Towards universal health coverage: evidence generation to inform national health insurance scheme implementation in The Gambia

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Dedication

To my wife and children, Aja Nyarra Sanyang, Momodou Njie (Papa) and Musa Njie

To my parents, Fatoumatta Kongira (Ya-boi) and Momodou Njie (Papa/ Mam Modou)

To my immediate and extended family members including sisters, brothers, nieces, nephews, aunts, uncles, cousins, grandchildren

To my friends in The Gambia and abroad

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Abbreviations

CV	Contingent Valuation
GMD	Gambian Dalasi
DBDC	Double Bounded Dichotomous Choice
GBoS	Gambia Bureau of Statistics
GDP	Gross Domestic Product
HCW	Healthcare Workers
LMIC	Low- and Middle- Income Countries
MoFEA	Ministry of Finance & Economic Affairs
MoH	Ministry of Health
NHIA	National Health Insurance Agency
NHIS	National Health Insurance Scheme
OOPS	Out- of- pocket spending
PPS	Provider Payment System
SDG	Sustainable Development Goals
UHC	Universal Health Coverage
USD	United States Dollar
WB	World Bank
WHO	World Health Organization
WTP	Willingness to Pay

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Glossary

Catchment Area Population	refers to the estimated population served by a health facility.
Contingent Valuation	refers to a method of estimating the value that a person places on a good. The method asks people to directly report their willingness to pay to obtain a specific good, or their willingness to accept to give up a good, rather than inferring them from observed behaviours in regular marketplaces.
Evidence-informed decision-making	means identifying, appraising, and mobilizing the best available evidence for safe and effective health policy and programmes.
Financial risk protection	means that when direct payments are made to obtain health services, it does not expose people to financial hardship.
Health equity	means the attainment of the highest level of health for all people. This requires societal efforts value everyone equally and to eliminate health and healthcare disparities.
Health financing	is one of the core functions of health system with specific functions and policies on revenue collection, pooling of funds and strategic purchasing of services.
National health insurance scheme	refers to a social health insurance programme designed to complement sources of financing the health sector and to improve access, equity, and financial protection of the population.
Out-of- pocket spending	refers to a payment for health services including, medicines using own money, whether or not it is reimbursed.
Policymaker	means a person responsible for or involved in formulating policies, rules and regulations that govern health.
Premium	refers to the amount of money contributed towards a health insurance scheme monthly or annually.

Procedural fairness	ensures that health financing decision-making process is impartial, open, and participatory, and that all stakeholders have a voice in the process.
Provider payment system	refer to the mechanisms through which healthcare providers are reimbursed for the services they provide to patients. These payment systems can take many different forms, and they have a significant impact on the way healthcare is delivered and financed.
Public health facilities	refers to health facilities owned and operated by the government.
Risk averse	describes the person who may prefer a certain health outcome (with 100%) probability with a lower pay- off over an uncertain outcome with a higher pay- off.
Strategic purchasing	refers to the deliberate and planned approach of using available resources to purchase healthcare services that meet the healthcare needs of the population in an efficient, effective, and equitable manner.
Universal health coverage	means that everyone has access to the full range of quality health services they need, without facing financial hardship.
Willingness to pay	refers to the maximum price an individual is willing to pay for a good or service.

Summary

Introduction

Universal health coverage (UHC) is a global health system goal aimed at providing all individuals with access to quality healthcare services without incurring financial hardship. The United Nations General Assembly adopted the 2030 Agenda for Sustainable Development Goals (SDGs), which includes Goal 3.8 dedicated to achieving UHC. The importance of the UHC goal lies in addressing the challenges faced by many countries in their healthcare sectors, including limited access to care, financial barriers to receiving care, and disparities in health outcomes among different populations. As part of their efforts to achieve the SDGs and UHC by 2030, many LMICs such as the Gambia are exploring different financing mechanisms to fund their healthcare systems. One such mechanism is the establishment of National Health Insurance Schemes (NHIS), which the Gambia introduced in 2021.

Aim and objectives

The aim of this thesis is to contribute evidence to support the successful implementation of the National Health Insurance Scheme (NHIS) in The Gambia, with the ultimate goal of achieving Universal Health Coverage (UHC). To achieve this aim, the thesis has four primary objectives. Firstly, the study (**Paper I**) aims to determine the willingness of the population to pay for the NHIS by conducting a contingent valuation study. Secondly, the study (**Paper II**) seeks to assess the preferences of healthcare workers for the provider payment system in the NHIS. Thirdly, the study (**Paper III**) aims to evaluate the procedural fairness of decision-making processes in financing the NHIS. Finally, the study (**Paper IV**) investigates the role of ideas, interests, institutions, and events in shaping the policy process towards achieving UHC through the NHIS. By achieving these objectives, the research aims to provide valuable insights and

recommendations that can inform the successful implementation of NHIS and ultimately contribute to achieving UHC in The Gambia.

Methods and materials

The first study (**Paper I**) was a population-based cross-sectional survey that included head/ co- head of households, and the second study (**Paper II**) was a public health facility- based cross- sectional survey that included healthcare workers (HCW) in The Gambia. The third and fourth studies were qualitative case studies (**Papers III & IV**). We utilized multi stage sampling technique using probability proportionate to size sampling to identify and select an appropriate size and elicited responses using questionnaires (**Papers I & II**). In the third and fourth studies (**Paper III & IV**), we utilized purposive and snowballing sampling technique to identify participants involved and those not involved but had a stake in the NHIS and interviewed them using interview guides. Dataset for (**Papers I & Paper II**) were cleaned, validated, coded and recoded using Microsoft Excel. Following data validation, data was exported to IBM SPSS Statistics for further data quality check and validation and finally exported to StataSE version 17 for analysis. In (**Papers III & IV**), we used an iterative approach to analytical coding and interpretation guided by deductive and inductive reasoning to identify key themes.

Results

The study (**Paper I**) found that 94% of respondents in The Gambia were willing to join and pay for the National Health Insurance Scheme (NHIS), with an average willingness-to-pay (WTP) value of US$23 (GMD 1,120). Gender, education, and household income were associated with WTP and maximum amount to pay for NHIS. Approximately 50% of respondents were willing to pay the upper bid, and only 1% preferred using existing health services or paying out-of-pocket. In terms of healthcare worker (HCW) preferences for payment systems (**Paper II**), HCWs working in district

hospitals or major health centers were 50% less likely to choose line-item budgeting or fee-for-service, while those working in urban areas were 60% less likely to choose case-based payment. Additionally, being a physician was associated with a higher likelihood of choosing line-item budget by almost four times in hospital outpatient services. The findings (**Papers III & IV**) revealed that the NHIS underwent scrutiny from different stakeholders, including public officials, private sector, and civil society organizations. The stakeholders were given opportunities to provide input to the Bill. The study found that the drafting of the NHI Bill and legislation of the Bill into an Act were overseen by the technocrats and lawmakers at the central level, leaving behind local government and civil society organizations. Some civil society representatives were invited based on their prior working relationship with the Ministry of Health (MoH), which raised questions about the transparency and inclusiveness of the process. The World Bank supported the implementation of the NHI Act through supporting the MoH to establish the NHIA and resource the Authority to implement the Act. However, some of the participants raised concerns about balancing the interests and values of stakeholders, including external funders during policy implementation.

Conclusion

This thesis explores the implementation of a National Health Insurance Scheme (NHIS) in The Gambia to achieve Universal Health Coverage (UHC). The NHIS is a financing mechanism that aims to provide access to needed and quality healthcare services to individuals without financial hardship. The findings from this thesis provide valuable insights and recommendations that can inform the successful implementation of NHIS and ultimately contribute to achieving UHC in The Gambia.

List of papers

Paper I:

Hassan Njie, Knut Reidar Wangen, Lumbwe Chola, Unni Gopinathan, Ibrahimu Mdala, Johanne S Sundby, Patrick G C Ilboudo Willingness to pay for a National Health Insurance Scheme in The Gambia: a contingent valuation study. *Health Policy and Planning*, Volume 38, Issue 1, January 2023, Pages 61–73, https://doi.org/10.1093/heapol/czac089

Paper II:

Hassan Njie, Patrick G. C. Ilboudo, Unni Gopinathan, Lumbwe Chola, Knut Reidar Wangen. Preferences of healthcare workers for provider payment systems in The Gambia's National Health Insurance Scheme. (Manuscript under peer review)

Paper III:

Hassan Njie, Elin Dale, Unni Gopinathan. Procedural Fairness in Decision- Making for Financing a National Health Insurance Scheme: A Case Study from The Gambia. (Manuscript under peer review)

Paper IV:

Hassan Njie, Ruth Jane Prince, Mat Lowe, Unni Gopinathan. Ideas, interests, and institutions: the policy process behind the Gambia's national health insurance scheme. (Manuscript)

Introduction

Universal health coverage

Following the expiration of the Millennium Development Goals (MDGs) in 2015, the United Nations General Assembly adopted the 2030 Agenda for Sustainable Development Goals (SDGs) with the aim of transforming the world. The SDGs consist of 17 goals and associated targets that track the performance of all United Nations (UN) member countries. Target 3.8 under SDG3 on health is dedicated to achieving universal health coverage (UHC). Specifically, the UHC goal seeks to ensure that all individuals have access to the quality health services they need and are protected from financial risks associated with healthcare expenses (1). The importance of the UHC goal lies in addressing the challenges faced by many countries in their healthcare sectors, including limited access to care, financial barriers to receiving care, and disparities in health outcomes among different populations (2, 3).

Over the years, the World Health Organization (WHO) and its partners have developed a series of UHC frameworks to guide low- and middle-income countries (LMICs) to align health policies and strategies with UHC goals (4). In addition, the WHO and the World Bank have developed UHC indicators within the SDG framework to measure health service coverage and financial protection, along with tracer indicators (5, 6).

The 2021 global monitoring report has shown that service coverage has improved in all WHO regions including the Gambia in the last 20 years, but the number of people facing financial hardship due to out-of-pocket (OOP) and household health spending has increased (7). These milestones have been reversed or worsened by the COVID-19 pandemic, making the World Health Assembly's resolution of ensuring that one billion

more people benefit from UHC by 2023 untenable (8). Recent evidence suggests that the COVID-19 pandemic has had a huge impact on the global economy, with negative cascading effects on social services, including health (9). The effects from COVID-19 has and will continue to disproportionately affect low- and middle-income countries (LMICs) whose economies are exposed to global economic shocks and whose health systems are not as resilient (10-12).

As part of their efforts to achieve the SDGs and UHC by 2030, many low- and middle-income countries (LMICs) such as the Gambia are exploring different financing mechanisms to fund their healthcare systems (13). One such mechanism is the establishment of National Health Insurance Schemes (NHIS), which the Gambia introduced in 2021.

Universal health coverage and health financing policy in the Gambia

Since 2011, multiple national health policies and strategies as well as the national development plan have repeated and renewed the Gambia's commitment to UHC objectives (14-16). During the same period, the previous government commissioned a study to assess the feasibility of introducing and implementing a NHIS in The Gambia although the recommendations were not implemented (17). The most recent health financing policy and strategy proposed different pathways to resource UHC final coverage goals including financial risk protection, equity in service utilization and quality (18, 19).

In response to the health sector's UHC goals and in line with global push to reform health systems, the Gambian government passed the 'National Health Insurance Act of 2021', a crucial milestone towards achieving UHC (20). The National Health Insurance (NHI) Act establishes a legal framework for a national health insurance scheme (NHIS), enabling all citizens and non-Gambian residents to access quality healthcare services

they need without financial burden. According to the Ministry of Health, the implementation of the NHI Act is expected to address the financial barriers to healthcare by pooling resources and spreading costs across the entire population (21).

Overview of health financing in the Gambia

The management and financing of public healthcare in The Gambia is the responsibility of the Ministry of Health (MoH), which operates an apparent subsidized health system. The system utilizes blended input- based line item budgeting, supplemented by program-based budgeting to a lesser extent. Gambian nationals aged 14 years and above are required to pay US$ 0.5 (Gambian Dalasi 25) for outpatient consultations and US$ 2.0 (Gambian Dalasi 100) per week for bed charges. Non-Gambians are charged separately. These user fees are managed through the drug revolving fund (DRF) and are intended to supplement the pharmaceutical product budget for tertiary care facilities, as well as secondary and primary care facilities (22, 23).

Despite The Gambia's commitment to UHC as outlined in its policies and strategies, there has been limited government investment in the health sector over the years (22). According to numerous studies conducted by the World Health Organization (WHO) and health financing experts, to make progress towards UHC, the recommended threshold for government spending on health should be at least 5% of GDP (24, 25). In contrast, the most recent national health account (NHA) in The Gambia revealed that government spending on health as a percentage of GDP was only one percent in 2019, and the current health expenditure (CHE) per capita was US$25.84 (26, 27). These figures fall short of the Commission on Macroeconomics and Health's estimates that low- and middle-income countries (LMICs) should spend at least US$71 on health by 2015, with the High-Level Taskforce estimating per capita spending on health of US$86 (expressed in 2012 US$ terms) (24). Recent estimates also suggest that LMICs should

spend a minimum of US$76 per person per year to build sustainable and resilient health systems and make progress towards UHC (28).

The NHA findings also revealed that external funding for health accounts for 45.49% of total health expenditure, while out-of-pocket spending (OOPS) accounts for 26.96% (27). OOPS are direct cost incurred by individuals when paying for health services (29). These estimates indicate that health financing in The Gambia is heavily reliant on donors, which carries a risk of unpredictability and uncertainty in the sustainability of health spending.

In order to make progress towards achieving UHC through an innovative financing mechanism, the Gambian government has introduced a National Health Insurance Scheme (NHIS) that aims to cover the healthcare costs of both Gambian and non-Gambian residents. While evidence on the most appropriate health financing model for pursuing UHC objectives in LMICs is limited, some studies suggest that NHIS can enhance access to healthcare services and protect users from financial hardship (30-32). However, some researchers argue that despite the growing popularity and strong political backing of NHIS in LMICs, these schemes fail to mitigate health inequities and offer protection against financial risks (33, 34).

Gambia's National Health Insurance Act, 2021

In November 2021, lawmakers in The Gambia enacted the National Health Insurance (NHI) Act, marking a significant milestone in the health financing reforms that have been under discussion since 2010. The Act introduced a mandatory NHIS that includes a minimum benefit package designed to improve access to affordable and quality health service for all members (20).

The National Health Insurance Fund (NHIF) was established by the NHI Act to mobilize financial resources for the purpose of paying for healthcare costs and

administrative expenses incurred by members of the scheme. The primary sources of funding for the NHIF are appropriations from the National Assembly and member contributions. The Act also outlines a variety of revenue streams earmarked for the NHIF, including certain proportions of value-added tax, international travel insurance, telecommunication levy, tobacco tax, petroleum tax, toll bridge fees, government injury compensation, grants, and other fees charged by the NHIA. (20).

Although the NHI Act authorizes the Minister of Finance and Economic Affairs to remit to the NHIF all funds constituting the scheme before the fifth day of the month for accrued funds, the Ministry is yet to comply with this requirement. This is due to some of the revenue streams outlined in the Act being earmarked for other critical service sectors (35). Therefore, discussions are ongoing between the National Assembly, Ministry of Health, and Ministry of Finance and Economic Affairs to review and amend the Act.

Willingness to pay for Gambia's National Health Insurance Scheme

Despite the National Health Insurance Act outlining member contributions as a source of funding for the scheme, it does not explicitly state the specific contribution amount required from members (20). However, the Act empowers the Minister of Health to develop national health insurance regulations that determine the membership contribution rates for citizens and non-Gambian residents with the ability to pay. Furthermore, the Act exempts the most vulnerable subpopulations from paying contributions under the scheme. These include children under five years of age, pregnant and post-partum women, persons living with mental illnesses, the very poor (indigent), certain categories of differently abled persons, pensioners, and persons above 65 years of age.

The success of the NHIS depends on the support and involvement of the public since this public policy reform affects their lives. Previous studies have demonstrated

that the public has clear preferences for their healthcare needs when asked to contribute to a scheme (36). A recent study conducted in The Gambia has also shown that Gambians are willing to join and pay for NHIS (37). Additionally, other studies have indicated an inverse relationship between price and acceptance to pay, particularly in those that utilized contingent valuation methods such as NHIS (38, 39). However, decision-makers should consider that willingness to pay does not necessarily imply ability to pay. Therefore, when determining the exemption criteria for the most vulnerable populations, policymakers should take into account individuals' financial capacity.

Purchasing arrangement in Gambia's health system

Purchasing health services is one of the three fundamental health financing functions and plays a crucial role in strengthening health systems. This process involves the allocation of pooled funds to healthcare providers for the purpose of delivering health services on behalf of specific groups or the entire population (40). Strategic and passive purchasing arrangements are the two main methods used for purchasing health services. However, in sub-Saharan Africa, including the Gambia, passive purchasing dominates the health financing landscape (41).

In passive purchasing arrangements, funds are transferred to healthcare providers based on historical or fixed budget, with little consideration for provider performance and efficiency (42, 43). In The Gambia, for example, healthcare workers receive monthly salaries through a traditional line-item fixed budget from the national treasury (44). Despite the introduction of PBF in the health sector, the purchasing arrangements bear's hallmarks of passive purchasing. Although monthly salaries are supplemented with incentives linked to provider performance through the results-based financing (RBF) programme supported by the World Bank, healthcare workers' performance does not influence their monthly salaries. (44).

In contrast, strategic purchasing involves purchasing agencies, such as ministries of health (MoH), health insurance agencies, and other purchasers, actively making evidence-based decisions about which services to purchase, from which providers, how these services are paid for, and at what price (40, 45). Studies have shown that countries that have made sustainable progress towards UHC utilizes strategic purchasing arrangements to allocate resources efficiently, create incentives to improve access to quality, accessible and equitable health services as wells as ensure provider autonomy and accountability (40).

Provider payment systems in national health insurance schemes

Provider payment systems (PPS) are a core feature of strategic purchasing, referring to the methods used by purchasers to transfer funds to individual healthcare workers (HCWs) or provider institutions for providing agreed-upon services to the population (46). PPS can create strong incentives that influence provider behavior and, as a result, can impact the efficiency, equity, and quality outcomes of the NHIS (47).

When making strategic purchasing decisions, it is crucial to consider the incentives that various PPS create and how they influence healthcare worker (HCW) behavior and accountability. This is particularly important in The Gambia, where HCWs have recently engaged in a series of industrial strikes demanding better salaries and incentives. (48, 49). The Gambia uses fixed line-item budget to pay salaries of healthcare workers monthly.

Several studies have shown that both financial and non-financial incentives can influence HCW behavior and contribute to positive patient outcomes (50-52). For instance, the use of performance-based financing to incentivize HCWs under the Maternal and Child Nutrition and Health Results Project in The Gambia resulted in higher quality of care scores in targeted facilities compared to non-targeted facilities (53). HCWs

in the target regions also reported higher satisfaction levels due to the incentives received on top of their monthly salary (54, 55). However, some researchers have argued that financial incentives alone do not necessarily lead to better patient outcomes, as there is inconclusive or weak evidence of their impact on service quality (56-58).

The National Health Insurance Authority (NHIA) in the Gambia aims to implement strategic purchasing arrangements as part of the NHIS implementation. In order to create provider incentives, accountability, and value for money, the NHIA is exploring use of mixed PPS in the scheme as outlined in the NHI Act.

Fair processes and priority setting to finance NHIS

Progress towards UHC involve difficult policy choices and reasonable decisions and their enforcement require robust public accountability and active participatory mechanisms (59). Health financing decision-making are complex because it affects the entire population and therefore requires careful deliberation (60). In many cases, disagreements may ensue between policymakers, interests groups and the public about what fair choices are in respect to financing healthcare (61). Ensuring a fair process in health financing is critical to promoting equitable policies and outcomes, fostering trust, and enhancing legitimacy between policymakers and the public (61, 62).

Priority setting is a critical component of healthcare decision-making particularly in LMICs, where resources are often limited. In the context of health financing, priority setting refers to the process of making choices about what interventions or diseases to include in a benefit package based on agreed criteria (63, 64). This process is necessary because demands on healthcare resources are always greater than the resources available. This is particularly true for LMICs such as the Gambia where budget space for health is mostly non- expansionary with limited implementation of priority setting (65). However, prioritizing health interventions is a complex process that involves balancing

competing demands and ensuring equitable access to healthcare services. The accountability for reasonableness (A4R) framework for example, is an ethical decision-making framework that aid decision-makers in organizations to set priorities and arrive at decisions that are legitimate and fair (66).

Open and inclusive decision-making in financing Gambia's NHIS is crucial for ensuring that all stakeholders, including marginalized communities, have a voice in the allocation of resources and the design of benefit packages that directly affect their wellbeing (67). By engaging in transparent and participatory decision-making processes, policymakers can build trust and promote equity, ultimately leading to more effective and sustainable health systems.

Research objectives

The aim of this research is to generate evidence to inform the implementation of NHIS towards achieving UHC in The Gambia. The study focuses on four primary objectives:

1. Firstly, we conducted a contingent valuation study to determine the population's willingness to pay for the NHIS.
2. Secondly, we assessed healthcare workers' preferences for the provider payment system in the NHIS.
3. Thirdly, we examined the procedural fairness of decision-making processes in financing the NHIS.
4. Lastly, we investigated how ideas, interests, institutions, and events influenced the policy process towards achieving UHC through the NHIS.

Significance of the research

The overall significance of this research is to inform the implementation of the NHIS in The Gambia and contribute towards Gambia meeting the 2030 agenda for SDG and UHC. This is important because access to affordable and quality health care is a fundamental human right and a critical enabler of social and economic development. The NHIS is expected to improve access to health services and reduce out-of-pocket payments, especially for vulnerable and low-income populations.

Providing evidence of the population's willingness to pay (WTP) for the NHIS is essential as it will provide insights into its feasibility, the level of support from the population, and the amount they are willing to pay to access health care. The WTP values that we determined in our study will help to estimate the economic value of the NHIS to the population and inform policy decisions on establishing progressive contribution rates and exemption criteria which has the potential to widen the equity impact of the scheme.

The NHI Act outlined few mixed provider payment systems that would be utilized in the scheme. As such, it is crucial that preferences of healthcare workers are considered by decision-makers because they are key stakeholders in the implementation of the NHIS. Their preferences for payment systems could influence their motivation, job satisfaction, and quality of care.

Procedural fairness of decision-making processes in financing the NHIS is critical for building trust and legitimacy in the NHIS. Our findings identified the stakeholders involved in decision-making, their interests, power relationship and the extent at which they could influence decision-making and the criteria used to allocate resources. This information will be used to improve transparency, accountability, and participation in decision-making now and in in the future.

Evidence on how ideas, interests, institutions, and events influenced the NHIS policy process may serve as a learning curve for stakeholders to improve future policymaking. This is significant because policy implementation is influenced by a complex set of factors, including political, social, economic, and institutional factors. Understanding these factors will help to identify the challenges and opportunities for implementing the NHIS to make progress towards UHC. Our findings will also contribute to the literature on policy analysis and provide insights into the NHIS policymaking process in low-income countries. Overall, the research findings will provide evidence-based recommendations to policymakers, stakeholders, and international organizations on the design and implementation of the NHIS in The Gambia and other LMICs.

Conceptual and theoretical background

Theoretical perspective

For (**Paper III)**, we utilized two theoretical perspectives to offer a thorough analysis of the decision- making processes shaping the financing and contributions to the national health insurance (NHI) with respect to key criteria for procedural fairness. The first perspective is the policy-cycle for health sector reform developed by Roberts et al. (2008), which identifies six crucial steps for successful health policy reform: problem definition, diagnosis, policy development, political decision, implementation, and evaluation (68) as shown in figure 1.

This study (**Paper III**) focuses on the process between diagnosis and the political decision to establish the NHI. In The Gambia, the diagnosis stage of the policy-cycle for health sector reform identified NHI as the primary solution for improving access to health services and safeguarding against financial risks, particularly for vulnerable populations. The political decision phase involved the National Assembly's adoption of the NHI Act 2021, following the submission of the NHI Bill by the Executive branch and its examination by the legislative body.

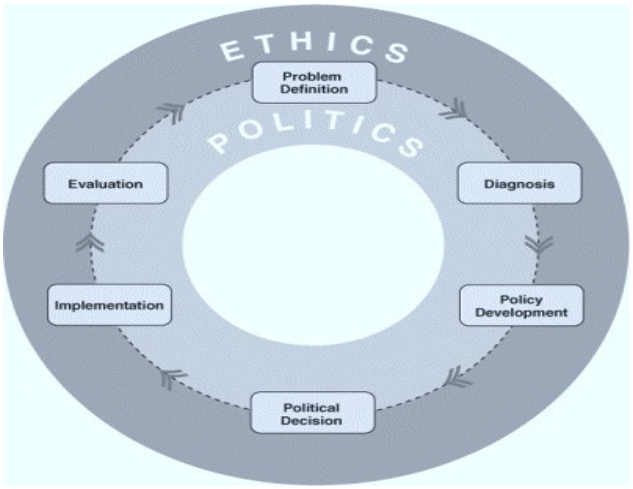

Figure 1. Policy-cycle for health sector reform

Figure 2. Principles and criteria for procedural fairness

The second theoretical perspective utilized in this study is based on principles and criteria that define the fundamental components of procedural fairness. These criteria are classified into three domains of information, voice, and oversight, presented in figure 2. The identification of these principles and criteria was informed by an ongoing scoping review of theoretical and empirical literature from various fields, such as deliberative democracy, public finance, and health financing (69).

The development of these principles and criteria was also informed by international expert consultations and forms a framework for procedural fairness proposed in a forthcoming report by the World Bank, the Norwegian Institute of Public Health and the Bergen Centre for Ethics and Priority Setting (61, 70). The implementation of these criteria is guided by three overarching principles: equality, impartiality, and consistency over time. The principle of equality ensures that all stakeholders have equal representation and access to information, and that their views are given equal consideration regardless of social status, gender, ethnicity, religion, or

power (71-73). The principle of impartiality ensures that decision-makers produce unbiased assessments and that decisions are not unduly influenced by stakeholders with vested interests in the outcome (74, 75). Lastly, the principle of consistency over time requires decision-making procedures to be stable and predictable, especially in the short term, to foster trust and acceptance among stakeholders (74). Any modifications to decision-making procedures should be clarified and justified through an open and inclusive process.

Together, these principles and criteria form a framework for procedural fairness that extends beyond the A4R framework. We applied this extended framework for procedural fairness (**Paper III**) because A4R has been deemed to give insufficient attention to participation and inclusiveness (76-78), which different areas of the literature suggest are important for people's perceptions of fairness and legitimacy (79-83). To inform the analysis of the health policy process leading to the enactment of National Health Insurance Act (**Paper IV**), we used the heuristic stages model and ideas, interests, institutions, and events public policy frameworks that have been widely used in health policy and systems research (84-86). The 'heuristic stages model' is a popular policy analysis framework that has been used for decades (87, 88).

The framework breaks the policymaking process into five distinct and sequential stages: (1) agenda setting, where stakeholders identify and define policy issues; (2) policy formulation, where policy solutions are defined and proposed; (3) decision-making, where policymakers choose a policy option; (4) policy implementation, where resources are allocated to carry out decisions; (5) evaluation, in which implementation is assessed in relation to the desired objectives; and (6) feedback, where evaluative learning is used to consider if the policy should be continued or modified. Due to the clearly distinguishable steps, the stages model represents a clear and useful framework for

identifying stages of a policymaking process where stakeholders can participate and influence.

However, it has faced criticism for being an oversimplified representation of reality (89). Chiefly, the heuristic stages model falls short of characterizing policymaking the way it usually occurs in practice: as a non-linear and unpredictable process where policy is shaped by iterative and incremental cycles of interaction among stakeholders that may have differing values, ideas and interests (88). To address these concerns, the analytical approach integrated the heuristic stages model with ideas, interests, institutions, and events public policy framework that identifies three key influences on policy-making processes: (90, 91). (1) 'ideas' – values, norms, knowledge, and evidence of different kinds that influence how the policy problem and policy options for resolving it is represented and understood by actors in the process (2) 'interests' – preferences actors have for specific outcomes of the decision and the power and resources actors have to advance these preferences; and (3) 'institutions' – the formal and informal characteristics, rules and legacies that influence the decision-making process. Iterations of this framework have also highlighted the importance of 'events', such as public health emergencies e.g., COVID-19, that may influence opinions and opportunities for change (90). Together, these theoretical perspectives form the study's (**Paper IV**) conceptual framework guiding the analysis of the collected data as shown in figure 3.

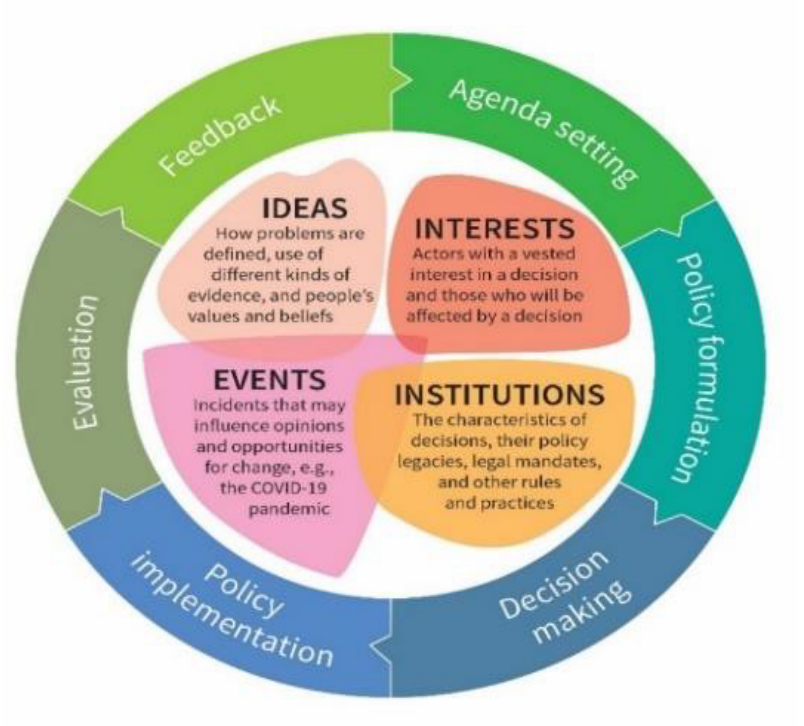

Figure 3. Ideas, interests, institution, and events framework adapted with permission from the SUPPORT-SYSTEMS project (92)

This study (**Paper IV**) analyzes three key dimensions: the role of ideas in defining the problem and shaping policy responses, the interests of different stakeholders, and the institutional arrangements that facilitated the NHIS decision. Ideas are evaluated in terms of NHIS problem definition, use of local and international evidence, and people's values and beliefs. The interests of different actors and those directly or indirectly affected by the NHIS decision are also examined. Institutional factors, including the characteristics of NHIS decisions, their policy legacies, legal mandates, and other rules and practices, are also assessed. Moreover, we evaluate the impact of COVID-19 on the overall NHIS policy cycle.

Methods and materials

Study setting: The Gambia

Demography

The Gambia is the smallest country in mainland Africa. It is surrounded by Senegal on three sides - north, south and east and has an 80km coast on the Atlantic Ocean to the west. The country has an estimated population of 2.4 million in 2020, of which 44% were below the age of 15 years. With an average 8.2 persons per household and 176 people per square kilometer, it is one of the most densely populated countries in Africa (93). The average life expectancy at birth is 61.5 years overall with females constituting 62.3 and males 59.6 years. The crude birth rate is 46 per 1000 population while the total fertility rate is 4.4 births per woman and the crude death rate is estimated to be 6.5/1000 population (94)

Figure 4. Map of West Africa. Source: GIS Geography

Figure 5. Map of administrative regions in The Gambia. Source: GIS Geography

Economy

Gambia is classified as a low-income country by the World Bank, with a Gross Domestic Product (GDP) per capita of US$835 (95). GDP growth in 2023 is estimated to remained at 4.4 percent, despite strong recovery in tourism as well as increased in public and private construction (96). The modest economic recovery may be impacted negatively due to mutually reinforcing multiple external shocks such as the ongoing COVID-19 pandemic, the war in Ukraine, and most recently, global economic turmoil from the collapse of financial institutions (97). The Gambia's economy relies on tourism, remittance and rain-dependent agriculture. The 2020 unemployment rate was about 40% and national poverty level was estimated at 48.6% (98).

Healthcare system

The Gambia has a three-tier system for the delivery of public health services as shown in table 1 (99). The primary level consists of village health services (VHS) and community clinics primarily tasked to provide preventive health services including health promotion.

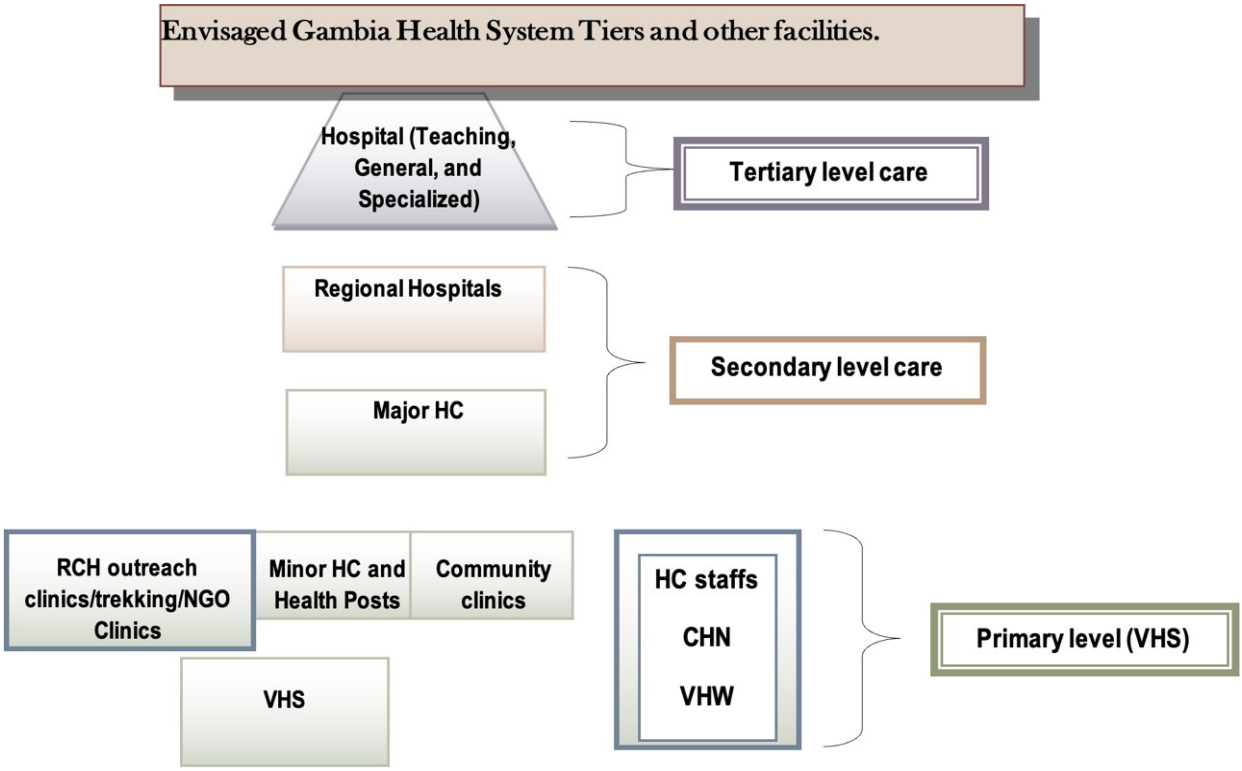

Figure 6. Organogram of health system tiers. Source: National Health Policy 2021-2030

The secondary level includes minor and major health centers, which serve as referral facilities for the first tier. Minor health centers provide basic health services such as basic emergency obstetric and newborn care (BEmONC). The services provided at major health centers include minor surgeries, comprehensive emergency obstetric and newborn care (CEmONC), radiology and laboratory services. The tertiary level comprises of general and specialists' hospitals. The main teaching hospital is located in the capital city, Banjul and serve as the highest referral hospital in the country.

Table 1. Health facilities by type and region in The Gambia, March 2020

	WR1	WR2	NBW	NBE	LRR	CRR	URR
Village health services	29	116	116	127	102	307	145
Community clinics	3	25	5	4	9	11	11
Minor health Centers	10	4	5	6	6	6	8
Major health Centers	1	1	0	0	1	1	1
District hospitals	0	1	1	0	1	0	1
General hospitals	2	1	0	1	0	1	0
Teaching hospital	1	0	0	0	0	0	0
Private facilities	30	15	3	3	5	5	5

Source: The Gambia Essential Healthcare Package (2020). WR1 = Western Region 1; WR2 = Western Region 2; NBW = North Bank West; NBE = North Bank East; LRR = Lower River Region; CRR = Central River Region; and URR = Upper River region.

The Gambia has made steady progress over the past decade with regard to population health, but the rate of improvement in most health indicators is slow according to latest Gambia Demographic and Health Survey (94). The under-5 mortality rate was estimated to be 56 deaths per 1,000 live births in 2019, increasing from 54/1000 in 2013. The maternal mortality ratio (MMR) remains high at 289 maternal deaths per 100,000 live births. Attendance of antenatal care is high, with 98% of pregnant women receiving care from a skilled provider, though less than half (43%) have their first ANC visit in the first trimester. Infectious diseases, maternal, neonatal, and nutritional conditions remain the

leading causes of premature mortality, their proportion of the total burden has decreased, signifying the start of the epidemiological transition. Non-communicable diseases (NCDs) are increasing their share of the total burden of disease, with hypertensive disease being a major cause of death.

Study sites

All studies were conducted in The Gambia. The first study (**Paper I**) was a nationally representative study targeting head/ co-head of households. Figure 7 showed the distribution of study communities across The Gambia.

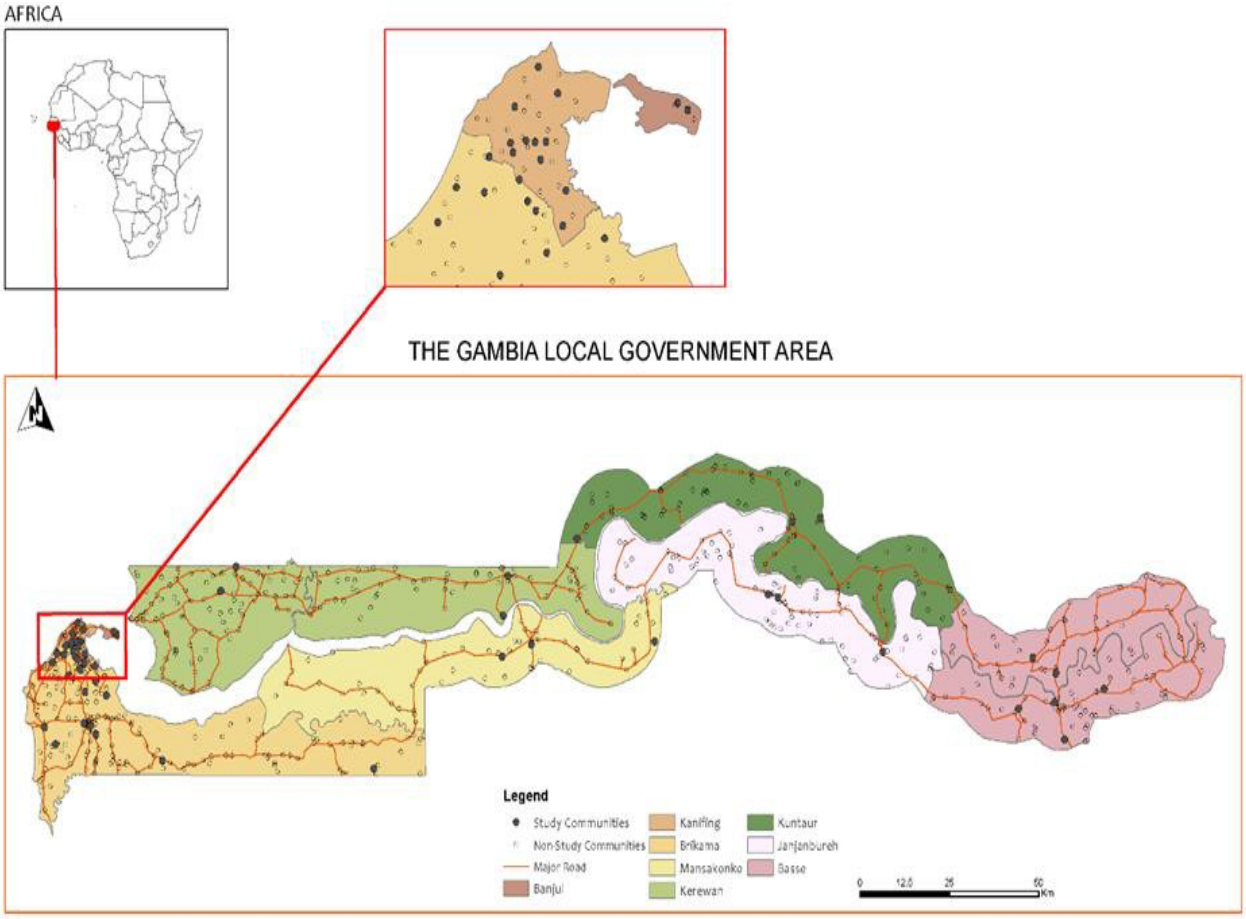

Figure 7. Distribution of study communities across The Gambia (**Paper I**)

The second study was a nationally representative public health facility- based study. Healthcare workers in public health facilities in each of the seven health regions were included in the study. Figure 7 showed the distribution of these health facilities.

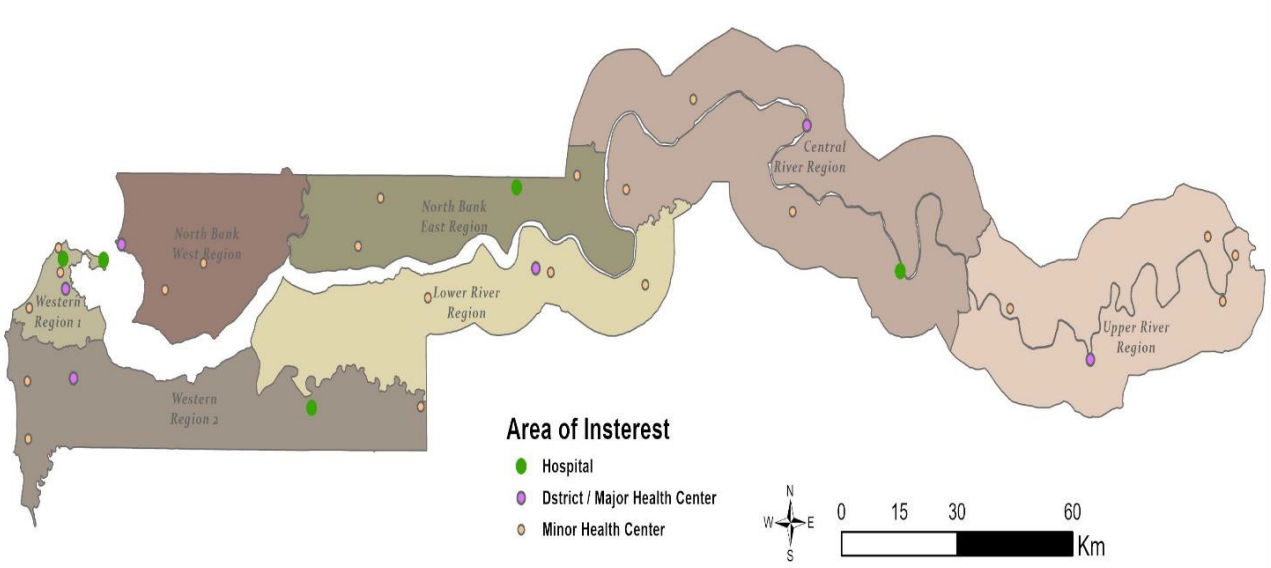

Figure 8. Distribution of health regions and study facilities across The Gambia (**Paper II**)

The third and fourth studies (**Paper III & IV**) were conducted mainly in the urban areas comprising Banjul, Kanifing and West Coast administrative regions. The sample is dominated by urban-based stakeholders. However, we included voices residing in the Lower River Region representing rural-based stakeholders (**Paper III & IV**).

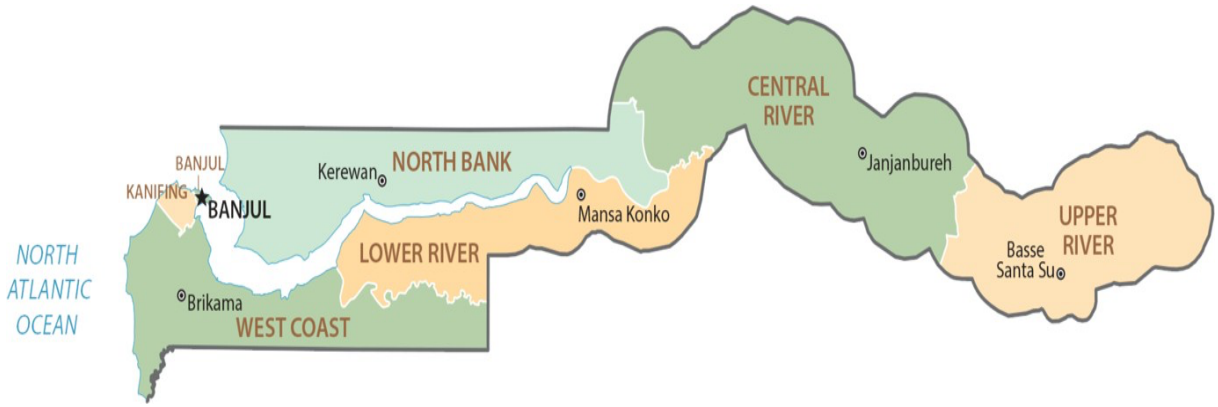

Figure 9. Distribution of administrative regions and settlements across The Gambia. Source: GIS Geography

Study design

To estimate Gambians' willingness to pay for the National Health Insurance Scheme (**Paper I**), a cross- sectional population- based survey was utilized. To explore preferences of healthcare workers for provider payment systems in The Gambia's National Health Insurance Scheme (**Paper II**), a public health facility- based cross-sectional survey was used. We used a qualitative case study approach to examine the decision- making processes shaping the financing and contributions to the scheme with respect to key criteria for procedural fairness (**Paper III**) and how ideas, interests, institutions, and events influenced the policy process towards achieving UHC through the NHIS (**Paper IV**).

Sampling technique

In the first study (**Paper I**), we used a two- stage sampling design without replacement as described in other studies (100). In the first stage, clustered enumeration areas (EAs) were systematically sampled using probability proportionate size (PPS) technique. In the second stage, households that were eligible for selection also systematically sampled using the PPS technique. In the end, heads/co- heads of households that constituted our final sample size were selected and identified for an interview.

In the second study (**Paper II**), we utilized a two-stage sampling technique to select healthcare workers from their respective facilities. In the first stage, we selected 57 public health facilities using a combination of systematic sampling and PPS technique, stratified by region and tier to ensure representativeness. We sampled 60% of facilities from each stratum, resulting in 32 public health facilities being eligible for selection in the final sample. Sampling 60% of the total health facilities allowed us to achieve our targeted sample size of 576 participants, the unit of analysis in our study. In the second

stage, we used a systematic sampling technique to determine the sampling interval for each health facility. To ensure gender and sub-cadre representativeness, healthcare workers were stratified by gender and qualifications based on each facility's sampling interval. We adapted and used the Gambia Bureau of Statistic (GBoS) census data as well as multiple indicator cluster survey 6 (MICS6) systematic random selection template in both studies (**Paper I & Paper II**). This template was validated in multiple population-based surveys conducted in The Gambia.

In the third and fourth studies (**Paper III & IV**), we utilized purposive and snowballing sampling technique to identify participants involved and not involved but with a stake in the NHIS from the executive and legislative branches of government as well as participants from the private sector, interests groups and civil society organizations.

Sample size estimation

In the first study (**Paper I**), using the GBoS's population data, we conservatively assumed that 50% is the proportion of the participants who were willing to pay for NHIS. With 80% desired statistical power, a significant level alpha of 0-05 and a margin of error of 0.04, the minimum sample size estimated was 600. Because our study is a clustered survey with the EAs acting as clusters, the sample size was inflated using a design effect of 1.3 to give a minimal sample size of 780 participants. In the second study (**Paper II**), we used Raosoft's online sample size calculator to estimate the sample size for our study with the following conservative assumptions: we assumed there are 5,000 public healthcare workers in The Gambia and a 50% response distribution. With a 95% confidence interval and a 5% margin of error, the estimated sample size was 357 participants. However, due to concerns about potential low response rates due to COVID- 19 restrictions put in place by the government at the time, we increased the sample size by 60% from 357 to 576 participants.

In the third and fourth studies (**Paper III & IV**), the objective of the sampling was to secure a diverse range of perspectives on the health policy process. For (**Papers III & IV**), we invited 30-35 participants, and 26 participants accepted our invitation. To secure balanced representation, a special effort was made to include perspectives of stakeholders who were not invited to consultations during the health policy process or rural- based stakeholder engagement organized by the National Assembly. We succeeded in getting two perspectives from rural- based stakeholders.

Study instrument and data collection

In the first study (**Paper I**), an interviewer- administered questionnaire designed according to the contingent valuation method was used to collect relevant information from the respondents ranging from demographic, socio-economic and health service characteristics. In addition, we collected WTP estimates as well as maximum amount to pay for NHIS in monetary value. In the second study (**Paper II**), we collected relevant information from the participants including demographic, socio-economic and health service characteristics using a self-administered questionnaire. Furthermore, we collected information about their preference for different provider payment systems presented to them such as global budget, line-item budget, fee-for-service, capitation, case-based (DRG), and per diem.

In the third and fourth studies (**Paper III & IV**), we reviewed policy and strategic documents about The Gambia's UHC and health financing reforms to identify key policy choices and decisions that were subject to deliberation. This was followed by conducting semi- structured interviews and focus group discussions (FGDs) with policy and lawmakers, technocrats from the public and private sector, local government authorities, pressure groups and civil society organizations. We used an interview guide for the interviews and FGDs.

Data for (**Paper I**) was collected in July 2020, whilst data for (**Paper II**) was collected in August 2020. Data for (**Paper IV**) was collected between June and August 2021 and data for paper (**Paper III**) was collected in December 2021. Data collection was mainly concentrated in the urban part of the Gambia and to a lesser extent, in rural areas. The decision to focus more in the urban areas was informed by the centralized nature of policy and decision- making in The Gambia.

Data collectors

In the first study (**Paper I**), research assistants were recruited mainly from the University of The Gambia and Ministry of Health. The criteria for recruitment was background in nursing, public health, biostatistics or health surveys. In addition, data collectors were recruited from the main ethnic groups in The Gambia to ease administration of the questionnaire in the different languages. Research assistants recruited underwent two days of training on the conduct of cross- sectional survey and administration of the questionnaire for (**Paper I**). At the end of the training, research assistants pre-tested the questionnaire with the supervision of the doctoral candidate and refined for clarity and easy comprehension. The doctoral candidate supervised the entire data collection process to ensure overall data quality.

In the second study (**Paper II**), the doctoral candidate personally delivered and collected the completed self- administered questionnaire. In the third and fourth studies (**Paper III & IV**), the doctoral candidate personally conducted the interviews and FGDs and supported by a professional transcriber to record some of the inputs. The doctoral candidate also supplemented the interview data for (**Paper IV**) with observations of ministerial budget discussions and virtual proceedings of the National Assembly's debate on the NHI Bill. All interviews and focus group discussions were audio recorded, and the recordings were transcribed and de-identified to protect the confidentiality of the interviewees.

Data management and analysis

Dataset for (**Paper I & Paper II**) were cleaned, validated, coded and recoded using Microsoft Excel. Following data validation, data was exported to IBM SPSS Statistics for further data quality check and validation and finally, data was exported to StataSE version 17 for analysis.

In (**Paper I**), we applied Lopez-Feldman's econometric specification for the double-bounded model and used the maximum likelihood method for the estimation. He described this as a modified ordered probit model, which is implemented as the doubleb command in StataSE (101). We estimated the WTP of participants by using the average values of the explanatory variables included in the model. Separately, we used linear regression to estimate the average maximum amount to pay as well as explore the relationship between respondents' response and explanatory variables. Descriptive analysis presents respondents' demographic, socio-economic and health service characteristics.

In (**Paper II**), we first described the demographic and socio-economic characteristics of the participants, as well as other relevant factors. Furthermore, we used multinomial logistic regression models to estimate HCWs' preferences for the PPS for different service areas, including primary outpatient services, hospital outpatient services, inpatient services (hospitalization), and referral services. We used global budget as the reference PPS category in the models.

In (**Paper III & IV**), an iterative approach to analytical coding and interpretation guided by deductive and inductive reasoning to identify key themes was used (102). We applied deductive reasoning by using the key criteria from the procedural fairness framework and associated domains to understand the fairness of the decision-making process leading to the NHI Act (**Paper III**). We used a similar analytical approach was

used for (**Paper IV**) using the heuristic stages model with ideas, interests, institutions and events public policy framework. To analyze and interpret the qualitative data, we compared the experiences and perspectives expressed in the interviews to the procedural fairness standards represented by these criteria (**Paper III**) and framework (**Paper IV**). We used the domains as a priori defined framework to organize the main findings. Finally, within each domain, inductive reasoning was applied to interpret the coded text fragments and identify key themes explaining the challenges and enablers to implementing the fair-process criteria (**Paper III**) and heuristic stages model with ideas, interests, institutions, and events public policy framework (**Paper IV**) (102).

Ethical consideration

This thesis received ethical clearance from The Gambia Government/Medical Research Council Gambia Joint Ethics Committee (R018026v4.1), and the Norwegian Centre for Research Data (562557). The Regional Committee for Medical and Health Research Ethics exempted this research from ethical reviews (2018/1891). Informed consent to participate in all studies was obtained from all participants through a signed informed consent form approved by The Gambia Government/Medical Research Council Gambia Joint Ethics Committee.

Results

Demographic and socio-economic and health service characteristics

In the first study (**Paper I**), 717 out of 780 participants agreed to participate in our study representing a response rate of 92%. About 65% of these participants were based in the urban areas and 55% were females. More than two- third (66%) had no formal education or stopped at primary school. Among all participants, 29% had household size of 16 or more members, while the corresponding proportion was 16.7% for respondents in rural areas. A majority of the respondents reported that their monthly household income, adjusted for household size, were below the national and international poverty line (<US$1.90 or <GMD26.20 per day) corresponding approximately to <GMD10,000.00. There was no big divide in household income between urban and rural Gambia relative to income class groups above the national or international poverty line. The reporting period was last 12 months preceding survey.

Furthermore, we also found that more than 90% of participants reported having access to a health care facility. About 79% reported having at least one outpatient visit, and about 12% reported spending at least US$ 10.39 (GMD505) on outpatient visits including medicines. Approximately 4% of the participants experienced hospitalization and less than two percent of hospitalized participants reported spending more than US$10.39 (GMD505) on bed fees including medicines. We also found that about 33% of participants' first point of care was a traditional, herbal, or spiritual healer, out of which, 30% spent more than US$ 10.39 (GMD 505) on these services. About 30% of the participants reported having one or more chronic conditions. Over 70% of respondents perceived that they were in good state of health and two thirds reported satisfaction with health service delivery. We also found that less than five percent of our participants

reported having private health insurance. The reporting period was last 12 months preceding survey (**Paper I**).

In the second study (**Paper II**), we found that the majority of the respondents 77% work within urban health facilities, with female HCW constituting 53.3% of total participants. More than two-thirds of respondents were between 19 – 40 years of age, and the highest education attained was about 39%. We also found that more than 70% of the participants had monthly income of less than GMD 10,000 (US$ 207.77). In addition, we found that over 70% of total participants constitute nurses and midwives. We also found that about 40% of total participants had work experience ranging from 1-3 years and about 6% of total participants reported that they were not licensed to practice in The Gambia. Our findings also showed that 84% of participants preferred that the NHIA should reimbursed individual HCW for services provided than to the health facility. Finally, 87% of respondents preferred a gate keeping system in the NHIS to control cost and avoid moral hazard. The reporting period was a month preceding survey (**Paper I**).

In the third study (**Paper III**), 40% of participants we interviewed were females and in the fourth study (**Paper IV**), females constitute 10% of the participants. We interviewed 5 public servants, 1 lawmaker, 2 private sector representatives, 2 development partner representatives, 1 representative of health professional associations, 2 representatives of public institutions representing youths and women and 4 civil society organizations (**Paper III**). 100% of the FGD with local government authorities constituted males (**Paper III & IV**), whilst 83% of civil society organizations and government agencies in the second FGD constituted males. In addition, our findings also showed that about 67% of participants in the second FGD constituted CSO whilst 33% constituted public servants representing subpopulations such as women and youths.

Respondents WTP for NHIS

Our findings showed that 94% of respondents were willing to join and pay for NHIS. Out of this number, about 59% accepted the first bid and approximately 50% were willing to pay the upper bid. Of the almost six percent who refused to join and pay for NHIS, one percent preferred using existing health services or paying for these services out-of-pocket as shown in figure 8 (**Paper I**).

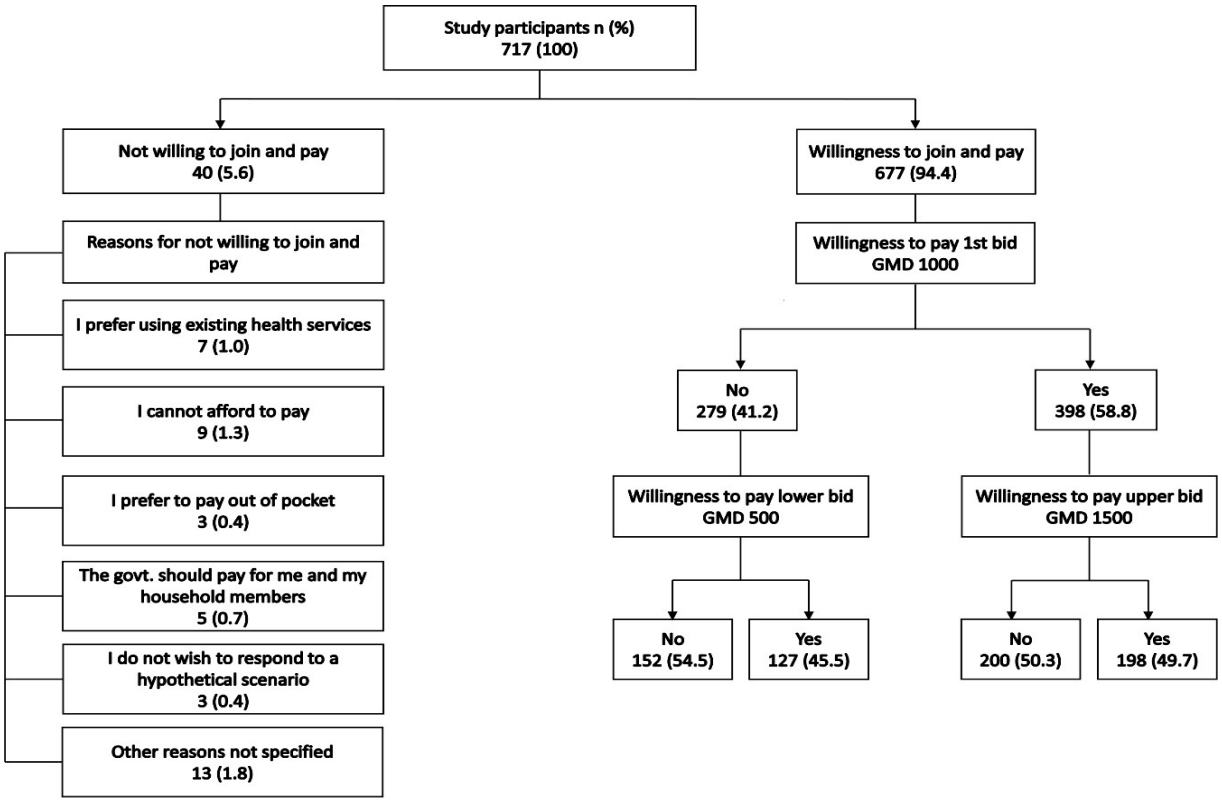

Figure 10. Characteristics of respondents' WTP or not

Estimates of the DBDC and maximum likelihood method (**Paper I**) showed an average WTP value of US$ 23 (GMD 1,120) (confidence interval (CI): 692.61 to 1547.02) in table 2, whilst the generalized linear model showed an average maximum amount to pay value of US$ 26 (GMD 1,250 (CI: 860.20, 1642.12) in table 3.

Table 2. Results of estimation of DBDC model

	β (95% CI)	P – value
Gender		
Female	Ref.	
Male	245.38 (114.09, 376.68)	< 0.01
Education		
Low (no formal and primary education)	Ref.	
Middle (junior & senior secondary, vocational, professional)	254.79 (118.88, 390.69)	< 0.01
Higher (university degree and above)	208.91 (-179.53, 597.35)	0.29
Mean WTP value (in GMD)	1,119.82 (692.61, 1547.02)	< 0.01

P-value of 0.00 = <0.01. β coefficient is derived from equation part 1 in supplement 1..
Ref. = Reference category

GMD = Gambian Dalasi; USD = United States Dollar. US$ to GMD exchange rate (July- August 2020): 1 US$ = 48.13

Gambia national poverty line or international poverty line

Below poverty line = 26.2 in GMD (2015) or US$1.90 (2011 PPP) per day per capita

Lower middle income class poverty line = 44.2 in GMD (2015) or US$3.20 (2011 PPP) per day per capita

Upper middle income class poverty line = 75.9 in GMD (2015) or US$5.50 (2011 PPP) per day per capita

Results of the DBDC model and generalized linear model together showed that gender, level of education and household income were associated with Gambian's WTP and maximum amount to pay for NHIS in table 2 and table 3 (**Paper I**).

Table 3**.** Results of linear regression (Generalized Linear Model)

	β (95% CI)	P – value
Gender		
Female	Ref.	
Male	216.10 (92.64, 339.57)	< 0.01
Education		
Low (no formal and primary education)	Ref.	
Middle (junior & senior secondary, vocational, professional)	144.90 (17.72, 272.08)	0.03
Higher (university degree and above)	244.83 (-119.30, 609.01)	0.19
Household monthly income (in GMD)		
Lower and upper middle income poverty line	Ref.	
Below poverty line	-813.30 (-1174.13, -452.38)	<0.01
β_0 -	1,251.16 (860.20, 1642.12)	<0.01

P-value of 0.00 = <0.01. β intercept is derived from GLM in supplementary material. Ref. = Reference category

GMD = Gambian Dalasi; USD = United States Dollar. US$ to GMD exchange rate (July- August 2020): 1 US$ = 48.13

Gambia national poverty line or international poverty line

Below poverty line = 26.2 in GMD (2015) or US$1.90 (2011 PPP) per day per capita

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HCW preference for payment system associated with primary outpatient services

Our findings (**Paper II**) showed that HCW working in district hospital or major health centres are 50% less likely to choose line-item budgeting (RRR= 0.5; 95% CI=(0.3,1.0) and fee-for-service (RRR= 0.5; 95% CI=(0.3, 1.0) compared to those working in hospitals. Furthermore, working in an urban area is associated with 60% less likelihood (RRR= 0.4; 95% CI=(0.2, 0.7) of choosing case-based payment relative to rural-based HCWs.

HCW preference for payment system associated with hospital outpatient services

Our findings (**Paper II**) further showed that being a physician is associated with higher likelihood of choosing line-item budget by almost four times (RRR= 3.9; 95% CI=(1.2, 12.0) and case-based payment by six times (RRR= 6.0; 95% CI=(1.9, 18.7) than other cadres. Nurses or midwives are twice as likely to choose case-based payment compared to other cadres (RRR= 2.0; 95% CI=(1.0, 3.8). Working in a hospital is negatively associated with choosing case-based payment (RRR= 0.3; 95% CI=(0.2, 0.6) than working in district hospital or major health centre. HCWs in urban areas is strongly associated with line-item budget as payment system for hospital outpatient services (RRR= 2.1; 95% CI=(1.0, 4.4) relative to HCW in rural areas.

HCW preference for payment system associated with inpatient services (hospitalization)

Our findings (**Paper II**) continued to showed that being a female is negatively associated with per diem as preferred choice of payment for hospitalization by sixty percent (RRR= 0.4; 95% CI=(0.2, 0.8) relative to being a male. Similarly, working in a

district hospital or major health centre is negatively associated with the choice of capitation by seventy percent (RRR= 0.3; 95% CI=(0.1, 0.9) compared to working in a hospital. Urban-based HCWs are significantly associated with a less likelihood of choosing capitation by seventy percent (RRR= 0.3; 95% CI=(0.1, 0.6) relative to rural-based dwellers.

HCW preference for payment system associated with referral services

Finally, the last part of our findings (**Paper II**) showed evidence for association between being a female HCW and a preference for fee-for-service as payment system for referrals 1.7 (RRR= 1.7; 95% CI=(1.1, 2.7) compared to being a male. Physicians are more than three times as strongly associated with choosing case-based as payment vehicle for referrals (RRR= 3.3; 95% CI=(1.1, 10.1) compared to other cadres. HCWs in district hospitals or major health centres are negatively associated with capitation (RRR= 0.4; 95% CI=(0.2, 0.9) and per-diem (RRR= 0.4; 95% CI=(0.2, 1.0) compared to HCWs in hospitals. Furthermore, HCWs in urban areas are associated with less likelihood to choose capitation and case-based by sixty percent (RRR= 0.4; 95% CI=(0.2, 0.8) than HCW in rural areas. In addition, they are negatively associated with per-diem as payment vehicle for referral services by fifty percent (RRR= 0.5; 95% CI=(0.2, 1.0). All these associations are significant, with the data providing support for rejecting the null hypothesis.

Information: Accuracy of information, transparency and reason-giving during the NHIS policymaking process

Our findings (**Paper III**) showed that the NHI Bill underwent scrutiny from different stakeholders, including public officials, private sector, and civil society organizations. One of the representatives of private sector recounted “it was very consultative as far as the private sector participants in the steering committee are concerned”. The approved Act

was made publicly available through various channels such as the government's official publication medium, the Gazette, National Printing and Publishing Corporation, and National Assembly's website. However, the edited version of the Bill and minutes of the stakeholder engagements were not disclosed to the public. Some of the participants reported that evidence was used in decision- making processes including development of the NHI Bill. Our findings also showed that stakeholders were given opportunities to provide input to the Bill and also give reasons as recounted by a decision- maker at the MoH, "so from the side of the MoH, it was a proposal to increase or to tap 100% of the tobacco revenue but this was reverse to 50% and later reversed again". While our analysis revealed evidence of mutual exchange, deliberation, and consensus building, we were unable to access or obtain internal documents that could inform our assessment of the reason given.

Voice: Participation and inclusiveness during the NHIS policymaking process

The importance of involving multiple stakeholders in the policy-making process for the NHIS was acknowledged by all participants in the study (**Paper III**). However, certain civil society representatives contended that some CSOs were invited based on their prior working relationship with the MoH, which they believed raised questions about the transparency and inclusiveness of the process. One of these CSO representatives echoed this concern "some CSOs were invited to take part in the discussions but that was on an individual basis based on their working relationship with the MoH. Approaching the civil society as a group is how we operate; we were not part of the process. That is what happened".

Other participants expressed uncertainty about whether their inputs were considered in the final Bill as recounted by one "considering the people that needs it

[NHIS] most, also considering the people that live far in the hard-to-reach areas. I think I was very concerned about having those people put onboard and it was noted. But then since I didn't have the opportunity to see the document, the reviewed document and what the inputs, the recommendations that were made, whether it was inputted or not like in the final document, I cannot say for sure that it was added, or it is included in the final document [Bill]. Still now, I didn't see the final document [NHIS Act]". However, the absence of documentation regarding the number of submissions and how inputs, including position papers, were evaluated during the finalization of the Bill makes it challenging to assess whether the process was genuinely participatory for all stakeholders involved (**Paper III**).

Oversight: Revisability and oversight

Our analysis of governing and accountability frameworks revealed that the Public Finance Act and the National Assembly Standing Orders serve as strong accountability and legal frameworks. These frameworks ensure that public funds are properly implemented and that public officials are held accountable. A technocrat in the MoFEA acknowledged the effectiveness of these frameworks. With the Bill now passed into law, a lawmaker stated that the MoFEA is expected to remit the different revenue sources outlined in the Act to the scheme. He recounted "if it is brought to the National Assembly and the appropriation is made by the NA, it becomes law. Appropriations are law, anything that passes through the National Assembly and there is approval and passed, it becomes law, and it is binding" (**Paper III**).

NHIS policy influenced by stakeholders and institutions' interests, knowledge, values and beliefs

In the fourth study (**Paper IV**), our findings showed that interests and values of the technocrats converged with the interests and values of key beneficiaries. For example, a

participant from the farming communities and living with HIV recalled the devastating HIV/AIDS had on them during a time without health insurance: “One of the reasons for the health insurance, we were devastated during the time of the HIV/AIDS pandemic in the country. Most of our farmers were affected and infected because they know very little about protection, or who can take care of them in terms of nutrition support, supplementary support, alright in terms of medication”.

A Centralized decision-making leaving behind local government and civil society organization

Our findings (**Paper IV**) showed that the drafting of the NHI Bill and legislation of the Bill into an Act were overseen by the technocrats and lawmakers at the central level. Some of the participants at the local government levels, pressure groups and CSOs felt excluded from the decision- making processes as narrated by some participants “the design, implementation, monitoring, and all other aspects relating to the initiative of the national health insurance is more to do with the local government than any other and we have a bigger role to play”. Other stakeholders argued they have a huge stake in decision-making given that their members constituted over two-third of health workforce in the health sector. He lamented “Ideally, when you are making a policy, all relevant stakeholders should be involved. What I meant is, those in the lower-level ranks, those in the middle level ranks and the top level, but for me, the way I perceived this [the NHIS policy process] is usually from top down. So they usually sit in their cohort and do policy-making”.

Balancing the intersection between interests and values of stakeholders including external funders during policy implementation

Our findings (**Paper IV**) showed that the World Bank is supporting the implementation of the NHI Act through supporting the MoH to establish the NHIA and

resource the Authority to implement the Act. However, some of the participants particularly from the private sector questioned the role of the World Bank to exclusively make decisions on the contracting of consultants. Local government authorities also felt that their mandate to provider social services to the population based on the Local Government Act was usurped as narrated by one of them “according to the Local Government Act, looking at decentralization, institutions will engage governors [representatives of the executive at regions] and excluding the councils [local government authorities]. So many things are happening, even the COVID-19 issues, they are not engaging councils”. Another CEO lamented, “If any project [NHIS] is to succeed, you cannot isolate the local authorities”.

Sustainability of the NHIS will depend on managing the ideas, interests and expectations of stakeholders

Our findings (**Paper IV**) also showed during the revision and development of the essential healthcare package and benefits package for the scheme, the oversight committee of the health benefits package development engaged traditional and community leaders such as district chiefs and village heads (Alkalolu). One of the community leaders, whose wife died of cancer, but reacting to the sustainability of the scheme had this to say: “It is wiser to spend a million Gambian Dalasi to treat 1000 people than to spend it on one patient”. Other citizens were more pessimistic and argued in an opinion piece, published in one of Gambia’s online media platforms recounted:

“The NHIA will create a powerful State- Owned Enterprise, with enormous wealth and key decision- making authority over our health and welfare. Therefore, it must be made to function for the greater benefit of members, and not create a new “fuel coupon” bureaucracy that will spend most of the wealth on administration and management issues”.

Discussion

Our study (**Paper I**) estimated Gambians' willingness to join and pay for NHIS. We found that Gambians expressed a high willingness to join and pay for NHIS, which could be perceived as high public support to reform health financing in The Gambia. Our finding is consistent with similar findings of WTP studies conducted in LMICs, particularly in countries comparable to The Gambia (103-105). Other studies have also shown that risk-averse individuals tend to opt for insurance coverage to reduce the impact of potential catastrophic risks (36, 106). The government has a window of opportunity to design and introduce a NHIS that aligns with the UHC final coverage goals such as financial protection, equity in service use and quality.

In our study (**Paper I**), individuals were willing to pay on average US$ 23.27 (GMD 1119.82) to join the scheme, which was closer to the first bid of US$ 20.80 (GMD 1000). This finding aligns with previously conducted contingent market valuation of health insurance contributions that shows an inverse relationship between price and acceptance rate, where individuals that accepted first price are less willing to pay more when the price is increased (38, 107). The weak state of public health care in The Gambia could be a key factor for explaining Gambians' willingness to pay more than the first bid in return for better health care services. There is evidence suggesting that health facilities experience frequent stock-out of essential medicines and supplies. In addition, limited specialist services including access to advanced health technologies particularly in the public sector forced many patients to seek expensive overseas medical treatments in Senegal, India and Turkey (22, 108, 109). The government should consider services including specialist services under the scheme to promote enrollee's utility and reduce the need for high medical tourism abroad.

The DBDC model and GLM together (**Paper I**) showed that gender, level of education and household income were associated with Gambians' WTP and maximum amount to pay for NHIS. The DBDC model showed that respondents' WTP was significantly influenced by their gender and level of education, whereas the regression model showed household income was associated with maximum amount to pay, which was statistically significant. attractive salaries and incentives (110). Our finding is consistent with observations in similar studies reporting that females have a lower WTP compared to men (104, 111, 112). Gambia is known for its strong patriarchal leaning with men perceived to be head of households and purported 'bread- winners' of the family (113). This belief and limited implementation of gender empowerment policies reduces opportunities for women's participation in the formal workforce, disproportionately affecting them economically, socially, politically, and health wise (114, 115).

Our finding (**Paper I**) showed that respondents with middle education had a higher WTP than the corresponding groups such as those with university education. Although this is in contrast to our hypothesis, it is important to note that respondents with university education constitute a smaller proportion of the sample in our study. Few studies are in agreement with our findings (103, 116), whilst other studies showed that individuals with higher education were likely to pay more for health insurance in LMIC (104, 107, 117). A plausible explanation for our finding could be that Gambians with higher education were more likely to pay out-of- pocket or use private health services including private health insurance to access better services than what they perceive is possible through the public health sector. This can probably be explained by their ability to get a good job and earn higher income than their corresponding groups. An education sector public expenditure review in The Gambia have shown that Gambians with higher education prefer working in private services sectors due to strong employment opportunities and attractive salaries and incentives (110).

The discrepancy between significance levels for household income in the two models (**Paper I**) could be attributed to starting point bias. In the linear regression analysis, respondents stated their maximum amounts to pay for NHIS as opposed to the DBDC model, where respondents were asked to respond to three bids presented to them. Our finding showed that after adjusting for annual household income, majority of the respondents fall below the poverty line. This could be attributed to changes in the ordering of individuals by income as a result of dividing household income by an equivalence scale. It is important to note that our study was interested in adjusting household's annual disposable income relative to household size. In contrast, GBoS whose national poverty estimates we highlighted in the introduction, used The Foster-Greer-Thorbecke (FGT) class of decomposable poverty measure comprising headcount ratio, the poverty gap index (depth of poverty) and the poverty severity index (the squared poverty gap). Using a different poverty estimation approach to GBoS's has a tendency of affecting our poverty estimates and we discussed this under the limitations of the study.

In the second study (**Paper II**), we explored the associations between HCW characteristics and their preference for PPS in major service areas in The Gambia. Our study did not find any significant negative association between females and case-based payment. However, we observed a strong negative association between females and per-diem as a preferred payment system for hospitalization relative to males, which contradicts our initial hypothesis. This finding contrasts with other studies that have reported fee-for-service as being poorly rated compared to other payment systems (118). However, it is important to note that using per diem to reimburse HCW for services they provide is uncommon in The Gambia and that may explain the reluctance of female HCW to accept this payment method.

Our findings (**Paper II**) also indicated a positive association between females and fee-for-service payment for referral services compared to males. This contrasts with studies conducted in Nigeria and Ghana, which found that HCWs least preferred fee-for-service reimbursement compared to other payment systems (119, 120). We did not find any significant association between gender and payment systems for all other service areas (**Paper II**). Contrary to our hypothesis, we observed high variation in physicians' preference for fee-for-service, which contrasts with its popularity in many countries, including LMICs (121-123). Our findings are consistent with studies conducted in NHIS-implemented countries in SSA, which reported that HCWs rated fee-for-service less favorably than other payment systems (118, 120). The negative association between physicians and fee-for-service in our study could be attributed to the fact that Gambia has an open system, wherein physicians are allowed to work part/ full time in private health facilities. Some of the major private clinics uses fee-for-services to reimburse physicians for services they provide. Due to the unstructured nature of fee-for-services in some of these facilities, and variability of payment to doctors due to several factors such as number of patients seen per day, income for physicians become unpredictable and this could perhaps explain their reluctance to choose this payment system.

Our questionnaire responses from physicians were compatible with a positive and significant association with line-item budgets or case-based payment for hospital outpatient services and case-based payment for referral services (**Paper II**). Several contextual factors may explain these preferences. Firstly, in The Gambia, case-based payment is similar to monthly salaries paid via line-item budgets because HCWs receive a fixed amount per case, per month regardless of costs incurred (124). These payment systems offer doctors predictability in monthly income, which contrasts with fee-for-service. Conversely, a study conducted in Kenya reported mixed results, where HCWs perceived both capitation and fee-for-service as good sources of revenue for health

providers (125). Our study (**Paper II**) found a negative association between HCWs in hospitals and case-based payment for hospitalization, contradicting our hypothesis. In some countries implementing NHIS in Sub-Saharan Africa (SSA), case-based payment or modified case-based payment systems such as Ghana's DRG system are used to pay for services rendered during hospitalization. Moreover, numerous studies have documented that HCWs prefer payment systems that offer higher payment rates (126-128). Given that hospitals provide more specialist services, including procedures that could generate higher revenue for both the institution and individuals, it is surprising that this was not the case in our study. A plausible explanation for our finding may be that HCWs in hospitals are risk-averse and therefore prefer payment systems that are more familiar and predictable such as fixed line- item budget.

Our study (**Paper II**) did not find any significant association between HCWs in rural areas and their preference for capitation as a payment system for primary and hospital outpatient services compared to urban-based HCWs. This finding contradicts our hypothesis, which was based on the fact that in rural Gambia, the Ministry of Health allocates a proportion of the population to each facility to serve depending on location, level, and scope of the facility. These sub-populations are referred to as catchment area populations (CAP). All rural-based public health facilities, including hospitals, are part of the performance-based financing arrangements, whereby agreed services they provide to their respective CAP are remunerated following verifications. Our findings suggests that other factors, besides performance-based financing arrangements, may influence healthcare worker (HCW) preferences for payment systems in rural areas (129). Future studies are needed to identify these factors and explore the reasons for the lack of a strong association between rural-based HCWs and their preference for capitation as a payment system.

These studies (**Paper III & IV**) aims to explore The Gambia's decision-making process in establishing the NHIS as a critical milestone towards achieving UHC through the lens of procedural fairness as well as public policy framework with consideration to ideas, interests, institutions and events. Tied to broader governance changes in The Gambia, our study (**Paper III & IV**) identified that the Executive's strived for greater participation and inclusiveness when formulating the NHIS policy than what prevailed in the past. The process allowed some of the stakeholders deemed to have stake in the NHIS design to participate. On one hand, this marks a significant advancement compared to the previous government's approach, which restricted civil society organizations (CSOs) from participating in public policy formulation (130). On the other hand, the process was limited to a small group of stakeholders, and it did not incorporate a diverse range of opinions and preferences regarding the scheme's design. Significantly, there was no substantial engagement with healthcare providers and communities, including vulnerable groups and those residing in rural areas (**Paper III & IV**). Inclusion of health worker perspectives and their ownership of decisions about provider payment methods is increasingly necessary for making responsive and sustainable health financing decisions towards UHC (131, 132).

Secondly, our study (**Paper III)** uncovered some limitations in the public engagement process for the development of the NHI Bill and its legislative processes. Two main shortcomings were identified, namely, the lack of adequate time allocated for public engagement, despite the availability of funds, financial and logistical barriers faced by communities in participating in the review and finalization of the Bill. The National Assembly in The Gambia has introduced a mechanism for public consultations known as "citizen bantaba", which was not utilized due to legislative overload and limited quorum during the engagement process. Prioritizing such activities could enable a larger

proportion of the population to provide input on issues related to financing sources, exemption criteria, and other aspects affecting equity.

Our studies (**Paper III & IV**) raise the question of whether greater inclusion of key stakeholders with vested interest in the NHIS such as the marginalized populations would have improved the equity impact of the scheme. However, evidence from participatory budgeting shows mixed results on the impact of public participation on pro-poor benefits (133, 134). Scholarship from key literature that promotes procedural fairness (**Paper III)** highlights the intrinsic value of inclusion of diverse views and voices by promoting mutual respect and treating people as competent agents in the process. It also highlights the instrumental value that can bring epistemic benefits to policymaking (135-138). Our study (**Paper IV)** further revealed that local government authorities were not adequately engaged during the NHIS policy processes. This contrasts with findings from other countries where health bureaucrats introduced primary health care reforms in consultation with local government authorities, leading to community acceptance (139).

Other evidence suggested paying attention to the special needs of the disabled population when formulating health policies (140, 141). In situations where inclusive and meaningful participation is not feasible due to time and resource constraints, other aspects of procedural fairness, such as transparency, reason-giving, and accuracy of information become even more important. To ensure procedural fairness, it is essential to document and publicly disclose how inputs and proposals submitted during the legislative process were considered.

Limitations of the studies

One of the criticisms of DBDC with follow up approach (**Paper I)** is its inherent starting point bias in measurement of WTP. Although we employed measures to reduce this bias, the first bid appeared relatively high compared to other WTP studies. The most

appropriate approach would have been to undertake an in country estimation as opposed to using the mean GDP per capita of nine WTP studies conducted in Western Africa. Another criticism of this approach is the hypothetical bias. Respondents may not recall the events they experienced in the preceding year and may not objectively respond to the hypothetical NHIS scenario. It was difficult to adjust household income in our study using GBoS poverty estimation. Our decision to apply the equivalence scale to adjust household income relative to household size pushed many of our respondents below the poverty line. We believe the difference in household income reported in our study relative to GBoS's finding was not due to sampling bias, but rather because of limitations of income measurement in our study.

The second study (**Paper II)** had some limitations that need to be taken into account when interpreting the findings. Firstly, the study only focused on public health facilities, and private facilities were excluded due to their reluctance to share human resource data for sampling. Although it is acknowledged that many private sector HCWs work in the public sector, it would have been beneficial to include private sector HCWs for a more comprehensive view. Secondly, the low response rate from hospital administrators meant that their preferences were not included in the study. This is a potential limitation, as hospital administrators may be engaged by the NHIA during selection of PPS and their preferences could have enriched the findings. Finally, despite our efforts to explain the different PPS to the participants by providing definitions on the questionnaire, the majority of the HCWs were not practically familiar with them, which may have limited their understanding of the implications of choosing different PPS.

One of the main limitations of the third study (**Paper III & IV)** was the difficulty in accessing documents such as minutes from Cabinet and National Assembly meetings. These documents would have provided valuable information on how inputs from the public were considered and negotiated during the decision-making process. While

interview data provided significant insight, corroborating the findings against official documentation would have strengthened assessments of the criteria for procedural fairness. Another limitation is the study's recruitment of interviewees primarily among stakeholders who participated in the process created a potential limitation to understanding inclusiveness. Although efforts were made to recruit participants from rural settings, the concentration of participants from urban areas represents a clear limitation to understanding broader inclusiveness.

Strengths of the studies

In the first study (**Paper I**), we used the DBDC formats which have been shown to have greater efficiency to measure non- marketed goods such as NHIS as they enable respondents to disclose more information on their WTP. Using this method makes our study strong. Second, our findings can inform policymakers in The Gambia and other Sub- Saharan countries when establishing contribution rates and defining exemption criteria during NHIS implementation.

The second study (**Paper II**) provides valuable insights into the preferences of public sector HCW regarding payment systems in the Gambia, which can inform the development and implementation of the NHIS. Since HCW are vital stakeholders whose participation and ownership is key to sustainability of the NHIS, our findings can help in evidence- informed decision-makers during the selection of the PPS.

The frameworks applied in our studies (**Paper III & IV)** have been used in previous studies and were found to be useful tools in prioritizing procedural fairness in health financing reforms such as the Gambia's NHIS (**Paper I)** and diagnosing complex policy processes (**Paper II).** The findings from our studies (**Paper III & IV)** can inform evidence informed policy and decision-making at the NHIA to foster ownership, equity, and

sustainability of the scheme. By doing so, The Gambia can continue to make progress towards UHC.

Policy implication

The findings of the contingent valuation study can be used to determine the appropriate premiums to be charged to beneficiaries of the NHIS. This would ensure that the NHIS is financially sustainable and can provide needed health services that are of quality and provide financial protection to the population. Policy and decision- makers can use this information to set premiums that are affordable and acceptable to the population, thereby increasing the uptake of the NHIS.

Findings on healthcare workers' preferences for the provider payment system can inform the design of the NHIS's provider payment mechanism. Policy and decision-makers can use these evidence to determine the most appropriate PPS, which would ensure the provision of quality healthcare services to the population in line with UHC final coverage goals.

Our findings on the procedural fairness of decision-making processes in financing the NHIS can inform the development of policies that promote transparency, accountability, and participation in the decision-making process. Policy and decision-makers can use this evidence to develop policies that ensure that the decision-making process is fair and inclusive, thereby increasing public trust and legitimacy in the NHIS.

Finally, the findings on how ideas, interests, institutions, and events influenced the policy process towards achieving UHC through the NHIS can inform institutional strengthening. Policy and decision-makers can use this evidence to identify areas where institutional strengthening is needed, such as improving the coordination and collaboration between different government agencies and stakeholders involved in the

NHIS's implementation. This would help to ensure that the NHIS's implementation is smooth and efficient, thereby increasing the chances of achieving UHC.

Overall, these policy implications underscore the importance of evidence-based policy and decision-making in achieving UHC through the NHIS. By using our research findings to inform policy design and implementation, policy and decision-makers can ensure that the NHIS is financially sustainable and achieve the final UHC coverage goals of financial protection and equity in finance, utilization relative to need and quality.

Future research

While our research findings provide valuable insights to inform policy and decision-making in the implementation of the NHIS in The Gambia and other LMICs, the limitations of our studies warrant further research to strengthen the evidence base. Specifically, future research should focus on the following areas:

1. Conducting a mixed-methods population-based survey that assesses Gambians' willingness to pay for the NHIS at least 1-2 years after implementation. The survey should also include variables that measure the impact of premiums on individuals' and households' financial hardships.
2. Investigating the effects of different provider payment systems on the viability and sustainability of the NHIS, including their acceptance among healthcare workers and their influence on achieving universal health coverage goals.
3. Addressing the limitation of our study's focus on urban areas by expanding recruitment efforts to include a broader range of participants from diverse backgrounds and locations across the country.

Conclusion

This thesis aimed to generate evidence to inform the implementation of the NHIS towards achieving UHC in The Gambia. The study had four primary objectives. Firstly, a contingent valuation study was conducted to determine the population's willingness to pay for the NHIS. The results of this study showed that a significant proportion of the population was willing to pay for the NHIS, indicating the potential for the scheme's sustainability.

Secondly, the preferences of healthcare workers for the provider payment system in the NHIS were assessed. The study found that healthcare workers preferred certain payment system for some of the service areas.

Thirdly, the study examined the procedural fairness of decision-making processes in financing the NHIS. The findings of this study showed that decision-making processes were not always fair, and there was a need for greater transparency and public participation in decision-making processes.

Finally, the study investigated how ideas, interests, institutions, and events influenced the policy process towards achieving UHC through the NHIS. The study found that the policy process was influenced by various factors, including political will, stakeholder interests, and external events such as the COVID-19 pandemic.

In conclusion, the findings of these studies that informed this thesis provide valuable insights into the implementation of the NHIS towards achieving UHC in The Gambia. The study highlights the need for greater transparency and public participation in decision-making processes, as well as the importance of understanding the preferences of healthcare workers and the population. These insights can inform policy

and practice, leading to a more sustainable and equitable NHIS that contributes to the achievement of UHC in The Gambia.

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Appendix

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Original Article

Willingness to pay for a National Health Insurance Scheme in The Gambia: a contingent valuation study

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Abstract

In pursuit of universal health coverage, many low- and middle-income countries are reforming their health financing systems and introducing health insurance schemes. As part of these reforms, lawmakers in The Gambia enacted 'The National Health Insurance Bill, 2021'. The Act will establish a National Health Insurance Scheme (NHIS) that pays for the cost of healthcare services for its members. This study assessed Gambians' willingness to pay (WTP) for a NHIS. Using multistage sampling design with no replacement, head/co-head of households were presented with a hypothetical health insurance scheme from July to August 2020. Their WTP and factors influencing WTP were elicited using a contingent valuation method. Descriptive statistics were used to describe sample characteristics. Lopez-Feldman's modified ordered probit model and linear regression were applied to estimate respondents' WTP as well as identify factors that influence their WTP. More than 90% of the respondents—677 (94.4%) were willing to join and pay for the scheme. Half of these respondents—398 (58.8%) agreed to pay the first bid of US dollars (US$) 20.78 or Gambian dalasi (GMD) 1000. The average WTP was estimated at US$23.27 (GMD1119.82), whereas average maximum amount to pay was US$26.01 (GMD1251.16). Results of the two models together showed that gender, level of education and household income were statistically significant, with the latter showing negative influence on WTP. The study found that Gambians were largely receptive to the scheme and have stated their willingness to contribute. Our findings can inform policymakers in The Gambia and other sub-Saharan countries when establishing contribution rates and exemption criteria during social health insurance scheme implementation.

Keywords: Universal health coverage, health financing, health economics, national health insurance scheme, willingness to pay, contingent valuation, equity

Introduction

The Gambia is the smallest country in mainland Africa with an estimated population of 2.4 million people and an annual growth rate of 3.3%. With an average 8.2 persons per household and 176 people per square kilometre, it is one of the most densely populated countries in Africa (Gambia Bureau of Statistics, 2017a). The Gambia's economy largely relies on tourism, remittances and rain-dependent agriculture. The 2020 unemployment rate was about 40% and poverty level was estimated at 48.6% (African Development Bank Group, 2021). Following a decline in the economy in 2020 as a result of the SARS- CoV- 2 (COVID-19) global pandemic, the economy is showing signs of slowed recovery (International Monetary Fund, 2021). However, the economic recovery may be impacted negatively due to the ongoing war in Ukraine and increasing food and energy prices globally.

The Ministry of Health (MoH) manages and finances public health care through a theoretically subsidized health system using blended input-based line item and to a lesser degree, programme-based budgeting. User fee charges for Gambians seeking outpatient consultations is pegged at US$0.5 (GMD25) and weekly bed charge of US$2.0 (GMD100). These charges applies to Gambian nationals who are 14 years of age and above, whereas non-Gambians are charged separately. These user fees are managed through the drug revolving fund to supplement pharmaceutical product budget for tertiary care facilities and to a lesser extent, secondary and primary care facilities (Ministry of Health and Social Welfare, 2014; Sine *et al.*, 2019).

Many studies have shown that progress towards universal health coverage (UHC) requires the predominant use of domestic funding to finance health (Reeves *et al.*, 2015; Mathauer *et al.*, 2019). UHC implies that all people have access to needed quality health services (including prevention, promotion, treatment, rehabilitation and palliation) without users being exposed to financial hardship (World Health Organization, 2010a). However, this is not the case in The Gambia, where general government health expenditures

domestic, as percentage of gross domestic product (GDP), was 1% in 2019 (World Health Organisation, 2022). This represents less than the recommended threshold of government spending of at least 5% of GDP on health (McIntyre *et al.*, 2017). The most recent National Health Account (NHA) in The Gambia has shown that the current health expenditure per capita was US$25.84 (Ministry of Health, 2020). This falls short of the Commission on Macroeconomics and Health estimates that by 2015, low- and middle-income countries (LMICs) should spend at least US$71 on health, whereas High-Level Taskforce estimated per-capita spending on health of US$86—all expressed in 2012 US$ terms (McIntyre *et al.*, 2017). Recent estimates also show that LMICs should spend at least US$76 per person per year to build sustainable and resilient health system and make progress towards UHC (Stenberg *et al.*, 2017). Furthermore, the NHA findings show that, as percentage of current health expenditure, general government health expenditure was 27.20%, external funding was 45.49% and out-of-pocket (OOP) spending was 26.96% (Ministry of Health, 2020). These estimates show that Gambia's health financing is heavily dependent on donor funding.

Many LMICs are exploring various health financing mechanisms, including social health insurance schemes to offer financial protection to their populations (Ogundeji *et al.*, 2019). As part of UHC reforms, the National Assembly of The Gambia in 2021 enacted into law, 'The National Health Insurance Bill, 2021' (Ministry of Health, 2021). The Act will establish a mandatory National Health Insurance Scheme (NHIS) that will pay for the cost of healthcare services to members of the scheme. This development in The Gambia aligns with global efforts to achieve UHC (World Health Organization, 2010a). The success of the NHIS is dependent on the support and involvement of the public in this much-needed public policy reform. Considering public perceptions and preferences when designing its health financing system plays a crucial role in creating a sustainable health insurance scheme.

Previous studies have shown that communities have clear preferences for their healthcare needs when asked to contribute (Nguyen *et al.*, 2017). Little is known, however, about support for health financing reforms and in particular public preferences for NHIS in The Gambia. Many studies have reported that social health insurance schemes increase access and utilization of health services, thereby propelling coun- tries towards UHC (Alhassan *et al.*, 2016; Dalinjong *et al.*, 2017; Van der Wielen *et al.*, 2018; Bodhisane and Pongpanich, 2019; Erlangga *et al.*, 2019; van Hees *et al.*, 2019). Others, however, reported that they do not protect against finan- cial risks, but rather increase inequities in health particularly among underserved and vulnerable populations (Kotoh and Van der Geest, 2016; Prinja *et al.*, 2017; Okoroh *et al.*, 2018). The latter is particularly true for countries implement- ing community-based health insurance schemes, where risk pooling potential is reduced due to its voluntary pre-payment design.

Against this background, our study had two primary objectives: first, to estimate the willingness to pay (WTP) for NHIS in The Gambia. Second, to identify factors associated with different levels of WTP as well as explored reasons for Gambians' unwillingness to join and pay for NHIS. Our study can translate evidence-based research into effective planning and policymaking. This study is important for policymak- ers in The Gambia and other sub-Saharan African countries to set progressive contribution rates and exemption crite- ria that maximize the number of citizens to benefit from the NHIS.

Materials and methods

Study setting

This study was conducted in The Gambia between July and August 2020. We utilized a nationally representative cross-sectional survey using a contingent valuation (CV) method to elicit Gambians' WTP in a hypothetical NHIS. This study received ethical clearance from The Gambia Government/Medical Research Council Joint Ethics Committee (R018026v4.1) and Norwegian Centre for Research Data (562 557). The Norwegian Research Committee for Medical and Health Research Ethics exempted the study from ethical reviews (2018/1891).

Sampling approach

The Gambia Bureau of Statistics (GBoS) demarcates the country into 4098 enumeration areas (EA) or clusters. Each EA (cluster) comprises 500 people, whereas in smaller communities, two or three villages are combined to constitute one EA (cluster). The 2013 population and housing census estimated 280 702 households in The Gambia (Gambia Bureau of Statistics, 2018b).

We used a two-stage sampling design without replacement as described by Elfil and Negida (Elfil and Negida, 2017). In the first stage, clustered EAs were systematically sampled using probability proportionate to size technique. Following the first stage sampling, teams of enumerators were deployed to the sampled EAs to identify and assign numbers to eligible households for selection. In the second stage, households were systematically sampled proportional to the number of households in each EA using the multiple indicator cluster survey (MICS6) systematic random selection template adapted for this study (Gambia Bureau of Statistics, 2018b). Finally, eligi- ble household heads/co-heads were selected for an interview. The numbered household list generated during the first stage sampling was the sampling frame. Figure 1 shows distribution of study communities.

The MICS6 systematic random selection template adapted for this study was validated and used in 2018 Gambia mul- tiple indicator cluster survey, 2019 Gambia demographic and health survey and 2020 Gambia integrated household survey. From these population data, we selected a sample size of 780 respondents. We used a conservative assumption that 50% is the proportion of respondents who were willing to pay for NHIS. With 80% desired statistical power, a significance level alpha of 0.05 and a margin of error of 0.04, the minimum sample size estimated was 600. However, since this is a clus- tered survey with EAs acting as clusters, the sample size was inflated using a design effect of 1.3 to give a minimal sample size of 780.

Gambian nationals 18 years of age and above, who were heads/co-heads of households and have consented to participate in the study were included. Non-Gambian residents were excluded.

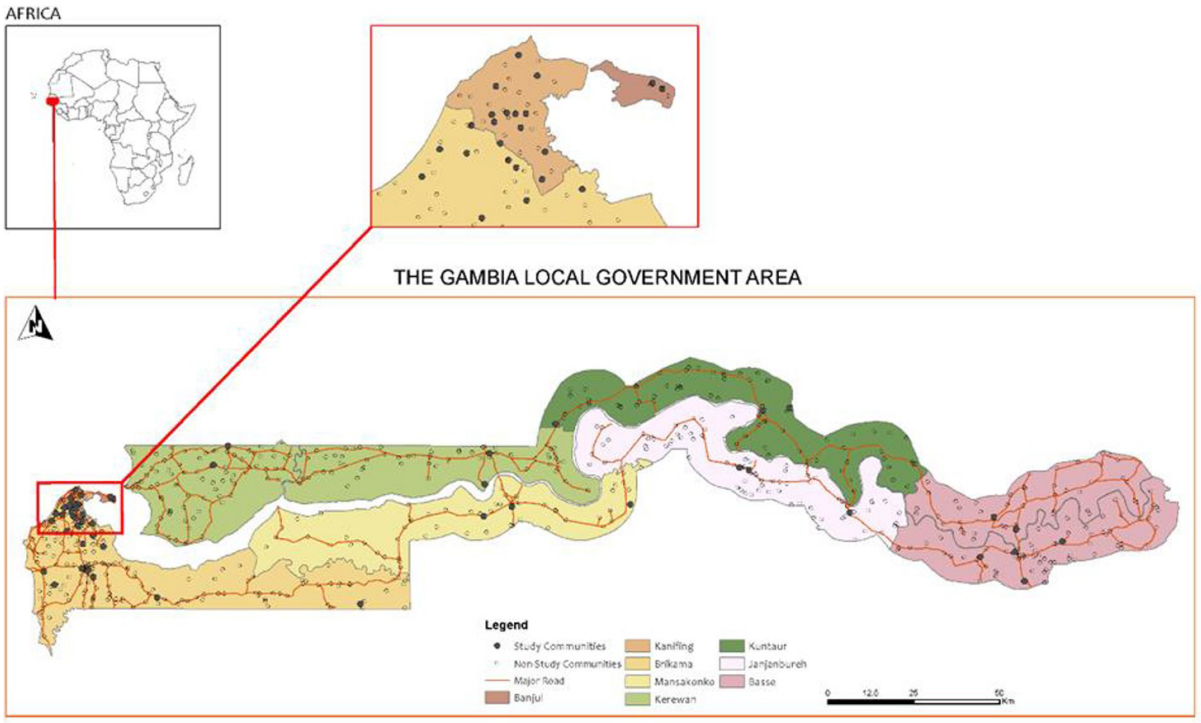

Figure 1. Distribution of study communities across The Gambia

Study instrument

Interviewer-administered questionnaires designed according to the CV guideline were used to collect relevant information from the respondents (Bateman *et al.*, 2002). The questionnaire was later validated internally by a pool of researchers familiar with CV studies. A pre-test of the questionnaire among 30 individuals was done in two phases prior to data collection. The questionnaire was refined for clarity and ease of comprehension following the pre-test.

Research assistants were recruited mainly from the University of The Gambia and the MoH. The recruitment criteria included background in any of the following disciplines: nursing, public health, biostatistics or experience in health surveys. Those recruited underwent 2 days of training on the conduct of cross-sectional survey and administration of the questionnaire. At the end of the training, enumerators pre-tested the questionnaire.

Variable specification and priori expectation

The outcome variable for our study was Gambians' WTP for NHIS. In our study, this is defined as WTP, a dummy variable with 1 denoting an individual's WTP and 0, otherwise. Explanatory variables selected for our study were adapted from a systematic review of WTP for health insurance in LMICs (Nosratnejad *et al.*, 2016). These variables were divided into two parts: demographic and socio-economic characteristics and health service characteristics including private insurance coverage. Variable specification and priori expectation are in Table 4.

Existing studies have shown that males, young adults, larger households, low-income households, higher education, previous hospitalization and perceived poor health status influenced respondents' WTP (Nosratnejad *et al.*, 2016; Al-Hanawi *et al.*, 2018). Therefore, we hypothesized that in The Gambia, males, higher education, previous hospitalization and perceived poor health had a higher WTP. Young adults, larger households and low-income households had lower WTP. Table 4 shows variable specification and priori expectation.

Eliciting WTP

We used the CV method applying the double-bounded dichotomous choice (DBDC) questions with follow-up approach as described by Hanemann (Hanemann, 1989) and Lopez-Feldman (Lopez- Feldman, 2012). CV is widely used to assess WTP changes in non-marketed goods such as health insurance (Gidey *et al.*, 2019; Ogundeji *et al.*, 2019). DBDC formats have been shown to have the greater efficiency as they enable respondents to disclose more information on their WTP (Hanemann *et al.*, 1991). A description of the DBDC model equation is provided in Supplementary materials Part 1.

To ascertain respondents' WTP for NHIS, an overview of the current health financing situation in The Gambia was presented to them. This was done to ensure that they understood the current financing situation and to inform an objective response to the hypothetical NHIS scenario.

Following the description of the hypothetical contingent market, as depicted in Figure 2, respondents were asked whether they were willing to join and pay for the scheme. Those that agreed were offered the first bid, which is the specific price of the non-marketed commodity in question, of US$20.78 (GMD1000). If they answered yes to the first bid, the upper bid of US$31.17 (GMD1500) was offered and if

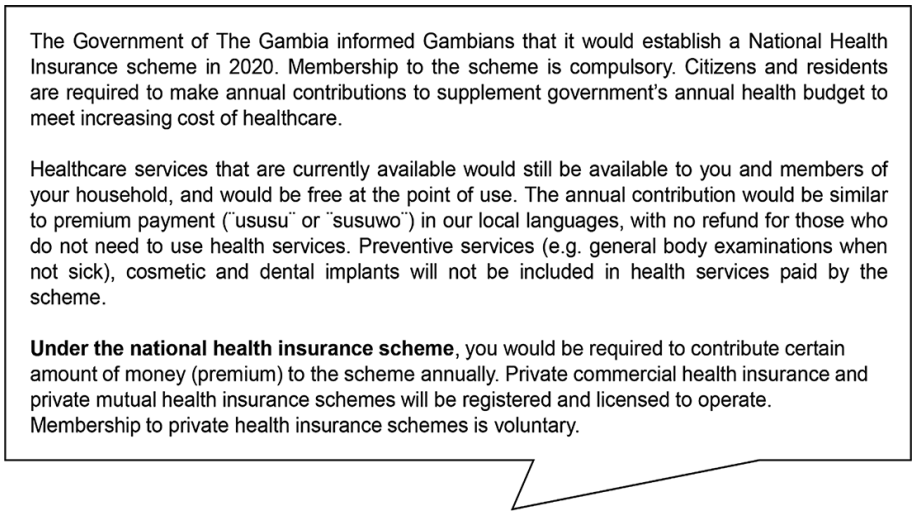

Figure 2. Hypothetical contingent market (valuation scenario)

they answered no to the first bid, a lower bid of US$10.39 (GMD500) was offered. We increased the first bid by half for the upper bid and reduced the first bid by half for the lower bid. All monetary estimates were expressed in current US$ although the amounts presented to the respondents were in GMD. All respondents that agreed to join and pay for NHIS were asked to state the maximum amount they were willing to pay with no restriction if the government was to introduce NHIS on the day of the data collection. Respondents that refused to join the scheme were asked to state their rea- sons. The starting bid amount was determined by using the average WTP as percentage of GDP per capita (2.97) of nine WTP studies conducted in West Africa based on systematic review of WTP for health insurance in LMICs (Nosratnejad *et al.*, 2016).

Statistical analysis

We applied Lopez-Feldman's econometric specification for the double-bounded model, conferred Supplementary materials Part 1 and used the maximum-likelihood method for the estimation. He described this as a modified ordered pro- bit model, otherwise known as doubleb command in Stata (Lopez-Feldman, 2012). We estimated the WTP of par- ticipants by using the average values of the explanatory variables included in the model. Separately, we used lin- ear regression to estimate the average maximum amount to pay as well as explore the relationship between respon- dents' response and explanatory variables. The equation for the regression model is in Supplementary materials Part 2. Descriptive analysis presents respondents' demographic, socio-economic and health service characteristics as shown in Table 1

Results

Demographic and socio-economic characteristics

Table 1 shows the demographic, socio-economic and health service characteristics of the respondents. Overall, 391 (54.5%) of respondents were females and 368 (51.3%) were between 18 and 40 years of age; 468 (65.3%) of respondents resided in urban areas and 647 (90.2%) were married; 474 (66.1%) had no formal education or stopped at primary school. A total of 274 (38.2%) were in formal employment (public or private), whereas 43.5% were either not in employment or retired. Among all respondents, 208 (29.0%) had household size of 16 or more members, while the corresponding proportion was 16.7% for respondents in rural areas. A majority of the respondents reported that their monthly household income, adjusted for household size, was below the national and international poverty line (<US$1.90 or <GMD26.20 per day) corresponding approximately to <GMD10 000.00 in Table 1. There was no big divide in household income between urban and rural Gambia relative to income class groups above the national or international poverty line.

Health service characteristics

Overall, 650 of the respondents (91.0%) reported having access to a healthcare facility; 78.7% reported having at least one outpatient visit in the preceding year, and 11.9% reported spending at least US$10.39 (GMD505) on outpatient visits including medicines. Twenty-six respondents (3.6%) experienced hospitalization at least once in the year preceding the survey. Less than 2% of hospitalized respondents reported spending >US$10.39 (GMD505) on bed fees including medicines. Overall, 233 (32.5%) reported that their first point of care was a traditional, herbal or spiritual healer, out of which 69 (29.6%) spent >US$10.39 (GMD505) on these services. There was no major difference between respon- dents that sought traditional, herbal or spiritual care in urban or rural areas. About a third (30.1%) reported having one or more chronic conditions. Over 70% of respondents perceived that they were in good state of health and two-thirds reported satisfaction with health service delivery. Less than 5% reported having private health insurance. The reporting period was last 12 months preceding the survey.

Table 1. Demographic, socio-economic and health service characteristics

	All (*n*, %)	Urban (*n*, %)	Rural (*n*, %)
Local government area (*N*, %)	717 (100.0)	468 (65.3)	249 (34.7)
Gender			
Female	391 (54.5)	284 (39.6)	107 (14.9)
Male	326 (45.5)	184 (25.7)	142 (19.8)
Age (in years)			
≤30	179 (25.0)	127 (17.7)	52 (7.3)
31–40	189 (26.4)	134 (18.7)	55 (7.7)
41–55	201 (28.0)	130 (18.1)	71 (9.9)
>55	148 (20.6)	77 (10.7)	71 (9.9)
Marital status			
Never married	29 (4.0)	20 (2.8)	9 (1.3)
Married	647 (90.2)	415 (57.9)	232 (32.4)
Living together, divorced, separated, widow	41 (5.7)	33 (4.6)	8 (1.1)
Education			
Low (no formal and primary education)	474 (66.1)	268 (37.4)	206 (28.7)
Middle (junior and senior secondary, vocational, professional)	226 (31.5)	185 (25.8)	41 (5.7)
Higher (university degree and above)	17 (2.4)	15 (2.1)	2 (0.3)
Employment			
Not in employment, retired	312 (43.5)	203 (28.3)	109 (15.2)
Public or private sector employee	274 (38.2)	194 (27.1)	80 (11.2)
Informal sector	131 (18.3)	71 (9.9)	60 (8.4)
Household size			
1–7 persons	229 (31.9)	187 (26.1)	42 (5.9)
8–15 persons	280 (39.1)	193 (26.9)	87 (12.1)
≥16 persons	208 (29.0)	88 (12.3)	120 (16.7)
*Household monthly income (in GMD)			
<GMD500.00—GMD9999.00	698 (97.4)	454 (63.3)	244 (34.0)
GMD10 000.00—GMD19 999.00	17 (2.4)	13 (1.8)	4 (0.6)
≥GMD20 000.00	2 (0.3)	1 (0.1)	1 (0.1)
*Access to health facility			
No	64 (9.0)	33 (4.6)	34 (4.7)
Yes	650 (91.0)	435 (60.7)	215 (30.0)
Outpatient visit (last 12 months)			
0 visit	153 (21.3)	106 (14.8)	47 (6.6)
1–3 visits	255 (35.6)	188 (26.2)	67 (9.3)
≥4 visits	309 (43.1)	174 (24.3)	135 (18.8)
Expensed on outpatient visit including medicines in last 12 months (in GMD)			
GMD0.00	459 (64.0)	306 (42.7)	153 (21.3)
GMD1.00—GMD504.00	173 (24.1)	118 (16.5)	55 (7.7)
≥ GMD505.00	85 (11.9)	44 (6.1)	41 (5.7)
Hospitalization (last 12 months)			
0 hospitalization	691 (96.4)	459 (64.0)	232 (32.4)
≥1 hospitalization	26 (3.6)	9 (1.3)	17 (2.4)
Expensed on hospitalization including medicines in last 12 months (in GMD)			
GMD0.00	691 (96.4)	459 (64.0)	232 (32.4)
GMD1.00—GMD504.00	14 (2.0)	5 (0.7)	9 (1.3)
≥ GMD505.00	12 (1.7)	4 (0.6)	8 (1.1)
First point of care is traditional/spiritual/herbal medicine			
No	484 (67.5)	350 (48.8)	134 (18.7)
Yes	233 (32.5)	118 (16.5)	115 (16.0)
Expensed on traditional/spiritual/herbal medicines in last 12 months (in GMD)			
GMD0.00	484 (67.5)	350 (48.8)	134 (18.7)
GMD1.00—GMD504.00	164 (22.9)	83 (11.6)	81 (11.3)
≥ GMD505.00	69 (9.6)	35 (4.9)	34 (4.7)
Presence of chronic disease			
No	501 (69.9)	341 (47.6)	160 (22.3)
Yes	216 (30.1)	127 (17.7)	89 (12.4)
Perceived state of health in last 24 h			
Poor	24 (3.3)	13 (1.8)	11 (1.5)
Fair	181 (25.2)	115 (16.0)	66 (9.2)
Good, very good, excellent	512 (71.4)	340 (47.4)	172 (24.0)
Perceived level of satisfaction with health services			
Unsatisfied	194 (27.1)	141 (19.7)	53 (7.4)

(continued)

Table 1. (Continued)

	All (*n*, %)	Urban (*n*, %)	Rural (*n*, %)
Do not know	39 (5.4)	28 (3.9)	11 (1.5)
Satisfied	484 (67.5)	299 (41.7)	185 (25.8)
Private health insurance coverage			
No	682 (95.1)	441 (61.5)	241 (33.6)
Yes	35 (4.9)	27 (3.8)	8 (1.1)

*Household monthly income in (GMD)= adjusted relative to household size using the equivalence scale developed by Swiss Conference of Social Assistance.
*Access to health facility measurement= not >5 km radius of settlement.

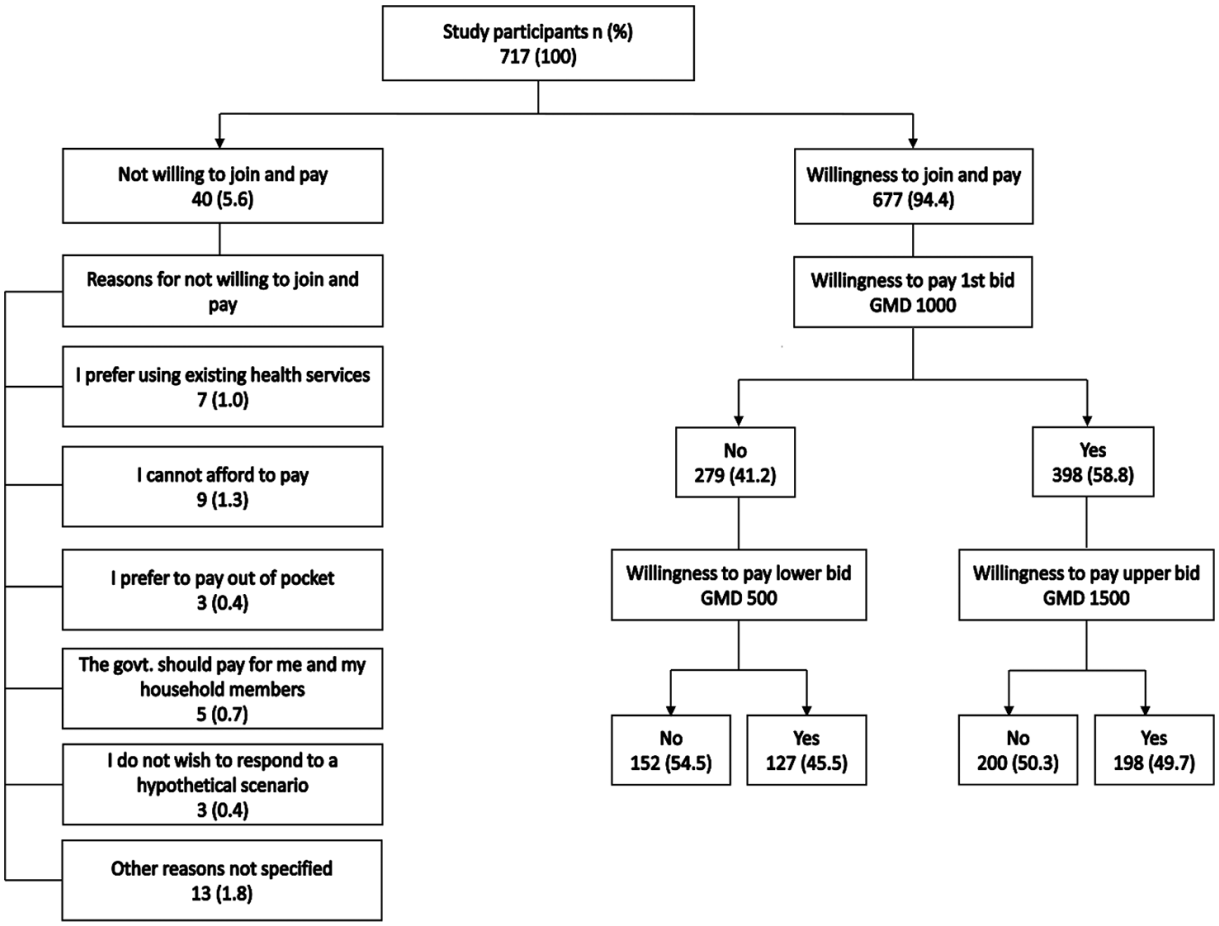

Figure 3. Characteristics of respondents' WTP or not

Respondents WTP for NHIS

Figure 3 shows that 94% of respondents were willing to join and pay for NHIS. Out of this number, about 59% accepted the first bid and ~50% were willing to pay the upper bid. Out of the almost 6% that refused to join and pay for NHIS, 1% preferred using the existing health services or paying for these services OOP. About 1% reported that they could not afford to pay or preferred the government pay for them and members of their household. The remaining 2% did not wish to respond to a hypothetical scenario or had not specified reasons for not willing to join and pay for NHIS.

Table 2 shows that respondents' average WTP was US$23.27 (GMD1119.82) [confidence interval (CI): 692.61 to 1547.02]. Males were willing to pay US$5.10 (GMD245.38) more compared with females (CI: 114.09 to 376.68; *P*-value < 0.01).

Respondents with middle education had a WTP of US$5.29 (GMD254.79) higher than the reference group with low education (CI: 118.88 to 390.69; *P*-value < 0.01). The corresponding estimate for the high education group was not significant.

Many estimates had wide CIs, and the observed relationships did not meet the pre-specified threshold for statistical significance; the strength of these relationships therefore carries high uncertainty. Smaller households were observed to have lower WTP US$1.77 (GMD85.03) relative to larger households when compared with the lowest household size (CI: −58.97 to 229.03; *P*-value, 0.25). Respondents below the

Table 2. Results of estimation of DBDC model

	β (95% CI)	*P*-value
Gender		
Female	Ref.	
Male	245.38 (114.09, 376.68)	<0.01
Age (in years)		
≤30	Ref.	
31–40	−9.72 (−178.71, 159.28)	0.91
41–55	−46.78 (−222.19, 128.63)	0.60
>55	−62.01 (−259.79, 135.76)	0.54
Education		
Low (no formal and primary education)	Ref.	
Middle (junior and senior secondary, vocational, professional)	254.79 (118.88, 390.69)	<0.01
Higher (university degree and above)	208.91 (−179.53, 597.35)	0.29
Household size		
1–7 persons	Ref.	
8–15 persons	85.03 (−58.97, 229.03)	0.25
≥16 persons	152.23 (−7.33, 311.80)	0.06
Household monthly income (in GMD)		
Lower- and upper-middle-income poverty line	Ref.	
Below poverty line	−280.01 (−677.20, 117.21)	0.17
Hospitalization (last 12 months)		
0 hospitalization	Ref.	
≥1 hospitalization	−53.70 (−367.04, 259.65)	0.74
Perceived state of health (in last 24 h)		
Good, very good, excellent	Ref.	
Poor	148.12 (−177.42, 473.65)	0.37
Fair	35.76 (−104.67, 176.18)	0.62
Mean WTP value (in GMD)	1,119.82 (692.61, 1547.02)	<0.01

P-value of 0.00 ≤ 0.01. β coefficient is derived from equation in supplementary materials part 1. Ref. = Reference category.
US$ to GMD exchange rate (July–August 2020): 1 US$ = 48.13.
Gambia national poverty line or international poverty line.
Below poverty line =26.2 in GMD (2015) or US$1.90 (2011 PPP) per day per capita.
Lower-middle-income class poverty line =44.2 in GMD (2015) or US$3.20 (2011 PPP) per day per capita.
Upper-middle-income class poverty line =75.9 in GMD (2015) or US$5.50 (2011 PPP) per day per capita.

poverty line had a lower WTP US$ −5.82 (GMD −280.01) compared with the higher-income group (CI: −677.20 to 117.21; *P*-value, 0.17). Respondents that had experienced hospitalization at least once were associated with lower WTP US$ −1.12 (GMD −53.70) compared with those with no history of hospitalization in the preceding year (CI: −367.04 to 259.65; *P*-value, 0.74). Compared with respon- dents with perceived good health, respondents who per- ceived their health status as poor were more likely to pay more US$3.08 (GMD148.12) relative to those whose health status was perceived fair (CI: −177.42 to 473.65; *P*-value, 0.37).

Table 3 shows the results of the linear regression model estimating the adjusted average maximum amount to pay for NHIS. Unlike the DBDC model in Table 2, we only present explanatory variables that were statistically significant. Males were more likely to have a higher maximum amount to pay than females by US$4.49 (GMD216.10, CI: 92.64 to 339.57; *P*-value < 0.01). Respondents with middle educa- tion were

Table 3. Results of linear regression (generalized linear model)

	β (95% CI)	*P*-value
Gender		
Female	Ref.	
Male	216.10 (92.64, 339.57)	<0.01
Age (in years)		
≤30	Ref.	
31–40	38.83 (−120.46, 198.11)	0.63
41–55	−122.10 (−286.83, 42.62)	0.60
>55	−115.66 (−301.46, 70.13)	0.22
Education		
Low (no formal and primary education)	Ref.	
Middle (junior and senior secondary, vocational, professional)	144.90 (17.72, 272.08)	0.03
Higher (university degree and above)	244.83 (−119.30, 609.01)	0.19
Household size		
1–7 persons	Ref.	
8–15 persons	86. 04 (−50.20, 222.28)	0.22
≥16 persons	83.30 (−66.90, 233.41)	0.28
Household monthly income (in GMD)		
Lower- and upper-middle-income poverty line	Ref.	
Below poverty line	−813.30 (−1174.13, −452.38)	<0.01
Hospitalization (last 12 months)		
0 hospitalization	Ref.	
≥		

associated with a lower maximum amount to pay US$3.01 (GMD144.90) relative to the higher education cate- gory when compared with lower education group (CI: 17.72

1 hospitalization	37.90 (−259.01, 334.70)	0.80
Perceived state of health (in last 24 h)		
Good, very good, excellent	Ref.	
Poor	15.42 (−291.15, 322.01)	0.92
Fair	26.75 (−105.20, 158.70)	0.69
o-	1,251.16 (860.20, 1642.12)	<0.01

P-value of 0.00 ≤ 0.01. β intercept is derived from GLM in Supplementary materials part 2. Ref. = Reference category.

US$ to GMD exchange rate (July–August 2020): 1 US$ 48.13.
Gambia national poverty line or international poverty line.
Below poverty line 26.2 in GMD (2015) or US$1.90 (2011 PPP) per day per capita.
Lower-middle-income class poverty line 44.2 in GMD (2015) or US$3.20 (2011 PPP) per day per capita.
Upper-middle-income class poverty line 75.9 in GMD (2015) or US$5.50 (2011 PPP) per day per capita.

β

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to 272.08; *P*-value < 0.01). Respondents below the poverty line were associated with lower maximum amount to pay by US$ −16.90 (GMD −813.30) compared with the higher-income group (CI: −1174.13 to −452.38, *P*-value < 0.01).

Discussion

Public health care in The Gambia is theoretically highly subsidized by the government (Ministry of Health and Social Welfare, 2012). However, evidence suggests that the public health sector remains seriously underfunded with the government unable to allocate at least 5% of GDP to health, a threshold considered by the World Health Organization and health financing experts as minimum domestic funding on health to make progress towards UHC (McIntyre *et al.*, 2017; Ministry of Health and Social Welfare, 2017; Sine *et al.*, 2019). In its attempt to move towards UHC, the government introduced a mandatory NHIS that would pay the cost of health care for Gambians and non-Gambian residents. In view of this major public policy shift, our study estimated Gambians' willingness to join and pay for a NHIS. The high

Table 4. Explanatory variable specification and priori expectation

Variables		Explanation	Measurement	Priori expectation
Socio-economic characteristics	Gender	Whether respondent is female or male	0 = female 1 = male	Males are highly likely to pay more than females
	Age	Age of respondent in years	0 ≤ 30 1 = 31–40 2 = 41–55 >55	Young age groups are less likely to pay more compared with other age groups
	Level of education	Level of education attained	0 = No formal and primary 1 = Junior and senior secondary, vocational 2 = University	People with higher education are highly likely to pay more compared with other groups
	Household size	Number of people in a household	0 = 1–7 1 = 8–15 2 ≥ 16	Larger households are less likely to pay more compared with other groups
	Household income	Household income (GMD) adjusted relative to household size	0 ≤ 500–9,999 1 ≥ 10,000	Households with lower income are less likely to pay more compared with higher-income groups
Health service characteristics	Hospitalization	Past experience of hospitalization in last 12 months	0 = No 1 = Yes	People who experience hospitalization are highly likely to pay more compared with other groups
	Perceived state of health	Overall state of health in last 24 h	0 = Poor 1 = Fair 2 = Good	People with perceived poor health are likely to pay more compared with other groups

willingness to join and pay for NHIS could be perceived as high public support to reform health financing in The Gam- bia. Our finding is consistent with similar findings of WTP studies conducted in LMICs, particularly in countries com- parable to The Gambia (Djahini-Afawoubo and Atake, 2018; Jofre-Bonet and Kamara, 2018; Ogundeji *et al.*, 2019). Other studies have also shown that risk-averse individuals tend to opt for insurance coverage to reduce the impact of potential catastrophic risks (Schmitz, 2011; Nguyen *et al.*, 2017).

In our study, individuals were willing to pay on average US$23.27 (GMD1119.82) to join the scheme, which was closer to the first bid of US$20.80 (GMD1000). This finding aligns with previously conducted contingent market valua- tion of health insurance contributions that shows an inverse relationship between price and acceptance rate, where indi- viduals that accepted first price are less willing to pay more when the price is increased (Nosratnejad *et al.*, 2014; Nguyen and Hoang, 2017). However, there is evidence suggesting that the DBDC with a follow-up model is sensitive to start- ing point bias (Flachaire and Hollard, 2006; Jofre-Bonet and Kamara, 2018), and we discuss the implications of this under discussion and limitations.

The weak state of public health care in The Gambia could be a key factor for explaining Gambians' WTP more than the first bid in return for better healthcare services. Evidence suggests that health facilities experience frequent stock out of essential medicines and supplies. Due to limited special- ist services including access to advanced health technologies particularly in the public sector, many patients are forced to seek expensive overseas medical treatments in Senegal, India and Turkey (Radio France International, 2018; Sine *et al.*, 2019; Manneh, 2021). The strong statement of intent to pay more for NHIS in return for better health care is a policy win- dow for the government to introduce a scheme that enhances access to quality, affordable and equitable health services. Notwithstanding, it is important to note that higher WTP for NHIS as shown in our study does not equal ability to

contribute to the scheme due to possibility loss of incentive compatibility. Given Gambia's high poverty and unemploy- ment rate, in addition to high informality of the economy, the government should increase domestic revenue-raising capac- ity including designing robust strategies to increase revenue from indirect taxes to sustainably fund and manage the scheme.

The DBDC model and generalized linear model (GLM) together showed that gender, level of education and household income were associated with Gambians' WTP and maximum amount to pay for NHIS. The DBDC model in Table 2 shows that respondents' WTP was significantly influenced by their gender and level of education, whereas the regression model showed that household income was associated with maximum amount to pay, which was statistically significant.

Our finding showed that males were more likely to pay more for NHIS than females as hypothesized. This finding is consistent with observations in similar studies reporting that females have a lower WTP compared with men (Dong *et al.*, 2004; Onwujekwe *et al.*, 2009; Djahini-Afawoubo and Atake, 2018). Gambia is known for its strong patriarchal leaning with men perceived to be head of households and purported 'bread-winners' of the family (Bellagamba, 2013). This deeply held belief coupled with limited implementation of gender empowerment policies reduces opportunities for women's par- ticipation in the formal workforce, disproportionately affect- ing them economically, socially, politically and health wise (Fourshey, 2019; United Nations Capital Development Fund, 2019). For example, the 2015 integrated and household sur- vey reported that females constituted a higher proportion of the working age group but were less economically active than males (Gambia Bureau of Statistics, 2017a). However, the WTP estimated among females could still indicate a high financial commitment to the scheme considering their lim- ited economic opportunities. From the policy perspective, the government should consider providing more opportunities for women's participation in economic activities. This could

increase their WTP because women's utilization of health- care services in The Gambia is higher than men (Ministry of Health, 2019). A mapping and analysis of the laws of The Gambia from a gender perspective in 2020 found laws or provisions that prevent women and girls from realizing their full social, cultural, economic, political and civil rights (UN Women and Commonwealth Secretariat, 2020). These laws and implicit policy biases towards women and girls also increases their vulnerabilities (ECOWAS Commission, 2018). In addition to creating economic opportunities for women, the government should also consider widening the social safety net in the scheme. Although the Gambia NHIS Act proposed exemption from premium contribution for pregnant and post- partum women, the exemption criteria should be expanded to include women in lower socio-economic groups and in other disadvantaged positions. This would enhance positive health outcomes for women and girls and reduce gender health inequities in The Gambia.

Compared with respondents with low education, both respondents with middle education and respondents with high education had a higher WTP, although the latter estimate was not statistically significant. Although this is in contrast to our hypothesis, it is important to note that respondents with university education constitute a smaller proportion of the sample in our study. Although few studies are in agreement with our findings (Gidey *et al.*, 2019; Ogundeji *et al.*, 2019), others have shown that individuals with higher education were likely to pay more for health insurance in LMICs (Nosratnejad *et al.*, 2014; Al-Hanawi *et al.*, 2018; Djahini-Afawoubo and Atake, 2018). A plausible explanation for our finding could be that Gambians with higher education were more likely to pay OOP or use private health services including private health insurance to access better services than what they perceive is possible through the public health sector. This can proba- bly be explained by their ability to get a good job and earn higher income than their corresponding groups. An educa- tion sector public expenditure review in The Gambia have shown that Gambians with higher education prefer working in private services sectors due to strong employment oppor- tunities and attractive salaries and incentives (The World Bank, 2017).

The financial viability of NHIS will depend on requiring more people to contribute to the scheme than exempted. However, a crucial challenge to the sustainability of The Gambia's NHIS is the high poverty and unemployment rate especially among the productive age groups (Gambia Bureau of Statistics, 2018a). Similarly, Gambia has one of the highest age dependency ratios in the world, coupled with a household size averaging seven members (Gambia Bureau of Statistics, 2017b). This makes it even more difficult to raise revenue from households with low incomes. Imposing premiums on the poor, formal and informal workers within the low-income bracket is likely to increase financial burden at individual and household levels, thereby increasing vulnerabilities and widening inequities in health. The Gambia is ranked among countries with the lowest minimum wage in the world (Public Administration International, 2020). Thus, heavy reliance on formal and informal sector payroll taxes to finance the scheme without equity considerations such as mean tested approach could challenge the sustain- ability of NHIS. The government should therefore consider using progressive contribution rates for formal and informal sector workers through means testing, wherein higher-income groups contribute a higher percentage of their incomes to the scheme relative to lower-income groups (McIntyre and Kutzin, 2016). Gambia's informal sector is huge and accounts for ~58% of GDP and constitutes almost 77% of total employment (Oladipo, 2021). Despite the Act stipulating mandatory contribution for employees including informal workers, weak enforcement of tax laws and current revenue collection mechanism in the informal sector make it difficult to collect sufficient revenue from this diverse sector. The sustainability of the scheme will depend on domestic revenue-raising capacity and increased domestic funding for health. The informal sector offers strong revenue-raising opportunities, and to efficiently tap into this sector, the government should create an enabling environment for the informal sector to organize formally (Oladipo, 2021). In addition, the government should design a benefit package that is explicit to enhance enrollees' utility.

The two models combined have shown that age, household size, history of hospitalization and perceived state of health were not statistically significantly and did not influence respondents' WTP and maximum amount to pay. Many studies in LMICs agree with our finding (Shafie and Hassali, 2013; Nosratnejad *et al.*, 2014; 2016; Al-Hanawi *et al.*, 2018; Gidey *et al.*, 2019). However, other studies have shown that household income did not influence WTP (Nguyen and Hoang, 2017). This finding poses a policy dilemma for the government in its effort to introduce premium rates and exemption criteria in the face of the country's weak macro-economic outlook. Gambia's GDP per-capita growth rate was not consistent over the years relative to its aspiration peers (United Nations, 2020b) and has a lower GDP per capita than sub-Saharan Africa average (Gil-Alana *et al.*, 2021). The COVID-19 pandemic continues to exert pressure on the economy due to huge revenue loss from tourism and vital service sectors (United Nations Development Programme, 2020). Similarly, the unabated COVID-19 situation coupled with the ongo- ing war in Ukraine with strong cascading effects on LMICs will increase vulnerabilities and push many more Gambians into extreme poverty (United Nations, 2020a; 2022). To address these challenges, the government should design an iterative and progressive contribution formula using means testing approach to fix premium rates. Furthermore, the government should explore other revenue sources such as indirect taxes, which are generally considered progressive to fund the scheme.

The discrepancy between significance levels for household income in the two models could be attributed to starting point bias. In the linear regression analysis, respondents stated their maximum amounts to pay for NHIS as opposed to the DBDC model, where respondents were asked to respond to three bids presented to them. Our finding showed that after adjusting for the annual household income, the majority of the respondents fall below the poverty line. This could be attributed to changes in the ordering of individuals by income as a result of dividing household income by an equivalence scale. It is important to note that our study was interested in adjusting the household's annual disposable income relative to household size. In contrast, GBoS whose national poverty estimates we highlighted in Introduction used the Foster–Greer–Thorbecke class of decomposable poverty measure comprising headcount ratio, the poverty gap index (depth of poverty) and the poverty

severity index (the squared poverty gap). Using a different poverty estimation approach to GBoS's has a tendency to affect our poverty estimates and we discussed this below.

The WTP estimated from our study has policy implication for NHIS implementation particularly on enrolment and financial sustainability of the scheme. Given that high WTP does not equal ability to pay, decision-makers at the National Health Insurance Authority should learn from the experiences of Ghana and Kenya during the early phase of their NHIS implementation. Evidence from these countries, which have similar features to Gambia's NHIS, showed that enrolment was somewhat high from the outset but plateaued and/or dropped over time (Maina *et al.*, 2016; Kotoh *et al.*, 2018). Few studies attributed this to cost, poor quality and a far too generous benefit package that was difficult to sustain financially (Maina *et al.*, 2016; Duku, 2018; Otieno *et al.*, 2019). In view of this, decision-makers should establish an afford- able and progressive premium contribution rate and develop an explicit benefit package that offers quality and can be sustainably financed with heavy reliance on domestic revenue.

Limitations

One of the criticisms of DBDC with the follow-up approach is its inherent starting point bias in the measurement of WTP. Although we employed measures to reduce this bias as much as possible, the first bid appeared relatively high compared with other WTP studies. The most appropriate approach would have been to undertake an in-country estimation as opposed to using the mean GDP per capita of nine WTP studies conducted in Western Africa. Another criticism of this approach is the hypothetical bias. Respondents may not recall the events they experienced in the preceding year and may not objectively respond to the hypothetical NHIS scenario. It was difficult to adjust household income in our study using GBoS poverty estimation. Our decision to apply the equivalence scale to adjust household income relative to household size pushed many of our respondents below the poverty line. However, we applied a rigorous probability proportional to size sampling technique using adequate sample size with >90% response rate. We believe that the difference in household income reported in our study relative to GBoS's finding was not due to sampling bias, but rather because of limitations of income measurement in our study.

Conclusion

Our study has shown that the majority of Gambians have indicated their willingness to join and pay for NHIS with an average WTP value of US$23.27 (GMD1119.82). Results of the two models together have shown that gender, level of education and household income influenced Gambians' WTP and maximum amount to pay for NHIS. Despite the strong public support for NHIS, the high poverty and unemployment rate are threats to the sustainability of the scheme. In view of this, the government should increase domestic revenue-raising capacity to respond to the funding needs of the scheme consistently and predictably. In response to these findings, the government has a policy window to implement a sustainable NHIS that can propel Gambia towards UHC. Policymakers should also consider factors that influence Gambians' WTP and used means testing approach when setting contribution rates and exemption criteria.

Supplementary data

Supplementary data are available at *Health Policy and Planning* Journal online.

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Author contributions

Conception or design of the work: H.N., P.G.I., K.R.W., L.C., U.G. and J.S.S. Data collection: H.N. Data analysis and interpretation: H.N., P.G.I., K.R.W., L.C., U.G., J.S.S. and I.M. Drafting the article: H.N., P.G.I., K.R.W., L.C., U.G. and J.S.S. Critical revision of the article: H.N., P.G.I., K.R.W., L.C., U.G. and J.S.S. Final approval of the version: H.N., P.G.I., K.R.W., L.C., U.G., J.S.S. and I.M.

Reflexivity statement

The authors include researchers from low- and middle-income countries (LMICs), middle-income country and high-income country and include a female with multiple levels of seniority. All authors have extensive experience conducting research in LMICs and have strong background in health economics, health financing, health policy and systems research in global North/South. The lead author is a national of The Gambia, where the study was conducted.

a) WTP for a National Health Insurance Scheme (NHIS) in The Gambia.
b) Universal health coverage (UHC), health financing, health insurance scheme and willingness to pay (WTP).

a) Many LMICs including The Gambia have initiated health financing reforms with a view to making progress towards UHC.
b) The Gambia National Health Insurance Act, enacted into law in 2021, established an NHIS that will pay the healthcare cost of its members.
c) Our results showed that many Gambians have expressed their WTP for NHIS in return for improved health services.
d) Our findings can inform policymakers in The Gambia and other sub-Saharan African countries when estab- lishing contribution rates and exemption criteria during social health insurance scheme implementation.

a) Abstract: 281 words.
b) Full article: 5259 words.

This study was granted ethical approval by the following institutions:

a) The Gambia Government/Medical Research Coun- cil Gambia Joint Ethics Committee granted ethical approval for this research (R018026v4.1).
b) Norwegian Centre for Research Data granted data processing ethical approval for this research (562 557).
c) Norwegian Research Committee for Medical and Health Research Ethics exempted this research from ethical review (2018/1891).

Conflict of interest statement. None declared.

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II

Title page

Title: Preferences of healthcare workers for provider payment systems in The Gambia's National Health Insurance Scheme

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Keywords

- Healthcare financing
- Universal health care
- Strategic purchasing
- Provider payment systems
- Provider performance

Abstract

Background

The Government of The Gambia introduced a national health insurance scheme (NHIS) in 2021 to promote universal health coverage (UHC). Provider payment systems (PPS) are strategic purchasing arrangements that can enhance provider performance, accountability, and efficiency in the NHIS. This study assessed healthcare workers' (HCWs') preferences for PPS across major service areas in the NHIS.

Methods

A facility-based cross-sectional study was conducted using a probability proportionate to size sampling technique to select an appropriate sample size. Health care workers were presented with options for PPS to choose from across major service areas. Descriptive statistics explored HCW socio-demographic and health service characteristics. Multinomial logistic regressions were used to assess the association between these characteristics and choices of PPS.

Results

The majority of HCW did not have insurance coverage, but more than 60% of them were willing to join and pay for the NHIS. Gender, professional cadre, facility level, and region influenced HCW's preference for PPS across the major service areas. The preferred PPS varied among HCW depending on the service area, with capitation being the least preferred PPS across all service areas.

Conclusion

The NHIS needs to consider HCW's preference for PPS and factors that influence their preferences when choosing various payment systems. Strategic

purchasing decisions should consider the incentives these payment systems may create to align incentives to guide provider behaviour towards UHC. The findings of this study can inform policy and decision-makers on the right mix of PPS to spur provider performance and value for money in The Gambia's NHIS.

Background

Improving health system performance and making progress towards Universal Health Coverage (UHC) are among the most pressing global health goals, particularly in low- and middle-income countries (LMICs). Studies have shown that a well-functioning health system, which includes a sufficient and competent health workforce, is essential for ensuring equitable access to quality health services (1, 2). A well-functioning health workforce is necessary for achieving UHC because they can provide quality health services that are responsive to the needs of the population (3). Similarly, a strong health workforce can help to reduce health inequities and promote universal access to health services (3-5).

The Gambia's Ministry of Finance and Economic Affairs (MoFEA) introduced programme-based budgeting in 2016 with a view to improving health sector priorities, allocative efficiency and accountability for results. However, since its introduction, input-based payment by budget line- items dominates the health financing landscape with strong features of passive purchasing. For example, public sector HCW receive monthly salaries without linking them to provider performance and accountability.

Countries that have made progress towards UHC use strategic purchasing levers to allocate resources efficiently, create deliberative incentives to enhance quality, access and equitable services as well as ensure provider autonomy and accountability (6, 7). Strategic purchasing is a key component of health financing that involves the efficient and effective allocation of financial resources to improve health system performance and health outcomes (6). Health financing, consisting of the three core functions revenue raising, pooling and purchasing (8), plays a crucial role in strengthening health workforce. Strategic purchasing is about purchasing agencies

such as ministries of health (MoH), health insurance agencies and other purchasers making active, evidence-based decisions about what services to purchase, from which providers, how these services are paid for and at what price (9, 10).

A core feature of strategic purchasing are PPS, which refer to methods in which purchasers transfer funds to individual HCW or provider institutions to provide agreed services to the population (11). Provider payment systems can create strong incentives that influence provider behaviour and invariably, the efficiency, equity and quality outcomes of NHIS (12). PPS is a critical component of any NHIS and is an essential factor in achieving UHC (13, 14). In addition, the type of payment system utilized in a NHIS can also help control health care costs by creating incentives to providers to deliver care in the most efficient way possible (15). Strategic purchasing decisions should consider incentives various PPS create and how these influence HCW behaviour and accountability. This is especially important in The Gambia where HCW have embarked on a series of industrial strikes demanding better salaries and incentives (16, 17).

Studies have consistently demonstrated that both financial and non-financial incentives can influence HCW behaviour and contribute to positive patient outcomes (18-20). For example, the implementation of performance-based financing to incentivize HCWs under the Maternal and Child Nutrition and Health Results Project (MCNHRP) in The Gambia showed a higher quality of care (QoC) score in targeted facilities (71.3%) compared to non-targeted facilities (36.8%)(21). HCWs in the targeted regions also reported higher levels of satisfaction due to the incentives they received in addition to their monthly salaries(22, 23). However, some researchers have argued that financial incentives alone may not be sufficient to improve patient

outcomes due to inconclusive or weak evidence of their impact on service quality (24-26).

The Gambian government established the NHIS in 2021, as a crucial step towards achieving UHC. The NHIS implementation in The Gambia is being overseen by the National Health Insurance Authority (NHIA), which is actively exploring various provider payments systems to establish a framework for incentivizing healthcare providers while ensuring accountability and value for money to enhance the efficiency of the scheme. This study investigates the preferences of HCWs for payment systems and incentives to inform strategic purchasing decisions by the NHIA.

Methods

Study setting

This study was conducted in The Gambia between August and September 2020, utilizing a nationwide facility-based cross-sectional survey design (see Figure 1). The Ministry of Health (MoH) has demarcated the country into seven health regions, including Western 1 Region (W1R), Western 2 Region (W2R), North Bank West Region (NBWR), North Bank East Region (NBER), Lower River Region (LRR), Central River Region (CRR), and Upper River Region (URR), as part of its efforts to decentralize health service delivery.

Sampling approach

Sample size estimation

The focus of our study is individual healthcare workers (HCWs) working in public health facilities. We originally intended to include hospital administrators, as they make important decisions within their respective hospitals. However, due to a low response rate among hospital administrators and the fact that the majority of our participants were employed by the MoH rather than hospitals, we ultimately excluded hospital administrators from our sample.

To determine the appropriate sample size for our study, we used Raosoft's online sample size calculator with the following conservative assumptions: there are 5,000 public healthcare workers in The Gambia, a 95% confidence interval, a 5% margin of error, and a 50% response distribution. The estimated sample size was 357 participant, but we increased it by 60% to 576 participants due to concerns about potential low response rates due to COVID-19 restrictions.

Sampling technique

We utilized a two-stage sampling technique to select participants from their respective facilities. In the first stage, we selected 57 public health facilities using a combination of systematic sampling and probability proportionate to size technique, stratified by region and tier to ensure representativeness. We sampled 60% of facilities from each stratum, resulting in 32 public health facilities being eligible for selection in the final sample. Sampling 60% of the total health facilities allowed us to achieve our targeted sample size of 576 participants, the unit of analysis in our study

In the second stage, we used a systematic sampling technique to determine the sampling interval for each health facility. To ensure gender and sub-cadre representativeness, healthcare workers were stratified by cadre and qualifications based on each facility's sampling interval. We adapted the multiple indicator cluster survey 6 (MICS6) systematic random selection template, which has been validated and used in previous surveys and studies such as the 2018 MICS, 2019 Gambia demographic and health survey, and 2020 Gambia integrated household survey (27-30). The health facility's weekly or monthly duty roster served as the sampling frame for our study.

Our study included HCWs working in public facilities who were on duty at the time of data collection and gave written consent. We excluded non-Gambian HCWs, as well as those working in private for-profit, non-profit, and faith-based facilities. HCWs in the private sector were excluded due to some management's reluctance to share human resource data needed for probability proportional to size sampling.

Due to the COVID-19 pandemic, HCWs reassigned to COVID-19 duties, on home isolation or quarantine due to infections, were also excluded. Additionally, HCWs on

annual, casual, or sick leave, as well as HCWs on duty but not found on site during data collection, were excluded from our study

Study instrument

We collected relevant information from the respondents using a self-administered questionnaire. To ensure an objective response without ambiguities, we presented simple and precise definitions of the different payment systems as described in the WHO UHC technical brief (31). To avoid disrupting health service delivery, respondents were strongly encouraged to complete the questionnaire in their own time. We designed the instrument based on a previously validated tool (32) and content validated it with researchers who have expertise in PPS. Furthermore, we pre-tested the tool among 20 HCWs in a public health facility, which was subsequently excluded from the final survey.

Statistical analysis

The outcome variable of our study was the preference for PPS, which we grouped into the six most common PPS used for health insurance schemes in LMICs. These PPS were global budget, line-item budget, fee-for-service, capitation, case-based (DRG), and per diem. Our explanatory variables included socio-demographic characteristics of HCWs, such as gender and type of cadre, as well as health facility characteristics, including level of facility and region. We analyzed the following main service areas: primary outpatient services, hospital outpatient services, inpatient services (hospitalization), and referral services. We categorized the service areas based on the lead author's knowledge of the healthcare delivery system in The Gambia and a similar study (32).

Considering the limited PPS studies in Sub-Saharan Africa (32, 33) and the unique three-tier health care delivery system in The Gambia, we hypothesized that female HCWs would be less likely to prefer case-based payment for all service areas, while physicians would prefer fee-for-service as the payment system for all service areas. Additionally, we hypothesized that HCWs in hospitals would prefer case-based payment (DRG) for hospitalization, and those in rural areas would prefer capitation as the payment system for primary and hospital outpatient services, as shown in other studies (34, 35).

We described the demographic and socio-economic characteristics of the respondents, as well as other relevant factors. Furthermore, we used multinomial logistic regression models to estimate HCWs' preferences for the PPS for different service areas, including primary outpatient services, hospital outpatient services, inpatient services (hospitalization), and referral services. We used global budget as the reference PPS category in the models. We performed all statistical analyses using Stata/SE 17.0.

Patient and public involvement

This study did not include patients, and the public was not involved in the conceptualization and finalization of the questionnaire. However, some researchers with healthcare backgrounds who worked in clinical settings in the past supported the pre-test of the questionnaire by providing suggestions for more clarity. Those who were involved in this process were not included in the study. The authors plan to organize a dissemination forum in The Gambia at policy, facility, and community levels to share the key research findings.

Results

Demographic and socio-economic characteristics of HCWs

Table 1 shows the demographic and socio-economic characteristics of the respondents. The majority of the respondents (76.7%) work within urban centres, with female HCW constituting 53.3% of the study population. More than two-thirds of respondents were between 19 – 40 years of age, and 66.4% were married.

The highest level of education attained that was most common among the HCWs was certificate (39.1%) and fewer HCWs in rural areas had university degrees (3.1%) compared to their urban counterparts (25.3%). More than two-thirds of respondents (72.7%) had monthly income of less than GMD 10,000 (US$ 207.77).

Table 1. Demographic and socio-economic characteristics of HCWs

	All (n, %)	Urban (n, %)	Rural (n, %)
Local Government Area	576 (100.0)	442 (76.7)	134 (23.3)
Gender			
Female	303 (53.3)	222 (39.0)	81 (14.2)
Male	266 (46.7)	213 (37.4)	53 (9.3)
Age (in years)			
19 – 29	192 (44.3)	137 (41.8)	55 (52.4)
30 – 40	168 (38.8)	135 (41.2)	33 (31.4)
41 – 51	64 (14.8)	50 (15.2)	14 (13.3)
>51	9 (2.1)	6 (1.8)	3 (2.9)
Marital status			
Never married	173 (30.1)	124 (21.6)	49 (8.5)
Married	381 (66.4)	296 (51.6)	85 (14.8)
Living together, divorced, separated, widow	20 (3.5)	20 (3.5)	0 (0.0)
Level of education			
Certificate	224 (39.1)	155 (27.1)	69 (12.0)
Diploma, Higher National Diploma	186 (32.5)	139 (24.3)	47 (8.2)
Degree (Bachelor's, Master's, PhD)	163 (28.5)	145 (25.3)	18 (3.1)
Monthly income (in GMD)			
<500 – 9,999	404 (72.7)	289 (52.0)	115 (20.7)
10,000 – 19,999	110 (19.8)	95 (17.1)	15 (2.7)
>19,999	42 (7.6)	42 (7.6)	0 (0.0)

United States Dollar 1 (US$) = Gambian Dalasi (GMD) 48.13; Exchange rate (July – August 2020); Local Government Area = distribution of facilities based on region.

Other characteristics of HCWs

Table 2 shows that nurses and midwives formed the largest proportion of the study population (70.4%). About 5.5% of HCW indicated that they were not licensed to practice. More than a third (40.0%) had work experience ranging from less than one to three years.

The majority of HCW indicated that they had no private health insurance coverage (96.9%). When asked whether they were willing to join and pay for NHIS, 82.1% agreed. A small proportion of HCW (15.8%) stated that the health insurance scheme should reimburse individual HCW for health services rendered to the population instead of health facilities. About 87.1% stated that there should be a gatekeeper policy in NHIS.

Table 2. Other descriptive characteristics of HCWs

	All (n, %)	Urban (n, %)	Rural (n, %)
Profession			
Physician	46 (8.0)	45 (7.8)	1 (0.2)
Nurse, midwife	406 (70.5)	303 (52.6)	103 (17.9)
Other cadre	124 (21.5)	94 (16.3)	30 (5.2)
Licensed to practice			
Yes	483 (94.5)	368 (72.0)	115 (22.5)
No	28 (5.5)	23 (4.5)	5 (1.0)
Work experience (in years)			
<1 – 3	229 (40.0)	171 (29.9)	58 (10.1)
4 – 9	175 (30.6)	137 (24.0)	38 (6.6)
>9	168 (29.4)	131 (22.9)	37 (6.5)
Private insurance cover			
Yes	16 (3.1)	14 (2.7)	2 (0.4)
No	504 (96.9)	388 (74.6)	116 (22.3)
Willingness to join and pay for NHIS			
Yes	437 (82.1)	332 (62.4)	105 (19.7)
No	95 (17.9)	77 (14.5)	18 (3.4)
NHIS to reimburse health facility instead of individual HCW			
Yes	470 (84.2)	355 (63.6)	115 (20.6)
No	88 (15.8)	71 (12.7)	17 (3.1)
Gate keeper in NHIS			
Yes	488 (87.1)	369 (65.9)	119 (21.3)
No	72 (12.9)	58 (10.4)	14 (2.5)

HCW preference for payment system associated with primary outpatient services

Table 3 shows HCW working in district hospital or major health centres are 50% less likely to choose line-item budgeting (RRR= 0.5; 95% CI=(0.3,1.0) and fee-for-service (RRR= 0.5; 95% CI=(0.3, 1.0)) compared to those working in hospitals. Furthermore, working in an urban area is associated with 60% less likelihood (RRR= 0.4; 95% CI=(0.2, 0.7)) of choosing case-based payment relative to rural-based HCWs.

Table 3. Results of multinomial logistic regression for primary outpatient services

	Line-item budget		Capitation		Case-based (DRG)		Fee-for-service		Per-diem	
	RRR (95% CI)	P	RRR (95% CI)	P	RRR (95% CI)	P	RRR (95% CI)	P	RRR (95% CI)	P
Gender										
Male (ref)										
Female	1.6 (0.9, 2.7)	0.08	1.0 (0.5, 1.9)	0.94	1.5 (0.8, 2.7)	0.20	1.4 (0.9, 2.2)	0.19	1.4 (0.6, 3.0)	0.45
Professional cadre										
Other cadre (ref)										
Physician	0.8 (0.2, 2.7)	0.71	0.7 (0.2, 2.7)	0.64	2.8 (0.8, 9.7)	0.10	0.7 (0.2, 2.0)	0.46	0.3 (0.1, 2.9)	0.31
Nurse/midwife	1.6 (0.8, 3.1)	0.17	0.8 (0.4, 1.6)	0.50	2.2 (1.0, 5.1)	0.06	1.5 (0.8, 2.6)	0.20	1.1 (0.4, 2.8)	0.86
Facility level										
Hospital (ref)										
Minor H.C	1.1 (0.6, 2.2)	0.67	1.3 (0.6, 2.8)	0.52	1.0 (0.5, 2.3)	0.97	1.3 (0.7, 2.3)	0.36	0.9 (0.3, 2.5)	0.86
Dist. Hos./ M.H.C	0.5 (0.3, 1.0)	**0.05**	0.4 (0.2, 1.0)	0.06	0.9 (0.4, 1.9)	0.82	0.5 (0.3, 1.0)	**0.05**	0.6 (0.2, 1.6)	0.32
Region										
Rural (ref)										
Urban	0.6 0.3, 1.1)	0.10	0.7 (0.3, 1.6)	0.43	0.4 (0.2, 0.7)	**0.01**	0.8 (0.4, 1.4)	0.40	0.7 (0.3, 1.9)	0.53

Global budget = base reference; Ref = reference; RRR = relative risk ratio; CI = confidence interval; P = P-value, significant = **0.05**

Dist. Hos. = district hospital; M.H.C = major health centre

HCW preference for payment system associated with hospital outpatient services

Table 4 shows that being a physician is associated with higher likelihood of choosing line-item budget by almost four times (RRR= 3.9; 95% CI=(1.2, 12.0) and case-based payment by six times (RRR= 6.0; 95% CI=(1.9, 18.7) than other cadres. Nurses or midwives are twice as likely to choose case-based payment compared to other cadres (RRR= 2.0; 95% CI=(1.0, 3.8). Working in a hospital is negatively associated with choosing case-based payment (RRR= 0.3; 95% CI=(0.2, 0.6) than working in district hospital or major health centre. HCWs in urban areas are strongly associated with line-item budget as payment system for hospital outpatient services (RRR= 2.1; 95% CI=(1.0, 4.4) relative to HCW in rural areas.

Table 4. Results of multinomial logistic regression for hospital outpatient services

	Line-item budget		Capitation		Case-based (DRG)		Fee-for-service		Per-diem	
	RRR (95% CI)	P	RRR (95% CI)	P	RRR (95% CI)	P	RRR (95% CI)	P	RRR (95% CI)	P
Gender										
Male (ref)										
Female	1.3 (0.7, 2.3)	0.39	0.9 (0.4, 1.9)	0.78	0.8 (0.5, 1.3)	0.35	1.1 (0.7, 1.8)	0.65	0.6 (0.3, 1.2)	0.14
Professional cadre										
Other cadre (ref)										
Physician	3.9 (1.2, 12.0)	**0.02**	1.4 (0.3, 6.9)	0.68	6.0 (1.9, 18.7)	**<0.01**	1.1 (0.4, 3.6)	0.83	1.6 (0.3, 7.7)	0.57
Nurse/midwife	1.6 (0.8, 3.2)	0.21	1.1 (0.4, 2.6)	0.91	2.0 (1.0, 3.8)	**0.05**	1.2 (0.7, 2.1)	0.52	1.0 (0.4, 2.3)	0.94
Facility level										
Minor H.C (ref)										
Dist. Hos. / M.H.C	1.4 (0.6, 3.0)	0.42	1.0 (0.4, 3.1)	0.94	0.6 (0.3, 1.1)	0.09	0.8 (0.4, 1.4)	0.40	0.9 (0.4, 2.5)	0.90
Hospital	0.9 (0.4, 2.0)	0.87	1.6 (0.6, 4.3)	0.36	0.3 (0.2, 0.6)	**<0.01**	1.0 (0.5, 1.8)	0.96	0.8 (0.3, 2.0)	0.66
Region										
Rural (ref)										
Urban	2.1 (1.0, 4.4)	**0.05**	0.8 (0.3, 1.8)	0.54	1.2 (0.7, 2.2)	0.54	0.8 (0.5, 1.5)	0.54	1.8 (0.7, 4.7)	0.26

Global budget = base reference; Ref = reference; RRR = relative risk ratio; CI = confidence interval; P = P-value, significant = **0.05**

Dist. Hos. = district hospital; M.H.C = major health centre

HCW preference for payment system associated with inpatient services (hospitalization)

Table 5 shows that being a female is negatively associated with per diem as preferred choice of payment for hospitalization by sixty percent (RRR= 0.4; 95% CI=(0.2, 0.8) relative to being a male. Similarly, working in a district hospital or major health centre is negatively associated with the choice of capitation by seventy percent (RRR= 0.3; 95% CI=(0.1, 0.9) compared to working in a hospital. Urban-based HCWs are significantly associated with a less likelihood of choosing capitation by seventy percent (RRR= 0.3; 95% CI=(0.1, 0.6) relative to rural-based dwellers.

Table 5. Results of multinomial logistic regression for inpatient services (hospitalization)

	Line-item budget		Capitation		Case-based (DRG)		Fee-for-service		Per-diem	
	RRR (95% CI)	P	RRR (95% CI)	P	RRR (95% CI)	P	RRR (95% CI)	P	RRR (95% CI)	P
Gender										
Male (ref)										
Female	1.4 (0.7, 2.8)	0.31	0.7 (0.3, 1.5)	0.35	0.8 (0.5, 1.3)	0.47	1.2 (0.7, 2.0)	0.57	0.4 (0.2, 0.8)	**0.01**
Professional cadre										
Other cadre (ref)										
Physician	0.4 (0.1, 1.9)	0.24	2.5 (0.6, 10.6)	0.21	1.4 (0.6, 3.7)	0.46	0.6 (0.2, 1.9)	0.36	1.0 (0.2, 4.4)	0.96
Nurse/midwife	0.8 (0.4, 1.7)	0.64	1.4 (0.6, 3.6)	0.47	1.3 (0.7, 2.3)	0.38	1.4 (0.7, 2.7)	0.30	1.3 (0.6, 2.9)	0.53
Facility level										
Minor H.C (ref)										
Dist. Hos. / M.H.C	0.4 (0.2, 1.0)	0.06	0.3 (0.1, 0.9)	**0.03**	0.6 (0.3, 1.1)	0.09	0.6 (0.3, 1.2)	0.17	0.7 (0.3, 1.5)	0.34
Hospital	0.6 (0.3, 1.2)	0.15	0.7 (0.3, 1.8)	0.46	0.7 (0.4, 1.2)	0.17	0.9 (0.4, 1.7)	0.68	0.5 (0.2, 1.1)	0.12
Region										
Rural (ref)										
Urban	0.8 (0.4, 1.7)	0.51	0.3 (0.1, 0.6)	**<0.01**	1.0 (0.5, 1.8)	0.90	0.8 (0.4, 1.5)	0.45	1.0 (0.5, 2.3)	0.95

Global budget = base reference; Ref = reference; RRR = relative risk ratio; CI = confidence interval; P = P-value, significant = **0.05**

Dist. Hos. = district hospital; M.H.C = major health centre

HCW preference for payment system associated with referral services

Table 6 shows evidence for association between being a female HCW and a preference for fee-for-service as payment system for referrals 1.7 (RRR= 1.7; 95% CI=(1.1, 2.7) compared to being a male. Physicians are more than three times as strongly associated with choosing case-based as payment vehicle for referrals (RRR= 3.3; 95% CI=(1.1, 10.1) compared to other cadres. HCWs in district hospitals or major health centres are negatively associated with capitation (RRR= 0.4; 95% CI=(0.2, 0.9) and per-diem (RRR= 0.4; 95% CI=(0.2, 1.0) compared to HCWs in hospitals. Furthermore, HCWs in urban areas are associated with less likelihood to choose capitation and case-based by sixty percent (RRR= 0.4; 95% CI=(0.2, 0.8) than HCW in rural areas. In addition, they are negatively associated with per-diem as payment vehicle for referral services by fifty percent (RRR= 0.5; 95% CI=(0.2, 1.0). All these associations are significant, with the data providing support for rejecting the null hypothesis.

Table 6. Results of multinomial logistic regression for referral services

	Line-item-budget		Capitation		Case-based (DRG)		Fee-for-service		Per-diem	
	RRR (95% CI)	P	RRR (95% CI)	P	RRR (95% CI)	P	RRR (95% CI)	P	RRR (95% CI)	P
Gender										
Male (ref)										
Female	1.1 (0.6, 2.1)	0.76	1.0 (0.6, 1.8)	0.96	0.9 (0.5, 1.7)	0.86	1.7 (1.1, 2.7)	**0.03**	1.4 (0.7, 2.8)	0.30
Professional cadre										
Other cadre (ref)										
Physician	0.7 (0.2, 2.6)	0.56	0.4 (0.1, 1.6)	0.21	3.3 (1.1, 10.1)	**0.04**	1.2 (0.4, 3.3)	0.77	0.3 (0.1, 2.8)	0.29
Nurse/midwife	0.9 (0.4, 1.8)	0.70	0.6 (0.3, 1.2)	0.13	1.2 (0.5, 2.5)	0.72	1.5 (0.8, 2.7)	0.22	1.2 (0.5, 2.8)	0.66
Facility level										
Minor H.C (ref)		0.24								
Dist. Hos. / M.H.C	0.6 (0.2, 1.4)		0.4 (0.2, 0.9)	**0.03**	1.5 (0.7, 3.5)	0.31	0.7 (0.4, 1.3)	0.24	0.4 (0.2, 1.0)	**0.05**
Hospital	1.6 (0.8, 3.5)	0.21	1.3 (0.6, 2.5)	0.50	1.8 (0.8, 4.2)	0.16	0.9 (0.5, 1.7)	0.84	1.0 (0.4, 2.1)	0.92
Region										
Rural (ref)										
Urban	0.6 (0.3, 1.3)	0.19	0.4 (0.2, 0.8)	**0.01**	0.4 (0.2, 0.8)	**0.01**	1.1 (0.6, 2.0)	0.80	0.5 (0.2, 1.0)	**0.05**

Global budget = base reference; Ref = reference; RRR = relative risk ratio; CI = confidence interval; P = P-value, significant = **0.05**

Dist. Hos. = district hospital; M.H.C = major health centre.

Discussion

Our study aimed to analyze the associations between HCW characteristics and their preference for PPS in major service areas. Our findings revealed strong associations between HCW gender, cadre, and their preference for PPS. Furthermore, we observed strong associations between health facility characteristics, including facility level and region, and HCW preference for PPS across major service areas

Our study did not find any significant negative association between females and case-based payment. However, we observed a strong negative association between females and per-diem as a preferred payment system for hospitalization relative to males, which contradicts our initial hypothesis. This finding contrasts with other studies that have reported fee-for-service as being poorly rated compared to other payment systems (36). It is worth noting that per-diem reimbursement for services provided under health insurance schemes is uncommon in LMICs. In The Gambia, per-diem reimbursement is mainly applicable to domestic and international travel, workshops, meetings, and training. Female HCWs' low preference for per-diem as a payment system in the NHIS in The Gambia may be due to their perception of low per-diem rates in neighboring countries like Senegal. Our findings also indicated a positive association between females and fee-for-service payment for referral services compared to males. This contrasts with studies conducted in Nigeria and Ghana, which found that HCWs least preferred fee-for-service reimbursement compared to other payment systems (32, 33). We did not find any significant association between gender and payment systems for all other service areas.

Contrary to our hypothesis, we observed high variation in physicians' preference for fee-for-service, which contrasts with its popularity in many countries, including LMICs (37-39). Our findings are consistent with studies conducted in NHIS-implemented countries in SSA, which reported that HCWs rated fee-for-service less favorably than other payment systems (32, 36). The negative association between physicians and fee-for-service in our study could be attributed to Gambia's open health system. In the public sector, doctors may operate clinics or work part-time in private health facilities, pharmacies, and drug stores. HCWs in the public sector receive monthly salaries via traditional line-item budgets, while major private clinics pay doctors fee-for-service. However, the fee-for-service in the private sector is unstructured, and the unit price is influenced by many factors, such as working on weekends, nights, or public holidays. Consequently, doctors' incomes tend to increase when they work during these periods, making their income unpredictable. Some physicians may have experienced the unpredictable nature of fee-for-service in the private sector, which may have influenced their decision to prefer other payment systems. Our questionnaire responses from physicians were compatible with a positive and significant association with line-item budgets or case-based payment for hospital outpatient services and case-based payment for referral services.

Several contextual factors may explain these preferences. Firstly, in The Gambia, case-based payment is similar to monthly salaries paid via line-item budgets because HCWs receive a fixed amount per case, per month regardless of costs incurred (40). These payment systems offer doctors predictability in monthly income, which contrasts with fee-for-service. Conversely, a study conducted in Kenya

reported mixed results, where HCWs perceived both capitation and fee-for-service as good sources of revenue for health providers (35).

Our study found a negative association between HCWs in hospitals and case-based payment for hospitalization, contradicting our hypothesis. In some countries implementing NHIS in Sub-Saharan Africa (SSA), case-based payment or modified case-based payment systems such as Ghana's DRG system are used to pay for services rendered during hospitalization. Moreover, numerous studies have documented that HCWs prefer payment systems that offer higher payment rates (43-45). Given that hospitals provide more specialist services, including procedures that could generate higher revenue for both the institution and individuals, it is surprising that this was not the case in our study. A plausible explanation for our finding may be that HCWs in hospitals are risk-averse and therefore prefer payment systems that are more familiar and predictable.

Our study did not find any significant association between HCWs in rural areas and their preference for capitation as a payment system for primary and hospital outpatient services compared to urban-based HCWs. This finding contradicts our hypothesis, which was based on the fact that in rural Gambia, the Ministry of Health allocates a proportion of the population to each facility to serve depending on location, level, and scope of the facility. These sub-populations are referred to as catchment area populations (CAP). All rural-based public health facilities, including hospitals, are part of the performance-based financing arrangements, whereby agreed services they provide to their respective CAP are remunerated following verifications. Each facility generates a costed quarterly business plan to procure medicines, supplies, equipment, and other needs of the facility with consideration to the health needs of the CAP. The remuneration that health facilities receive following

verified submission of their business plan is similar to capitation, and as such, we expected that HCWs in rural areas would choose this payment method relative to others. Our findings suggests that other factors, besides performance-based financing arrangements, may influence healthcare worker (HCW) preferences for payment systems in rural areas. Future studies are needed to identify these factors and explore the reasons for the lack of a strong association between rural-based HCWs and their preference for capitation as a payment system. Additionally, the NHIA should consider the context-specific factors that influence HCW preferences for payment systems. For example, the unpredictable nature of fee-for-service in the private sector may influence HCW preferences for other payment systems. Furthermore, the risk-averse nature of HCW in hospitals may lead them to prefer payment systems that are more familiar and predictable.

The selection of PPS should consider HCW preferences to enhance provider performance and accountability, while also aligning with UHC goals, including utilization relative to needs, financial protection, and equity (46). Country-specific factors such as macroeconomic situation, fiscal space for health, and PPS utilization as a blended or standalone method should also be taken into account. For example, in Ghana, the National Health Insurance Authority (NHIA) customized Diagnosis-Related Group (DRG) payments as part of its cost containment strategies (47). Therefore, periodic reviews of the chosen payment system should be conducted to assess the effects of the incentives on HCW performance and accountability, as well as their impact on health system priorities and goals (11).

Our decision to exclude non-Gambian HCW was based on our experience during the pre-test, which showed difficulties in determining their work permission and license to practice in The Gambia. Additionally, we excluded HCWs who were on COVID-19 duties, home isolation, or quarantine due to the regulations set by the government for COVID-19 prevention and control. It is worth noting that their exclusion did not impact our findings.

Strengths and limitations

This nationally representative study has several strengths that enhance its robustness and reliability. First, the study design allowed for all public health facilities, except for basic facilities, to have an equal chance of being included, which improves the generalizability of the findings. Second, the use of an intra-strata sampling technique, such as probability proportional to size, provided equal representation for different cadres of healthcare workers, including those with different qualifications, such as registered nurse, state enrolled nurse, and community health nurse.

However, the study also had some limitations that need to be taken into account when interpreting the findings. Firstly, the study only focused on public health facilities, and private facilities were excluded due to their reluctance to share human resource data for sampling. Although it is acknowledged that many private sector HCWs work in the public sector, it would have been beneficial to include private sector HCWs for a more comprehensive view. Secondly, the low response rate from hospital administrators meant that their preferences were not included in the study. This is a potential limitation, as hospital administrators may be engaged by the NHIA during selection of PPS and their preferences could have enriched the findings.

Finally, despite our efforts to explain the different PPS to the participants by providing definitions on the questionnaire, the majority of the HCWs were not practically familiar with them, which may have limited their understanding of the implications of choosing different PPS.

Despite these limitations, this study provides valuable insights into the preferences of public sector HCWs regarding payment systems in the Gambia, which can inform the development and implementation of the NHIS. Future studies may benefit from including all HCWs and hospital administrators, for instance by applying interviews or qualitative methods, as well as exploring ways to enhance the understanding of different PPS among HCWs.

Conclusions

Our study provides valuable insights into HCW preferences for payment systems in The Gambia, indicating the need for a blended approach suitable for different health services and providers. For example, case-based payment or bundled payment methods may be appropriate for hospitalization services, while capitation, and fee-for-service used for some priority services may be appropriate for primary care services. In addition, performance- based financing may also be appropriate for primary care services particularly services provided at village health services level. As The Gambia prepares to implement the NHIS, our findings can guide policy-makers at the MoH and NHIA in selecting the right mix of payment systems to support progress towards universal health coverage. By involving HCW in the process and considering context-specific factors as reported in other studies, the NHIA can ensure that the chosen payment systems are politically acceptable, feasible, and sustainable for all stakeholders involved (32, 33).

List of abbreviations

NHIS- National Health Insurance Scheme

PPS- Provider payment systems

HCW- health care workers

UHC- Universal health coverage

LMIC- Low- and middle- income countries

LIC- Low income countries

SDG- Sustainable development goals

HRH- Human resources for health

MCNHRP- Maternal and child nutrition and health results project

QoC- Quality of care

NHIA- National health insurance agency

W1 R- Western 1 region

W2 R- Western 2 region

NBWR- North bank west region

NBER- North bank east region

LRR- Lower river region

CRR- Central river region

URR- Upper river region

MICS6- Multiple indicator cluster survey 6

DRG- Diagnosis related groups

SSA- Sub Saharan Africa

CAP- Catchment area population

MoFEA- Ministry of Finance and Economic Affairs

Declarations

The authors have nothing to declare

Ethics approval and consent to participate

This study received ethical clearance from The Gambia Government/Medical Research Council Gambia Joint Ethics Committee (R018026v4.1), and Norwegian Centre for Research Data (562557). Informed consent to participate in the study was obtained from all participants through a signed informed consent form approved by The Gambia Government/Medical Research Council Gambia Joint Ethics Committee. All experiments were performed in accordance with relevant guidelines and regulations.

Consent for publication

Not applicable.

Availability of data and materials

The dataset used and/or analyzed during the current study are available from the corresponding author on reasonable request.

Competing interests

The authors declare that they have no competing interests.

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Author's contributions

HN, PGCI, UG, LC and KRW conceptualized and design the study. HN collected the data. HN, PGCI, UG, LC and KRW analyzed and interpreted the data. HN, PGCI, UG, LC and KRW drafted the first manuscript, critically revised the manuscript, and approved the final manuscript for submission.

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g) Fieldwork team in The Gambia (enumerators, mappers, and database managers).

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III

Title: Procedural Fairness in Decision- Making for Financing a National Health Insurance Scheme: A Case Study from The Gambia

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Conception or design of the work	Hassan Njie, Elin Dale, Unni Gopinathan
Data collection	Hassan Njie
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Drafting the article	Hassan Njie, Unni Gopinathan
Critical revision of the article	Hassan Njie, Elin Dale, Unni Gopinathan
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4. Reflexivity statement

The lead author (HN) is a health financing specialist from the low-income country where the health policy question was studied; this ensured that interpretation of findings from document review and interview data was led by an investigator with in-depth understanding of the country's context and social and political conditions. He has worked in the Ministry of Health and is currently a PhD student at the University of Oslo. His closeness to the decision-making processes analyses necessitated the involvement of a bigger research team where the analysis could benefit from outsider views with relevant expertise on the subject matter. The second author (ED) is a female health financing specialist from a lower-middle income country, who currently with the third author (UG) is leading work on defining key principles and criteria for procedural fairness in health financing, which have been applied to this country case study. The balanced composition of the research team in terms of regional representation, relevant expertise and gender facilitated a balanced interpretation of the data that has involved seeking alternative explanations.

5.

a) Making fair decisions on health financing in The Gambia
b) health financing, universal health coverage, procedural fairness, equity, participation, accountability

6.

a) Tied to democratic transition and broader governance improvements in The Gambia, the executive and the technocrats driving The Gambia's NHIS process strived for greater participation and inclusiveness than what had been common in the past.
b) Expansive effort is required to secure representation of diverse voices; in the absence of meaningful opportunities for inclusive participation, the importance of meeting the information domain of procedural fairness become pressing.
c) Shortcomings in the process should be viewed in light of The Gambia undergoing a democratic transition where institutions needed to meet procedural fairness criteria are expected to improve over time and play an increasingly important role in future adjustments of the country's NHIS.

7.

a) Abstract: 300
b) Full article: 6310

8. Ethical approval for this study, conducted as part of a larger PhD project, was received from the Gambia Government/ Medical Research Council Gambia joint ethics committee (R018026v4.1).

9. Conflict of interest statement

No conflict of interest to declare

Abstract

In 2021, The Gambia passed its National Health Insurance (NHI) Bill. The path to universal health coverage (UHC) involves difficult policy choices and fair processes are critical for building trust and legitimacy. We examined the decision- making processes shaping the financing and contributions to the scheme with respect to key criteria for procedural fairness. Policy and strategic documents about The Gambia's UHC reforms were reviewed to identify key policy choices that were subject to deliberation. After purposive and snowballing techniques, we interviewed policy and decision-makers, technocrats, lawmakers, hospital chief executive officers, private sector, and civil society organizations (CSO) including key CSOs left out of the NHI discussions. Ministerial budget discussions and virtual proceedings of the National Assembly's debate on the NHI Bill were also observed. Although the Bill was subject to public scrutiny with Gambians encouraged to submit views to the National Assembly's committee, the procedures for doing so was not explicit, and it was difficult to ascertain if all inputs were accorded respect. Despite the availability of funds to undertake countrywide public engagement, the public consultation was mostly limited to government institutions, few trade unions, and a handful of urban-based CSOs. Overload of the National Assembly's legislative schedule and lack of National Assembly committee quorum were cited as reasons for not engaging in countrywide consultations. CSOs representing key constituents and who had proposals for broadening the exemption criteria to include more vulnerable groups felt excluded from the process. In conclusion, despite strong intent from the Executive and National Assembly to make decision-making transparent, participatory, and inclusive, the process fell short on several important aspects. Learning from this experience to improve procedural fairness of decision-making

about and implementation of NHI in the future can help promote inclusiveness, ownership and sustainability of the NHI in The Gambia.

Introduction

In a significant move towards healthcare financing reform, The Gambia's lawmakers passed the National Health Insurance (NHI) Act in November 2021, after nearly a decade of discussions on the matter (Gambia Government, 2021). The NHI Act established a mandatory national health insurance scheme (NHIS) that aims to enhance access to affordable and quality healthcare services for all members through a basic benefit package. However, vulnerable populations will be exempted from contributing to the scheme, and the specific criteria for identifying such groups will be defined by sub-laws.

Intensive deliberations about the NHIS have taken place in a new political climate in The Gambia following the 2016 presidential election won by the coalition opposition candidate. Since then, The Gambia has seen an increase in respect for human rights and fundamental freedoms, such as greater freedom of expression (Freedom House, 2022, Nabaneh, 2017). As a result, citizens are increasingly expressing their dissatisfaction with poor health services through social and print media. (Gambian Women's Lives Matter, 2022, What's On - Gambia, 2022, Jefang, 2018).

The possibility of introducing a national insurance scheme in The Gambia has been a topic of discussion for several years. Previous studies, including one commissioned by the former government, have explored the feasibility of implementing such a scheme (Shepard and Zeng, 2011, Njie, 2015). The 2021 Presidential elections in The Gambia also played a significant role in placing national health insurance scheme at the top of the policy agenda. During the election campaign, all presidential candidates highlighted health as a priority in their election

manifestos and promised to address the challenges facing the health sector (Cham, 2021, Touray, 2019).

The Ministry of Finance and Economic Affairs (MoFEA) also played a significant role in promoting the idea of a publicly funded scheme. While the early discussions were initiated by the MoH, the MoFEA elevated it to a top priority on the government's policy agenda and increased budget allocations to health over time (World Health Organization, 2022, Ministry of Finance and Economic Affairs, 2022). In short, a publicly financed health insurance scheme had a widespread support in The Gambia (Njie et al., 2022). However, experience from other settings also shows that determining specific revenue sources to finance the scheme, including the extent to which the scheme is financed through general taxes as opposed to contributions, can involve confrontation and disagreements between stakeholders with conflicting values and interests (Debie et al., 2022, Daniels, 2007).

To promote trust and acceptance of decisions, especially in cases where conflicting values, difficult trade-offs, and long-lasting consequences are involved, attention to procedural fairness in decision-making is necessary. This requires equal opportunities for all stakeholders to participate and voice their views, mutual respect between decision-makers and participants, and accessible justification for decisions (Daniels and Sabin, 2002, Weale et al., 2016, Leventhal, 1980, Bächtiger et al., 2018b). The importance of procedural fairness is particularly compelling in cases that extend beyond electoral cycles, as evidenced by various studies (World Bank, forthcoming, Solomon and Abelson, 2012, OECD, 2020).

The Accountability for Reasonableness (A4R) framework has significantly advanced research on procedural fairness in health financing, particularly in examining health benefit package decisions (Byskov et al., 2014, Baltussen et al.,

2013, Martin et al., 2002). However, less attention has been given to procedural fairness in revenue mobilization and pooling. The A4R framework proposes four conditions that must be met to ensure procedural fairness for priority-setting decisions: relevance, publicity, revisability, and enforcement. Evaluations of the A4R framework suggest the need to re-evaluate certain criteria or broaden its focus, such as by considering the role of public participation and mitigating power differences to ensure inclusivity (Friedman, 2008, Gibson et al., 2005, Kapiriri et al., 2009).

Against this background, the decision-making processes leading up to the enactment of NHI Act is a relevant case for examining procedural fairness. Decisions to establish national health insurance schemes have wide-ranging implications for stakeholders including existing insured population groups (Mathauer et al., 2019). Moreover, policy options often involve conflicting values, with the tensions between solidarity and freedom of choice often at the forefront (González et al., 2021).

Achieving widespread acceptance and support for the final scheme design is essential (Agier et al., 2016), and procedural fairness plays a crucial role in realizing these goals. In this context, the primary objective of our study was to explore how principles and criteria of procedural fairness were reflected in the decision-making processes that shaped key decisions on revenue sources for the national health insurance scheme in The Gambia.

Methods

Study design

This is a qualitative case study that focuses on the decision-making process in The Gambia regarding the enactment of the NHI Bill in 2021. More specifically, the study examines the events and actors that shaped the determination of revenue sources for the scheme, with a particular emphasis on procedural fairness.

Study setting

The Gambia has a population of approximately 2.5 million people, with the majority residing in urban areas. The health sector is primarily publicly financed and delivered, with limited private sector involvement (Sine et al., 2019). Between July 1994 and December 2016, Gambians experienced 22 years of turbulent political climate under autocratic rule (Ifeanyi et al., 2020). Since 2017, the country is progressively transitioning to a democracy.

Theoretical perspective

This case study utilizes two theoretical perspectives to offer a thorough analysis of the events in question. The first perspective is the policy-cycle for health sector reform developed by Roberts et al. (2008), which identifies six crucial steps for successful health policy reform: problem definition, diagnosis, policy development, political decision, implementation, and evaluation (Roberts et al., 2008).

This study focuses on the process between diagnosis and the political decision to establish a national health insurance scheme. In The Gambia, the diagnosis stage of the policy-cycle for health sector reform identified NHI as the primary solution for improving access to health services and safeguarding against financial risks, particularly for vulnerable populations. The political decision phase

involved the National Assembly's adoption of the NHI Act 2021, following the submission of the NHI Bill by the executive branch and its examination by the legislative body.

The second theoretical perspective utilized in this case study is based on principles and criteria that define the fundamental components of procedural fairness. These criteria are classified into three domains of information, voice, and oversight, as presented in figure 1. The identification of these criteria was informed by a scoping review of theoretical and empirical literature from various fields, such as deliberative democracy, public finance, natural resource management, social and political psychology, and health financing (Dale et al., 2022). The development of these criteria was also informed by international expert consultations (World Bank, forthcoming).

The implementation of these criteria is guided by three overarching principles: equality, impartiality, and consistency over time. The principle of equality ensures that all stakeholders have equal representation and access to information, and that their views are given equal consideration regardless of social status, gender, ethnicity, religion, or power (Beauvais, 2018, Barasa et al., 2016, Bächtiger et al., 2018a). The principle of impartiality ensures that decision-makers produce unbiased assessments and that decisions are not unduly influenced by stakeholders with vested interests in the outcome (Leventhal, 1980, Murphy, 2010). Lastly, the principle of consistency over time requires decision-making procedures to be stable and predictable, especially in the short term, to foster trust and acceptance among stakeholders (Leventhal, 1980). Any modifications to decision-making procedures should be clarified and justified through an open and inclusive process.

Together, these principles and criteria form a framework for procedural fairness that extends beyond the A4R framework. We applied this extended framework for procedural fairness because A4R has been deemed to give insufficient attention to participation and inclusiveness (Friedman, 2008, Gibson et al., 2005, Kapiriri et al., 2009), which different areas of the literature suggest are important for people's perceptions of fairness and legitimacy (Dryzek and Niemeyer, 2008, Mansbridge et al., 2012, Begg, 2018, Weale et al., 2016, Tugendhaft et al., 2021).

Data collection: document review and interview recruitment

The authors conducted a review of three key documents related to the Gambia's UHC reforms prior to collecting interview data. These documents were The Gambia health financing policy 2017 – 2030, which outlines the pathway for resourcing UHC agenda; the Gambia national health financing strategic plan 2019 – 2024; and the NHI Bill, 2020. This approach provides a solid foundation for subsequent analysis of the interview data.

The first stage our sampling strategy involved mapping key stakeholders from public, private, local government, CSOs, pressure groups, media and academia who have a stake in the NHIS policy. Purposive sampling was then used to select participants from the public and private sectors who had a detailed and in-depth understanding of the NHIS policy processes. To reflect the centralized nature of governance and administration in The Gambia, this study conducted interviews with urban- based participants who participated in or otherwise were close to national health insurance scheme policymaking, budget negotiations and debates on the Bill by lawmakers. These participants included policy makers, legislators, technocrats, hospital chief executive officers, and members of the private sector.

To identify civil society actors, the authors utilized the registry of all CSOs registered with The Association of Non-Governmental Organizations in the Gambia (TANGO) and mapped twelve CSOs operating in the health sector. In order to ensure a balanced representation of perspectives and experiences with the national health insurance scheme decision-making process, we also invited key CSOs that were left out of the national health insurance scheme policy deliberations. The lead author conducted a total of 16 semi-structured interviews and two focus group discussions (FGD) using an interview guide to explore how each of the principles and criteria for procedural fairness were reflected in the decision-making process. Two of the mapped CSOs did not participate in the FGD, and a representative of academia was unable to grant an interview due to unforeseen circumstances.

The lead author also supplemented the interview data with observations of ministerial budget discussions and virtual proceedings of the National Assembly's debate on the NHIS Bill. All interviews and focus group discussions were audio recorded, and the recordings were transcribed and de-identified to protect the confidentiality of the interviewees.

Data analysis: deductive and inductive reasoning

An iterative approach to analytical coding and interpretation guided by deductive and inductive reasoning to identify key themes was used (Yin, 2015). We applied deductive reasoning by using the key criteria from the procedural fairness framework and associated domains to understand the fairness of the decision-making process leading to the NHIS Act. To analyze and interpret the qualitative data, we compared the experiences and perspectives expressed in the interviews to the procedural fairness standards represented by these criteria. We used the domains as a priori defined framework to organize the main findings. Finally, within

each domain, inductive reasoning was applied to interpret the coded text fragments and identify key themes explaining the challenges and enablers to implementing the fair-process criteria (Yin, 2015).

Results

Firstly, we present a descriptive section that defines the sequence of events leading to the enactment of the NHI Act and their temporal relationship. Following this, we analyze the decision-making process using the three domains of procedural fairness - information, voice, and oversight - and identify the key factors that influenced each of these domains during the decision-making process.

Timeline and key events during policy development and political decision-making

Analysis of the NHI Act, 2021 decision-making process found that the problem definition and diagnosis had been ongoing for years but gained momentum after the incumbent president's inauguration.

The starting point for our analysis was in 2019, when a steering committee was established by the Minister of MoFEA to draft the NHIS Bill, with representatives from the public and private sectors. The drafting team prioritized identifying revenue sources for the scheme, including tobacco and telecommunication levies. These were reflected in a Cabinet paper jointly produced by the MoH and MoFEA, leading to the publication of the NHI Bill by the Ministry of Justice in the Gazette in 2019.

The NHI Bill, 2020 was presented to the National Assembly in December 2020. It was referred to a joint committee of the National Assembly consisting of members from the Health, Public Accounts, and Public Enterprise committees, providing more opportunities for public participation. The committee had extensive powers, including summoning stakeholders to provide written position papers and attend in-person hearings. However, a lawmaker emphasized the importance of upholding democratic ideals, “we want to be democratic and we want to be liberal.

We can impose our will but we don't want to do that as far as our committee is concern. We always consult with them".

The committee invited ministries, departments, and agencies, private health insurance companies, and civil society organizations (CSOs) to provide input for the Bill. A lawmaker interviewed recounted, "we had an engagement, a retreat, where we invited civil society like the union, there were of course the ministries, agencies, departments that are relevant as far as the NHI bill is concerned".

However, the umbrella body of non-governmental organizations (including CSOs), TANGO, was not formally invited to identify stakeholders for the deliberations. After completing their deliberations, the joint committee presented their report to all members of the National Assembly. The report was adopted, and the NHI Bill was subsequently enacted into an Act in November 2021.

Information: Accuracy of information, transparency and reason-giving

Limited public availability of documentation on proceedings render the process somewhat short on transparency and reason-giving

The NHI Bill underwent thorough scrutiny from different stakeholders, including private health insurance companies. The representative of these companies recounted "it was very consultative as far as the private sector participants in the steering committee are concerned". The approved Act was made publicly available through various channels such as the government's official publication medium, the Gazette, National Printing and Publishing Corporation, and National Assembly's website. However, the edited version of the Bill and minutes of the stakeholder engagements were not disclosed to the public.

Although the proceedings of the National Assembly were open to the public and broadcasted live by various media outlets, concerns about transparency arose

due to the lack of publicly available documents regarding the edited version of the Bill and stakeholder engagements. Nevertheless, citizens had the opportunity to follow proceedings and contact their representatives for input.

A broad evidence base and cross-country learning informed the development of the Bill

All participants involved in the drafting team affirmed that evidence-based decision-making was used to some extent The evidence included expert opinions, local evidence such as public expenditure reviews, national health accounts, health financing policy and strategy, and the national development plan (Minsitry of Finance and Economic Affairs, 2018). Local evidence was emphasized by all participants, including informants from the policy analysis of the MoH “all these evidence [local] were put together and discussed as a sector with stakeholders that matter in this policy formulation, and we realized this is something that definitely needs to be addressed”.

While the use of international evidence was limited, Ghana's experience with the NHIS implementation was an important source of evidence, and the decision to use tobacco and telecommunication levies for NHIS was first proposed in Ghana during the drafting team's visit.

Mutual exchange and reason-giving process was limited to ministries and remained close to the public

The Bill outlined several revenue sources for the scheme, which were extensively discussed among stakeholders after their return to The Gambia. Our informants reported instances of disagreement, trade-offs, and consensus-building during these discussions. However, evidence of the deliberations and consensus on contentious issues including internal documents were not accessible to the public.

According to our informants who were privy to cabinet discussions on the NHI Bill, the MoH and MoFEA jointly proposed tobacco and telecommunication levies as revenue sources for the scheme. On the one hand, MoH had previously advocated for all proceeds from the tobacco tax to be remitted to the health sector since the health consequences arising from tobacco consumption are managed by the health sector. MoH's position was recounted by a senior decision-maker, "so from the side of the MoH, it was a proposal to increase or to tap 100% of the tobacco revenue but this was reverse to 50% and later reversed again". On the other hand, the MoFEA argued that some proportions of the tobacco levy should be allocated to other sectors. Cabinet ultimately allocated 25 percentage points of all taxes on tobacco products to finance the scheme and the National Assembly did not contest this proposal during legislative discussion of the Bill.

Initially, Cabinet rejected the proposal to allocate a share of the taxes levied on telecommunication services to the scheme due to objection from the Ministry of Information and Communication Infrastructure, which argued that the ICT industry was highly taxed, and any additional tax imposed on the sector would be passed on to consumers. Nevertheless, the National Assembly approved the allocation of 5 percentage points of taxes levied on telecommunication services and 2.5 percentage points of all revenue generated from the gateway monitoring system to finance the scheme.

The Executive also proposed that all injury and compensation funds managed by Social Security and Housing Finance Corporation (SSHFC) be allocated to the NHI Fund. SSHFC objected, stating that civil servants do not contribute to the fund. After submitting a position paper, an agreement was reached with the National Assembly committee to allocate 30% of the injury compensation fund to the NHIS. A

technocrat from the Ministry of Health (MoH) who witnessed the deliberation shared this account. “when they presented their proposal and they were able to adequately justify it, all the parties agreed to it. So there was a consensus at the end of the day to let go of the pension funds for now and tap into injury compensation funds, and that has been unanimously agreed to by both the National Assembly and MoH”.

While our analysis revealed evidence of mutual exchange, deliberation, and consensus building, we were unable to access or obtain internal documents that could inform our assessment of the reason given.

The joint committee overseeing the process relied on deliberation and consensus-building

According to a member of the National Assembly’s committee, all the relevant stakeholders were engaged. He recounted “well I don’t think they will stand there and say they were not consulted. Almost, all that came to our mind, unless we have forgotten were invited. Am yet to hear a stakeholder, any stakeholder who is claiming that they have not been consulted”. During a follow-up discussion, the member clarified his earlier assertion that the committee had the powers of a high court, explaining that the committee had chosen not to use their full powers in this case. This decision, he argued, indicated that the committee preferred a collaborative and consultative approach to the legislative process.

It is concerning, however, that there was little clarity or documentation regarding how rejected position papers or opinions were managed by the National Assembly committee. This could raise questions about the transparency and fairness of the legislative process as some of our informants do not have a clear understanding of how their input or position papers were considered and evaluated.

Voice: Participation and inclusiveness

Mechanisms for stakeholder participation reflected an intent to make the legislative process more inclusive and participatory than was previously common

The importance of involving multiple stakeholders in the policy-making process for the national health insurance scheme was acknowledged by all participants in the study. An informant who was involved in the policy formulation also shared her experience “I can say it is inclusive because when we include the private sector, and also looking at the involvement of the civil society and other ministries, departments and agencies and the public through the media. At least they have an idea of, what the government is coming up with”.

However, certain civil society representatives contended that some CSOs were invited based on their prior working relationship with the MoH, which they believed raised questions about the transparency and inclusiveness of the process. One of these CSO representatives echoed this concern “some CSOs were invited to take part in the discussions but that was on an individual basis based on their working relationship with the MoH. Approaching the civil society as a group is how we operate, we were not part of the process. That is what happened”. In addition, some marginalized groups, such as the Network of Farmers Association, believed they were unfairly excluded and argued that they could have submitted proposals to improve the equity impact of the scheme had they been given the opportunity to participate. “It is very important that when you talk about any insurance, health is a cross cutting issue, it does not have a boundary. So as farmer organizations at grass root level, I think we have a very significant role to be part of this process and to be

involve, so that we can also advocate, sensitize and involve our farmers in the scheme".

Invited stakeholders treated as passive recipient of information rather than agents in deliberative process characterized by mutual respect

Some stakeholders expressed uncertainty about whether their inputs or position papers were incorporated into the final NHI Bill. One interviewee, for instance, stated "considering the people that needs it [NHIS] most, also considering the people that live far in the hard-to-reach areas. I think I was very concerned about having those people put onboard and it was noted. But then since I didn't have the opportunity to see the document, the reviewed document and what the inputs, the recommendations that were made, whether it was inputted or not like in the final document, I cannot say for sure that it was added, or it is included in the final document [Bill]. Still now, I didn't see the final document [NHIS Act]". While all participants acknowledged that there were multiple consultations, some argued that they did not facilitate genuine deliberations. Several individuals who participated in these engagements reported that they were treated as passive recipients of information rather than actively engaged. A hospital administrator who was engaged also expressed this sentiment: "well I can speak for myself, we were passively, I was passively involved! That was the only interaction. I further went on to read about the document [Bill] at my own private time and have my reservations. And I don't think those at the health facility level or even the regional health directorates were that much involved".

During the legislative phase, the National Assembly committee enabled stakeholder participation through consultations and written submissions. According to a lawmaker, the process of stakeholder engagement followed standard government

procedure, although the public scrutiny of the NHI Bill was more prolonged than usual. The decision to extend the public engagement period was made to allow all Gambians and institutions to contribute to the Bill. A lawmaker who participated in these discussions recounted “after the committee reports to the plenary [all members], the plenary will agree to dissect, let’s say, clause 1 states this and this is what the witnesses say. So what do we do? Do we incorporate these ideas from the stakeholders? If the plenary agrees, then that stands out in the bill. So this is how it works at the National Assembly”.

The absence of documentation regarding the number of submissions and how inputs, including position papers, were evaluated during the finalization of the Bill makes it challenging to assess whether the process was genuinely participatory for all stakeholders involved.

Inclusiveness fell short due to logistical barriers, communication methods, and misidentification, leading to dissatisfaction with the process among excluded voices

Some of our participants observed that there was a rural-urban divide in the participatory processes. A representative of a rural-based CSO argued that the National Assembly committee organized a retreat about 100 kilometers away from the city and only urban participants were transported to the venue. The representative argued that rural-based CSOs were not invited, and communities were given fewer opportunities to provide input through mechanisms like town hall meetings. An urban-based CSO occasionally invited to workshops organized by the MoH reinforced the argument that government officials commonly invite few urban-based CSOs when public policies are formulated. The member further expressed that some officials are more comfortable working with familiar CSOs and opined that

rural-based CSOs are hardly invited due to financial implications such as transportation costs or higher transport refunds.

Our results further showed that some key stakeholders were not invited to participate due to misidentification. While regulatory bodies such as the Gambia Medical and Dental Council and Nurses and Midwives Council were invited to participate, professional associations representing healthcare workers were not invited. The president of one of these associations expressed surprise at their exclusion and stated that there was no avenue or medium to object, especially when the Bill was already presented in the National Assembly for adoption, “personally, I am not aware of the institution I represent being engaged. I just heard it in one of the interviews of the Minister that they are planning on implementing a NHIS. But I was never aware of the processes that were involved until they come up with the policy [NHIS]. Whether the policy document is even existing, I don’t know”. An informant from the MoH involved in the stakeholder mapping process observed that there may have been confusion between the roles of professional and regulatory bodies, which resulted in the wrong body being invited to participate.

The Local Government Act of The Gambia empowers local government authorities to provide services to communities. However, one of the local government representatives stated that they were excluded them from the policy processes and the finalization of the Bill. The representative argued that local government authorities should be overseeing health service delivery in their respective jurisdictions and therefore, should have a voice in the design of NHIS, including what revenue sources to consider. He recounted “I was not opportune at all, I just heard it [NHIS] from a politician you know in a political platform talking about it. So, I do not

know where, at what stage we are. But if at all it has even taken off, I would say that it is not inclusive at all".

Another CSO left out of the engagement process and felt they had an important role to play in deliberating the NHIS were persons with disabilities. An executive member of the Gambia Federation of the Disable lamented their exclusion from the process, "we are advocating for inclusion or full participation of persons with disabilities in decision making processes, policy making, programme and planning. But obviously we are not actually being consulted. And you can see that the consultation of persons with disabilities here will be very, very, very important because otherwise, there are issues that affect us. So, it will be a problem to address issues that actually cover persons with disabilities in terms of national health insurance".

Another shortcoming of the process was the lack of public engagement despite the availability of funds as recounted by a lawmaker, "the only element missing is the public engagement but as I said earlier, that is not a serious defect as far as the outcome is concern". The main reason given for the lack of public consultation was the busy legislative schedule of the National Assembly. Some CSO representatives expressed that public consultations could have given communities a platform to voice their concerns.

Oversight: Revisability and oversight

Reaping the benefits from new accountability and legal frameworks will require time as The Gambia's democratic transition evolves

Our analysis of governing and accountability frameworks revealed that the Public Finance Act and the National Assembly Standing Orders serve as strong accountability and legal frameworks. These frameworks ensure that public funds are

properly implemented and that public officials are held accountable. A technocrat in the MoFEA acknowledged the effectiveness of these frameworks. With the Bill now passed into law, a lawmaker stated that the MoFEA is expected to remit the different revenue sources outlined in the Act to the scheme. He recounted “if it is brought to the National Assembly and the appropriation is made by the NA, it becomes law. Appropriations are law, anything that passes through the National Assembly and there is approval and passed, it becomes law and it is binding”. One significant framework identified during the document review was the Gambia Access to Information Act, 2021. Though it did not affect the NHIS consultative processes, it could enhance transparency and accountability in the future.

Discussion

This study aims to explore The Gambia's decision-making process in establishing the NHI as a critical milestone towards achieving UHC through the lens of procedural fairness. The examination of this process is particularly noteworthy due to the recent democratic transition and ongoing developments. While progress is still needed in this regard, independent monitoring and assessments have reported improvements in press freedom, and less interference in the activities of CSOs (Freedom House, 2022). The most recent Open Budget Survey showed a significant improvement in budgeting and fiscal transparency, primarily due to increased public access to budget information and decisions (Open Budget Survey, 2021). To further enhance the public's understanding of fiscal information and decisions, the MoFEA has produced citizen's budgets since 2020. These simplified and accessible public finance documents aim to improve the public's understanding of how resources are allocated (Lizundia, 2020). These developments represent a significant departure from bureaucratically driven public policymaking that characterized decision-making before the political changes in 2016, which had limited civil society participation.

Tied to broader governance changes in The Gambia, this study identified that the Executive's strived for greater participation and inclusiveness when formulating the NHIS policy than what prevailed in the past. The process allowed some of the stakeholders deemed to have stake in the NHIS design to participate. On one hand, this marks a significant advancement compared to the previous government's approach, which restricted civil society organizations (CSOs) from participating in public policy formulation. (Freedom House, 2022). On the other hand, the process was limited to a small group of stakeholders, and it did not incorporate a diverse range of opinions and preferences regarding the scheme's design. Significantly,

there was no substantial engagement with healthcare providers and communities, including vulnerable groups and those residing in rural areas.

Firstly, the participation of healthcare workers in health policy-making has been a topic of intense debate (Chiu et al., 2021, Hajizadeh et al., 2021, Denis and van Gestel, 2016). Inclusion of health worker perspectives and their ownership of decisions about provider payment methods is increasingly necessary for making responsive and sustainable health financing decisions towards UHC (Andoh-Adjei et al., 2019, Moosa, 2022).

Secondly, this study uncovered some limitations in the public engagement process for the development of the NHI Bill and its legislative processes. Two main shortcomings were identified, namely, the lack of adequate time allocated for public engagement, despite the availability of funds, financial and logistical barriers faced by communities in participating in the review and finalization of the Bill. The National Assembly in The Gambia has introduced a mechanism for public consultations known as "citizen bantaba", which was not utilized due to legislative overload and limited quorum during the engagement process. Prioritizing such activities could enable a larger proportion of the population to provide input on issues related to financing sources, exemption criteria, and other aspects affecting equity.

The identified shortcomings in the procedural fairness of the NHIS carry the risk of reducing the scheme's legitimacy and trust in its design, ultimately hindering its effective implementation and sustainability. This is because individuals' willingness to pay premiums and health workers' willingness to accept the scheme's provider payment rates are crucial for its implementation and sustainability. Inadequate representation of health workers in NHIS decisions that affect them can result in a lower willingness to accept the scheme, leading to reduced availability and quality of

healthcare services for members of the scheme. This can further erode trust and legitimacy, leading to a decline in participation. Although it is too early to tell how the lack of stakeholder representation in The Gambia's NHIS processes will affect its implementation and sustainability, evidence from other countries supports this argument. An example of sub-optimal decision-making processes in health financing policy implementation can be seen in Ghana's NHIS. In 2012, a regional pilot for capitated payments for primary healthcare was introduced to control costs and ensure the scheme's sustainability. However, studies have shown that the choice of the pilot region was poorly explained, and stakeholders affected by the new policy, such as professional associations and NHIS clients, were not engaged, leading to resistance to the reform and its discontinuation in 2017 (Atuoye et al., 2016, Amporfu and Arthur, 2022, Abiiro et al., 2021).

The Indian state of Kerala’s Aardram reform, initiated in 2017, offers an example of the benefits of using a consultative approach to implement health reform through a legislative process and pre-existing decentralized participatory structures. (Sankar D et al., 2023, Krishnan et al., 2023, Anju et al., 2023). T A group of health bureaucrats spearheaded the reform, and inclusive deliberations with stakeholders, particularly local governments, led to collective learning and revisions to the original concept of improving primary health centers (Krishnan et al., 2023). Primary health centers were selected from each of the 140 constituencies represented in the legislative assembly, without regard to political party affiliation, to promote political ownership at the state and sub-national levels and to ensure popular acceptance (Krishnan et al., 2023). The experiences discussed highlight the importance of transparency, inclusiveness, and providing reasons for policy acceptance and implementation (Amporfu and Arthur, 2022, Abiiro et al., 2021, Atuoye et al., 2016).

The study raises the question of whether greater inclusion of marginalized populations would have improved the equity impact of the scheme. However, evidence from participatory budgeting shows mixed results on the impact of public participation on pro-poor benefits (Campbell et al., 2018, Williams et al., 2017). Scholarship from key literature that promotes procedural fairness highlights the intrinsic value of inclusion of diverse views and voices by promoting mutual respect and treating people as competent agents in the process. It also highlights the instrumental value that can bring epistemic benefits to policymaking (Richardson, 2014, Estlund and Landemore, 2018, Landemore, 2017, Abelson et al., 2020). Other evidence suggested paying attention to the special needs of the disabled population when formulating health policies (Smith et al., 2021, Abodey et al., 2020)

The experience of The Gambia highlights the challenges involved in including rural, low-income, or otherwise marginalized populations in policymaking processes. Similar challenges are faced in other settings, such as Thailand's National Health Assembly, where representation of people with lower income or lower educational levels required active outreach by local networks of civil society organizations (Rajan et al., 2019). In addition, methods for public consultation may need to be adapted with active participation by those who are meant to benefit from these opportunities. In South Africa, locally responsive deliberation about healthcare priorities was achieved by adapting a tool for deliberation about health priorities together with community members and policy makers from rural areas (Tugendhaft et al., 2020). Therefore, inviting CSOs to public consultations and similar forums may not be sufficient for inclusiveness. Inclusiveness requires engaging communities in their languages and adapting methods for public consultation to suit their needs.

In situations where inclusive and meaningful participation is not feasible due to time and resource constraints, other aspects of procedural fairness, such as transparency, reason-giving, and accuracy of information become even more important. To ensure procedural fairness, it is essential to document and publicly disclose how inputs and proposals submitted during the legislative process were considered. However, the study's data collection process could not identify any publicly available documentation that substantiates claims of written submissions being duly considered. On the other hand, in South Africa, the National Treasury provided point-by-point responses to objections and comments before the Health Promotion levy was finalized, demonstrating a more transparent approach to procedural fairness (National Treasury, 2017). However, such efforts represent a considerable investment in time and administrative capacity of government. Recent news media reports have indicated public dissatisfaction over the quality of public healthcare provided through in The Gambia (Jaw, 2022). Going forward, inclusive deliberation can help to identify and address the challenges faced during implementation and roll-out of the Gambia's NHIS.

Limitations

One of the main limitations of this study was the difficulty in accessing documents such as minutes from Cabinet and National Assembly meetings. These documents would have provided valuable information on how inputs from the public were considered and negotiated during the decision-making process. While interview data provided significant insight, corroborating the findings against official documentation would have strengthened assessments of the criteria for procedural fairness.

Another limitation is the study's recruitment of interviewees primarily among stakeholders who participated in the process created a potential limitation to understanding inclusiveness. Although efforts were made to recruit participants from rural settings, the concentration of participants from urban areas represents a clear limitation to understanding broader inclusiveness. Future research should seek to address this limitation by expanding recruitment efforts to include a broader range of participants from diverse backgrounds and locations.

Conclusion

Although the study identified several shortcomings in the national health insurance scheme deliberative process, it is important to note that these observations should be viewed in the context of Gambia's ongoing democratic transition. The institutional improvements required to meet the various criteria for procedural fairness can be expected to improve over time. There are ongoing discussions to amend the NHI Act, and lessons from our study can inform the process

It is crucial to prioritize procedural fairness criteria in health policymaking such as the national health insurance scheme to foster ownership, equity, and sustainability. By doing so, The Gambia can continue to make progress towards UHC. As the country undergoes its democratic transition, it is important to recognize institutional improvements and progress towards promoting procedural fairness in health policy-making

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IV

Title page

Title: Ideas, interests, and institutions: the policy process behind the Gambia's national health insurance scheme

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Sammendrag

Bakgrunn

Universell helsedekning er en global målsetning som tar sikte på å gi alle enkeltpersoner tilgang til helsetjenester av høy kvalitet uten å påføre dem økonomiske vanskeligheter. Under FNs bærekraftsmål, vedtatt i 2015, er universell helsedekning et sentralt mål (3.8 under bærekraftsmål 3 «God helse»). Viktigheten av målsetningen om universell helsedekning ligger i å håndtere utfordringene mange land står overfor i sine helsesystemer, inkludert begrenset tilgang til og økonomiske barrierer for å motta helsetjenester samt ulikheter i helseutfall mellom befolkningsgrupper. Som en del av deres innsats for å oppnå bærekraftsmålene og universell helsedekning innen 2030, utforsker Gambia og andre lav- og mellominntektsland ulike mekanismer for å finansiere sine helsesystemer. En slik mekanisme er etableringen av en nasjonal helseforsikringsordning som ble innført i Gambia i 2021.

Målsetninger

Formålet med denne avhandlingen er å produsere kunnskap som kan bidra til en vellykket implementering av den nasjonale helseforsikringsordningen i Gambia. Denne avhandlingen har fire hovedmål som er behandlet i hver sin artikkel. Den første artikkelen i avhandlingen (Artikkel I) har som mål å tallfeste befolkningens betalingsvilje for den nasjonale helseforsikringsordningen basert på en betinget verdsettingsstudie. Den andre artikkelen (Artikkel II) har som mål å vurdere helsearbeidernes preferanser for finansieringsordninger i den nasjonale helseforsikringsordningen. Den tredje artikkelen (Artikkel III) som mål å evaluere prosedyremessig rettferdighet i beslutningsprosessene som formet finansieringen av

den nasjonale helseforsikringsordningen. Den siste artikkelen (Artikkel IV) undersøker hvilken betydning ideer, interesser, institusjoner og hendelser har i utformingen av den politiske prosessen som ledet til dennasjonale helseforsikringsordningen.

Materiale og metode

Den første studien (Artikkel I) var en husholdningsbasert tverrsnittsundersøkelse, mens den andre studien (Artikkel II) var en tverrsnittsundersøkelse blant helsearbeidere i offentlige helsefasiliteter. Den tredje og fjerde studien var kvalitative casestudier (Artikkel III & IV). Vi benyttet en flertrinns utvalgsprosedyre ved hjelp av et PPS-utvalg (probability proportional to size) for å identifisere og trekke et passende utvalg og innhente svar ved hjelp av spørreskjemaer (Artikkel I & II). I den tredje og fjerde studien (Artikkel III & IV), benyttet vi målrettet og snøball-metoden for å identifisere deltakere som var involvert og de som ikke var involvert, men hadde en interesse for den nasjonale helseforsikringsordningen, og intervjuet dem ved hjelp av intervjuguider. Datasettene for (Artikkel I & Artikkel II) ble rensket, validert og kodet ved hjelp av Microsoft Excel. Etter datavalidering ble data eksportert til IBM SPSS Statistics for videre datakvalitetskontroll og validering og til slutt eksportert til StataSE versjon 17 for analyse. I Artikkel III & IV benyttet vi en iterativ tilnærming til analytisk koding og tolkning, veiledet av deduktiv og induktiv resonnering for å identifisere sentrale temaer.

Resultater

I den første studien (Artikkel I) var 94% av respondentene i Gambia villige til å bli med i og betale for det nasjonale helseforsikringssystemet, med en estimert gjennomsnittlig betalingsvilje på USD 23 (GMD 1,120). Deltagernes kjønn, utdanning

og husholdningsinntekt var assosiert med betalingsvilligheten for den nasjonale helseforsikringsordningen. Omtrent 50% av respondentene var villige til å betale den høyeste foreslåtte prisen, og bare 1% foretrakk å bruke eksisterende helsetjenester eller ha full egenbetaling. Når det gjelder helsepersonellets preferanser for betalingssystemer (Artikkel II), var helsearbeidere som jobbet i distriktssykehus eller større helsesentre 50% mindre tilbøyelige til å velge «line-item budgeting» eller «fee-for-service», mens de som jobbet i byområder var 60% mindre tilbøyelige til å velge «case-based payment». Å være lege var også assosiert med en nesten fire ganger høyere sannsynlighet for å velge «line-item budgeting» for sykehusets polikliniske tjenester. De kvalitative casestudiene (Artikkel III & IV) viser at den nasjonale helseforsikringsordningen ble gjennomgått av forskjellige interessenter, inkludert offentlige tjenestemenn, aktører i privat sektor og sivilsamfunnsorganisasjoner. Studien fant at utformingen av lovforslaget for den nasjonale helseforsikringsordningen og arbeidet i stor grad ble drevet frem av teknokrater og lovgivere på sentralt nivå, mens lokale myndigheter og sivilsamfunnsorganisasjoner, spesielt fra distriktene, deltok i mindre grad. Noen representanter fra sivilsamfunnsorganisasjoner ble invitert på grunnlag av tidligere samarbeid med helseministeriet, og studien reiser spørsmål om åpenhet og inkludering i tilstrekkelig grad var ivaretatt under denne prosessen. Aktører som ble intervjuet uttrykte bekymring rundt balansen mellom interessene og verdiene til aktørene som deltok i prosessen, inkludert eksterne finansiører av policyimplementeringen. Herunder var blant annet Verdensbanken en sentral aktør i forbindelse med innføringen av den nasjonale helseforsikringsordningen.

Konklusjon

Denne avhandlingen utforsker implementeringen av en nasjonal helseforsikring i Gambia som ledd i å oppnå universell helsedekning. Den nasjonale helseforsikringsordningen er en finansieringsmekanisme som har som mål å gi tilgang til nødvendige helsetjenester av høy kvalitet uten å påføre personer en økonomisk byrde. Resultatene fra denne avhandlingen gir verdifulle innsikter og anbefalinger som kan bidra til en vellykket implementering av den nasjonale helseforsikringsordningen og i neste omgang bidra til å oppnå universell helsedekning i Gambia.