Healthcare Providers' Engagement in Strategic Purchasing of Outpatient Services: A Cross-sectional Analysis of the National Health Scheme in Kenya

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Abstract

Background: National Health Insurance Fund (NHIF) outpatient services operate under capitation, and are strategically designed to enhance quality, equity, and affordability. However, despite this strategy, providers often demand out-of-pocket payments. This study investigates provider participation in strategic purchasing and its impact on NHIF's outpatient service delivery.

Methods: A cross-sectional analytical study was conducted among 66 healthcare managers from facilities accredited to provide NHIF outpatient services in two counties in Kenya. The data were collected using structured questionnaires. Logistic regression analysis was performed to assess the association between study variables.

Results: Most respondents were male (36, 55%). The provision of NHIF outpatient services was significantly correlated with the monitoring provider performance by NHIF and the county department of health (Pmultivariate=0.024). There was a 31-fold increase in the likelihood of provision for monitored facilities. A significant difference (p=0.005**) was observed in monitoring health facilities. Monitoring was more common among private healthcare providers than public and faith-based health facilities.

Conclusion: The involvement of healthcare providers in strategic purchasing has not yet been achieved. County and NHIF quality assurance departments should regularly monitor providers' performance to ensure the delivery of equitable and high-quality healthcare.

Keywords: Strategic purchasing, capitation, national health scheme, health financing, Kenya

Introduction

Health financing serves three main functions: revenue collection, risk pooling, and healthcare purchasing. This study focused on the purchasing aspect. Providers can purchase products passively or strategically, essential for responsive and equitable health systems. Strategic purchasing aims to ensure access to quality, equitable, and affordable health care; it entails the active engagement of the purchaser with the government, healthcare providers, and citizens (World Health Organization [WHO], 2010). This study examined the relationship between a strategic purchaser and healthcare

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providers. This relationship emphasizes favorable payment mechanisms and contracts, identifying providers who align with service agreements, and fostering strategic alliances for future provider development and knowledge dissemination (Kazungu et al., 2021; WHO, 2000).

Many countries have adopted a purchaser-provider model for healthcare delivery, where purchasers manage providers through contracts (Figueras et al., 2005). Kenya, for instance, applies this model to oversee the National Health Insurance Fund (NHIF) National Health Scheme (NHS), with capitation as the primary provider payment method for outpatient service provision. In this model, purchasers supply services through providers, necessitating various activities within the purchaser-provider relationship. These include selecting or accrediting healthcare providers, establishing efficient payment mechanisms to ensure quality service delivery, monitoring provider performance, ensuring equitable access, managing patient payments, and utilizing health information systems (Preker, 2007); (Honda, 2014); (Tangcharoensathien et al., 2015). Timely and regular payments to providers are crucial for effective service provision (Carrin, 2011; Honda 2014). Payment methods significantly impact the quantity and quality of healthcare services offered, with traditional methods such as salary and wages, payment per service, packaged payments, and capitation often failing to incentivize providers to improve care quality (Cashin et al., 2014).

In 2015, the NHIF began offering outpatient services under the NHS, with capitation as the primary mode of provider payment. The intended purpose of capitation was to improve transparency, reduce cost and efficiency, reduce out-of-pocket payments, and distribute health burdens between the NHIF and healthcare providers (Adomako-Boateng et al., 2017). Additionally, capitation provides an incentive for providers to promote preventive care (Figueras et al., 2005). The Kenya NHIF accrediting regulation of 2003 outlines the provider contracting process in four stages: provider accreditation application, inspection by NHIF, gazettement, and signing of a contract between the two parties (NHIF, 2012). However, similar to other countries that have adopted the capitation model, such as Ghana, Indonesia, Malaysia, Mongolia, Nigeria, the Philippines, and Vietnam, Kenya has faced several challenges such as referrals and admissions, under provision of health services, low capitation payments, delayed payments to providers, more facilities seeking accreditation, and increased popularity among unregistered members (Adomako-Boateng et al., 2017). Although Kenya has policy and legal frameworks to support strategic purchasing, its implementation remains disjointed and uncoordinated (Kairu et al., 2023).

This study therefore sought to assess how healthcare providers' engagement in the strategic purchasing of NHS outpatient services by the NHIF influences the provision of these services.

The specific aims were to determine how NHIF communication, accreditation and service contracts, provider payments, and monitoring of provider performance influence the provision of these services. By identifying factors such as NHIF communication, accreditation processes, payment mechanisms, and performance monitoring that influence service delivery, policymakers can make informed decisions to optimize the efficiency and effectiveness of outpatient healthcare provision within the NHIF-NHS framework. This insight could lead to targeted interventions to improve communication strategies, refine accreditation processes, adjust payment models, and enhance performance monitoring mechanisms to better align with the Universal Health Care goals and ultimately improve patient outcomes.

Literature Review

Similar to other countries, Kenya has created healthcare delivery models with a purchaser-provider split. In this arrangement, the purchaser manages the provider's operations through contracts (Figueras et al., 2005). The implementation of this purchasing arrangement has empowered providers, creating diversified power dynamics and incentives for providers, purchasers, and the public. Depending on whether they perceive the purchaser-provider split as an opportunity or threat, provider responses can lead to progressive or regressive outcomes. Providers can adapt to the changing power dynamics through structural or strategic approaches. The structural approach involves mergers or collaborations with other providers to increase market share, whereas the strategic approach entails engaging in contractual arrangements with purchasers. Provider actions may sometimes conflict with health system goals and prioritize gains over patient welfare, but they may also align with the aims of equity, responsiveness, efficacy, and efficiency (Busse et al., 2007).

Strategic purchasing requires attractive payment methods and contracts to cover service costs. It involves seeking timely service access for patients, potentially forming alliances for future provider training, and sharing best practices (World Health Report, 2000). Strategic purchasing includes selecting providers based on service quality and location, drawing contracts specifying treatments and medications, establishing efficient payment mechanisms, and monitoring providers' adherence to contract terms through auditing and fraud prevention. Health information systems are vital for informed decision-making and monitoring service delivery (Preker, 2007).

A strategic purchaser may contract a public or private health facility or both. Provider selection is not always practical, especially in hard-to-reach areas with few providers. As previously mentioned, the considerations for selection are based on location in relation to the target population, scope of services provided, and quality of health services. In instances where there are no multiple providers, performance and development measures may be required. Upon selecting the providers, a

contract is drawn between the purchaser and provider, outlining the expectations of each party. These include the spectrum of services to be provided; the level, mode, and regularity of payment to the provider; the expected quality; and the returns by the provider to the purchaser to evidence performance and the course of action for nonperformance (Tangcharoensathien et al., 2015). Successful contracting depends on parties aligning with the terms of the contract. In addition to contracts and payments, other important factors that influence the provider as an agent of the purchaser include how the provider is organized, facility ownership, autonomy in decision-making regarding the scope of service, finances, staffing, and market structure (Figueras et al., 2005).

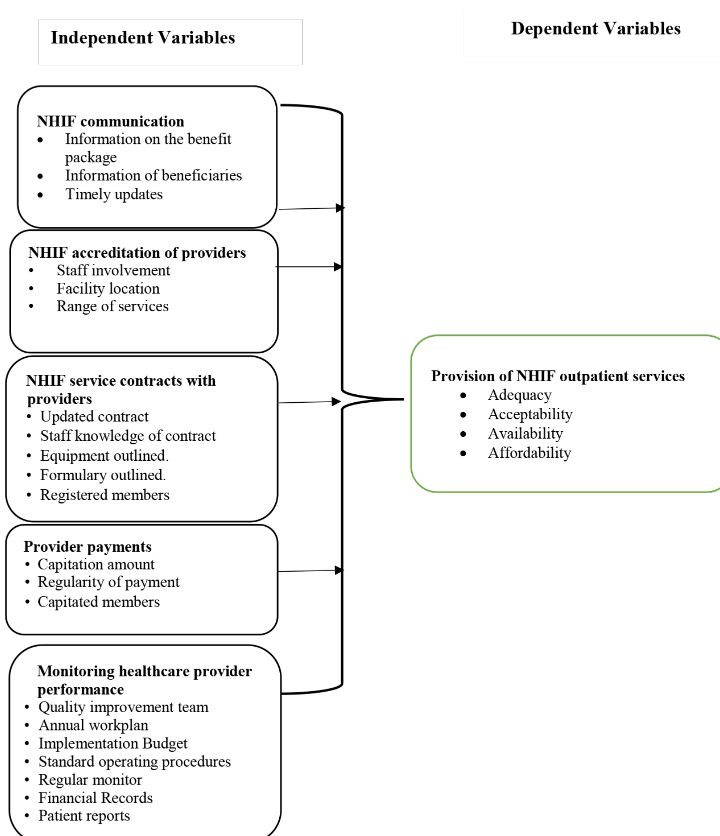
Providers are highly likely to provide services if payment by purchasers is timely and regular (Carrin 2011). When the purchaser is funded by the government, the government has a mutual responsibility to mobilize resources to promote service delivery. A study conducted in Tanzania on purchasing strategies revealed that providers held a significant representation on the NHIF board. Additionally, the NHIF conducts supervisory visits to contracted facilities and hosts annual client days in which providers are invited to participate. However, providers were discontented with how their claims were settled. They claimed rejection was done without justification, yet there was no platform through which they could channel their complaints (Etienne et al., 2010). The provider payment method affects the quantity and quality of services (Cashin et al., 2014).

Conventional provider payment methods, such as line-item budgets, salaries, capitation, and global budgets, typically lack explicit incentives for delivering high-quality care. Their influence on service quality is often found to be indirect. Service fees may motivate providers to deliver a high volume of services, which may indirectly affect quality. Per capita payments may be good at controlling expenditures, but they may have little or no incentive to promote quality and may instead lead to withholding the required services. Blended provider payment mechanisms are likely to promote the quality provision of services and other health system objectives. Over the last 20 years, social health insurance schemes have shifted from fee-for-service to bundled provider payments, albeit with the retention of elements of retrospective and block contracts. Healthcare purchasers are transitioning from passive to strategic purchasing, improving efficiency through enhanced provider payment systems (Figueras et al., 2005). Provider payment for primary care is shifting towards capitation, motivating providers to control costs, prioritizing preventive care, and discouraging excessive service delivery. Resilient and Responsive Health Systems (2014) stress the importance of justified provider claims, auditing for fraud, and taking corrective action. Timely and regular payments are crucial for a seamless service provision.

Strategic purchasers are tasked with monitoring provider performance, particularly regarding the delivered quality. This monitoring involves routinely analyzing submitted provider information, adhering to treatment guidelines, and documenting fluctuations in reported indicators, such as hospital infections (Honda, 2014). Monitoring can be performed by regularly seeking patient feedback and setting up mechanisms to collect this information, such as feedback boxes at health facilities. However, following monitoring, purchasers should act on canceling poor performance contracts, which may be limited to areas with few health facilities. Alternatively, a purchaser may put in place a quality improvement plan. Social Health Insurance should include monitoring tools to guarantee access to beneficiaries. Patients often lack sufficient information about their entitlements, potentially leading to under- or over-provision of health services. Monitoring services under capitation are crucial as patients are at risk of experiencing under-provision (Cashin et al., 2014). The conceptual framework represents independent and dependent variables (See Figure 1).

Figure 1

Conceptual Framework



Research Questions

1. What influence does NHIF communication to healthcare providers have on the provision of National Health Scheme outpatient services in Kenya?
2. What influence does NHIF accreditation have on the provision of National Health Scheme outpatient services in Kenya?
3. What influence do healthcare provider service contracts with NHIF have on the provision of National Health Scheme outpatient services in Kenya?
4. What is the relationship between provider payments and provision of National Health Scheme outpatient services in Kenya?
5. What influence does monitoring healthcare provider performance have on the provision of National Health Scheme outpatient services in Kenya?

Methodology

Research Design

This study utilized a cross-sectional analytical research design to determine healthcare providers' perceived engagement in the strategic purchasing of the National Scheme Fund outpatient services.

Research Setting

This research was conducted in Nakuru, a peri-urban county, and Nyandarua, a rural county in Kenya. This study focused on 89 health facility managers responsible for managing outpatient services in 89 accredited health facilities under the National Health Scheme. The data were collected from May to July 2017. A health facility manager plays a pivotal role in ensuring the effective operation and delivery of healthcare services.

Sampling

Among the 89 health facilities authorized to offer NHIF outpatient services, 72 were selected using the sample size calculation method proposed by Mugenda and Mugenda (2003) for populations under 10,000. A total sample size of 72 health facilities was determined. Using a multi-stage sampling approach, 72 health facility managers were identified from the sampled facilities to participate in the study.

Data Collection

Data from 72 sampled individuals were collected using a five-point Likert-type questionnaire. The questionnaire included demographic characteristics, NHIF communication, provider accreditation, service contracts, provider payment, monitoring of provider performance, and provision of NHIF outpatient services.

Data Analysis

The model used in this study is as follows:

$$f(z) = 1/(1+e^{-Z})$$

where Z is a linear combination of co-variates expressed as

The model employed in this study is formulated as follows:

$$Z = \beta 0 + \beta 1X1 + \beta 2X2 + \beta 3X3 + \beta 4X4 + \beta 5X5$$

where Z represents a linear combination of covariates, with X1, X2, X3, X4, and X5 being the independent variables. The intercept is represented by β0, whereas β1, β2, β3, β4, and β5 denote the estimates of the increase in log odds of the dependent variable (provision of NHIF outpatient services) for each unit increase in the respective independent variables. An odds ratio of 1 indicates that the independent variable does not affect the dependent variable. An odds ratio greater than one suggests a greater risk association. In contrast, a ratio less than one indicates a reduced risk or the ability of the independent variable to mitigate the risk of outpatient service provision.

Data entry, cleaning, and coding were performed using SPSS version 24. Descriptive and logistic regression analyses were conducted. The study variables, derived from responses to Likert-based questions, were transformed into binary variables for the univariate and multivariate logistic regression analyses. Responses indicating not sure, or disagreement were recoded as (0), indicating no provision, while those indicating agreement were recoded as (1), indicating provision. Similar recoding was applied to all study variables.

Ethical Considerations

Ethical clearance was obtained from the Kenya Methodist University Scientific and Ethics Review Committee. Approval was obtained from the Kenya National Council of Science and Technology (NACOSTI/P/17/79210/15823), the County Director of Health in Nyandarua County (NYA/CHC/091/VOL.1/59), and Nakuru County on February 22, 2017. Permission to access the health facilities under study was also sought from the respective health facility managers. Before participation, informed consent was obtained from the health facility managers to ensure anonymity, confidentiality, and the right to withdraw from the study at any point.

Results

Demographic Characteristics of the Health Facility Managers

The response rate was 66 (92%). The demographic profile of the respondents is detailed in Table 1. Predominantly, respondents hailed from Nakuru County 39 (59%) and Level 3 healthcare facilities 35 (53%). The majority were male, 36(55%). Half of the respondents, 33(50%), had diploma educational qualifications, and a significant number, 41 (62%), were above 35 years old.

Table 1

Respondents' Demographic Characteristics (N=66)

		Frequency	Percent
Sex	Male	36	55
	Female	30	45
County	Nakuru	39	59
	Nyandarua	27	41
Facility Level	Level two	06	09
	Level three	35	53
	Level four	23	35
	Level five	02	03
Facility Ownership	Government	28	42
	Mission	10	15
	Private	28	42
Age in Years	25-35	25	38
	36-45	21	34
	46-55	16	22
	56-68	04	06
Education Level	Certificate	03	05
	Diploma	33	50
	Graduate	18	27
	Postgraduate	12	18
NHIF Quarterly per-capita	250	13	20
	300	26	39
	350	01	01
	400	03	05
	500	02	03
	Missing	21	32

However, 26 (39%) participants had knowledge of the correct capitation rate per quarter (see Table 2).

Table 2

Provider Knowledge of Quarterly Capitation Rates

Knowledge of Quarterly Capitation amount (KES)	n	%
Yes (KES 300)	26	39
No (Any amount)	19	29
Missing	21	32

Note: those with missing responses are assumed not to know the quarterly capitation rate

Further analysis was performed to determine the possible cause of the variation in knowledge of the correct quarterly capitation amount (see Table 3).

Table 3

Variation in Knowledge of Quarterly Capitation Rates

		Knowledge of quarterly capitation rates		Total	*P value*
		No n(%)	Yes n(%)		
County	Nakuru	19(47.5)	20 (76.9)	39 (59.1)	0.022
	Nyandarua	21(52.5)	06 (23.1)	27(40.9)	
		40 (100%)	26 (100%)		
Facility Level	Level two	03 (7.5)	03(11.5)	06 (09.1)	0.041*
	Level three	18(45.0)	17(65.4)	35(53.0)	
	Level four	17(42.5)	03(11.5)	20(30.3)	
	Level five	02(05.0)	03(11.5)	05(07.6)	
		40 (100%)	26 (100%)		
Facility ownership	Government	24(60.0)	04(15.4)	28(42.4)	0.001*
	Mission	04(10.0)	06(23.1)	10(15.2)	
	Private	12(30.0)	16(61.5)	28 (42.4)	
		40 (100%)	26 (100%)		
Highest level of education	Certificate	2 (5.0)	1 (3.8)	3 (4.5)	0.356*
	Diploma	23 (57.5)	10 (38.5)	33 (50)	
	Graduate	10 (25)	8(30.8)	18 (27.3)	
	Postgraduate	05 (12.5)	07 (26.9)	12 (18.2)	
		40 (100%)	26 (100%)		
Rank in the facility	Facility manager	25 (62.5)	13 (50.0)	38 (57.6)	0.330*
	Finance manager	06 (15)	05 (19.2)	11 (16.7)	
	NHIF claims Officer	0 (0.0)	02 (7.7)	02 (3.0)	
	Clinician	02 (5.0)	0 (0.0)	02 (3.0)	
	Administrator	07 (17.5)	06(23.1)	13 (19.7)	
Total		40 (100%)	26 (100%)		

The majority of those who knew the correct quarterly capitation rates were from Nakuru County 20(76.9%), private health facilities 16(61.5%), and Level 3 health facilities 17(65.4%). There was a significant difference in knowledge of capitation rates in the two counties (*p=0.022*), and a significant difference was observed among private, public, and faith-based health facilities (*p=0.001**), as well as facility levels (*p=0.041**).

Providing NHIF Outpatient Services

The dependent variable was the provision of outpatient services, assessed against the dimensions of patients' access to outpatient services as perceived by the providers. The dimensions assessed were availability, acceptability, physical accessibility, and financial affordability (Levesque et al., 2013); (Evans et al., 2013). Health facility managers were asked to rate the extent to which they provided patients with access to outpatient services under the NHIF National Health Scheme (Table 4).

Table 4

Providing Access to NHIF Outpatient Services (n=66)

	Disagree	Not Sure	Agree
	n (%)	**n (%)**	**n (%)**
NHIF outpatient services are consistently accessible	09(14)	00(00)	57(87)
NHIF prescribed medication is consistently accessible	18(27)	03(05)	45(68)
At times, NHIF patients may need to cover expenses for registration, medications, laboratory, or X-ray services.	48(72)	01(02)	17(26)
Patient waiting times are typically short	06(10)	01(02)	59(89)
Patients are granted access to all NHIF outpatient services	16(24)	04(06)	46(69)

Most respondents confirmed service availability 57 (87%), patient access to all services (69%), consistent availability of prescribed medicines 45 (68%), and no charges for services 48 (72%). These results show that patients incur costs for capitated services, face medication shortages, and encounter unavailable services despite prepayment.

NHIF Communication with Healthcare Providers

The NHIF communication with healthcare providers was one of the independent variables, and the information sought is presented in Table 5.

Table 5

NHIF Communication to Healthcare Providers (n=66)

	Disagree	Not Sure	Agree
	n (%)	n (%)	n (%)
NHIF furnishes staff with the necessary information to make informed decisions regarding outpatient services.	15(23)	03(05)	48(73)
NHIF provides patients with information on the benefit package	20(30)	13(20)	33(50)
NHIF updates on benefits are communicated to staff regularly	08(12)	04(06)	54(82)

The NHIF maintains communication with both healthcare providers and patients. A notable proportion indicated agreement that NHIF communicates with staff 48 (73%) and patients 33 (50%), with regularity in this communication reported by 54 individuals (82%). However, gaps persist in NHIF's communication with both parties.

Accreditation of Healthcare Providers by the NHIF

Healthcare provider accreditation is the second independent variable. The findings suggest that NHIF contracts accredited healthcare facilities, and facility staff comprehend the accreditation process with a response of 35 (53%) and 60 (91%), respectively. The location 38 (57%) and services offered 55 (83%) were deemed crucial factors in accreditation. Opinion was divided on health worker involvement in accreditation 33 (50%) (see Table 6).

Table 6

Accreditation of Healthcare Providers by the NHIF (n=66)

	Disagree	Not Sure	Agree
	n (%)	n (%)	n (%)
Capitated health services are provided by accredited health facilities	03(05)	03(05)	60(91)
Staff understand NHIF accreditation process	20(30)	11(17)	35(53)
NHIF accreditation considers facility location	12(19)	16(24)	38(57)
NHIF facility accreditation considers variety of services available	03(05)	08(12)	55(83)
Facility staff are engaged the accreditation by NHIF	23(35)	10(15)	33(50)

NHIF Service Contract with Health Providers

The health facility service contract with NHIF was identified as the third independent variable, focusing on the presence of a service contract with NHIF and staff awareness of its terms. The results are presented in Table 7.

Table 7

Health facility service contract with NHIF (n=66)

	Disagree	Not Sure	Agree
	n (%)	n (%)	n (%)
The facility maintains a current contract with NHIF for outpatient services	06(10)	02(03)	58(88)
Staff understand the contract terms	15(23)	06(09)	45(68)
An UpToDate service contract is available for reference purposes	09(14)	03(05)	54(82)
NHIF patients are referred for outpatient services	19(29)	05(08)	42(64)
Equipment to be used are outlined in the contract	10(16)	13(20)	43(65)
Formularies to be used are outlined in the contract	06(09)	08(12)	52(79)
Standard treatment guidelines are outlined in the contract	11(17)	07(11)	48(72)
Up to date records of NHIF outpatient services are available	08(12)	03(05)	55(83)
Updated data of NHIF members and beneficiaries is available	20(30)	04(06)	42(64)
Principal contributors have all their dependents registered and declared to NHIF	12(18)	13(20)	41(62)
At times, patients obtain NHIF benefits fraudulently	18(28)	12(18)	36(54)

A broad consensus of 58 (88%) exists regarding the presence of an updated service contract between the NHIF and health facilities. Moreover, 45 (68%) affirmed that the facility staff understood the contract terms, and an updated copy was available for 54 (82%). Forty-two (64%) of the health facilities occasionally referred patients to NHIF-capitated services. The NHIF provider contract delineates equipment requirements 43 (65%), formulary guidelines 52 (79%), and standard treatment guidelines 48 (72%). Facilities maintain current records of services provided to NHIF patients, as reported by 55 respondents (83%), access to member data by 42 (64%), and ensure that principal members register all authorized dependents by 41 (62%). Instances of patient engagement in fraudulent activities for unlawful benefit acquisition were occasionally reported by 36 patients (54%).

Provider Payment for NHIF Outpatient Services

Provider payments was the fourth independent variable. The views of health facility managers on capitation payments by the NHIF are presented in Table 8. The majority of respondents 51(78%) comprehended the capitation amount per beneficiary, in contrast with the findings in Table 2, where only 39% knew the correct quarterly capitation amount of the KES 300. Half 33(50%) reported delays in receiving NHIF capitation funds, with 54 82% confirming receipts via the facility bank account. There is uncertainty regarding the full amount received by the registered members. Despite delays, payments appear to be regular 32 (48%).

Table 8

Capitation Payments by NHIF (n=66)

	Disagree	Not Sure	Agree
	n (%)	n (%)	n (%)
I understand capitation reimbursement for each member	12(19)	03(05)	51(78)
The per capita funds are received in advance	33(50)	03(05)	30(46)
The per capita payments are deposited direct into facility bank account	05(08)	07(11)	54(82)
Sometimes the capitation funds are received by County office on behalf of the facility	52(79)	09(14)	05(08)
Full funds are received for all registered NHIF members	19(29)	17(26)	30(45)
The capitation funds from NHIF are regular	26(40)	08(12)	32(48)

Monitoring of Healthcare Provider Performance

The fifth independent variable was the monitoring of providers for quality service provision. Ideally, the NHIF quality assurance department and the County department of health should be monitored (See Table 9). Health facilities reported having an internal quality improvement (QI) team 49 (74%) with annual implementation plans 45 (68%), but lacked budgetary allocations for QI activities 26 (39%). Nearly equal proportions agreed 34 (51%) and disagreed (49%) on monthly monitoring by NHIF quality assurance teams. A majority confirmed regular supervision by the County Health Quality Assurance Team 50 (75%).

Table 9

Monitoring of Healthcare Provider Performance

	Disagree	Not Sure	Agree
	n (%)	**n (%)**	**n (%)**
The facility has an established internal Quality Improvement (QI) team	12(18)	05(08)	49(74)
An annual quality implementation plan exists	15(23)	06(09)	45(68)
A budget is allocated for QI activities.	26(39)	09(14)	31(47)
Staff members are knowledgeable about available Standard Operating Guidelines for delivering quality services.	05(08)	05(08)	56(84)
The facility undergoes monthly monitoring by the NHIF.	28(42)	04(06)	34(51)
The facility offers unrestricted access to NHIF patients' medical reports.	18(28)	10(15)	38(57)
Regular supervision is conducted by the County department of health.	10(15)	06(09)	50(75)
The facility maintains accurate financial records	02(04)	05(08)	59(89)
Daily reports on provided services are submitted to NHIF by the facility.	14(22)	08(12)	44(67)

Further analysis was undertaken to understand the extent to which healthcare provider performance was monitored (see Table 10). The results show that the majority of those who agreed that their performance was monitored were drawn from Nakuru County, 32 (82.1%); they were from Level 3 health facilities, 29 (82.9%); they were from private health facilities, 26 (92.9%); and they had knowledge of the correct quarterly capitation rates of KES. 300, 23 (88.5%).

Table 10

Monitoring Provider Performance

		Monitoring Provider Performance		Total	*P Value*
		Disagree	**Agree**		
County	Nakuru	7 (17.9)	32 (82.1)	39	0.371**
	Nyandarua	8 (29.6)	19(70.4)	27	
Total		15 (22.7)	51(77.3)	66	
Facility Level—	Level 2	2 (33.3)	4(66.7)	6	0.575**
	Level 3	6 (17.10	29(82.9)	35	
	Level 4	6 (30)	14(70)	20	
	Level 5	1(20)	4(80)	5	
Total		15 (22.7)	51 (77.3)	66	
Facility type	Public	12 (42.9)	16(57.1)	28	0.005**
	Mission	1 (10)	9 (90)	10	
	Private	2 (7.1)	26(92.9)	28	
Total		15 (22.7)	51(77.3)	66	
Knowledge of correct quarterly capitation rates	No	12 (30)	28 (70)	40	0.132**
	Yes	3 (11.5)	23(88.5)	26	
Total		15 (22.7)	51 (77.3)	66	

Univariate analysis. A summary of the models used for univariate and multivariate analyses is presented in Table 11.

Table 11

Healthcare provider engagement in the provision of NHIF outpatient services

Variable	$B_{multivar}$	B_{unv}	$S.E_{multivar}$	$S.E_{unv}$	Odds $Ratio_{multivar}$	Odds $Ratio_{unv}$	$P\ value_{multivar}$	$P\ value_{unv}$	R^2_{unv}
NHIF Communication									
No communication with Healthcare Provider (HCP) (ref)					1.000	1.000			
Communication with healthcare Provider (HCP)	-1.030	1.285	1.454	.875	.357	3.615	0.479	0.142	0.068
HCP knowledge of Accreditation by NHIF					1.000	1.000			
No knowledge of accreditation process (ref)									
Knowledge of accreditation process.	1.624	2.024	1.333	.910	5.074	7.571	0.223	0.026	0.147
Knowledge of Service Contract					1.000	1.000			
Don't know service contract (ref)									
Knows service contract	1.504	1.504	.967	.967	0.529	4.500	0.656	0.120	0.069
Provider Payment by NHIF					1.000	1.000			
Know payment process(ref)									
Don't know payment process	1.621	1.621	.912	.912	18.959	5.059	0.063	0.076	0.110
Monitoring provider performance					1.000	1.000			
Performance not monitored (ref)									
Monitored	3.219	3.219	1.149	1.149	31.254	25.000	0.024	0.005	0.344

$P<0.05$, sample size= 66, R^2=0.48t, unv=Univariate analysis, mv=Multivariate analysis

Univariate analysis indicated that monitoring health facility performance was the primary factor contributing to NHIF outpatient service provision in the examined counties, accounting for 34.4% of the variation. Provider accreditation followed, explaining 14.7%, while provider payments explained 11%. Service contracts and NHIF communication accounted for 6.9% and 6.8% of variation, respectively. Significant associations ($p<0.05$) were identified between health facility accreditation by the NHIF and monitoring provider performance. Monitored facilities showed a 25-fold increase in the odds of providing outpatient services, while facilities aware of the accreditation process experienced a 7.571-fold increase. Further analysis on monitoring healthcare provider performance showed that there was a significant difference in how health facilities are monitored; monitoring of performance seems to be more common among private healthcare providers than among public and faith-based health facilities. No significant difference was detected in monitoring between the two counties, either by facility level or level of knowledge of capitation (see Table 10).

Multivariate Analysis

Logistic regression was employed to assess the relationship between independent variables (NHIF communication, provider accreditation, service contract, provider payments, and monitoring provider performance) and dependent variable (NHIF outpatient service provision). Hosmer and Lemeshow's goodness-of-fit test gauged the model's accuracy. The model was statistically significant ($\chi 2=3.606$, $p>0.05$) and accounted for 48% of the variance. Notably, monitoring provider performance by NHIF and the county department of health exhibited a significant association ($p=0.024$) with provision, indicating a 31-fold increase in service odds among the monitored facilities (see Table 11). Despite irregular NHIF monitoring, most facilities reported supervision by the NHIF and County Health Quality Assurance Teams.

Discussion

This study sought to assess how healthcare providers' engagement in the strategic purchasing of NHIF outpatient services influences the provision of these services, with a focus on NHIF communication, accreditation and services contracts, provider payments, and monitoring of provider performance influence the provision of these services. The delivery of NHIF outpatient services faces challenges as healthcare providers transfer the burden of capitation to patients. Patients often bear the costs of capitated services because of the low NHIF rates and delayed reimbursements (Eunice et al., 2019), which affect facility operations and patient care (Sieverding et al., 2018; Obadha et al, 2019). Providers' misunderstandings of NHIF contracts may lead to service denial. This information gap can result in under-provision of services, particularly under capitation (WHO, 2004), impacting equity, quality, and efficiency in healthcare provision (Munge et al., 2018).

In the present study, inconsistencies in NHIF communications with providers were noted. Other studies observed unclear channels of communication and feedback mechanisms between citizens (Eunice et al., 2019) and county health departments (Mwangi et al., 2019). According to Kazungu et al. (2021), purchasers have weak or unclear communication strategies with patients and providers. Inconsistent communication practices raise concerns, particularly regarding the dissemination of new protocols (Sieverding et al., 2018). Additionally, communication regarding delays in reimbursement is lacking, as observed in previous studies (Obadha et al., 2019). In Tanzania, providers expressed discontent with claim settlements and forums through which they could channel their complaints. In this study, health facility managers cited that clients had inaccurate information and expectations regarding the NHIF benefit package. According to the Joint Learning Network for Universal Health Coverage (UHC), achieving UHC requires strategic communication efforts to engage all stakeholders effectively. Strategic communication ensures that stakeholders comprehend their roles,

rights, responsibilities, and opportunities, thus enabling them to leverage the benefits of UHC fully.

A service contract represents the final step in a purchasing decision following the selection of services and providers who will administer care and subsequent provider accreditation (Obadha et al., 2019). However, some providers were unaware of a contract with NHIF. Challenges include staff unfamiliarity with contract terms and the contract's voluminous nature. The NHIF contracts both public and private health facilities, yet public facilities undergo less stringent evaluations (Munge et al., 2015). This mirrors our study's findings, which indicate a more extensive monitoring of private facilities. Some facilities lacked updated lists of NHIF-enrolled members, with incomplete declarations of dependents. Additionally, this study identified patients engaging in fraudulent activities to gain benefits, which is similar to other studies that state that fraud by patients, including impersonation, has led to an increase in healthcare costs (Angima & Omondi, 2016; Johnson & Nagarur, 2016). The predictability of NHIF capitation funds is limited by providers' insufficient information regarding enrollee numbers in their risk pools (Obadha et al., 2019).

The NHIF commits to settling claims within 14 days despite the lack of statutory backing (Munge et al., 2015). Discrepancies in understanding capitation rates exist across counties, facility levels, and ownership types. Private facilities demonstrate better comprehension because they perceive capitation as a significant revenue source (Obadha et al., 2019), with providers emphasizing the importance of per capita rates (Obadha et al., 2020). The limited awareness of capitation rates among public facility managers may stem from restricted access to funds (Obadha et al., 2019). Many respondents reported receiving KES.250-300; notably, NHIF capitation rates are often unknown to most citizens, and it is unclear whether a joint effort was made to develop the rates together with stakeholders (Munge et al., 2018). Despite the standardization of capitation rates per enrollee in July 2017, disparities persisted in NHIF's capitation rates based on healthcare provider ownership. Private providers reportedly receive higher rates than public providers (Obadha et al., 2019). Delayed NHIF capitation disbursements impede service delivery, causing payment delays for suppliers and subsequent delays in medical supply delivery to health facilities and patients (Gathu et al., 2016; Etiaba et al., 2018).

In this study, there was a noticeable disparity in the extent of monitoring between private and public healthcare facilities as well as between faith-based facilities. Service contracts between healthcare providers and the NHIF include provisions for monitoring cost and quality through client exit interviews and the Kenya Quality Model for Health (Munge et al., 2015). The NHIF is legally mandated to conduct regular annual inspections of contracted facilities and ensure adherence to established standards of care. However, compliance officers

primarily engage with employers rather than beneficiaries (Munge et al., 2018). NHIF visits to contracted facilities for health service provision are infrequent compared to those by community-based health insurance schemes, which regularly monitor patient services (Gathu et al., 2016).

Similarly, purchasers lack the capacity to ensure quality assurance and enforce contracts (Kazungu et al., 2021). County health departments are tasked with monitoring provider performance through quarterly supervision by county and sub-county health management teams as well as facility quality improvement teams. However, resource constraints and a lack of political will often result in irregular supervision activities, as these are not considered priorities by the county treasury (Etiaba et al., 2018). This may be partly explained by inadequate linkages between the Ministry of Health policies and the NHIF, which can hinder adequate stewardship and oversight (Kazungu et al., 2021). The capacity of the NHIF to monitor provider performance is limited, as are its clear monitoring frameworks and reporting structures (Munge et al., 2018; Mbau et al., 2018). Therefore, the National Health Insurance Fund needs to establish effective monitoring mechanisms to ensure that all entitled insured individuals receive full benefits. Patients often lack sufficient knowledge of their health interventions, leading to potential under- or over-provision of services (WHO, 2004). Under-provision is particularly common under capitation schemes, highlighting the importance of monitoring service utilization to identify deficiencies. Investment in routine monitoring systems, such as health information systems, facilitates effective tracking of health service provisions (Kuwawenaruwa et al., 2022). The quality monitoring of primary care may involve various methods, such as direct observation of service encounters, exit interviews with patients, provider interviews, and medical record reviews.

Conclusion

Healthcare providers' engagement with NHIF in strategic purchasing shapes the delivery of outpatient services. This involvement encompasses communication, accreditation, service contracts, payment procedures, and the monitoring of facility performance. Providers generally acknowledge that NHIF's communication efforts, gaps exist, especially in terms of accreditation and contract comprehension, due to limited staff involvement and complex contract terms. This lack of understanding may contribute to under provisioning, as providers may not fully grasp the patients' entitlements outlined in contracts. NHIF payments to providers delayed leaving providers uncertain about their entitled amounts. Monitoring provider performance is primarily conducted by county health departments, with private providers receiving more attention than public providers. Although NHIF outpatient services are generally accessible, some providers report medication shortages in public facilities, while private facilities may charge for registration, medications,

and tests. Effective monitoring of NHIF performance is crucial to ensure the quality of NHIF primary care services.

Recommendations

The NHIF's quality assurance department should consistently monitor healthcare providers to ensure equitable and efficient service delivery. NHIF should establish regular feedback sessions on service contracts and accreditation between purchasers and providers to reinforce quality service delivery, address challenges, and share the best practices. The NHIF should avail a comprehensive list of enrollees to healthcare providers for better planning despite capitation fund delays and clarify communication channels for information exchange.

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Conflict of interest

The authors declare that they have no conflicts of interest.

Data availability

The data will be made available by the corresponding author upon request.

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