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HEALTHCARE SCHEMES AND FINANCIAL PERFORMANCE OF PUBLIC HOSPITALS IN NAIROBI CITY COUNTY KENYA

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ABSTRACT

Since the devolution of the health sector to the counties, performance in public health hospitals in Kenya has been an issue of concern in terms of inefficiencies resulting to poor service delivery and lack of quality of care in the hospitals. Despite the high coverage of NHIF, financial performance in public hospitals in Kenya has been an issue of concern. The overall goal of this research is to look at the impact of healthcare schemes on public hospital financial performance in Nairobi City County. The specific objectives were to establish the effect of Civil Servants scheme, HISP scheme, Linda Mama scheme and National scheme on the financial performance of public hospitals in Nairobi City County. The descriptive design was applied in this study. The population of interest comprised of the 80 public hospitals in Nairobi City County where the census technique was used. The study covered a period of 2 years that included the year 2019 and 2020. The secondary data was collected through a data collection sheet. The study carried out descriptive statistics and inferential analysis such as Pearson correlation and multiple regression model was used to assess the collective effect of four independent variables on the dependent variable. The study used Statistical Package for Social Science (SPSS) as a data analysis tool. It was concluded that Civil Servants scheme, Health Insurance Subsidy programme, Linda Mama scheme and National scheme had a positive and strong effect on the financial performance of public hospitals in Nairobi City County in terms of operating surplus/deficit. It was recommended that NHIF put in place good financial management practices to enhance accountability of the funds directed to the Civil Servants Scheme. NHIF should increase the level of funding through the Health Insurance Subsidy scheme as the scheme target the near poor people who may not afford health insurance. NHIF should sensitize more women to join the Linda Mama scheme so that they get prenatal and antenatal care through proper delivery in hospitals. NHIF should sensitize the public and especially those in the informal sector who are not covered by the National scheme on the importance of coverage while at the same time enhancing the accountability of the funds contributed.

Keywords: *Civil Servants Scheme, HISP Scheme, Linda Mama Scheme, National Scheme, Financial Performance*

INTRODUCTION

Health care has long been an issue for many countries with huge populations and a significant section of the population living in poverty. As a result, healthcare access and fairness have become major concerns, and health insurance coverage has not yet reached its full economic potential. Yet, until recently, most policymakers thought that impoverished families in developing nations whose existence is fragile would not pay health insurance premiums even to avoid hospitalization expenditures (Singh et al., 2017). Healthcare systems compel organizations, such as the government, employers, corporations, and families, to contribute in advance of the expenses incurred as a result of disease or service consumption. These pre payments must allow for the creation of a fund from which all or part of the health care costs can be paid or repaid. To fulfill the aims of financial risk sharing and shielding families from catastrophic health care costs, pooling is an essential component of every health insurance program (Agarwal, Mazurenko & Menachemi, 2017).

According to the World Health Organization study (2021), health funding is a critical function of health systems that can help to achieve universal health coverage by boosting service coverage and financial security. Currently, millions of individuals are unable to use services owing to the high cost. Even when they pay out of pocket, many others receive terrible care. Health funding strategies that are carefully conceived and executed can assist to solve these difficulties. Although great progress has been made toward UHC globally, the World Bank cautioned in 2019 that if present trends continue, up to 5 million people may be unable to obtain health care by the end of this decade. According to the research, countries must boost expenditure on primary health care by at least 1% of their GDP to reach the health objectives set forth in the Sustainable Development Goals (World Bank Report, 2020).

Most countries around the world, especially developing countries have recently switched towards a health insurance model in attempts to achieve universal health coverage and access (Hogan et al., 2018). Universal health coverage (UHC), a major goal in under Sustainable Development Goals, seeks to ensure people obtain the health services whenever they need and devoid of risk catastrophic health spending. In national health insurance programs, governments provide compulsory health insurance to all or parts of the population (Chapman, 2016). National health insurance programs provide governments with greater incentives and instruments for regulating the medical market than programs of government subsidies. National health insurance programs may be directly administered by government agencies, or by independent insurance carriers, often the voluntary mutual aid societies or non profit group plans that existed prior to the government program (McGuire & Van Kleef, 2018).

Globally, in the United Kingdom (UK) the National Health Service (NHS) is a comprehensive public-health service under government administration, established by the National Health Service Act 1946 and subsequent legislation (Gorsky & Millward, 2018). Virtually the entire population is covered, and health services are free except for certain minor charges. The NHS provides primary healthcare for everyone, regardless of residential status. The NHS is different from many healthcare systems elsewhere as it is funded through taxation rather than health insurance (Allsop, 2018). The service has managed to provide generally high levels of health care while keeping costs relatively low. The Coverage is universal. All those ordinarily resident in England are automatically entitled to NHS care, largely free at the point of use, as are non residents with a European Health Insurance Card (Kullberg, Blomqvist & Winblad, 2019). For other people, such as non European visitors or undocumented immigrants, only treatment in an emergency department and for certain infectious diseases is free (Guest, Ayoub & Vowden, 2017).

In Africa, Ghana is one of the few other countries that have National Health Insurance (NHI) law governing their health system (Etuaful, 2016). Ghana in 2003, introduced the National Health Insurance Scheme (NHIS) with the idea of reducing the negative impact of the user fee, improving low coverage of Community Based Health Insurance (CBHI) and enhancing the essential role of public funding to achieve universal health care (Abiiro & McIntyre, 2013). The National Health Insurance Act (NHIA) was formed officially to take responsibility to make sure that all citizens of Ghana would have access to basic healthcare (Abiiro & McIntyre, 2013). The NHIS is Ghana's fundamental policy strategy for attaining universal health coverage where everyone irrespective of income levels can equally access basic health care. The rationale behind the introduction of NHIS in 2003 was to ensure that every Ghanaian would be hooked to a health insurance scheme that would ensure unbiased healthcare accessibility and sufficiently take total care of the individual against any unbearable expenditure (Etuaful, 2016).

The Tanzanian government has been demonstrating increasing commitment towards achieving universal health coverage expanding health insurance coverage in the country (Chemouni, 2018). NHIF membership enrolment in Tanzania grew by 40% during a five year period, from FYs 2012/13 to 2016/17. The number of beneficiaries covered by the NHIF rose by 18% during the same period, although the anticipated ratio dependents to main members declined from 5.52 to 4.63. In comparison, throughout the same time period, use of NHIF-covered services surged dramatically, with the number of yearly visits growing by 103 percent. To be effective, the NHIF will need to acquire efficiency through changes such as the introduction of a tight referral system and capitation at the main provider level (Lee, Tarimo & Dutta, 2018).

The National Hospital Insurance Fund (NHIF) is a government-run organization that was founded in 1966 to offer mandated health insurance to employees in the formal sector. In 1998, its purpose was expanded to include workers in the informal sector. For formal sector workers, who pay an income-based monthly payment through statutory deductions, membership in the NHIF is required; for informal sector workers, who make a flat rate contribution directly to the NHIF, membership is optional. The National Health Insurance Fund (NHIF) is Kenya's largest health insurer, covering 16 percent of the country's population, whereas the 32 private health insurers jointly cover just 1% of Kenyans (National Hospital Insurance Fund, 2020). The number of Kenyans registered in the National Health Insurance Fund (NHIF) climbed from 2.7 million in 2010 to 6.6 million in 2017. Despite an increase in the percentage of Kenyans registered in the the NHIF from 2010 to 2017, the NHIF's level of health insurance coverage remains low (National Hospital Insurance Fund, 2020).

Kenya has committed to achieving UHC by 2022, and to improve the NHIF's capacity to deliver on the promise of UHC to Kenyans, the Kenyan government has implemented several reforms aimed at increasing population coverage with the NHIF to improve access to quality health care services while protecting against the negative effects of out-of-pocket payments. The Civil Servants Policy was created by the NHIF in 2012 as an insurance scheme for formal sector government personnel and their dependents (civil servants) (CSS). The Kenyan government remits medical allowances to the NHIF as premium payments under the CSS, which were formerly given directly to public personnel (National Hospital Insurance Fund, 2020).

The Health Insurance Subsidy Programme (HISP) was implemented in April 2014 to increase population coverage through the NHIF and to enhancing coverage equality. The HISP program was expanded to roughly 170,000 families in August 2016. HISP beneficiaries receive comprehensive services from contracted public and private provider. Another

scheme by NHIF is the Linda Mama Service launched in 2016, which is a public funded health scheme that ensures expectant women and infants have access to quality and affordable health service, as per the Presidential directive in 2013 that led to the introduction of Free Maternity Services in all public health facilities (National Hospital Insurance Fund, 2020).

Problem Statement

Since the devolution of the health sector to the counties, performance in public health hospitals in Kenya has been an issue of concern in terms of inefficiencies resulting to poor service delivery and lack of quality of care in the hospitals (Mwatsuma, Mwamuye & Nyamu, 2014). According to the Kenya Constitution 2010, Vision 2030, Kenya Health Policy Framework 2011-2030, and the Big Four Agenda, the Kenya government wants to enhance the performance of public hospitals by enhancing access and quality of health care. Current NHIF coverage is 15.8%, which is equivalent to over 80% of the total population with any form of health insurance in Kenya (NHIF, 2017). Despite the high coverage of NHIF, financial performance in public hospitals in Kenya has been an issue of concern (Barasa et al., 2018). A case in point was in October 2018 when at Mama Lucy Level Four Hospital there were issues of congestion of patients, lack of adequate equipment, and inefficient management policies and procedures as a result of poor management of financial resources (Nairobi County Assembly Committee Report, 2018). Another concern was Pumwani Maternity Hospital which made headlines of mismanagement and understaffing due to poor management of its financial resources (Nairobi County Assembly Committee Report, 2018).

There exists a gap in regard to healthcare schemes and financial performance of public hospitals; in Nigeria, Uche (2016) focused on attaining universal health coverage in Nigeria using the National Health Insurance Scheme and established the challenges to be human resource, infrastructural challenges and insufficient stakeholder engagement. However, the study was a regional study and didn't link public funded NHIF schemes and financial performance of hospitals. Locally Karanja (2016) studied service quality and organizational performance in the health sector: a case of Mama Lucy Hospital, Nairobi and established that customers use tangibility, reliability, responsiveness, assurance and empathy dimensions when evaluating service quality, and these dimensions were an issue of concern at the hospital. However, a gap exists as the study didn't address the issue of the link of healthcare schemes and financial performance of public hospitals. Therefore, this study is thus timely to fill the gap that exists by focusing on healthcare schemes and financial performance of public hospitals in Nairobi City County.

Objectives

i. To establish the effect of Civil Servants scheme on financial performance of public hospitals in Nairobi City County.
ii. To evaluate the effect of HISP scheme on financial performance of public hospitals in Nairobi City County.
iii. To evaluate the effect of Linda Mama scheme on financial performance of public hospitals in Nairobi City County.
iv. To determine the effect of National scheme on financial performance of public hospitals in Nairobi City County.

Hypotheses of the Study

H_{01}: Civil Servant scheme does not have a significant effect on financial performance of public hospitals in Nairobi City County.

H_{02}: HISP scheme does not have a significant effect on financial performance of public hospitals in Nairobi City County.

H_{03}: Linda Mama scheme does not have a significant effect on financial performance of public hospitals in Nairobi City County.
H_{04}: National scheme does not have significant effect on financial performance of public hospitals in Nairobi City County.

LITERATURE REVIEW

Theoretical Review

Health Insurance Theory

The conventional theory of health insurance was pioneered by Nyman (2001) and has held that becoming insured is important since the additional health care purchased as a result of becoming insured is an opportunistic price response and is welfare decreasing because the value of the additional health care purchased is less than its costs (Nyman, 2003). A central implication of this theory is that any additional health care consumed as a result of becoming insured that is, any moral hazard is welfare decreasing. Healthcare costs and missed wages due to illness, according to the notion, are a substantial source of risk for people and families (Rice, Hodgson & Kopstein, 2015). Exposure to such dangers is not only costly in and of itself (for those who are risk-averse), but it can also have long-term consequences, particularly for the poor. The importance of information in insurance market performance has long been recognized (Tarricone, 2016). Asymmetric information in the ex post stage that is, after an insured event has occurred can affect the financial performance of hospitals in the health insurance industry (Fang, Keane & Silverman, 2008). When insurance contracts are formed based on endogenous incurred expenditures rather than exogenous health demands, moral hazard arises. Over-consumption of care is caused by this type of insurance, and the resulting distortionary costs are countered by lowering the level of insurance (Tarricone, 2016).

Economic Efficiency Theory

Economic Efficiency theory was developed by Vilfredo Parato who indicated that economic efficiency is achieved when every resource is optimally allocated to serve each individual or entity in the best way while minimizing waste and inefficiency (Pareto & Schwier, 1971). Economic efficiency is a term used to estimate the results of an economic activity comparing the efforts involved in the respective activity. Economic efficiency is founded on the assumption that resources are limited. As a result, there are insufficient resources to ensure that all elements of the economy operate at peak efficiency at all times (Schultz, 2001). Instead, precious resources must be dispersed optimally to suit the demands of the economy while simultaneously reducing waste production. Economic efficiency is the most important qualitative aspect in economic growth since it ensures that the outcome grows in absolute terms while exerting the same amount of work. Profitability is just one way of expressing economic efficiency, which attempts to minimize resources accruing to a unit of effectiveness (Zerbe, 2002).

Empirical Review

Yeshiwas et al. (2018) focused on civil servants' demand for social health insurance in Northwest Ethiopia where a questionnaire was used. The data was input into Epi-Info version 7.0 initially, then transferred to SPSS version 20 for analysis. We used descriptive statistics, as well as bivariate and multivariable logistic regression analyses. The demand for social health insurance (SHI) was shown to be greater among public personnel. Demand for SHI was highly correlated with SHI awareness and trust in the SHI agency. As Ethiopia strives to cover all formal-sector workers, increasing public officials' awareness of SHI and the agency that provides the program might increase demand for SHI. More study is needed on the readiness of healthcare organizations and professionals to meet the

forthcoming insurance-driven quality health service demand and health-seeking behaviour change.

Sepehri and Vu (2019) studied on accessibility of health insurance on higher level public health facilities used a descriptive study was adopted and questionnaires were used as the tool for data analysis. The number of uninsured outpatient interactions at all levels of health facility was found to be lower than that of insured patients. The uninsured near-poor were more likely to seek healthcare at higher level facilities than lower level institutions, but the insured were the opposite. It is commonly acknowledged that the near poor are more prone to suffer from health problems and have more medical demands. However, these demands are frequently unmet owing to high medical costs, which can be addressed when consumers enroll in health insurance plans. The uninsured are more likely to use higher level health care facilities because they may believe that if they pay the entire amount, they must have access to health-care services of greater technical quality. Higher level public health facilities are thought to provide superior treatment than lower-level public health facilities.

Barasa, Rogo, Mwaura, and Chuma (2018) analyzed published and grey literature on significant changes achieved by the Kenya National Hospital Insurance Fund since 2010, as well as their implications and lessons for Universal Health Coverage. The NHIF used a health funding evaluation methodology to assess the feasibility, equality, efficiency, and long-term viability of various health financing schemes. The Civil Servants Scheme was introduced as part of the NHIF changes, it was discovered (CSS). Following that, a step-by-step quality improvement system was implemented, as well as a health insurance subsidy for the poor (HISP). Monthly contribution rates were revised, the benefit package was expanded, and provider reimbursement rates were revised upward. Despite gains in a number of areas, these changes have prompted questions about equity, efficiency, practicality, and long-term sustainability.

Mutungi (2018) investigated the characteristics affecting women in Starehe Sub County, Kenya, to participate in the Linda Mama maternity healthcare delivery program. The study employed a descriptive survey research approach to collect data from respondents, which was then analyzed using SPSS version 20 and presented in tables, charts, and narratives. The majority of the women in the Mathare slums say there is inadequate information regarding the Linda Mama initiative, according to the study's findings. In the same line, they consider that registering for the program is time-consuming. The ladies were generally pleased with the attitudes of their healthcare professionals, albeit a significant percentage were skeptical. Furthermore, the ladies recognize their freedom to make their own decisions and have said that the experiences of their friends and community members will have no bearing on their decision to participate in the Linda Mama program. The majority of women were undecided about whether or not to participate in the program.

Daniels and Mbuthia (2018) evaluated the impact of Linda Mama programme and its impact in Bungoma County. The private providers estimated that 75-90% of their patients were on the NHIF Supa Cover with the remainder covered through Linda Mama and private insurance, with very few fee-paying. Health managers in public primary health care (PHC) facilities considered their estimated number of deliveries as their Linda Mama target while estimates at hospital level are more difficult, given their referral function and women by-passing PHC facilities. It was noted that Linda Mama represents a tremendous opportunity for expectant mothers, who previously may not have been able to deliver in a facility. As expectant mothers can designate a facility, healthy competition between providers also represents potential for driving up clinical quality and client-centred care within facilities and

across providers. The effective inclusion of modern Linda Mama would allow Kenya a viable strategy for improving its uptake.

Onoka et al. (2015) evaluated a universal coverage: a policy analysis of the development of the National Health Insurance Scheme in Nigeria. The study used document reviews, in-depth interviews, a further review of preliminary analysis by relevant actors and use of a stakeholder analysis approach. The experience of Nigeria shows that if political leaders are engaged in a UHC related proposal, the strong political leadership they give speedily to policy process. However, public authorities should closely monitor policymaking processes involving private sector actors to ensure that no tactics that jeopardize the achievement of UHC are implemented. Securing federal level agreement does not ensure that a national health insurance proposal has become a proposal in circumstances where authority is divided between federal and state governments. States must be given a voice in the process and in the governance structure.

In Embu County, Kenya, Nguru, Kodhiambo and Yitambe (2018) investigated the the uptake of health insurance among patients attending public and private hospitals. A descriptive cross-sectional research was conducted. Questionnaires were used to gather data, which was then analyzed using SPSS version 20 to provide descriptive and inferential statistics. Uptake of health insurance was shown to be influenced by job status, kind of employment, and conditions of employment. Despite the fact that public health insurance has a high uptake, the majority of the population prefers private health insurance. The study concluded that health insurance uptake was low, and that gender, degree of education, marital status, and status, type, and conditions of work all influenced uptake.

Oladimeji, Alabi, and Adeniyi (2020) investigated health professionals' awareness, knowledge, and perceptions of the National Health Insurance Scheme (NHIS) in Mthatha, Eastern Cape, South Africa. A simple random sample was employed in this descriptive cross-sectional study. It was highlighted that health professionals were well-informed about the NHIS, and that the media had played an important role. The majority of respondents stated their doubts about the government's degree of readiness, citing a lack of human resources as well as a lack of infrastructure to facilitate full implementation. Re-engineering of the public health system through personnel enhancement and infrastructure improvements is required to properly implement NHIS across the country.

Conceptual Framework

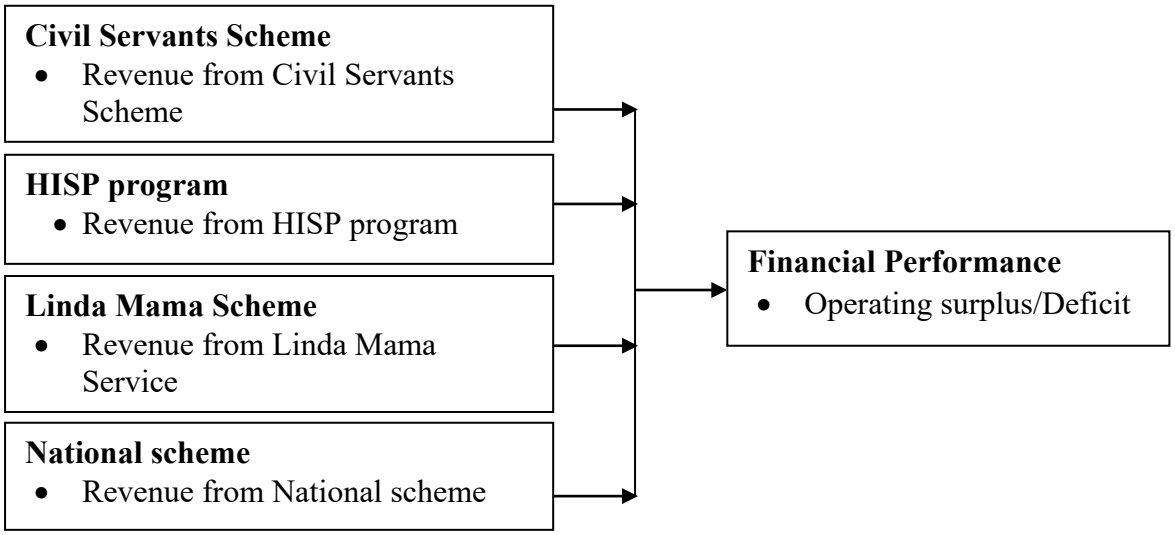

Figure 1: Conceptual Framework

METHODOLOGY

The descriptive design was used because it allows the researcher to acquire vast amounts of data from a big population in a cost effective, highly effective, and efficient manner through the use of questionnaires (Thornhill, Saunders & Lewis, 2012). The 80 public hospitals in Nairobi City County were the target population. Since the research population is not big, the researcher used the census technique to completely cover the entire population (Kothari, 2006). The researcher made use of secondary data that was obtained from NHIF financial statement and public hospitals in Nairobi City County financial statements. The study covered a period of 2 years, the year 2019 and 2020. The secondary data was collected through a data collection sheet. Pearson correlation and other inferential statistics were used. The researcher also utilized a multivariate regression model to determine the link between the independent and dependent variables, with the regression approach being valuable for its capacity to evaluate the nature of effect of certain independent factors on a dependent variable.

RESULTS

Descriptive Statistics Analysis

The study shows the research finding on the descriptive statistic in the data collected so as to establish the standard deviations, maximum, mean and minimum of the variables.

Table 1: Descriptive Statistics

	N	Min	Max	Mean	Std.Dev
Civil Servants Scheme coverage	116	940,172	105,832,100	11,070,332	15,624,842
HISP program	116	435,810	80,945,440	5,274,742	9,341,653
Linda Mama scheme	116	1,641,892	176,170,800	16,231,840	23,829,427
National scheme	116	5,907,161	901,369,200	75,471,777	124,226,217
Operating surplus/Deficit	116	3.2674	0.7842	1.8051	0.4261

According to the results, the report discovered a mean revenue of Ksh 11,070,332 for Civil Servants Scheme coverage, the mean revenue from HISP program was Ksh 5,274,742, the mean revenue from Linda Mama scheme was Ksh 16,231,840 while the revenue mean from the National scheme was Ksh 75,471,777. The mean operating surplus/deficit was 1.8051. There was a deviation of Ksh 15,624,842 from the mean in regard to Civil Servants Scheme coverage, deviation of Ksh 9,341,653 from the mean in regard to HISP program and deviation of Ksh 23,829,427 from the mean for Linda Mama scheme. The deviation from the mean for National scheme was Ksh 124,226,217 while financial performance in terms of operating surplus/deficit had a deviation of 0.4261.

Correlation Analysis

Table 2: Correlation Analysis

		Financial performance	Civil Servants Scheme	HISP program	Linda Mama scheme	National Scheme
Financial performance	Pearson Correlation	1				
	Sig (2-tailed)					
	N	116				
Civil Servants Scheme		.703**				
	Pearson Correlation		1			

	Sig (2-tailed)	.000				
	N	116	116			
HISP program	Pearson Correlation	.723**	.398	1		
	Sig (2-tailed)	.000	.251			
	N	116	116	116		
Linda Mama scheme	Pearson Correlation	.790**	.460	.469	1	
	Sig (2-tailed)	.000	.246	0.084		
	N	116	116	116	116	
National scheme	Pearson Correlation	.698**	.299	.247	.112	1
	Sig (2-tailed)	.000	.152	0.073	0.388	
	N	116	116	116	116	116

According to the study's results on the correlation analysis between financial performance and Civil Servants Scheme revenue, there was a strongly significant correlation indicated by coefficient of 0.703 at the 5% significant level. The findings were in support of Yeshiwas et al. (2018) that the demand for social health insurance (SHI) was shown to be greater among public personnel and demand for SHI was highly correlated with SHI awareness and trust in the SHI agency hence increased efficiency of health care provision.

A positive and strong correlation was found between HISP program revenue and financial performance as indicated by correlation coefficient of 0.723 at 5% significant level. The findings were in support of Nguyen (2015) findings in regard to the importance of HISP program in enhancing efficiency of health care. It was noted that the near-poor people who needed health care paid a substantial amount of money relative to their income, more so those who were in need pf inpatient treatment. As a result, health insurance's financial security is quite important.

A positive and strong correlation was found between Linda Mama scheme revenue and financial performance as indicated by correlation coefficient of 0.79 at 5% significant level. The findings were in support of Daniels and Mbuthia (2018) findings which highlighted the relevance of Linda Mama scheme in enhancing efficiency of healthcare. Linda Mama represents a tremendous opportunity for expectant mothers, who previously may not have been able to deliver in a facility. As expectant mothers can designate a facility, healthy competition between providers also represents potential for driving up clinical quality and client-centred care within facilities and across providers.

Finally, a positive and strong correlation was found between National scheme revenue and financial performance indicated by correlation coefficient of 0.698 at 5% significant level. They findings supported Nguru, Kodhiambo and Yitambe (2018) findings on the importance of National health insurance scheme in enhancing efficiency of healthcare. It was noted that efforts and financial investments are needed to increase people's awareness of health insurance and their use of it, as well as improving the efficiency and affordability of NHIF services in order to include more individuals who work in the informal sector.

Regression Analysis

Table 3: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.835a	0.697	0.686	0.3841

Source: Researcher (2022)

R which is the correlation coefficient showed the relationship that exist between or among the study factors, from the findings it was noted there being presence of a strong association between the study variables as indicated above by 0.835. The R^2, showed that 69.7% of the variations in financial performance in public hospitals were explained by the independent factors. Munge et al. (2019) that the Kenyan has developed a number of programs under NHIF aimed at increasing efficiency of healthcare in terms of improving access to quality health care while at the same time reducing the burden of payment on the patients.

Table 4: Summary of One Way ANOVA Results

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	37.590	4	9.397	63.709	.000a
	Residual	16.373	111	.148		
	Total	**53.963**	**115**			

(Critical value = 2.453)

Source: Researcher (2022)

The table showed that the population parameters significance level was at 0 revealing that the data can be used to make inferences as the p value was 0.05. The overall model relationship was considered significant since F calculated of 63.709 was higher than the F critical (value = 2.453) at 5% level of significance indication that all variables used had a significant effect on financial performance of the hospitals. The findings supported Oladimeji, Alabi and Adeniyi (2020) findings that investment in health insurance is crucial in enhancing financial performance of healthcare. Re-engineering of the public health system through personnel enhancement and infrastructure improvements is required to properly implement NHIS across the country.

Hypothesis Testing

Table 5: Hypothesis Testing

Research Hypothesis	β	t	Sig	Comment
$H_0$1: Civil Servant scheme does not have a significant effect on financial performance of public hospitals in Nairobi City County.	4.123	3.938	.000	Reject H_{O1}
$H_0$2: HISP scheme does not have a significant effect on financial performance of public hospitals in Nairobi City County.	.027	.026	.979	Do not reject H_{O2}
$H_0$3: Linda Mama scheme does not have a significant effect on financial performance of public hospitals in Nairobi City County.	1.404	4.894	.000	Reject H_{O3}
$H_0$4: National scheme does not have a significant effect on financial performance of public hospitals in Nairobi City County.	3.221	2.595	.011	Reject H_{O4}

Source: Researcher (2022)

It was established that there existed a significant relationship between civil servants scheme and financial performance of public hospitals in Nairobi City County as the p value was 0 less than 5%. Yeshiwas et al. (2018) that the demand for social health insurance (SHI) was shown to be greater among public personnel and demand for SHI was highly correlated with

SHI awareness and trust in the SHI agency hence increased efficiency of health care provision.

HISP scheme programme did not have a significant effect on financial performance of public hospitals in Nairobi City County as the p value was 0.979, which was more than 5%. The findings differed with Sepehri and Vu (2019) who found that investment in HISP programs enhance efficiency of healthcare as the people who are uninsured privately tend to use the national insurance scheme because they believe that if they pay the entire amount they must have access to health-care services of greater technical quality as they would privately at a cheaper cost.

It was established that Linda Mama scheme had a significant effect on financial performance of public hospitals in Nairobi City County as the p value was 0 less than 5%. Linda Mama scheme tend to enhance healthcare efficiency as indicated by Mutungi (2018) who indicated that women in slums recognise the importance of Linda Mama scheme. They indicated the high health of the infants born as a result of the program, as well as the fact that the program helped to lessen problems during delivery.

It was noted that National scheme had a significant effect on financial performance of public hospitals in Nairobi City County as the p value was 1.1 less than 5%. The findings supported Karanja (2014) who was of the opinion that universal health provision for all is vital for the public as it enhances the well-being of the public and hence they are able to participate effectively in the growth of the economy through enhancement of efficiency in health service delivery.

Table 6: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std Error	Beta		
1	(Constant)	5.720	3.101		1.845	.068
	Civil Servants Scheme	4.123	1.047	5.824	3.938	.000
	HISP program	.027	1.028	.038	.026	.979
	Linda Mama scheme	1.404	.287	1.929	4.894	.000
	National scheme	3.221	1.241	4.642	2.595	.011

$Y= 5.720 + 4.123X_1 + 0.027X_2 + 1.404X_3 + 3.221X_4$

Source: Researcher (2022)

From the above model on regression, it was noted that when all independent variables were held to constant zero, efficiency in public hospitals would be at 5.72. A unit increase in civil servants scheme revenue investment would lead to an increase in financial performance by 4.123 units. The findings supported Yeshiwas (2018) findings that the demand for social health insurance (SHI) was shown to be greater among public personnel. Demand for SHI was highly correlated with SHI awareness and trust in the SHI agency.

A unit increase in HISP program revenue investment would lead to an increase in financial performance by 0.027 units. The findings supported Sepehri and Vu (2019) findings that investment in HISP programs enhance efficiency of healthcare as the people who are uninsured privately tend to use the national insurance scheme because they believe that if they pay the entire amount they must have access to health-care services of greater technical quality as they would privately at a cheaper cost. Better equipped public hospitals tend to provide superior treatment than lower-level public health facilities.

A unit increase in Linda Mama scheme revenue investment would lead to an increase in efficiency by 1.404 units. Linda Mama scheme tend to enhance healthcare financial performance as indicated by Mutungi (2018) who indicated that women in slums recognise the importance of Linda Mama scheme. They indicated the high health of the infants born as a result of the program, as well as the fact that the program helped to lessen problems during delivery.

A unit increase in National scheme revenue investment would lead to an increase in financial performance by 3.221 units. Karanja (2014) was of the opinion that universal health provision for all is vital for the public as it enhances the well-being of the public and hence they are able to participate effectively in the growth of the economy. This means that the government should invest in public health insurance so that to ensure that hospitals are adequately funded to provide better and efficient healthcare to the public. All the variables apart from HISP program had p values less than 0.05 and hence the study rejected their specific null hypothesis and hence all the variables had a significant effect on efficiency in public hospitals.

CONCLUSION

It was concluded that Civil Servants scheme had a positive and strong effect on financial performance of public hospitals in Nairobi City County in terms of operating surplus/deficit. This is because investment in health insurance through funding of the Civil Servants scheme will increase the demand for health insurance as the scheme tends to be comprehensive and at the same time cheaper than private health insurance. This will increase the ratio of operating surplus/deficit and the services will be deemed to be efficient.

It was concluded that Health Insurance Subsidy had a positive and strong effect on financial performance of public hospitals in Nairobi City County in terms of operating surplus/deficit in healthcare. This is because the scheme is targeted for the near-poor people who have no income or less income and thus they benefit from health insurance where they could not do so under private health insurance. The investment in the scheme increases the affordability of health care to the poor while at the same time ensuring quality health-care services.

It was concluded that Linda Mama scheme had a positive and strong effect on financial performance of public hospitals in Nairobi City County in terms of operating surplus/deficit. This is because investment in Linda Mama which is a free health insurance cover will increase the coverage of expectant women especially in slums and rural areas. This will in turn enhance the efficiency and quality of healthcare and thus reduce rates of maternal deaths.

It was concluded that National scheme had a positive and strong effect on financial performance of public hospitals in Nairobi City County in terms of operating surplus/deficit. This is because investment in health insurance in the National scheme will enhance the affordability of NHIF services and also increase the coverage more so individuals who work in the informal sector. Thus with increased revenue, the hospitals will be able to offer better and high quality services efficiently.

RECOMMENDATIONS

It was recommended that NHIF put in place good financial management practices so as to enhance accountability of the funds directed to the Civil Servants Scheme by the civil servants so as to enhance efficiency of healthcare through economies of scale and ensure the scheme benefit them fully.

It was recommended that NHIF should increase the level of funding through the Health Insurance Subsidy scheme as the scheme target the near poor people who may not afford health insurance. This will in turn enhance efficiency and affordability of healthcare in

hospitals as increased funding ensures that hospitals don't lack equipments and drugs required.

It is recommended that NHIF in collaboration with the department of Gender Affairs should conduct countrywide forums where women are educated on the importance of having health insurance through the Linda Mama scheme programme so that they get prenatal and antenatal care through proper delivery in hospitals so as to reduce the maternal mortality rate to near zero.

It is recommended that NHIF should sensitize the public and especially those in the informal sector who are not covered by the National scheme on the importance of coverage while at the same time enhance accountability of the funds contributed so as to ensure the public hospitals have enough funding to provide quality healthcare to the public.

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