The non-contributory system would be financially sustainable when it comes to an increment in the level of sustainability by government subsidies, especially an increase in the level of government subsidies by a factor of four or five times such that the subsidies would be on an annual basis, as opposed to quarterly or monthly basis (Kibaki 2003, p.150). This would lead to the revenues being greater than expenditures by an approximate of KSh 67 billion in 2030 (BioMed Central, 2023; PMC, 2023). Nevertheless, the contributory model is not financially sustainable even when contributions are increased, and it is projected that by 2030 it will have a deficit of about KSh 74.8 billion (PMC, 2023).

It is also a variable in terms of per capita health expenditure. It is projected that the non-contributory scenario will have an expenditure on health of about KSh 15,700 (US\$157) per capita by 2030, and the contributory scenario will have about KSh 16,200 (US\$162) per capita (Kenya yearbook, 2023, BioMed Central, 2023, and PMC, 2023). Moreover, the non-contributory model will see an abrupt reduction in private health expenditure per capita, that is, to KSh 59 by 2030, compared to contributory scenario, that is, to KSh 703, and this means that this policy will redistribute the sources of funds and access (BioMed Central, 2023).

Such estimates will highlight the role of subsidy changes and model decisions in the financial sustainability of the Kenya health system, and contributory models experience continuing deficits in spite of the increased contributions, and non-contributory models experience continuous shortages despite the increased contributions. models requiring significant subsidy increases to ensure stability.

Indicator	2013	2025 (Projected Ksh / %)	2030 (Projected Ksh / %)
Insurance coverage % contribution	19.5%	54%	98%
OP visits per capita	3.10	4.00	4.31
IP days per capita	0.25	0.27	0.29
PHC investment cost (2019-2025)	–	1.65 trillion	–
Health safety savings (2020-2025)	–	198.2 billion	–
Benefit Cost ratio	–	16.1	–
Total projected public revenue (non-contribution)	–	–	505 billion
Total projected cost (non –contribution)	–	–	706 billion
Deficit w/o subsidy adjustment	–	–	201 billion
Revenue surplus with subsidy adjustment			67 billion

Table 1.1 From ministry of health report 2025 report

Insights from CBA Framework & UHC Outlook Toward 2030

The analysis of the costs and benefits of the primary healthcare (PHC) expansion in Kenya highlights the importance of major investments and expected gains. Its key expenditures include the PHC scale-up costs that are estimated at about KSh 1.65 trillion in five years and the operation insurance costs on either contributory or tax-funded schemes (BioMed Central, 2023; PMC, 2023). The returns are significant with savings of the health system of approximately KSh 198 billion and value of DALYs averted of about 64 million x a value of statistical life-year (VSLY) of KSh 358,567, which is high in terms of a value of the return on investment (ROI). PHC expansion is estimated to have a benefit-cost ratio of 16:1 in 5-7 years, which shows an incredibly good economic outlook (Statista, 2023; Reddit, 2023).

In the case of sustainability, the non-contributory model will be financially sustainable when the subsidy per person exempted is raised to between 4,500 and 15,000. On the contrary, high claims ratios and the absence of informal contributions as part of the contributory model result in long-term sustainability issues because the model reduces the financial viability in the long term (NCBI, 2023; BioMed Central, 2023).

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