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COMPARATIVE ANALYSIS OF DONOR-FUNDED AND OUT-OF-POCKET HEALTH EXPENDITURE: IMPLICATIONS FOR HEALTH OUTCOMES IN ADAMAWA STATE, NIGERIA

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Abstract

This study examined the Comparative analysis of Donor-funded and out-of-pocket health expenditure: Implications for health outcomes in Adamawa State, Nigeria. Specifically, the study examined the influence of donor funded and the effect of out-of-pocket health expenditure on the health outcomes, measured by quality of life and health system outcomes. The population comprised of all the Healthcare professionals in selected public and private health facilities, Households that directly incur out-of-pocket health expenditures and representatives of donor-funded projects and state health ministries across selected three Local Government Areas (Mubi South, Maiha, and Michika) of Adamawa state. Using a descriptive survey design, data were collected from 540 respondents through structured questionnaires distributed evenly across the population sample selected, adjusted by 8% for possible non-response rate and complemented by limited qualitative insights specifically KII interview. Primary data collected through a structured questionnaire while descriptive and inferential analyses were employed. The findings revealed that donor-funded health expenditure has a significant positive influence on health outcomes, with coefficients of β = 0.694 (p = 0.002) where the t-value of 4.499 confirms the statistically significant relationship at the 5% level. Out-of-pocket health expenditure had a positive but statistically insignificant effect on health outcomes with coefficient of β = 0.102, (p > 0.05). The study concludes that donor-funded health expenditure significantly improves health outcomes and recommends that strengthening public health financing efforts with poverty alleviation measures and improved health service access would greatly reduce the burden of household's catastrophic health spending

1.0 Introduction

1.1 Background to the Study

Globally, health care financing remains a central concern in achieving equitable and sustainable health outcomes. Effective health financing mechanisms are crucial to ensuring universal health coverage (UHC), reducing inequalities, and enhancing the quality of health service delivery (World Health Organization, 2023). In many low- and middle-income countries (LMICs), however, weak government allocations and inefficient financing systems have led to heavy reliance on donor support and out-of-pocket (OOP) payments. While donor funding has contributed significantly to global health initiatives, particularly in areas such as HIV/AIDS, tuberculosis, malaria, and maternal-child health, its sustainability is uncertain due to shifting international priorities and economic downturns (Dieleman et al., 2020; Oleribe et al., 2021). Conversely, OOP health expenditure, which accounts for a significant portion of household spending in LMICs, often results in catastrophic health costs that drive families deeper into poverty, undermining health outcomes (Ataguba & Ichoku, 2022). This duality between donor-funded and OOP financing highlights the structural weakness of health systems in many LMICs including Nigeria.

Adamawa state in northeast Nigeria presents a unique case study of these financing dynamics. Years of insurgency have devastated health infrastructure, displaced millions, and created an overdependence on humanitarian and donor-funded interventions for essential health services (International Rescue Committee, 2022).

1.2 Statement of the Problems

In Nigeria, the health sector is chronically underfunded, with government health expenditure consistently below the 15% target set by the Abuja Declaration (Erondu et al., 2023) making health financing to remain one of the most critical determinants of health system performance. Studies evidences showed that less than 6% of the national budget is allocated to health at most of the sub-national level, while out-of-pocket (OOP) payments account for nearly 75% of total health expenditure (WHO, 2023; Abubakar et al., 2024). This heavy reliance on OOP financing exposes households to catastrophic and impoverishing health expenditures, limiting access to essential services such as antenatal care, immunization, and treatment for common illnesses (Onwujekwe et al., 2021; Ogunleye et al., 2023).

In response to these systemic weaknesses, donor funding has played a significant role in supporting Nigeria's health sector, especially in fragile and conflict-affected state of Adamawa. However, donor contributions are often project-specific, fragmented, and vulnerable to global funding fluctuations, raising concerns about long-term sustainability (Uzochukwu et al., 2021). The problem is even more acute in Adamawa state, where years of conflict, poverty, and displacement have exacerbated vulnerabilities.

1.3 Research Aims and Objectives

This study aims to conduct a comparative analysis of donor-funded and out-of-pocket health expenditure and their implications for health outcomes in the (3 Ms') Mubi, Michika and Maiha LGAs of Adamawa state, Nigeria. Specifically, the study will:

- examine the influence of donor-funded health expenditure on health outcomes in Adamawa State.
- assess the effect of out-of-pocket (OOP) health expenditure on health outcomes in Adamawa State

1.4 Research Questions

Corresponding to the identified problems to be analyzed in this study, the following question will be answered:

- What is the influence of donor-funded health expenditure on health outcomes in Adamawa State?
- How does out-of-pocket health expenditure affect health outcomes in Adamawa State?

1.5 Research Hypotheses

The following null hypotheses were formulated and tested at a 5% significance level:

H_{01}: Donor-funded health expenditure has no significant influence on health outcomes in Adamawa State.

H_{02}: Out-of-pocket health expenditure has no significant effect on health outcomes in Adamawa State.

2.0 Literature Review

2.1 Conceptual Clarifications

2.1.1 Health Care Financing

Health care financing is a critical function of any health system, involving the ways money is raised and used to ensure that people can receive the care they need. The World Health Organization defines health care financing as the organization of revenue generation, pooling, and purchasing of health services to achieve universal health coverage and financial protection for all (WHO, 2021). This places emphasis on how financing contributes directly to health improvements, not just money flows. Also, Xu et al. (2023) describes health care financing as the mechanisms through which funds are collected, pooled, and used to pay for health care, with a focus on equity and risk-sharing across populations.

Beyond these system-level views, contemporary scholars also describe health care financing in terms of strategy and function. For instance, Okoro and Mahmud (2025) describe health care financing as the integration of revenue sources such as taxes, insurance contributions, donor funds, and out-of-pocket payments into a coherent system that ensures access, quality, and financial protection for all users. This underscores the practical mix of financing sources and their implications for access and fairness.

2.1.2 Source of Health Care Financing in Nigeria

There are various sources of healthcare financing existing across the world, including Nigeria. These sources include, but not limited to tax-based public sector health financing, household out-of-pocket health expenditure, the private sector (donor funding), community-based health expenditure, and social health insurances. External financing of health care includes grants and loans from donor agencies like the World Bank, the World Health Organization (WHO), Funds and Foundations among others.

2.1.2.1 Out-of-Pocket (OOP) Health Expenditure

Out-of-Pocket (OOP) health expenditure is widely recognized as a key component of health care financing, particularly in low- and middle-income countries. The World Health Organization defines OOP health expenditure as direct payments made by individuals or households to healthcare providers at the point of service use, excluding any prepayment or reimbursement mechanisms (WHO, 2021). This definition emphasizes that OOP spending occurs when people pay for care using their own resources, often exposing them to financial risk. Similarly, the World Bank describes OOP health expenditure as household spending on health services that is not covered by insurance, government subsidies, or donor support (World Bank, 2022), highlighting its role as a residual financing mechanism when other forms of financial protection are absent. Xu et al. (2023) further define OOP expenditure as health-related payments borne entirely by households that can lead to catastrophic health spending and impoverishment when they exceed a significant share of income, drawing attention to its potential negative welfare and equity implications.

From a policy and analytical perspective, scholars have recently expanded the conceptualization of OOP health expenditure to capture its systemic effects. Smith and Adeyemi (2022) define OOP health expenditure as a user-financed health payment system where individuals directly bear the cost of healthcare services, often influencing care-seeking behavior and service utilization patterns. This definition explains how high OOP costs may discourage timely access to healthcare. In a similar vein, Johnson and Patel (2024) describe OOP health expenditure as the most regressive form of health financing, as it places a disproportionate burden on poorer households and undermines equity in health systems. This underscores its distributional consequences within populations.

2.1.2.2 Donor Funding

Donor funding refers to financial resources provided by external actors to support health system development and service delivery, particularly in low- and middle-income countries. The World Health Organization defines donor funding as financial assistance from international development partners, multilateral agencies, foreign governments, and non-governmental organizations aimed at strengthening

health systems and improving population health outcomes (WHO, 2021). This definition highlights the supportive role of donors in addressing funding gaps and enhancing access to essential health services. Donor funding in health care refers to financial and technical resources provided by international organizations, development partners, and philanthropic foundations to support health systems in low- and middle-income countries. These contributions take the form of grants, concessionary loans, medical commodities, research support, and technical expertise, often classified as official development assistance (ODA) when they include a significant non-reimbursable component (World Bank, 2022). In Nigeria, donor funding has historically complemented weak government health budgets, which remain far below the 15% Abuja Declaration target, with health allocations fluctuating between 4% and 6% of national expenditure (WHO, 2023). Major health donors such as UNICEF, USAID, the Global Fund, and GAVI have supported interventions in immunization, maternal and child health, HIV/AIDS, malaria, and tuberculosis, particularly in underserved areas where government reach is limited (Erondu et al., 2023). In the BAY states, Borno, Adamawa, and Yobe, where conflict, displacement, and poverty exacerbate barriers to care, donor funding plays a critical role in sustaining essential services, including nutrition programs, vaccination campaigns, and emergency health interventions (Adepoju, 2020; Ilesanmi et al., 2022).

2.1.3 Health Outcomes in Adamawa State

Health outcomes describe the measurable effects of health interventions, health system performance, and social determinants on the health status of individuals and populations. According to Marmot et al. (2021), health outcomes are defined as changes in health status that result from a combination of healthcare services, public health interventions, and broader social and economic conditions. This definition emphasizes that health outcomes are not determined by healthcare alone but are shaped by multiple interacting factors. Similarly, Arah and Klazinga (2022) define health outcomes as observable and measurable changes in morbidity, mortality, functional status, and quality of life attributable to health system inputs and policies. This explanation highlights the importance of using concrete indicators to evaluate the effectiveness of health systems. In another perspective, Frenk and Moon (2023) describe health outcomes as the end results of health system activities that reflect the extent to which population health goals have been achieved. This definition situates health outcomes as the ultimate benchmark for assessing health system success.

Health outcomes describe measurable changes in population health, including indicators such as morbidity, mortality, maternal and child health, and quality of life (World Health Organization, 2023). In fragile and conflict-affected contexts such as Northeast region especially Adamawa state, these outcomes are strongly influenced by the structure of health financing. Donor funding has historically filled critical gaps by supporting immunization campaigns, maternal and child health, and communicable disease control, particularly in displaced and underserved communities (Adepoju, 2020; Ilesanmi et al., 2022). In contrast, out-of-pocket (OOP) expenditure, representing over 70% of health spending nationally, remains a major barrier to service utilization (Onwujekwe et al., 2021; Abubakar et al., 2024).

2.2 Theoretical Review

2.2.1 Health Care Financing Theory

The Health Care Financing Theory is a foundational conceptual framework in health economics that explains how different financing mechanisms influence the functioning of health systems and ultimately shape health outcomes. Although the theory does not originate from a single original “propounder” in the way that some classical economic theories do, it has developed through the collective work of health economists and international health institutions over several decades. Key contributors to its development include T. Hsiao (1995), whose seminal work on health financing frameworks helped formalize the functions of revenue collection, pooling, and purchasing, and Kutzin (2013), who further elaborated on these functions within the context of universal health coverage.

The assumptions of the Health Care Financing Theory include: (1) health expenditures are an input into the health system that can influence health outcomes; (2) efficient allocation and pooling of financial resources improve equity and financial risk protection; (3) reducing reliance on direct payments at the point of service increases access to healthcare services; and (4) diverse financing sources (government

budgets, insurance, donor funds) can be harmonized to reduce gaps in service delivery and promote sustainability (Kutzin, 2013; WHO, 2021).

Despite its wide acceptance, the theory has faced criticism. Some scholars argue that it can be overly normative, prescribing ideal financing mechanisms without fully accounting for political, cultural, and institutional realities in specific countries (O'Connell & Rasanathan, 2023).

2.2.2 Grossman Health Capital Theory

The Grossman Health Capital Theory, propounded by Michael Grossman in 1972, is a foundational economic model that conceptualizes health as a form of capital that individuals invest in and consume over time. According to Grossman (1972), health is both a consumption good, providing immediate utility in terms of wellbeing and satisfaction, and an investment good, enhancing productive time and capacity to work. The theory assumes that individuals derive utility from being healthy and that they allocate resources, including time and money, to maintain or improve their health stock. Health capital depreciates with age, illness, and lifestyle factors, and individuals must continuously invest in health through medical care, nutrition, exercise, and other health-promoting activities to sustain their health status over time.

Despite its widespread influence, the theory has faced criticism. Scholars argue that it overemphasizes individual agency, neglecting structural and social determinants of health such as poverty, gender inequality, and health system inefficiencies (Becker & Mulligan, 2022; Smith & Lee, 2023). The relevance of the Grossman Health Capital Theory to this study lies in its ability to frame health as an outcome of both personal and systemic investments, including financial contributions through donor-funded programs and out-of-pocket expenditures. By viewing health as a stock that can be accumulated or depleted depending on resource allocation, the theory supports the study's examination of how different financing sources affect health outcomes in Adamawa state.

2.2.3 Health Production Function Theory

The Health Production Function Theory is an economic framework that conceptualizes health as an output produced through the combination of various inputs, including medical care, health financing, lifestyle choices, and environmental and socioeconomic factors. The theory was formalized in health economics literature by Michael Grossman (1972) as part of his broader work on the Health Capital Model, but it has since been expanded and applied in empirical studies to understand the relationship between health inputs and population health outcomes (Arrow, 2021; Culyer & Newhouse, 2022). The core premise of the theory is that health outcomes are a function of both healthcare services and other determinants, and that variations in inputs—such as public spending, donor contributions, and household out-of-pocket payments—directly influence the quality, quantity, and distribution of health outcomes.

The assumptions of the Health Production Function Theory include: (1) health is a measurable output that can be influenced by quantifiable inputs; (2) there is a positive relationship between healthcare inputs and health outcomes, although with diminishing marginal returns; (3) both individual-level behaviors (like diet and exercise) and system-level factors (like financing mechanisms and service availability) contribute to health production; and (4) the effectiveness of inputs depends on their efficient allocation and proper targeting (Arrow, 2021; Wagstaff et al., 2022). This framework allows researchers to model and quantify how different financing sources, such as donor funding versus out-of-pocket payments, contribute to improved health outcomes in a population.

2.2.4 Theoretical Framework

This study will be underpinned with the Health Care Financing Theory and the Grossman Health Capital Theory, which provide useful lenses for understanding the relationship between health financing mechanisms and health outcomes. The Health Care Financing Theory emphasizes that the method through which resources are mobilized, pooled, and allocated within a health system determines both the accessibility and quality of health services available to the population (Onwujekwe et al., 2021). In contexts where donor funding complements weak government expenditure, access to preventive and curative care is broadened, reducing inequities. Conversely, where health financing is dominated by out-of-pocket (OOP) payments, access becomes conditional on household capacity to pay, often leading to

catastrophic expenditures and worsening inequities in health outcomes (Adebisi et al., 2021; Abubakar et al., 2024).

2.3 Empirical Review

Ojo and Ojo (2022) examined the relationship between health expenditure and life expectancy in Nigeria, using an autoregressive distributed lag model from 1981 to 2018. The study found that health care expenditure had an insignificant impact on life expectancy.

Alex and Awogbemi (2023) examines the government health expenditure on the health outcomes in Nigeria. The study used data from 1981 to 2020, employing Autoregressive Distributed Lag as well as the Error Correction Model (ECM) techniques. The ARDL Bounds Test results confirmed that there is a long-run equilibrium relationship among the variables. The results of the Error Correction Mechanism (ECM) accentuated the connection between government healthcare expenditure and health outcomes in Nigeria through establishment of stable long-term equilibrium relationship among the variables employed in the model. The study therefore conclude that government should increase the amount of its expenditure on the health sector as discovered in the result that it enhances improvement in the life expectancy rate.

Ahmad and Hasan (2024) analyzed the impact of public health expenditure and governance on health outcome in Malaysia using data from 1984-2019. The result based on Autoregressive Distributed Lag (ARDL) cointegration framework reveals that a stable,long-run relationship exists between health outcomes and public health expenditure and governance. The finding also suggests that public health expenditure and corruption affect long and short run health outcome.

Boachie et al. (2024) re-examined the relationship between public health expenditures and health outcomes in Ghana. The result suggests that, apart from income, public health expenditure contributed to the improvement of health outcome for the period covered by the study. In all, increasing public health expenditure by 10 percent leads to 0.12 – 4.4 reduction in infant and under-five deaths while increasing life expectancy at birth by 0.77 – 47 days a year. The cost per childhood mortality prevented as a result of improving public health spending ranged from US$0.20 – US$16 while the cost per extra life year gained is from US$7 to US$593.

Ozor et al. (2025) conducted a cross-sectional household survey among 1,025 participants in urban slums in Southeast Nigeria to assess inequities in household out-of-pocket spending (OOPE) and its implications for access to healthcare. Data were collected using structured questionnaires and analysed with gamma regression and financing incidence measures. The study revealed that although OOPE appeared progressive by wealth quintiles, the poorest households relied more on informal healthcare, risking poorer health outcomes due to limited access to formal services. It concluded that OOPE exacerbates access inequities, particularly for the economically vulnerable.

3.0 Methodology

This study adopts a descriptive survey research design. The choice of this design is based on its suitability for obtaining first-hand information from respondents on their experiences with donor-funded and out-of-pocket (OOP) health expenditures and their implications for health outcomes in Adamawa State. The study employs a quantitative research approach complemented with limited qualitative insights. This mixed input will ensure a more comprehensive understanding of the issues under investigation. The population of this study comprises healthcare workers, households, health ministries and Representatives of donor-funded projects and state health ministries across selected three Local Government Areas (Mubi South, Maiha, and Michika). The study sampled 540 households across the three Local Government Areas (LGAs) of Mubi South, Maiha, and Michika in Adamawa State. The initial sample size was calculated using Cochran's formula (n = 384), adjusted for a design effect of 1.3 (≈499), and further increased by 8% to account for potential non-response, resulting in a final sample of approximately 540 households. The sample was evenly distributed across the three local governments of Adamawa state, with 180 households allocated to each LGAs (Mubi South, Michika, Maiha). Within each LGA, three settlements were selected using probability proportional to size (PPS), followed by the selection of ten Enumeration Areas (EAs) per LGA, giving a total of 90 EAs. From each EA, six households were systematically sampled to reach the overall target of 540 households.

4.0 Results and Discussion of Findings

The result and discussion of findings presents, analyzes, and interprets the data collected from respondents on donor-funded and out-of-pocket (OOP) health expenditures and their implications for health outcomes in Adamawa State of Nigeria. Descriptive statistics such as frequencies, percentages, and mean scores are used to summarize the data, while inferential statistical techniques are employed to test the formulated hypotheses at the 5% level of significance.

4.1 Analysis of Administered Questionnaire

Table 4.1: Descriptive analysis of Administered Questionnaire

	Frequency	Percentages	Cumulative Percentage
Nos Returned	498	92.22	92.22
No of Unfilled	42	7.78	100
Total	540	100	

Source: Researcher's Data Output, 2026.

Table 4.1 presents the distribution and retrieval rate of the questionnaires administered to respondents in Adamawa State of Nigeria. A total of 540 questionnaires were distributed across the study area, out of which 498 were properly completed and returned, representing a response rate of 92.22%. However, 42 questionnaires were either not returned or inadequately completed, accounting for 7.78% of the total questionnaires administered. The high response rate of 92.22% indicates a substantial level of participation among the respondents and provides sufficient data for meaningful analysis. This response rate is considered adequate for ensuring the reliability and validity of the study findings regarding the implications of donor-funded and out-of-pocket health expenditures on health outcomes in Adamawa State.

4.2 Demographic Characteristics of Respondents

Table 4.2: Demographic Characteristics of Respondents (N = 498)

Bio Data	Parameters	Frequency	Percentage (%)
Gender	Male	276	55.4
	Female	222	44.6
	Total	**498**	**100**
Age	18–25 years	82	16.5
	26–35 years	176	35.3
	36–45 years	149	29.9
	Above 45 years	91	18.3
	Total	**498**	**100**
Educational Qualification	OND/NCE	129	25.9
	HND/B.Sc.	214	43
	M.Sc.	101	20.3
	Ph.D.	54	10.8
	Total	**498**	**100**

Bio Data	Parameters	Frequency	Percentage (%)
Years of Experience	1–5 years	124	24.9
	6–10 years	143	28.7
	11–15 years	106	21.3
	16–20 years	73	14.7
	Above 20 years	52	10.4
	Total	**498**	**100**
Occupation/Position	Civil Servant	128	25.7
	Self-Employed	146	29.3
	Farmer	84	16.9
	Trader	93	18.7
	Healthcare Worker	47	9.4
	Total	**498**	**100**
Marital Status	Single	151	30.3
	Married	298	59.8
	Divorced	31	6.2
	Separated	18	3.6
	Total	**498**	**100**
Number of Household Members	1–3 persons	98	19.7
	4–6 persons	217	43.6
	7–9 persons	123	24.7
	10 persons and above	60	12
	Total	**498**	**100**
Average Monthly Household Income	Less than ₦50,000	103	20.7
	₦50,000–₦99,999	167	33.5
	₦100,000–₦199,999	145	29.1
	₦200,000 and above	83	16.7
	Total	**498**	**100**

Source: Field Survey (2026)

Table 4.2 presents the demographic characteristics of the 498 respondents selected for this study on the comparative analysis of donor-funded and out-of-pocket (OOP) health expenditure and their implications for health outcomes in Adamawa State of Nigeria. The demographic variables examined include gender, age, educational qualification, years of experience, occupation, marital status, religion, household size, and average monthly household income. These characteristics are important in understanding the socio-

economic background of the respondents and their potential influence on health financing and health outcomes.

The demographic profile indicates that the respondents were predominantly educated, economically active, and experienced individuals drawn from diverse occupational, religious, and socio-economic backgrounds. The prevalence of moderate-to-large household sizes and relatively modest income levels underscores the relevance of investigating healthcare financing mechanisms within the study area. These characteristics suggest that respondents possess the necessary experience and contextual knowledge to provide reliable information on how donor-funded and out-of-pocket health expenditures influence healthcare access, affordability, quality of care, and overall health outcomes in Adamawa State of Nigeria.

4.3 Descriptive Analysis of Variable Item Responses

Responses obtained from the respondents regarding the research questions relating to donor-funded health expenditure, out-of-pocket (OOP) health expenditure, health outcomes, and the challenges associated with health financing were analyzed and presented in the subsequent tables.

4.3.1 Donor-Funded Health Expenditure and Health Outcomes

Table 4.3 Donor-Funded Health Expenditure and Health Outcomes

Items	Responses					Total
	SA	A	U	D	SD	
Donor-funded health programs improve access to essential healthcare services.	161 (32.4%)	258 (51.8%)	42 (8.4%)	19 (3.8%)	18 (3.6%)	498 (100%)
Donor funding contributes to reduced maternal and child mortality in the state.	235 (47.2%)	213 (42.8%)	0 (0.0%)	26 (5.2%)	24 (4.8%)	498 (100%)
Health facilities funded by donors have better medical equipment and supplies.	230 (46.2%)	191 (38.4%)	5 (1.0%)	48 (9.6%)	24 (4.8%)	498 (100%)
Donor support increases the availability of trained healthcare personnel.	222 (44.6%)	213 (42.8%)	13 (2.6%)	23 (4.6%)	27 (5.4%)	498 (100%)
Donor-funded initiatives enhance disease prevention and control programs.	241 (48.4%)	154 (30.9%)	7 (1.4%)	65 (13.1%)	31 (6.2%)	498 (100%)
Communities benefit from health education programs funded by donors.	195 (39.2%)	162 (32.5%)	12 (2.4%)	81 (16.3%)	48 (9.6%)	498 (100%)
Donor funding improves the quality of healthcare services.	162 (32.5%)	201 (40.4%)	18 (3.6%)	65 (13.1%)	52 (10.4%)	498 (100%)
Donor support reduces the financial burden on households seeking healthcare.	153 (30.7%)	199 (40.0%)	5 (1.0%)	122 (24.5%)	19 (3.8%)	498 (100%)
Donor-funded programs are sustainable in the long-term for health improvement.	257 (51.6%)	127 (25.5%)	17 (3.4%)	66 (13.3%)	31 (6.2%)	498 (100%)
Donor-funded health expenditure positively impacts health outcomes in the state.	150 (30.1%)	239 (48.0%)	20 (4.0%)	22 (4.4%)	67 (13.5%)	498 (100%)

Source: Data Output, 2026.

Across all the ten indicators, the proportion of respondents who agreed or strongly agreed consistently exceeded 70%, with particularly high agreement regarding improved access to healthcare services (84.2%), reduced maternal and child mortality (90.0%), better healthcare equipment and supplies (84.6%), and increased availability of trained healthcare personnel (87.4%). These findings imply that donor-funded health expenditure has made substantial contributions to healthcare accessibility, service quality, disease prevention, workforce development, and overall health outcomes in Adamawa State. The results provide preliminary evidence supporting the proposition that donor-funded health expenditure plays a significant role in enhancing health outcomes and improving healthcare delivery within the study area.

4.3.2 Out-of -Pocket (OOP) Health Expenditure and Health Outcomes

Table 4.4 Out-of -Pocket (OOP) Health Expenditure and Health Outcomes

Items	Responses					Total
	SA	A	U	D	SD	
Households often face financial hardship due to out-of-pocket health expenses	218 (43.8%)	189 (38.0%)	22 (4.4%)	41 (8.2%)	28 (5.6%)	498 (100%)
OOP spending limits access to healthcare for low-income families	245 (49.2%)	176 (35.3%)	15 (3.0%)	38 (7.6%)	24 (4.8%)	498 (100%)
High out-of-pocket payments lead to delayed or skipped medical treatment	227 (45.6%)	184 (36.9%)	18 (3.6%)	45 (9.0%)	24 (4.8%)	498 (100%)
OOP health expenditure affects the ability of families to afford nutritious food and other essentials	214 (43.0%)	193 (38.8%)	20 (4.0%)	43 (8.6%)	28 (5.6%)	498 (100%)
Out-of-pocket spending contributes to inequity in health outcomes across different income groups	236 (47.4%)	171 (34.3%)	14 (2.8%)	51 (10.2%)	26 (5.2%)	498 (100%)
High OOP payments discourage individuals from seeking preventive healthcare services	208 (41.8%)	183 (36.7%)	24 (4.8%)	54 (10.8%)	29 (5.8%)	498 (100%)
Households sometimes borrow money or sell assets to pay for healthcare.	196 (39.4%)	181 (36.3%)	26 (5.2%)	63 (12.7%)	32 (6.4%)	498 (100%)
OOP health expenditure is associated with increased risk of catastrophic health spending.	221 (44.4%)	187 (37.6%)	17 (3.4%)	49 (9.8%)	24 (4.8%)	498 (100%)
Out-of-pocket payments reduce overall health service utilization.	212 (42.6%)	179 (35.9%)	21 (4.2%)	58 (11.6%)	28 (5.6%)	498 (100%)
Excessive reliance on OOP health expenditure negatively impacts health outcomes in the state.	239 (48.0%)	178 (35.7%)	15 (3.0%)	42 (8.4%)	24 (4.8%)	498 (100%)

Source: Data Output, 2026.

Across all the indicators, more than 75% of respondents consistently agreed that OOP payments contribute to financial hardship, reduced healthcare access, delayed treatment, inequity in health outcomes, reduced preventive care, and increased risk of catastrophic spending. These findings imply that heavy reliance on out-of-pocket financing remains a major barrier to equitable and effective healthcare delivery in the study area, thereby negatively influencing overall health outcomes.

4.4 Discussion of Findings

Through the analysis conducted for the analysis of research question, it was established that poor donor-government coordination, financial and administrative inefficiencies, unsustainable donor funding, inequitable healthcare access resulting from out-of-pocket (OOP) payments, and the substantial financial burden imposed on households constitute the major challenges associated with donor-funded and OOP health financing in improving health outcomes in Adamawa State. This suggests that even though donor assistance and household (OOP) health expenditures contribute significantly to healthcare financing, several systemic and institutional constraints undermine their effectiveness in achieving desired health outcomes. The prominence of poor coordination between donors and government agencies indicates that fragmented planning, duplication of interventions, and weak policy alignment may reduce the efficiency of healthcare programmes and limit the optimal utilization of available resources.

Similarly, financial and administrative inefficiencies imply that bureaucratic bottlenecks, weak accountability structures, and poor resource management hinder the delivery of quality healthcare services. The finding that donor funding is often unsustainable further highlights the vulnerability of healthcare systems that rely heavily on external assistance, as health programmes may deteriorate or collapse once donor support is withdrawn. Moreover, the heavy dependence on OOP payments creates

financial barriers that prevent many households, particularly low-income groups, from accessing essential healthcare services, thereby worsening health inequalities and compromising overall population health. The implication is that improvements in health outcomes cannot be achieved solely through increased funding; rather, effective governance, sustainable financing arrangements, and equitable access mechanisms are equally critical for translating financial resources into meaningful health gains.

The findings are strongly supported by the Health Care Financing Theory, which posits that the effectiveness of healthcare systems depends not only on the availability of financial resources but also on how efficiently such resources are mobilized, allocated, and managed. The theory suggests that weak financing structures, poor coordination, and inequitable financing mechanisms can undermine healthcare delivery and health outcomes despite substantial funding. The findings are also consistent with the Grossman Health Capital Theory, which views health as a productive asset that requires continuous investment. When households face excessive OOP payments, their ability to invest in healthcare diminishes, leading to poorer health outcomes and reduced accumulation of health capital. Empirically, the findings align with Archibong et al. (2023), who found that donor funding, OOP expenditure, and other financing sources had not significantly improved healthcare service provision due to systemic challenges.

5.0 Conclusion and Recommendations

The focus of this study was on the comparative analysis of donor-funded and out-of-pocket (OOP) health expenditure and their implications for health outcomes in Adamawa State of Nigeria. The analysis produced the following major findings:

1. Donor-funded health expenditure has a positive and significant influence on health outcomes in Adamawa State, with a coefficient of 0.694 ($p = 0.002 < 0.05$).
2. Out-of-pocket health expenditure has a positive but insignificant effect on health outcomes in Adamawa State, with a coefficient of 0.058 ($p = 0.102 > 0.05$).

5.1 Conclusion

Undoubtedly, numerous studies have examined various aspects of health financing and health outcomes across different countries and regions. However, few studies have specifically undertaken a comparative analysis of donor-funded health expenditure and out-of-pocket (OOP) health expenditure and their implications for health outcomes in Adamawa State of Nigeria. Existing literature has largely concentrated on government health expenditure, public health financing, or OOP expenditure in isolation, with limited empirical evidence comparing the relative effectiveness of donor-funded and OOP health financing mechanisms in improving health outcomes. Furthermore, there is a scarcity of studies that simultaneously investigate the sustainability challenges associated with these financing mechanisms within conflict-affected and resource-constrained settings such as Adamawa State.

5.2 Recommendations

Based on the findings of this study, the following recommendations are made:

Given the finding that donor-funded health expenditure has a positive and significant influence on health outcomes in Adamawa State, governments at the federal and state levels should strengthen partnerships with donor agencies and development organizations to ensure the continuity and expansion of donor-supported health programmes. .

Considering that out-of-pocket health expenditure has a positive but insignificant effect on health outcomes, policymakers should prioritize the expansion of alternative healthcare financing mechanisms such as health insurance schemes, government-funded healthcare programmes, and community-based health financing initiatives. Particular attention should be given to increasing enrollment in health insurance schemes among vulnerable and low-income households to reduce financial barriers to healthcare access.

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