

Effectiveness of NHIF in addressing Students' Healthcare in Public Secondary Schools in Meru County, Kenya

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Abstract

Health insurance helps cushion people from healthcare costs and facilitates equity in access to health facilities and services. The Government of Kenya has invested in a unique NHIF program, namely EduAfya, for public secondary schools. Although EduAfya is relatively new, it has faced implementation challenges attributable to the weak structures and mechanisms for supporting its operationalization. This study aimed to assess the NHIF as a health service provision model in public secondary schools in Meru County, Kenya. The specific objective was to examine the efficacy of NHIF as an approach for addressing healthcare in public secondary schools in Meru County. The study was guided by Andersen's model of health service utilization, and adopted a descriptive survey design. 395 Public secondary schools were stratified into four categories; hence, a proportionate systematic sampling technique was applied to sample 196 principals and the Students' Council's chairpersons, while the County Director of Education was sampled purposively. Data was collected using a self-administered questionnaire and interview guide. Quantitative data were analyzed using SPSS, where factor analysis, means and standard deviations were computed, while linear regression analysis was used to test the hypothesis. Qualitative data were analyzed using the thematic technique. The study noted that students were underutilizing the NHIF program (EduAfya) despite its significance in addressing their healthcare. This was attributed to low awareness, challenges in obtaining NEMIS numbers, and lack of understanding. Therefore, NHIF staff should conduct training and sensitization in public secondary schools, targeting students, principals, and parents. In addition, the Ministry of Education and NHIF should collaboratively liaise with stakeholders in accrediting more local health facilities, including private health centres, in order to enhance the proximity of access to healthcare. The government should also develop a clear policy on handling emergencies and transportation costs; streamline the issuance of NEMIS numbers and biometric cards, and clarify the role of principals in enhancing the effectiveness of EduAfya.

Keywords: *NHIF, EduAfya, school health service provision model, students' healthcare*

1.0 Introduction

Many nations worldwide have recently been implementing and investing in long-term healthcare strategies such as universal healthcare, social insurances, and comprehensive healthcare programmes for learners in schools. Notably, learners' health has been gained globally (Wasonga et al., 2014) due to increased cases of sickness. In Japan, for example, mental illness among learners is becoming an increasing concern and is linked to many suicidal cases. Also noted in Japan was the spread of lifestyle-related diseases, allergic diseases, infections, drug abuse, and motor organ disorders, among others (Michinaga, 2013). Michinaga described rampant substance and drug abuse cases among adolescents, many of whom were high school students. However, many secondary schools, especially from developing countries, lack access to consistent quality healthcare.

Many developed countries such as Netherlands, France, New Zealand, Germany, Canada, Japan, Spain, and Italy use diverse approaches to address learners' health. For example, New Zealand has well-established healthcare services and systems for secondary schools (Clark et al., 2018). Other countries such as California are still struggling with providing access to basic primary healthcare (Reback, 2018). Some countries in Africa, such as Nigeria, Ghana, and South Africa, have instituted free health care services for public secondary schools (Lancet, 2020). The common mechanisms and approaches used by the countries mentioned above to address healthcare of learners include establishing school-based clinics, enrolling students in social insurance programs, enhancing partnerships and collaborations between public and private players, or developing a health insurance plan for high school learners (Baltag & Levi, 2013).

The health of learners in school is paramount since it has far-reaching implications on education achievement, and contributes significantly to social-economic development (Kolbe, 2019). When students are sick, they are either likely to have little concentration in class, or they may miss attending class altogether (Sarkin-Kebbi & Bakwai, 2016; Sprigg et al., 2017; Wahlstrom et al., 2014). For example, Wood Johnson Foundation (2016) report indicated that students in the US miss attending approximately 14 million days of cumulative classes every year, due to physical and mental illness. Kuponiyi et al. (2016) also noted that about 60% of students who missed classes in Nigeria did so on account of ill-health, and this affected their performance in examinations. This amplifies the indispensable need for mechanisms, systems and models for providing healthcare to learners. Countries that have instituted appropriate measures for addressing healthcare of learners aim at achieving learners' equity of access to health services, improve their retention in schools, and enhance their completion rates (Department of Health Western Australia [DHWA], 2014; Sarkin-Kebbi & Bakwai, 2016; Rasberry et al., 2017; Wood Johnson Foundation [WJF], 2016).

The main deterrent to the provision of healthcare worldwide has been the cost associated with it. The annual health budget in many countries is usually huge and usually increases exponentially every year. For example, global expenditures on healthcare are expected to continue rising at an annual rate of 5.4 per cent between 2017-2022, translated to USD 7.724 trillion to USD 10.059 trillion (Deloitte Touche Tohmatsu Limited [DTTL], 2019). Consequently, many countries are coming up with new healthcare delivery approaches and financing models to

solve healthcare problems (DTTL, 2019). Although many African countries have not integrated UHC in their national strategies, the progress towards achievement is minimal due to limited domestic resources and elaborate mechanisms for providing it.

Kenya has prioritized its citizens' health, safety, and well-being as exhibited in the national four agendas and further reflected in the national budget. The government has social insurance open to all its citizens, namely National Hospital Insurance Fund (NHIF). The NHIF is a concept derived from the National Insurance Fund, which refers to a system of health insurance that ensures a national population against the costs of healthcare (World Health Organization [WHO], 2019a). In Kenya, NHIF constitutes a pool of funds managed by the government where citizens make monthly contributions. To facilitate accessible healthcare to learners, the Government of Kenya introduced a unique NHIF program, namely Eduafya, in 2018, which covers students (not dependent) during the entire study duration in public secondary schools (EduAfya, 2019).

The NHIF cover requires a student to be registered with National Hospital Insurance Fund [NHIF] and be in National Education Management Information System [NEMIS] database (Capital Digital Media [CDM], 2018; NHIF, 2019). This initiative has led to increased budgetary allocations for health that 4 billion Kenya shillings annually. However, it is still below guidelines by the Abuja declaration of 2001, which required governments to set aside 15% of the national budget for health (Murunga et al., 2019, p. 127). Despite the directive to provide healthcare services in public secondary schools, the initiative faces unprecedented challenges emanating from a lack of elaborate structures and implementation mechanisms of the program. This poses a real challenge to the effectiveness of this program in providing quality healthcare to students.

The operationalization ineffectiveness of this program is putting principals of public secondary schools in an awkward situation. The situation is no different in public secondary schools in Meru County.

According to Meru County Government (MCG, 2018), 175 public secondary schools have 54,682 students. Undoubtedly, providing healthcare services to such a high population of students is challenging, especially with the government directive of 100% students' transition from primary to secondary school. Meru County has one level 5 hospital, eight-level 4 hospitals, 31 level three facilities (health centres, nursing homes, and maternity homes), and 260 level 2 facilities (dispensaries and clinics) (MCG, 2013). Students are expected to receive healthcare services from the NHIF-accredited facilities. Very few level 3 facilities are accredited. Apart from the Coronavirus (COVID 19), which threatened the entire world, other prevalent diseases in this county are skin diseases, intestinal worms, HIV/AIDS, and respiratory diseases. Cancer has also recently emerged as severe chronic disease in this County. The aforementioned health conditions also have ripple effects on students of secondary schools, hence the need to examine the effectiveness of NHIF in addressing the healthcare of students in this county. The study took cognizance that an effective healthcare provision model should include preventive, curative services and control of diseases and provide emergency care solutions to students (Munyasya, 2014).

This study aimed to assess the effectiveness of NHIF as a health service provision model in public secondary schools in Meru County, Kenya. The specific objective was to examine the efficacy of NHIF as an approach for addressing healthcare in public secondary schools in Meru County. In analyzing quantitative data, the aim of the study is realized; thus enabling testing of the hypothesis that NHIF approach was not

statistically significant in addressing students' healthcare in public secondary schools in Meru County. Mechanisms used and intricacies encountered by the ministry of health in the use of this NHIF approach were out of scope and were therefore not investigated in this study. The study mainly focused on perspectives of effectiveness from the user point of view. It was guided by Andersen's model of health service utilization in exploring potential solutions to the NHIF healthcare provision model in Kenya.

Overview of National Healthcare Insurance Fund in Kenya

Reviewed literature indicates that every country has a unique national health system that mostly reflects its history, economic development, and dominant political ideologies. In many countries, the concept of health insurance is increasingly being overshadowed by Universal Health Care (UHC), which ensures that all people have access to preventive, curative, rehabilitative and palliative healthcare services without exposing the user to financial hardship (World Health Organization, 2019b). The UHC services are usually provided by accredited health centres (public and private) and national hospitals.

Germany has national social health insurance systems that dates back to Otto Von Bismarck's social legislation time. In this country, health insurance is compulsory for the whole population. The citizens enjoy health benefits co-financed by employers and employees and heavily subsidized by the German government to ensure that those out of work or low wages remain covered (Obermann, 2013). The program also includes learners in school. Canada's universal public funded healthcare system—known as Medicare, is a source of national pride and a model of universal health coverage. Its elaborate structure enables secondary school learners in Canada to

access medical care (Health Insurance Association of America [HIAA], 2008).

In India, both public and private healthcare providers are heavily involved in providing health services. Most secondary school students in India access medical care through public providers, which are usually funded by the federal states. Studies done in Australia shows that her healthcare system is one of the most comprehensive in the world. It offers healthcare services ranging from general and preventative healthcare, to treating more complex conditions requiring a specialist or hospital care (Davies et al., 2009). These benefits are extended to high school students.

In Nigeria, healthcare provision is a direct responsibility of the government through the National Health Insurance Scheme [NHIS]. However, NHIS does not fully qualify to be named a national insurance healthcare body because it cannot be accessed by all citizens (including secondary school students) (Kuponiyi et al., 2016; Sarkin-Kebbi & Bakwai, 2016). In addition, the health system in Tanzania reflects a political-administrative hierarchy. In some cases in Tanzania, patients are referred to doctors in foreign countries to receive medical care. This program also includes secondary school students in the health system (WHO, 2009).

In Kenya, NHIF operates a pool of funds managed by the government where citizens make monthly contributions. Moreover, in April 2018, the government of Kenya made a deliberate initiative of improving access to healthcare for students in public secondary schools (EduAfya, 2019). This was realized through the signing of a contract to offer unique, comprehensive medical insurance (Muli, 2018). This bold move led to increased budgetary allocations on health with a view of providing affordable healthcare to learners (Murunga et al., 2019).

Literature shows that several parameters can be used to measure the effectiveness of NHIF

in providing healthcare services. The parameters include healthcare accessibility, affordability and quality healthcare services (Sundays, 2015). However, there is a dearth of research on national health insurance in Kenya. The few ones, such as by Kiroji et al. (2019), determined the perception of NHIF outpatient facilities vis-à-vis utilization of primary care services by private university employees in Nairobi County. Another study by Mwangi et al. (2019) assessed the implementation of a national scheme in selected Counties in Kenya. Chiduo (2017) studied the benefits of NHIF and classified them into two broad categories; outpatient and in-patient health services.

2.0 Materials and Methods

The study employed a descriptive survey research design. It targeted a population of 375 principals, 375 students' council chairpersons, and one County Education Officer (CEO). Data was collected through a questionnaire and interview on a sample size of 195 principals, 195 students' council chairpersons and one Director of Education. First, public secondary schools were stratified into four categories: girls' boarding schools, boys' boarding schools, mixed boarding schools and mixed day secondary schools. Then, a proportionate systematic sampling technique was applied to sample 196 principals and the Students' Council's

chairperson, while the County Director of Education was sampled purposively. A total of 392 questionnaires were distributed to both principals and the students' leaders chairpersons, where 138 (70.4%) and 142 (72.4%) were returned, respectively. The interview was administered on the CEO. Content, face and construct validity were ensured while Cronbach's Coefficient Alpha was computed to determine the reliability of research instruments (Kumar, 2014). Quantitative data were analyzed using SPSS version 24, where descriptive statistics such as factor loading, mean and standard deviations were computed, while regression analysis was used to test the hypothesis. Data from the interview were analyzed using thematic analysis. Finally, the findings were presented using tables, figures and explanations.

3.0 Results and Discussion

Considering the government of Kenya had initiated a unique NHIF program for students in public secondary schools, it was crucial to assess the effectiveness of this approach. In the first instance, the study sought to ascertain the level of awareness of NHIF and the health services offered to students under this package. Results were summarized in descending order of the mean values as shown in Table 1.

Table 1

Students' awareness of NHIF benefit package/services for students in public secondary school

Services (in-patient and outpatient) provided to public secondary school students through NHIF (N = 142)	Factor loading	Std.					
		Mean	Deviation	Skewness	Kurtosis	Std. Error	Std. Error
Medicines and medical consumables	.836	2.84	1.328	-.099	.245	-1.308	.485

Drug administration and dispensing	.821	2.82	1.299	-.191	.245	-1.276	.485
Consultation	.817	2.62	1.318	.127	.245	-1.412	.485
Laboratory investigations	.896	2.60	1.336	.241	.245	-1.310	.485
Dental and Oral Health services,	.685	2.41	1.265	.343	.245	-1.175	.485
Dressings or medications prescribed by the physician for in-hospital use	.706	2.38	1.286	.419	.245	-1.200	.485
Optical services	.755	2.33	1.272	.437	.245	-1.118	.485
Emergency services	.765	2.10	1.295	.775	.245	-.814	.485
Surgical services	.812	2.07	1.139	1.023	.245	.201	.485
Referral for specialized services	.776	2.07	1.244	.989	.245	-.108	.485
Operating theatre charges	.853	2.02	1.136	.959	.245	-.191	.485
Ophthalmological services	.768	1.95	1.074	.671	.245	-.952	.485
Radiological examination	.781	1.92	1.067	1.007	.245	.182	.485
Maternity and reproductive health	.788	1.90	1.177	1.143	.245	.266	.485
Physiotherapy and rehabilitative services	.722	1.87	1.077	1.193	.245	.537	.485
Medical / Orthopedic appliances	.670	1.87	1.007	1.151	.245	.833	.485
Occupational therapy services	.590	1.84	1.007	1.339	.245	1.312	.485
Kaiser-Meyer-Olkin Measure of Sampling Adequacy							.848
Bartlett's Test of Sphericity							.000

The factor analysis indicated that all health services loaded very well with Eigenvalues above 0.5 in each case. Tabachnick and Fidell (2007) recommended a minimum factor loading of 0.45 for real-life data. The data further exhibited a high Kaiser-Meyer-Olkin measure of sampling adequacy (KMO) of 0.841 and a significant Bartlett's Test of Sphericity ($P = .000$). This confirmed that all NHIF services posed to principals were sufficient and valid for the analysis, although their level of awareness varied greatly. The low awareness could be attributed to the rate

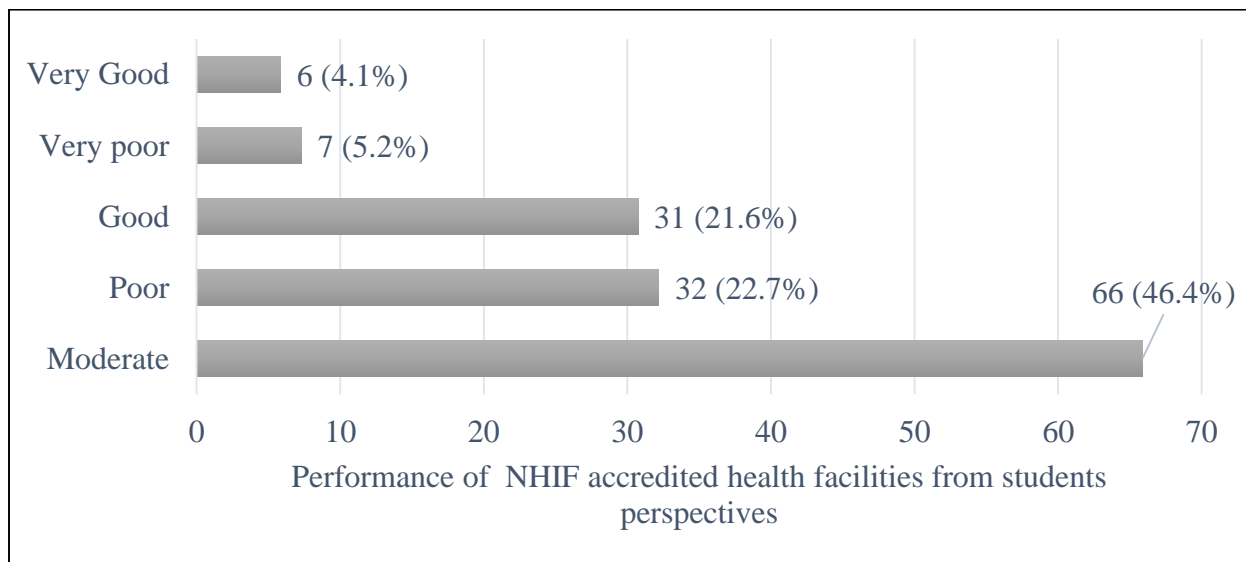
at which students utilized the services. The famous NHIF services included medicines and medical consumables, drug administration and dispensing, consultation, laboratory investigations, dental and oral health services, dressings, and medical prescriptions. Students indicated less awareness of ophthalmological services, radiological examination, maternity and reproductive health services, physiotherapy and rehabilitative services, medical/orthopaedic appliances, and occupational therapy services. The instances

where teachers accompany students to NHIF-accredited hospitals was sought from students.

According to the results, slightly more than half of the students indicated 'sometimes' 53 (54.6%) while 33 (34%) said 'never'. This points out weaknesses in awareness programs resulting in information asymmetry, which ultimately affects how much health services were utilized. It was clear from the results

Figure 1

Students' perspective on the performance of NHIF accredited health facilities



According to Figure 1, majority of users of NHIF services, 66 students, (46.4%), rated the healthcare received from accredited facilities as services as moderate, while 32% described them as inferior. This further posed a question on awareness of NHIF among students. It also raised questions on the effectiveness of this approach in addressing students' healthcare in public secondary schools. In addition, one wondered whether the sensitization on NHIF services for the EDUafya program was a role of principals or was a preserve of the NHIF or the Ministry of Education [MOE]. When students were asked to indicate how often they required to use

that, although the government of Kenya had invested money in NHIF program for students, its utilization in public secondary schools was low. The study further sought students' opinions on the performance of NHIF. This helped obtain information on the effectiveness of NHIF as an approach for managing students' healthcare in public secondary schools. Results are presented in Figure 1.

NHIF and were told that the service was not in the package, most students indicated 'sometimes' 48 (49.5%) while 45 (46.4%) said 'never'.

Challenges facing the use of NHIF by students in public secondary schools

Considering that principals were figureheads and Chief Executive Officers in secondary schools and were central in using NHIF by students, the study sought to find out principals' opinions on challenges associated with the use of NHIF approach by students in their schools. The findings are presented in Table 2.

Table 2

Challenges facing NHIF use by students in public secondary schools

	N	Mean	Std.
Challenges facing NHIF use by students in public secondary schools (N = 138)	Factor loading	Statistic	Deviation Statistic
Inadequate county health facility infrastructure	.433	4.57	5.821
Poor communication from NHIF	.870	4.13	1.029
Insufficient guidelines from NHIF	.894	4.09	1.054
Inadequate capitation	.406	3.85	1.261
Lack of clear policy on the use of NHIF by secondary school students	.746	3.72	1.168
Poor services of NHIF accredited health facilities	.565	3.51	1.310
Poor NHIF accountability	.665	3.36	1.428
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.			.719
Bartlett's Test of Sphericity			.000

Factor analysis in Table 2 indicates that most challenges that were facing the use of NHIF by students in public secondary schools loaded very well in the model, where most occurrences had a factor Eigenvalue above 0.45; with an overall KMO value of .719, and Bartlett's test of sphericity being significant (P= .000). Two challenges, however, did not load adequately; these were inadequate county health facility infrastructure; factor loading = 4.33, and inadequate capitation, factor loading = 4.06, both of which were below 0.5.

The failure to load by these two aspects can explicitly explain that the government does not expect the county government to put up extra infrastructure for the NHIF program. Students are expected to utilize the NHIF accredited facilities; hence, no capitation was available to public secondary schools for this program. Principals pointed three key challenges, these were, inadequate county health facility infrastructure, (mean = 4.57; standard deviation = 5.821), poor communication from NHIF (mean = 4.13; standard deviation = 1.029), and insufficient guidelines from NHIF (mean = 4.09; standard

deviation = 1.054). The study by Muriithi (2020) noted challenges such as lack of information technology solutions for informing decisions, inadequate guidelines, communication breakdown, and confidentiality challenges in the NHIF health program.

The County Director of Education further indicated that the amount allocated for Eduafya was inadequate in catering for learners' health needs. The Director also observed that the registration process of learners into the Eduafya program was experiencing delays due to the requirement for birth certificates and Unique Personal Identifier (UPI). This was because some students lacked birth certificates, while obtaining UPI was marked with some delays. The County Director of Education also singled emergency and evacuation services as one of the listed services offered by the NHIF but was facing a big challenge, especially in the rural areas. The Director said, "This has forced many schools to incur extra expenses by providing mobility service on behalf of the health providers".

The results indicated that effectiveness of NHIF as an approach for managing students' healthcare in public secondary schools is largely not within the control of principals. However, according to the County Director of Education, principals of public secondary schools were expected to establish close working collaborations with the nearest NHIF Office, acquaint themselves with information on the provision of NHIF cover

to students, and ensure students are allocated NHIF –accredited health facilities, and follow-up to ensure students are issued with the NHIF card.

Principals were further asked to indicate the extent of agreement with suggested success factors for the effectiveness of students' NHIF-funded healthcare services. This was aimed at suggesting ways to improve this model. The findings are presented in Table 3.

Table 3

Success factors for students' NHIF-funded healthcare services

Success factors for students' NHIF-funded healthcare services (N = 138)	Factor loading	Mean Statistic	Std. Deviation Statistic
The proximity of NHIF-accredited health centres	.788	3.77	1.315
Clear access policy	.798	3.28	1.371
Adequate government funding	.674	3.23	1.410
Technology	.741	3.11	1.348
Integration of stakeholders views	.688	3.06	1.382
NHIF guidelines on operating modality	.805	3.04	1.421
Kaiser-Meyer-Olkin Measure of Sampling Adequacy			.895
Bartlett's Test of Sphericity			.000

Table 3 shows that proximity of NHIF-accredited health centres is a critical success factor for the effectiveness of NHIF-funded healthcare services. Another key determinant for the success of NHIF-funded healthcare services was a clear policy and adequate funding by the government. Though not very major, additional ones were integrating stakeholder's views and the availability of NHIF guidelines on operating modality. The findings hinted at critical focus areas to make the NHIF program effective in addressing students' healthcare in public secondary schools. The crucial role of NHIF is apparent. It seeks to enhance the accessibility of healthcare services by all Kenyans (NHIF, 2019). In that connection, Muriithi (2020) advocated for stakeholders such as the government, the NHIF practitioners, and others to create awareness of the program and

increase budgetary allocation exponentially. Muriithi (2002) further recommended bolstering the school-based health care platforms by the NHIF, improving health facilities by addressing the barriers affecting enrollment to the scheme.

Through adequate funding of the scheme, the government intervention was echoed by the County Director of Education, who described it as essential. In addition, in China, Fang et al. (2019) reported measures put by the government in addressing health system efficiency for all citizens, including schooling children. Another key measure featured by Fang et al. (2019) was the use of common modes of payments to facilitate students' access to health services. Such modes of payment include arrangements where cost is met by the student directly and

is then reimbursed by the insurance company later, as well as the use of direct billing card. The null hypothesis (H0) premised that the National Hospital Insurance Fund approach

was not statistically significant in addressing students' healthcare in public secondary schools in Meru County. The results were summarized and presented in Table 4.

Table 4

Linear regression results regarding the efficacy of the NHIF approach in managing students' healthcare in public secondary schools

Model Summary								
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson			
1	.342 ^a	.117	.108	.52414	1.397			
ANOVA								
Model		Sum of Squares	Df	Mean Square	F	Sig.		
1	Regression	3.355	1	3.355	12.213	.001 ^b		
	Residual	25.274	137	.275				
	Total	28.630	138					
Coefficients								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	2.223	.155		14.314	.000		
	X2	.170	.049	.342	3.495	.001	1.000	1.000

a. Predictors: (Constant), X2

b. Dependent Variable: Y

NB: Tolerance value is not correct

From the results in Table 4, the study variables in this context did not show autocorrelation as shown by the Durbin-Watson value, which is more than 1; hence, the model was relevant in the analysis. The ANOVA results show the significance of the NHIF approach in predicting variations in addressing students' healthcare in public secondary schools in Meru County. Results show that the NHIF approach (X2) is statistically significant ($F(1, 137) = 12.213$; $P = .001$) in predicting the variations in the dependent variable (Y, addressing students' healthcare in public secondary schools in Meru County). VIF value of 1 ruled out multicollinearity among the study variables; hence, the model fit data analysis and interpretations. The results further show the

predictor variable's coefficient values (regression weight) and significance level. The unstandardized B-coefficient value rather than the beta coefficient value was used in interpreting data for this model because the constant value for the predictor was significant.

Considering that the ANOVA results show a $P = .001$, which is less than the alpha value/significance level of 0.05, the study rejected the null hypothesis. It concluded a positive and statistically significant impact of the NHIF approach in addressing students' healthcare in public secondary schools in Meru County. The results show a prediction value where $R^2 = .117$. This implies that the school-based health clinic approaches account for 11.7% of the impact on

addressing students' healthcare in public secondary schools. The regression weights further confirm this finding. It shows that the effects of the NHIF approach on managing students' healthcare in public secondary schools will always exist at a significant minimum ($\beta_1 = .170, P = .001$). The findings have proved that the use of NHIF approach is statistically substantial in addressing students' healthcare in public secondary schools. Therefore, the initiative by the Government of Kenya to fund NHIF program for students in public secondary school was a commendable undertaking and was significant in addressing healthcare of students in Kenya.

4.0 Conclusion

The study noted standardized practices in using the NHIF approach across all public secondary schools given the findings presented above. The program was, however, underutilized by students despite its significance in addressing their healthcare. Students' level of awareness of NHIF services through the EDUafya program was low. This explained why NHIF in public secondary schools is underutilized, despite the government investing Kes 4 billion in the program. The operationalization of the program was experiencing few structural challenges, which were deterring its effectiveness in public secondary schools. The challenges include poor communication, insufficient guidelines from the NHIF organization, inadequate NHIF-accredited health facilities, and inability to readily obtain students' NEMIS numbers. Students

also complained of inaccessible NHIF biometric cards. Critical factors for the success of the NHIF for learners in public secondary schools included increasing NHIF-accredited health facilities, clear policy and adequate funding of the NHIF program by the government.

5.0 Recommendations

The NHIF should liaise with the MOE to conduct training and awareness to students and other stakeholders about healthcare services and the accessibility of EDUafya program. The study further recommends that NHIF should strengthen and widen the scope of the accredited health facilities under this program. This implies a need to accredit more local health facilities, including private health centres, an attempt that will be critical in achieving access to healthcare services by learners. In addition, MOE should revise the policy on the EDUafya program to include the coordinating role of principals in ensuring utilization of NHIF by sick students. The procedures and systems for enlisting learners into the NHIF should also be simplified and hastened to encourage utilization. Incremental budgetary allocation by the National Government through MOE to the EduAfya program is also essential. These results have implications on structural, administrative and funding policy for NHIF program in public secondary schools in Kenya. It further calls for collaborations and partnerships with all stakeholders; including accredited health providers, parents, principals of secondary school, the Ministry of Health, and the Ministry of Education.

References

Baltag, V., & Levi, M. (2013). Organizational Organizational models of school health services in the WHO European Region. *Journal of Health Organization and Management*, 27(6), 733–746.

<https://doi.org/10.1108/JHOM-08-2011-0084>

Capital Digital Media. (2018). *President launches Sh4bn NHIF cover for students in public secondary schools.*

- <https://www.capitalfm.co.ke/news/2018/04/president-launches-sh4bn-nhif-cover-students-public-secondary-schools/>
- Chiduo, R. M. A. (2017b). *Evaluation of NHIF benefit package implementation in the selected accredited health facilities in Ilala Municipality, Mzumbe University*. <http://scholar.mzumbe.ac.tz/bitstream/handle/11192/2200/MSc-HME.%20CHIDUO%20CR.M.pdf?sequence=1>.
- Clark, D. M., Canvin, L. Green, G., Layard, R. (2018). Transparency about the outcomes of mental health services (IAPT approach): An analysis of public data, *Epub* 17(3), 2133-5. <https://pubmed.ncbi.nlm.nih.gov/29224931/>
- Davies, G. P., Perkins, D., McDonald, J., & Williams A. (2009). Integrated primary health care in Australia. *International Journal of Integrated Care, Oct-Dec* (9), e95. <https://doi.org/10.5334/ijic.328>
- Department of Health Western Australia (2014). *School health service rationale*. 74. https://healthwa.wa.gov.au/Articles/S_T/School-health-services
- Deloitte Touche Tohmatsu Limited (2019). *2019 Global health care outlook: Shaping the future*. Retrieved from <https://www2.deloitte.com/content/dam/Deloitte/global/Documents/Life-Sciences-Health-Care/gx-lshc-hc-outlook-2019.pdf>
- Edu Afya (2019). Provision of comprehensive medical cover for public secondary school students. Retrieved from https://www.education.go.ke/images/priede/EDUAFYA_SENSITIZATION_PRESENTATION.pdf
- Fang, H., Eggleston, K., Hanson, K., & Wu, M. (2019). Enhancing financial protection under China's social health insurance to achieve universal health coverage. *The BMJ*, 365(2378), 1–4. <https://doi.org/10.1136/bmj.l2378>
- Health Insurance Association of America, (2008). *How Private Insurance Works: A Primer. The Henry J. Kaiser Family Foundation*. <https://www.kff.org/health-costs/report/how-private-insurance-works-a-primer/>
- Kiroji, K. M., Mwaura-Tenambergen, W., & Mwangi, E. M. (2019). Effects of Perceived Image of NHIF Outpatient Facilities on Utilization of Primary Care Services by Private University Employees in Nairobi County. *International Journal of Professional Practice (IJPP)*, 7(1), 34–45. <http://library.kemu.ac.ke/ijpp/index.php/ijpp/article/view/26>
- Kumar, R. (2014). *Research methodology: a step by step guide for beginners*, (4th Ed.). USA: Sage Publication
- Kuponiyi, O. T., Amoran, O. E., & Kuponiyi, O. T. (2016). School health services and its practice among public and private primary schools in Western Nigeria. *BMC Research Notes*, 4(3) 58 - 69. <https://doi.org/10.1186/s13104-016-2006-6>
- Kolbe, L. J. (2019). School health as a strategy to improve both public health and education. *Annual Review of Public Health*, 40(1), 443–463. <https://doi.org/10.1146/annurev-publhealth-040218-043727>
- Lancet (2020). Measuring universal health coverage based on an index of effective

- coverage of health services in 204 countries and territories, 1990–2019: A systematic analysis for the global burden of disease study. [https://doi.org/10.1016/S0140-6736\(20\)30750-9](https://doi.org/10.1016/S0140-6736(20)30750-9)
- Meru County Government, (2018). *Meru County integrated development plan, 2018-2022*. http://C:/Users/intern/Downloads/20180815_meru_county_integrated_development_plan_2018_2022.pdf
- Michinaga, M. (2013). Current status and issues of school health, *JMAJ* 56(4), 211–219. http://www.who.int/school_youth_health/resources/information_series/en/
- Muli, F. (2018). *All you need to know about the new medical cover for secondary school students*. <https://www.kahawatungu.com/2018/10/18/medical-cover-secondary-school-students-nhif/>
- Murunga, J. Mogeni, E. & Kimolo, D. (2019). Public health spending and health outcomes in Kenya. *European Scientific Journal*, 15(1), 1857 – 7881. <https://10.19044/esj.2019.v15n1p125>
- Munyasya, J. M. (2014). *Factors influencing the efficiency of health services in public secondary schools in Kitui Central District, Kitui County, Kenya*. <https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&uact=8&ved=2ahUKEwiW2IjGhtrkAhXsAmMBHboABwsQFjAAegQIABAC&url=http%3A%2F%2Ferepository.uonbi.ac.ke%2Fbitstream%2Fhandle%2F11295%2F101356%2FFACTORS%2520INFLUENCING%2520EFFICIENCY%2520OF%2520HEALTH%2520SERVICES%2520IN%2520PUBLIC%2520SECONDARY%2520SCHOOLS.pdf%3Fsequence%3D1%26isAllowed%3Dy&usg=AOvVaw2h3nOqqGUCAYJyYWewa-lA>
- Muriithi, J. K. (2020). *Interaction of Health and Education Institutions in the Roll-out of in-school Adolescents Health Scheme Eduafya-a Study of Kiambu County, Kenya* (Doctoral dissertation, University of Nairobi). Nairobi, Kenya. <http://erepository.uonbi.ac.ke/handle/11295/153810>
- Mwangi, E. M., Wanja, T., Mapesa, J., & Wairia, S. K. (2019). Role of county health governance in the implementation of social insurance national scheme in selected Counties in Kenya. *International Journal of Professional Practice (IJPP)*, 7(2), 1–14. https://scholar.google.com/citations?user=vhAHuRYAAAAJ&hl=en#d=gs_md_cita-d&u=%2Fcitations%3Fview_op%3Dview_citation%26hl%3Den%26user%3DvhAHuRYAAAAJ%26citation_for_view%3DvhAHuRYAAAAJ%3Ad1gkVwhDpl0C%26tzom%3D-180
- Muli, F. (2018). *All you need to know about the new medical cover for secondary school students*. <https://www.kahawatungu.com/2018/10/18/medical-cover-secondary-school-students-nhif/>
- NHIF. (2019). *NHIF objectives*. <http://www.nhif.or.ke/healthinsurance/Objectives>
- Obermann, K. (2013). Understanding the German health care system. mannheim institute of public health. https://www.goinginternational.eu/newsletter/2013/nl_03/SpecialDE_EN_Understanding_the_German.pdf
- Rasberry, C. N., Tiu, G. F., Kann, L., McManus, T., Michael, S. L., Merlo, C. L., Lee, S. M., Bohm, M. K., Annor, F.,

- & Ethier, K. A. (2017). Health-related behaviours and academic achievement among high school students—the United States, 2015. *MMWR. Morbidity and Mortality Weekly Report*, 66(35), 921–927. <https://doi.org/10.15585/mmwr.mm6635a1>
- Reback, R. (2018). *Investments in student health and mental health in California's public schools* (p. 53). https://gettingdowntofacts.com/sites/default/files/2018-09/GDTFII_Report_Reback_1.pdf
- Sarkin-Kebbi, M., & Bakwai, B. (2016). Revitalizing school health programme for effective school administration in Nigeria. *International Journal of Topical Educational Issues*, 1(2), 199–211. https://www.researchgate.net/publication/322580399_Revitalising_School_Health_Programme_for_Effective_School_Administration_in_Nigeria
- Sprigg, S. M., Wolgin, F., Chubinski, J., & Keller, K. (2017). School-based health centres: A funder's view of effective grantmaking. *Health Affairs*. <https://doi.org/10.1377/hlthaff.2016.1234>
- Sundays, M. E., K, N. J (2015). Determinants of Uptake and Utilization of National Hospital Insurance Fund Medical Cover by People in the Informal Sector in Kakamega County, Kenya. *Universal Journal of Public Health*, 3(4), 169–176. <https://doi.org/10.13189/ujph.2015.030405>
- Tabachnick B. G, Fidell L. S. (2007), *Using Multivariate Statistics*. Pearson Education Inc.
- Wahlstrom, K., Dretzke, B., Gordon, M., Peterson, K., Edwards, K., & Gdula, J. (2014). *Examining the impact of later high school start times on high school students' health and academic performance: A multi-site study*. <http://conservancy.umn.edu/handle/11299/162769>
- Wasonga, J., Ojeny, B., Oluoch, G., & Okech, B. (2014). Kenya comprehensive school health policy: Lessons from a pilot program. *Journal of Public Health in Africa*, 5(1), 43–46. <https://doi.org/10.4081/jphia.2014.313>
- World Health Organization. (2009). *Annex 5. Tanzania - WHO | World Health Organization*. https://www.who.int/workforcealliance/knowledge/resources/MLHWCountryCaseStudies_annex5_Tanzania.pdf.
- World Health Organization. (2019a). *National Health Insurance Fund: WHO*. https://www.who.int/workforcealliance/members_partners/member_list/nhif/en/
- World Health Organization. (2019b). *Universal Health Coverage*. https://www.who.int/healthsystems/universal_health_coverage/en/
- Wood Johnson Foundation, R. (2016) *The relationship between school attendance and health*. RWJF. <https://www.rwjf.org/en/library/research/2016/09/the-relationship-between-school-attendance-and-health.htm>.