

**APPROACHES USED IN MANAGING STUDENTS' HEALTHCARE IN PUBLIC
SECONDARY SCHOOLS IN MERU COUNTY, KENYA**

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**A Thesis Submitted to the School of Education and Social Sciences in Partial
Fulfillment of the Requirements for the Conferment of the Degree of Doctor of
Philosophy in Leadership and Education Management of Kenya Methodist
University**

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DECLARATION AND RECOMMENDATION

Declaration

This thesis is my original work and has not been presented for the award of a degree or any other award in any other University.

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DEDICATION

This thesis is dedicated to my parents Zakayo Muguna and Rael Muguna and my late brother Isaac Mutea for laying a strong foundation in my education.

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ABSTRACT

There are different approaches for managing school healthcare, but there is noticeable lack of mechanisms, systems and structures for implementing them. The study aimed to analyze the different approaches used to manage students' healthcare in public secondary schools in Meru County. The objectives were to assess school-based health clinic, NHIF, and personal medical insurance as approaches for managing students' healthcare in public secondary schools in Meru County. The last objective was to compare the effectiveness of these approaches across categories of public secondary schools to inform on appropriate healthcare management model. Both the Andersen's model of health service utilization and theory U informed this study. A descriptive survey research design was adopted where 375 public secondary schools were targeted. Schools were stratified according to categories, and then, proportionate systematic random sampling technique was used to sample 196 public secondary schools. The principals and the chairperson of students' council from each sampled school filled self-administered questionnaires, while an interview guide was used to collect data from the County Director of Education, who was purposively selected. Cronbach's coefficient alpha was used to check reliability, while the content and construct validity were ensured on instruments of collecting data. Data was analyzed using SPSS version 24. Frequencies, factor analysis, means and standard deviations were computed, while regression and ANOVA were used to test the hypothesis. Qualitative data were analyzed using the thematic technique. Findings were presented using tables, charts and narratives. Results show that management of student's healthcare was significantly impacted by the three approaches. However, when integrated, the most effective approach was the school-based health clinics followed by personal medical health insurance, and NHIF respectively. Policy on school health did not moderate the three approaches. Except for NHIF, the study noted that school-based health clinics and personal medical health insurance were uncommon, and that there were different practices of handling them across categories of public schools. For effective management of students' healthcare in public secondary schools, principals ought to take up crucial roles as accounting officers and figurehead who are charged with the duty of directing, coordinating, allocating resources, advocating, and lobbying for a quality healthcare service provision model. The study recommended the Ministry of Education to develop mechanisms for establishing school-based health clinics and institute a policy framework for adopting personal medical health insurance in public secondary schools. Concerted collaborations and partnerships of stakeholders were recommended to aid funding, infrastructural development, buying of requisite healthcare facilities, employment of qualified health professionals, and awareness of a hybrid healthcare system. Results have implications on trainings, budgetary allocations, and policy framework.

TABLE OF CONTENTS

DECLARATION AND RECOMMENDATION	ii
COPYRIGHT	iii
DEDICATION	iv
ACKNOWLEDGMENT.....	v
ABSTRACT.....	vi
TABLE OF CONTENTS	vi
LIST OF TABLES	x
LIST OF FIGURES	xii
ABBREVIATION/ACRONYMS.....	xiii
CHAPTER ONE	1
INTRODUCTION.....	1
1.1 Background of the Study.....	1
1.2 Statement of the Problem	13
1.3 Purpose of the Study	15
1.4 Objectives of the Study	15
1.5 Research Hypothesis	16
1.6 Justification of the study	16
1.7 Scope and Delimitations of the Study.....	17
1.8 Significance of the Study	17
1.9 Limitations of the Study.....	19
1.10 Assumptions of the Study	19
1.11 Definition of Terms.....	20
CHAPTER TWO	21
LITERATURE REVIEW	21
2.1 Introduction	21
2.2 Management of Students’ Healthcare in Public Secondary Schools	22
2.3 The School-Based Health Clinics and the Management of Students' Healthcare....	34
2.4 National Hospital Insurance Fund and the Management of Students' Healthcare ...	51
2.5 Personal Medical Health Insurance and the Management of Students' Healthcare .	59
2.6 Theoretical Framework	70

2.7 Conceptual Framework	74
CHAPTER THREE	78
RESEARCH METHODOLOGY	78
3.1 Introduction	78
3.2 Location of the Study	78
3.3 Research Philosophy and Approach.....	80
3.4 Research Design	82
3.5 Target Population	83
3.6 Sampling Techniques and Sample size	85
3.7 Research Instruments	88
3.8 Pre-testing of Research Instruments.....	90
3.9 Validity of Research Instruments	91
3.10 Reliability of Research Instruments	92
3.11 Data Collection Procedures	92
3.13 Ethical Considerations.....	96
CHAPTER FOUR.....	97
RESULTS AND DISCUSSION	97
4.1 Introduction	97
4.2 Results on Management of Students' Healthcare in Public Secondary Schools	104
4.3 School-Based Health Clinics in Public Secondary Schools.....	128
4.4 National Hospital Insurance Fund (NHIF) and Students' Healthcare	142
4.5 Personal Medical Health Insurance and Management of Students' Healthcare	153
4.6 Managing Students' Healthcare across Categories of Public Secondary Schools..	167
4.7 Overall Model on the Three Approaches for Managing the Healthcare of Students	173
4.8 Ascertaining the Moderation Effect of School Healthcare Policy	178
CHAPTER FIVE	185

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS	185
5.1 Introduction	185
5.2 Summary of Major Findings	186
5.3 Conclusions	193
5.4 Recommendations	197
REFERENCES.....	204
APPENDICES.....	222

LIST OF TABLES

Table 3. 1 Five Most Common Diseases in Order of Prevalence in Meru County.....	79
Table 3. 2 Target Population	84
Table 3. 3 Sample Matrix.....	88
Table 4. 1 Result on reliability test	98
Table 4. 2 Response rate of the study.....	99
Table 4. 3 Type of School	100
Table 4. 4 Results on how long one had served as a principal.....	104
Table 4. 5 Descriptive statistics on common ailments noted in secondary schools.....	106
Table 4. 6 Descriptive statistics on illness outcomes in public secondary schools.....	108
Table 4. 7 Availability and utilization of health facilities in public secondary schools	250
Table 4. 8 Collaborations with local primary healthcare providers	115
Table 4. 9 Principal’s role in managing students’ healthcare in secondary school.....	118
Table 4. 10 Tests of normality on management of students' healthcare	124
Table 4. 11 Multicollinearity and autocorrelation results	127
Table 4. 12 School-based health facilities available in public secondary schools.....	131
Table 4. 13 Healthcare programmes and services in a school-based health facility	133
Table 4. 14 Responsibility of Principals of Secondary Schools in Managing SBHCs ..	134
Table 4. 15 Sources of funding for school-based health clinic / dispensary.....	136
Table 4. 16 Challenges facing school-based clinics / dispensaries	137
Table 4. 17 Linear regression results on school-based clinics: Model Summary	140
Table 4. 18 Linear regression results on school-based clinics: Model Validity	141
Table 4. 19 Linear regression results on school-based clinics: Regression weight	141
Table 4. 20 Challenges facing NHIF use by students in public secondary schools.....	147
Table 4. 21 Success factors for students’ NHIF-funded healthcare services	149
Table 4. 22 Linear regression results on NHIF approach: Model Summary	151
Table 4. 23 Linear regression results on NHIF approach: ANOVA.....	151
Table 4. 24 Linear regression results on NHIF approach: Regression Weights	152
Table 4. 25 Forms of personal medical insurance.....	154
Table 4. 26 Awareness of Principals on common health services	157
Table 4. 27 Awareness of students on common health services	160

Table 4. 28	Regression results on personal medical insurance: Model Summary	164
Table 4. 29	Regression results on personal medical insurance: ANOVA	164
Table 4. 30	Regression results - personal medical insurance: Regression Weights	165
Table 4. 31	Results on variation of approaches for students' managing healthcare	168
Table 4. 32	Test of homogeneity of variances	169
Table 4. 33	Variation of healthcare approaches across categories of schools	170
Table 4. 34	Multiple regression results on three approaches: Model Summary	175
Table 4. 35	Multiple regression results on three approaches: ANOVA.....	175
Table 4. 36	Multiple regression results on three approaches: Regression Weights	176
Table 4. 37	Moderation effect of school policy on all three variables: Model validity .	182
Table 4. 38	Moderation effect of school policy in all three variables: Model Summary	183
Table 4. 39	Results on how sick students are handled in public secondary schools.....	250
Table 4. 40	Students' rating on of handling sick students in secondary schools	254
Table 4. 41	Students' views on healthcare management approaches	256
Table 4. 42	Challenges faced by principals in managing students' healthcare.....	259
Table 4. 43	NHIF benefit package / services to students	261
Table 4. 44	Students' awareness of NHIF benefit package / services	263
Table 4. 45	Challenges hindering personal health insurance in secondary schools.....	265
Table 4. 46	Post-hoc on multiple comparisons on variation of approaches.....	267
Table 4. 47	Descriptive statistics on school healthcare policy.....	270

LIST OF FIGURES

Figure 2. 1 Conceptual Framework.....	75
Figure 4. 1 Average number of students per class	101
Figure 4. 2 Highest level of education of principals	103
Figure 4. 3 Histograms showing normality of data.....	125
Figure 4. 4 Q-Q showing normality of data.....	126
Figure 4. 5 Box plot on management of students' healthcare	127
Figure 4. 6 Students visiting school-based clinics	129
Figure 4. 7 Number of trained medical personnel hired in a public secondary school..	132
Figure 4. 8 Students' perspective on performance of NHIF accredited health facilities	145
Figure 4. 9 Students with personal medical insurance covers in secondary schools	155

ABBREVIATION/ACRONYMS

AIDS	-	Acquired Immune Deficiency Syndrome
ANOVA	-	Analysis of Variance
CBSE	-	Central Board of Secondary Education
CDCP	-	Centre for Disease Control and Prevention
CSHP	-	Comprehensive School Health Program
CSTL	-	Care and Support for Teaching & Learning
CT Scan	-	Computerized Tomography Scan
ECG	-	Electrocardiogram
EDUAfya	-	Education Afya (a medical scheme / product by government of Kenya for students in public secondary schools)
GO	-	Government Organizations
GOK	-	Government of Kenya
GST	-	General Systems Theory
HIO	-	Health Insurance Organization
HIV	-	Human Immune Virus
ISHP	-	Integrated School Health Programme
KMO	-	Kaiser-Meyer-Olkin
MLOA	-	Medical Leave of Absence
MOE	-	Ministry of Education
MOH	-	Ministry of Health
MRI	-	Magnetic resonance imaging

NGO	-	Non-Government Organizations
NACOSTI	-	National Commission for Science, Technology and Innovation
NEMIS	-	National Education System
NHI	-	National Health Insurance
NHIF	-	National Hospital Insurance Fund
NHIS	-	National Health Insurance Scheme
SBHC	-	School-Based Health Center
SBHCs	-	School Based Health Centres
SDG's	-	Sustainable Development Goals
SHIP	-	School Health Insurance Programme
SHS	-	School Health Services
SPSS	-	Statistical Package for Social Sciences
UHC	-	Universal Health Care
UK	-	United Kingdom
UPI	-	Unique Personal Identifier
US	-	United States
USA	-	United States of America
WHO	-	World Health Organizations

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

There is increasing global emphasis on access to universal healthcare (Shah, 2011). Universal healthcare promotes effective achievement of national strategic objectives, sustainable development goals (SDGs), socio-economic development, community development, and increase in national income (Flaherty, 2013). Consequently, many nations across the world have recently been investing in long-term healthcare strategies such as universal healthcare, social insurances, and comprehensive healthcare programmes, even for learners in secondary schools.

Research shows that young people's health is significant in determining the future well-being and economic productivity of populations (Kolbe, 2019). Notably, the holistic approach to the provision and improvement of healthcare in secondary schools was aimed at achieving access to healthcare services, enhancing retention of students in schools, as well as to facilitate equity and completion of learners' education (Department of Health Western Australia, 2014; Sarkin-Kebbi & Bakwai, 2016; Rasberry et al., 2017; Wood Johnson Foundation, 2016). However, healthcare provision to secondary school students varies around the globe, depending on the country's development priorities, available resources and facilities; and the affordability of health services. Similarly, numerous approaches to managing student's healthcare have been adopted by various secondary schools, both in the developed and the developing countries. The management approach adopted in a given secondary school can be complicated by the existence of different systems and structures of healthcare provision and delivery models. In spite of this, no

research has been conducted to analyze the effectiveness of healthcare delivery model that is suitable for public secondary schools students in developing countries like Kenya.

Therefore, this study set out to analyze various approaches for managing students' healthcare in public secondary schools in Meru County, Kenya, with a view to recommend an amicable and localized healthcare service model. This chapter presents the background to the study. It provides an overview of healthcare services provision; describes healthcare services to learners in secondary schools; and contextualizes the study by describing healthcare services in public secondary schools in Meru County, Kenya. The chapter also presents the study problem, the aim of the study, objectives, research hypothesis, significance of the study, scope, limitations, assumptions of the study, and concludes by providing operational definitions of terms.

1.1.1 Overview of Healthcare Services Provision

Healthcare is the act of improving the health of the community by preventing, or treating (curative) all diseases through engagement with health professionals and practitioners (Longest, 2014). Diligent management of healthcare is critical to avoid loss of lives. Management of healthcare involves administration, oversight, maintenance, and enhancement of health facilities, hospitals systems, and health services (Buchbinder & Shanks, 2012). The management aspect includes the duty of ensuring effective health systems, engagement of professionals, enhancing unity of purpose among health service providers, and proper coordination of health departments, for smooth running, efficient utilization of resources, and effective dissemination of information (Longest, 2014).

Health remains one of the development principles worldwide, as documented in the Sustainable Development Goal (SDG) goal number three. MDG goal 3 states, "*to ensure*

healthy lives and promote well-being for all at all ages” (United Nations Development Programme, 2019; World Health Organization, 2019). This goal emphasizes fostering healthcare of citizens in order to save and prolong lives (Kibui et al., 2015). However, a report by Deloitte Touche Tohmatsu Limited (2019a) noted that the cost on healthcare was occasioned by the ageing populations, which are characterized by prevalence of chronic and infectious diseases, advances in digital technologies, and worldwide environmental degradation.

Generally, global expenditures on healthcare are expected to continue increasing at an annual rate of 5.4 per cent between 2017-2022, from USD 7.724 trillion to USD 10.059 trillion (Deloitte Touche Tohmatsu Limited, 2019a). The Deloitte report further noted the emerging trends in technology-enabled, self-prescribed medicine, use of complex virtual technologies, stiff competition in the health sector, growth of homecare health services, and new systems of financing community healthcare. This shift is forcing the healthcare providers, governments, consumers, and other stakeholders to look for new healthcare delivery approaches and financing models to solve healthcare problems (Deloitte Touche Tohmatsu Limited, 2019a).

Although healthcare is very costly to implement, it contributes to economic development (Spokane Workforce Council, 2018; Murunga et al., 2019). The report by Spokane Workforce Council shows that the top spenders in healthcare services among the 34 members of OECD countries are the US, Netherlands, France, Germany, Canada, and Switzerland. Incidentally, the benefits of high expenditure in healthcare are not regrettable. Healthcare leads to increased life expectancy in countries such as Japan, Italy, Spain, Iceland, France, and Australia. Most of these countries have managed to implement

universal healthcare for their people, hence the need for a planned approach and policy in healthcare provision. Such a plan would be effective in fostering sustainable health of the people (Kibui et al., 2015).

Globally, many countries are making strides towards provision of universal healthcare to their citizens. America, for example, has implemented healthcare systems that aim to increase the life span of its citizens, enhance equity in access to healthcare, and foster preventive health services for its entire population. Other countries with profound universal healthcare services are Netherlands, France, Germany, Canada, Japan, Spain, and Italy (Buchbinder & Shanks, 2012).

Regionally, Africa has lagged in the provision of healthcare to its populace. Although Niederman et al. (2017) show that many African countries have integrated UHC in their national strategies, the progress towards achievement of the same is minimal due to limited domestic resources, and lack of elaborate mechanisms for providing it. Many healthcare systems in African countries are not performing well (The International Bank for Reconstruction and Development / The World Bank, 2011). The report further notes that, although Africa's population represents 12 per cent of the global population, it accounts for 43 per cent of all deaths globally, many of which are attributed to communicable diseases, chronic diseases, maternal ailments, and poor nutrition. Berman (1995) noted that preventable infectious diseases are still endemic in Africa. This indicates acute health services deficit in sub-Saharan African countries like Kenya, as compared to other developed nations. Kibui et al. (2015) attributed it to poverty, poor infrastructural development, political instabilities, and imprudent management practices of public health organizations. Notably, lack of elaborate healthcare services is detrimental to creating

foundations for long-term inclusive growth in Africa due to the underlying difficulties in dealing with epidemics (World Health Organization, 2018). This underscores the need for newer approaches to tackling healthcare challenges, especially in young people, majority of whom are in secondary schools, colleges, and universities.

1.1.2 Provision of Healthcare Services to Learners in Secondary Schools

Secondary schools comprise of a large population of young people whose health is significant in economic and social development. Health and wellness of the youth is also essential in fostering holistic growth of self. Notably, unhealthy students are not able to pursue their dreams, which can curtail their contributions to national development (Reback, 2018). Undoubtedly, secondary schools students spend most of their times in a day together, hence a great need for a system that is able to address emergencies and preventive care (Allensworth et al., 1997).

Consequently, concerns about the health of learners in schools are often being raised in many countries. In Japan, for example, mental illness among learners is becoming an increasing concern, is more diverse and severe; and results to issues such as suicide, speedy spread of lifestyle-related diseases, allergic diseases, infections, drug abuse, and motor organ disorders, among others (Michinaga, 2013). In Wales, Moore et al. (2018) report how substance and drug abuse worsens during adolescence, making adolescence a critical life-course period for intervention to improve health among secondary school learners.

Although healthcare services to secondary students are standard in many developed countries, it is mainly unstructured and lacks uniformity and equity, unlike in the US (Niederman et al., 2017). However, some developed countries such as New Zealand have

well-established healthcare services and systems for secondary schools (Clark et al., 2018). There are other countries, such as Netherlands, France, Germany, Canada, Japan, Spain and Italy, which have instituted universal health care services that include students. Other countries such as California are still struggling in providing access to basic primary healthcare (Reback, 2018).

In the endeavour to provide universal healthcare, some African countries such as Nigeria, Ghana, and South Africa have instituted free health care services to students in public secondary schools. Such universal healthcare services in secondary schools should provide healthcare services to all learners (Lancet, 2020). However, most secondary schools in Africa do not have money and lack sufficient staff to offer all healthcare services that could be included in a comprehensive school health services program (Meeks et al., 1996).

The focus of this study was on approaches used to manage healthcare services provided to students of public secondary schools in Meru County, Kenya. Meeks et al. (1996) noted that improving the health of secondary school students by preventing diseases, reducing health-related risky behaviour such as injuries, sexual misconduct, pregnancy, drugs and chemical abuse, and fighting is inevitable. Adeniran and Ezeiru (2017) have described the health risks that are likely to occur in a school environment. These include physical injuries, emergencies, and infectious diseases among others. Meeks et al. (1996) also noted that some students, especially from African countries, are not adequately nourished, have sleep disorders, lack immunizations; even as others suffer from chemical and drug dependency- all of which can be addressed through a school healthcare system. Therefore, providing healthcare services to students of secondary schools is

extremely beneficial in fostering preventive healthcare, and education achievement (Cloos, 2010; Meeks et al., 1996; Berman, 1995; Stolp, Wilkins & Raine, 2015). An investigation into the approaches that would enable efficient management of healthcare services to students of public secondary school is therefore indispensable. This is because healthcare management in secondary schools is essential in strengthening the integration and quality of students' healthcare.

Approaches to managing students' healthcare in public schools and their effectiveness have been areas of contention over the past decade (Hauenstein et al., 2015). Various management approaches have often been presented and embraced in different countries due to their effectiveness, despite a few setbacks. In contrast, others have been rendered ineffective by the changing demands, and the emerging issues in health industry. One of the commonly used approaches in America for managing students' healthcare is comprehensive school-based health services. The objectives of comprehensive school-based health services are to: ensure affordable referral services, offer primary healthcare services, provide preventive healthcare, and afford curative services and sanitary; and give counselling opportunities for promotion and maintenance of individual's health among others (K-12 et al., 1997).

Some secondary schools have established community partnerships with families, community organizations, the business community, and healthcare professionals to increase their capacity for the health needs of students. This is in appreciation to the fact that a secondary school cannot address independently all health needs of students, hence form partnerships with the community and the private health providers who already have affordable health resources (Meeks et al., 1996). For example, St. Mark's School in the

United States utilizes a partnership model between which underpin collaborations between nursing and counselling in providing health services (Pavletic et al., 2016). This model aims at providing comprehensive healthcare services to young learners in the schools. A report by The International Bank for Reconstruction and Development / The World Bank (2011) shows that some countries such as Chad, Niger, and Uganda have many private healthcare partners who assist in provision of healthcare services to the poor and rural populations. The report indicates that in Africa, 52 per cent of low-income people receive healthcare services from private partners.

Another common approach entail schools establishing institutional-based health clinics, which provide a broad range of health services. These services may include physical examinations, immunizations, curative and illness; family life education, counselling for abuse of drugs, mental diseases, and referral services (Gonzales, 2018; Barnett & Allison, 2012; Salazar et al., 2015). This is observed in developed states such as, New York, Texas, and California in America (Reback, 2018; Byrd, 2014).

In countries like Tanzania, the private health insurance system is underdeveloped. Health services in government-owned health centres and dispensaries ought to be free of charge. Traditional health services also exist provided by a wide range of healers, herbalists, spiritual (faith) healers, diviners, circumcision practitioners and traditional birth attendants (Masatu et al., 2001).

Another promising approach used among young people is youth services centres, which are school-like community-based centres that provide comprehensive services for the many problems young people face. Key healthcare services entail a wide range of medical, educational and social services. This approach is observed in St. Mark's School

in the United States (Pavletic et al., 2016). The specific services offered in youth services centres include: nursing care for prolonged physical illness, laboratory examinations, counselling services, reproductive healthcare, childcare services, parenting education for adolescent parents, prescriptions, among others (Meeks et al., 1996).

The other approach for managing healthcare services entails using teachers. Owing to his/her ongoing close contact with students; a secondary school teacher is better placed in observing students' health behaviour and recognizing deviations. In such an approach, a teacher usually refers a student to the appropriate person or agency if necessary. The healthcare services in countries such as Finland (Lancet, 2020) have provided trained health professionals such as physicians, nurses, clinicians and social workers in their secondary schools. Some schools, such as the Beaver Dam Unified School District in Wisconsin in New Zealand have adopted advanced approach where a school nurse performs health screening, maintains individual health records, interprets results of health appraisals, and provides emergency care. They also sensitize students on special health concerns and identify students who need special health-related attention (Meeks et al., 1996; Buckley et al., 2012). This approach is also practiced in some African countries like Nigeria, Tanzania, and Kenya. The teacher usually stocks in a cupboard with the most common drugs for treating recurring ailments such as headache and flu (Nation Team, 2018). In such cases, the teacher does not get involved in diagnosing diseases but offer emergency support in a sick bay (Council on School Health, 2008; Nation Team, 2018). Another approach witnessed in California is the use of mobile health clinics. Mobile health clinics operate in a manner similar to a school-based health centre and may provide immunizations, sports physicals checks and basic screenings (Reback, 2018).

1.1.3 Healthcare services in public secondary schools in Kenya

Consistent with Vision 2030, Kenya has a health policy under the Ministry of Health (MoH). The aims to maintain a healthy workforce, and establish equitable, affordable and quality healthcare to the citizens. These objectives are expected to be addressed through 4700 public health facilities (The Swedish Trade & Invest Council, 2017). The concept for free healthcare to all Kenyans was first proposed in 1965 after independence, where healthcare charges for patients were abolished (Taskforce healthcare & Kenya HealthCare Federation, 2016). However, the stagnation of Kenya's economy led to reinstating user fees in 1989, and further implementing the cost-sharing model in 1992 as guided by District Health Management Boards under the Ministry of Health.

In 2010, the revised Constitution of Kenya placed the public healthcare services under the 47 county governments. This was meant to enhance equity in access to healthcare and improvement of service delivery to Kenyans (Taskforce healthcare & Kenya Healthcare Federation, 2016). The national MOH has provided policy framework and support as well as technical guidance for effective implementation of health-related national programs in the entire country. MOH is however in-charge of the national referral hospitals, health professionals in these hospitals, as well as associated medical schools.

The objectives of the national health policy includes planning, management of health products, technologies and human resources, dissemination of health information, provision of services, health infrastructural development, and research and development (Taskforce healthcare & Kenya HealthCare Federation, 2016). The overall goal is to eliminate infectious and non-communicable diseases, offer essential healthcare, minimize

the rate at which people are exposed to health risk factors, and to pursue collaborations and partnerships with private and health-related players.

It is indisputable that Kenya has prioritized its citizens' health, safety, and well-being as exhibited in the national four agendas, and as reflected in the national budget. In pursuance of the health plan, the President, in April 2018, launched universal health care initiatives within four counties as pilot projects. Along with the same ambitions, a program was started where all students in public secondary schools acquired health insurance policy, which covers students (not dependent) during the entire duration of study in public secondary schools. The cover also requires a student to be registered with Hospital Insurance Fund (NHIF) and be in National Education Management Information System (NEMIS) database (Capital Digital Media, 2018); Ministry of Education and NHIF, 2018). This initiative has led to increased budgetary allocations on health in the last two years. However, the budgetary allocation falls short of the Abuja declaration of 2001, which required governments to set aside 15% of the national budget to health (Murunga et al., 2019). Despite the increased budgetary allocations, diseases-related deaths are still rising in developing countries as compared to the developed countries (Kibui et al., 2015b). For example, in Kenya, the current total yearly diseases-related deaths are approximately 420,000 people. Out of these deaths, infectious diseases account for about 270,000 deaths, while non-communicable diseases account for about 110,000, and injuries-related deaths are about 40,000 (Republic of Kenya, 2012; Murunga et al., 2019).

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. Most public secondary schools in Kenya have either an

alarming shortage healthcare personnel or completely lack basic infrastructure to support the provision of this noble service (USAID, 2013). Besides lacking healthcare personnel and inadequate government funding, there has been a constant challenge where most rural public secondary schools have no access to good medical facilities within the school premises, and even in the vicinities (USAID, 2013). This poses a challenge to managing healthcare services to students, hence putting principals of public secondary schools in an awkward situation. The situation is no different in public secondary schools in Meru County.

1.1.4 Healthcare services in public secondary schools in Meru County

According to the Government of Meru County (2013), 175 public secondary schools absorb students from public and private primary schools. By the year 2019, the report indicated a total enrollment of 93,217 students, most of whom were in public secondary schools. Like other counties, the infrastructure in most of these public secondary schools do not meet the bare minimum for teaching and learning, let alone healthcare provision. Providing healthcare services to such a high population of students is challenging, especially with the government directive of 100% of students transition from primary to secondary school.

The County has one (1) level 5 hospital, eight (8) level four hospitals, 31 level three facilities (health centres, nursing homes, and maternity homes) and 260 level 2 facilities (dispensaries and clinics) (Meru County Government, 2013). The most common diseases are infectious diseases, intestinal worms, HIV/AIDS, and respiratory diseases. Cancer has also emerged as severe chronic disease in this County. This status has led to an increase in low labour productivity and poverty due to high medication expenses (Meru

County Government, 2013) despite government effort to ease the medical burden on its citizens. The condition is also affecting students of secondary schools. This indicates inadequacy in healthcare provision in this county. Hence, there is need to explore appropriate approaches that would ensure equitable access to healthcare by all students in public secondary schools in Meru County.

Research on approaches to managing healthcare in Kenyan public secondary schools has not been addressed in the past; hence, there is limited literature on healthcare management in public secondary schools. It is therefore imperative to carry out a study that examines various approaches for managing healthcare in public secondary schools with a view to suggesting amicable solutions to providing quality medical healthcare services to students.

1.2 Statement of the Problem

Healthcare is significant in contributing to broad-based social-economic performance and is a precursor to any productive and prosperous nation (Murunga et al., 2019). This is because; healthy people can contribute productively to national development (Moore et al., 2018). In secondary schools, sound education is supported by healthcare initiatives that protect students' health (Michinaga, 2013). The government of Kenya for instance, has been increasing budgetary allocations for health in order to facilitate provision of health through the introduction of unique health insurance for students in public secondary schools (Ministry of Health, 2019). The NHIF, the Ministry of Education and the principals are therefore expected to work closely in ensuring healthcare provision to students in public secondary schools is well-coordinated and provided via accredited health facilities. It is further noted that the government of Kenya has provided health and hygiene

safety standards manual for schools. The manual highlights the principals' role in monitoring the health of students and providing appropriate instructions. Further, it provides initial guidelines to school management on establishing a healthy environment in the school (Church World Service & Ministry of Education, 2008).

Although there is increased allocations to cater for students' health in public secondary schools (Deloitte Touche Tohmatsu Limited, 2019; Ministry of Health, 2019), efficient coordination of healthcare service delivery is not guaranteed. The poor coordination in healthcare service delivery is attributable to lack of a clear service provision model. Notably, some schools have established health facilities; others have employed a school nurse; a few have Memorandum of Understanding (MOU) with neighbouring hospitals, while others have been using referral services to particular hospitals. In addition, substantial number of schools usually contact parents in case a student is unwell. Moreover, some students have personal medical insurance cards through their parents/guardians or organizations where their parents work (GOK/MOH, 2016; Kiwuwa et al., 2005a; Heck & Makuc, 2000; Muli, 2018). The presence of all these practices and the current disposition of using NHIF for students in secondary schools (EduAfya, 2019) raises a fundamental question on suitable approaches for managing students' healthcare in public secondary schools in Kenya. Lack of a profound model for addressing the healthcare needs of students in public secondary schools is confusing principals, particularly when confronted with health-related cases among students. This attests to lack of mechanisms, systems, and structures; hence, unclear approaches, which is detrimental to students' healthcare management in public secondary schools.

The above shortcomings call for urgent measures, failure to which students' health will remain at risk despite the huge national budgetary allocations. Existing empirical literature by (World Health Organization, 2017; Yaqub et al., 2012; Kibui et al., 2015) mainly focused on universal healthcare. Others, such as Gagawala (2016) interrogated challenges facing public secondary schools' implementation of health and safety programs. This exposes a gap on approaches for managing students' healthcare to which this study was set to address. Therefore, this study investigated school-based health clinics, the use of NHIF, and personal medical insurance as approaches for managing student healthcare in public secondary schools in Meru County.

1.3 Purpose of the Study

The purpose of the study was to analyze approaches used in managing students' healthcare in public secondary schools in Meru County with a view to suggesting a delivery mechanism for providing healthcare services to students.

1.4 Objectives of the Study

This study was guided by the following research objectives:

- i. To assess school-based health clinic as an approach for managing students' healthcare in public secondary schools in Meru County.
- ii. To examine the National Hospital Insurance Fund (NHIF) as an approach for managing students' healthcare in public secondary schools in Meru County.

- iii. To examine personal medical insurance as an approach for managing students' healthcare in public secondary schools in Meru County.
- iv. To compare the above three approaches across categories of public secondary schools in Meru County.

1.5 Research Hypothesis

This study had one hypothesis to each objective as noted below.

- i. HO1 School-based health clinic approach is statistically insignificant in managing students' healthcare in public secondary schools in Meru County.
- ii. HO2 National Hospital Insurance Fund (NHIF) approach is statistically insignificant in managing students' healthcare in public secondary schools in Meru County.
- iii. HO3 Personal medical insurance approach is statistically insignificant in managing students' healthcare in public secondary schools in Meru County.
- iv. HO4 There is no statistically significant differences between the approaches used in managing students' healthcare across categories of public secondary schools in Meru County.

1.6 Justification of the study

It is essential to compare various approaches used in managing healthcare of learners to inform on areas of complexity regarding this vital subject. Such investigation will promote knowledge in the kind of localized solution and collaborations that are needed for its effectiveness in addressing the healthcare needs of students in public secondary schools in Kenya. Exploring the different approaches that are in use worldwide would generate essential information that is important in informing principals, government, students, and

parents about healthcare decisions. The government will be interested in knowing the best practices and the immediate actions needed in managing healthcare provision in secondary schools in Kenya.

1.7 Scope and Delimitations of the Study

The study focused on establishing the effectiveness of the approaches used in managing students' healthcare in public secondary schools in Meru County. The study was largely biased to the consumers' point of view; hence, it obtained data from principals and students' council chairpersons as the representative of students. It also collected data from the Director of Education in Meru County to help in analyzing the effectiveness of different approaches. The approaches of focus in this study were school-based health clinics, National Hospital Insurance Fund and personal medical insurance.

The study did not focus on interrogate prevalence of diseases in secondary schools in Meru County, since it was not interested in examining the health environment status in secondary school. Primarily, the study focused on how principals handle healthcare in secondary schools in Meru County with a view to expose the challenges encountered. Only public secondary schools were included in this study. Further, the study did not address the management of health issues of students while at home but specifically when they are in school.

1.8 Significance of the Study

This study provides insight on the three approaches used by principals in managing students' healthcare in public secondary schools in Meru County, Kenya. The study's findings can be used to come up with strategy for ensuring learners' health in public secondary schools. This is because healthcare matters are weighty and very significant to

learners of secondary schools in Kenya. The ministry of education and the school management will specifically be the beneficiaries of the study's findings by providing the basis for developing better policies at both the Ministry of Education level and at the secondary school level. Such policies should ensure that the approaches used do not compromise the learning endeavours of students.

Principals of public secondary schools would find the results of this study practical. The findings will enlighten them on the implications of different approaches and prompt them to undertake integrative measures for accommodating a diversity of approaches adopted in a given public secondary school. The findings informs BOM on the kind of advice to give to parents regarding their children's healthcare.

Students of secondary school would gainfully utilize the empirically tested approaches in addressing their healthcare needs. Parents would be less confused as they will be informed of the various approaches and the effectiveness of each; hence, being better placed to make key decisions towards their children's health in secondary school.

The Ministry of Health and the Ministry of Education will find the study useful as they seek the best way to liaise with the public secondary schools and other stakeholders in ensuring the effectiveness of approaches employed in availing medical care to students. This study would also contribute new knowledge in the field of health provision to learners. It exposes gaps in the adopted approaches and suggests improvement to ensure the health of learners of secondary schools in Kenya is not compromised. The results of this study have provided data to inform quality provision of healthcare to students in public secondary schools in the entire country, as well as other developing nations. The study also forms a basis for future studies by scholars in healthcare provision to learners.

1.9 Limitations of the Study

This study was a cross-sectional study; hence, the effectiveness of the adopted approach was not monitored over time. The researcher relied on data provided by respondents who were expected to rely on their past experiences to manage healthcare services to students. Such responses were subjective to respondents' experiences. However, the respondents were encouraged to be honest and open in answering questions posed to them.

The NHIF arrangement and subsequent government's directive for healthcare services to secondary school learners are relatively new and could still be experiencing teething problems in its implementation. Moreover, some approaches discussed herein may not be well established in some secondary schools, especially from rural areas, due to limited health facilities and infrastructural development. However, this limitation did not substantially affect the results of this study, considering that data revealed the actual scenario. The findings would thus help to ensure fairness and equal distribution of healthcare resources and services.

The study did not also address the potential confounding effects of cultural practices, such as traditional witchdoctors and religious faith, on the management health of learners in secondary schools in Meru County.

1.10 Assumptions of the Study

This study assumed that:

- Every single school had a policy for managing students' healthcare.

- All students have equal chances of seeking medical attention during their school time.

1.11 Definition of Terms

Approaches: In this study, an approach is a way of dealing with a situation or problem.

Board of Management (BOMs): These are officers elected / nominated by members of parent association and are charged with the responsibility of managing a school. BOM members are answerable to the sponsor, parents and the community.

Healthcare: Refers to entire effort instituted by private and public institutions in addressing health of the people (Longest & Darr, 2014).

Principal: This is the title given to the head of a secondary school.

School health program: Refers to project in the school for promoting the health and development of the school community.

School health services: Refers to health-related services that are offered to students in a particular school by healthcare professionals. It is about healthcare system and services that are offered to learners within a school (Kuponiya et al., 2016a).

School Management: Is the process that entails performing functions such as planning, organizing, leading, controlling and monitoring by principals and BOMs.

School-based health services: These are health services provided within the school premises. Such services can be provided by the health care provider(s) located on-site or visiting, or both (Baltag et al., 2015).

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter provides in-depth discussion on various approaches used in managing students' healthcare in public secondary schools. The discussion is organized according to the identified themes. The study acknowledges scanty information on school health matters hence, the policy issue which was regarded as a moderating variable was therefore integrated and embedded in the dependent and in each independent variables as opposed to discussing it as standalone construct. Empirical literature is presented first followed by theoretical and conceptual framework. Both published literature and empirical studies have been reviewed to show the gap that this study seeks to fill. Books, journal databases,

institutional repositories, corporate reports, and websites are essential sources of information that are synthesized and presented in this chapter.

The chapter starts by describing the concept of management of healthcare regarding students in public secondary schools. The policy issues regarding the management of healthcare of learners in secondary schools have been integrated in the discussion accordingly. A review of literature on management of healthcare is useful in solidifying the dependent variable, and in facilitating understanding of the status of healthcare services provided to students in public secondary schools. A discussion on the three approaches to healthcare provision adopted in public secondary schools; namely, school-based, NHIF and personal medical insurance alongside policy issues is then presented. The deeper interrogation of literature in each approach enabled the identification of salient issues, which informed the selection of items of measure when assessing the statistical differences in practices and application of the three approaches across different categories of public secondary schools.

2.2 Management of Students' Healthcare in Public Secondary Schools

The health of learners is of great interest and it has dominated discussions in different forums across various countries. This is mainly so because school health contributes to community wellbeing and the national development in general. Notably, healthcare in secondary schools is meant to promote wellbeing and champion preventive and curative services, and provide emergency solutions to students (Munyasya, 2014). Thus, the main concern on students' health revolves around access, cost, and effectiveness of healthcare provision (Lear et al., 2008). This brings into context the concept of management, which amplifies leadership and direction in the entire process.

Management is a set of principles and interactive processes of attaining effectively and efficiently the goals of an organization. It involves performing essential functions such as planning, organizing, leading, and controlling physical, financial, human, and informational resources to achieve organizational goals (Longest & Darr, 2014). It is the science and the art of accomplishing the desired goals and objectives (Shortell & Kaluzny, 2006). Sarkin-Kebbi and Bakwai (2016) noted that management and administration occur in every organization regardless of industry and sector. In the context of this study, secondary school administrators are managers who perform the role of management in their schools. They are, therefore, essential in ensuring effectiveness of a healthcare programmes and services in their schools. Although the central role of principals of secondary schools is geared towards achieving educational goals, their ambitions can be curtailed considerably if the learners are not healthy.

In secondary schools, principals, who work closely with the school's management board, have shouldered the management of students' healthcare. Most importantly, the principal of a secondary school is usually charged with the responsibility of fostering, directing and supporting the effective delivery of healthcare services in the school. This is because principals are managers of resources, facilities and equipment in their respective schools. The administration and management process involves working through and with people, coordinating various resources and facilities, and championing requisite leadership (Shortell & Kaluzny, 2006). Therefore, school administrators must ensure an appropriate healthcare delivery model is adopted in their schools. Implementing appropriate healthcare model is a key factor to the achievement of social-economic development in the nation.

Reviewed literature shows that effectiveness in managing healthcare may be based on process or outcomes (Longest & Darr, 2014). The current study focuses more on approaches for managing students' healthcare; hence, the process of healthcare provision is considered an appropriate indicator of the desired measures towards provision of healthcare services. Longest and Darr (2014) describe health services as a set of activities implemented to maintain the good health of the people. Such activities can be grouped into two; public health services and personal health services. In the context of this study, school health services entail health activities and measures that contribute to healthy students (Department of Health Western Australia, 2014; K-12 et al., 1997). The current study is biased to personal healthcare services whose main activities, according to Longest and Darr include curative, rehabilitative, and emergency. Healthcare services can be provided by autonomous health systems in a coordinated or in uncoordinated and disjointed manner (Shortell & Kaluzny, 2006). This points out why healthcare management aspect is critical, especially in coordinating students' healthcare in public secondary schools.

Past studies investigating aspects of school healthcare services and programmes have used measures such as responsiveness, efficiency, timeliness, equity, patient preferences, and convenience to determine their effectiveness. These measures may not be adopted in determining the successes in managing students' healthcare provision in public secondary schools. However, aspects such as responsiveness of the various approaches, low health-related absenteeism among learners, coordination of healthcare across different delivery settings, and stakeholders' involvement in healthcare delivery systems featured prominently in assessing the management aspects (Baltag et al., 2015; Claxton et al., 2015; Missouri Department of Elementary and Secondary Education, 2014; Thakor et al., 2014).

It is indisputable that unhealthy students can hardly concentrate in class, while those at home on account of sickness suffers absenteeism, and eventually lose track of the learning process (Sarkin-Kebbi & Bakwai, 2016). Continued absenteeism may result to violation of ambitions plan to provide education for all. However, the study by Sarkin-Kebbi and Bakwai (2016) focused more on analyzing the national school health policy in Nigeria, and determining deterrents to its implementation. However, no such study has been conducted in Kenya. This study seeks to fill this gap by analyzing approaches to delivering healthcare services to students in secondary schools. To do this, the current study will explore various healthcare services offered in secondary schools, and discuss key issues regarding each delivery approach to recommend suitable solutions.

Rasberry et al. (2017) conducted a nationwide survey to analyze the relationship between health-related behaviours and academic achievement (self-reported grades) among US students in grades 9–12. Their results highlighted a link between health and academic performance. They noted that students with good self-reported grades had also embarked on health-sensitive behaviours, hence lowering health risks. The survey underscored the significance of school healthcare services in promoting healthy behaviours, ultimately contributing to improved academic performance among students. The report further underpins the partnership between educational and public health institutions in promoting student health and academic achievement in secondary schools. Although the survey report is critical in substantiating the need for students' healthcare in secondary schools, it did not describe the management requirement aspects yet the entire healthcare provision requires a sound coordination system for it to be effective.

As noted in the preceding discussion, healthcare among secondary school students is paramount and can have long-lasting effects. If not well addressed, it may cause chronic absenteeism (Wood Johnson Foundation, 2016), which may negatively affect students' academic performance and hinder their employment at a later stage. In the US, for example, the report by Wood Johnson Foundation indicated that students miss approximately 14 million days every year, which is largely attributed to physical illness, mental health challenges occasioned by stress and anxieties; and safety issues. The report recommended the need for a change in policy and systems for delivering healthcare. Further, it underscored the role played by the national government, community local education agencies, parents, and school administration in ensuring students' health.

There exists few studies on modals of healthcare service provision for students in secondary schools. However, Baltag and Levi (2013) describe five common models of delivering school healthcare in WHO European countries. They include school-based clinics, community-based health service, integrated healthcare model, mixed-school based model, and mixed community-based model. In school-based clinics, school-trained health workers are readily available in the schools; while in a community-based health service model, external trained health workers are involved; integrated healthcare model entails healthcare services being delivered by health workers on a regular schedule, or turning up when contacted. There is also a mixed school-based model, where health professionals either visit schools or are visited by pupils in a primary healthcare facility. In contrast, the mixed community-based model involves both internal and external health workers.

In developed countries such as the US, the school health services program differs from one state to another, even among individual schools. The variations are attributable

to the needs of students, healthcare infrastructures, fiscal resources, taste and preferences, nature of leadership, and the approaches used by management (Longest & Darr, 2014). In some states, the healthcare provision model is very elaborate, while it is scanty in others. For example, The Department of Virginia prepared detailed guidelines for healthcare services procedures in schools (Southall, 2017). However, the guidelines essentially assume that there are specialized personnel to administer those procedures in case a condition emerges. The guidelines also assume that the required facilities and equipment are equitably available, and that the technical capacity to maintain them is also readily available in all schools. Nonetheless, a study by Pavletic et al. (2016) showed that majority of boarding schools in the United States, for example, St. Mark's School, have established healthcare structures for their learners. The schools pay a lot of attention to day-to-day aspects of self-health care, nutrition, sleep patterns, mental condition, counselling services, professional nursing care, clinical exercises, health education, availability of local medics and other health-related professionals in supporting health status of students while in school. In the same vein, research conducted on school health promotion also showed that secondary schools in Australia have profound health programs that address access to primary healthcare, drug abuse awareness programs, sexual behaviours, dietary choices, and physical activities among learners (Banfield et al., 2015).

Missouri Department of Elementary and Secondary Education came up with a manual for school health programs in 2014. The manual outlined various healthcare components, such as comprehensive education program on school health, nutrition services, counselling, and school-site health promotion. The program also involved the family and the community. The manual also expounds on the essence of leadership and

coordination of the concerted effort from principals, hospitals, students, the board of education, parents, and the community in delivering desired health programs to learners (Missouri Department of Elementary and Secondary Education, 2014). The fundamental assumption in the approach described in this manual is that all schools have standardized health facilities and practices; which is not the case in developing countries like Kenya. However, the manual is essential in providing a programmed approach in the management of learners' healthcare in a school setting.

Similarly, many schools in England have structured programmes that include health education, nutrition and curative measures. Their education programmes on health was noted to have been very instrumental in raising health knowledge and in promoting healthy behavior among students (Denman, 1999). Baltag, Pachyna and Hall (2015) did a desktop literature search to compile a global inventory on school health services from 102 countries. Their report focused on describing targeted people, service providers, staffing matters, the scope of services, and organizational challenges. The report provided critical information on the effectiveness and responsiveness of school healthcare services. In New Zealand, Denny et al. (2014) carried out a two-stage cluster sampling to collect data from New Zealand secondary school students to determine the associations between the institution health services and the student's health and wellbeing outcomes. Unfortunately, the study was inclined to the school-based healthcare approach, and did not mention other approaches.

According to Baltag et al. (2015), various countries across the globe have dedicated school health personnel that include nurses (54 countries), school doctors (36 countries), psychologists (17 countries), dentists (6 countries), social workers (6 countries), and

counsellors (5 countries). A third of the 102 countries surveyed were noted to have both dedicated and non-dedicated health personnel involved in providing school healthcare services. The report also showed that an overwhelming majority of the countries (95%) provided healthcare services within the school premises. The services ranged from vaccination, health education, screening, counselling, and referral to drug provision. The common cases handled were mental illnesses, violence, injuries, chronic conditions, and interpersonal violence. The most common challenges encountered by these countries arose from coordinating the multiple service providers; hence, Baltag, Pachyna, and Hall recommended a great need for a structured health provision model in schools. Other challenges noted were insufficient involvement of parents and communities in school healthcare programs. The report also noted global, regional and even national scarcity of data on school healthcare systems. The programs were also lacking in monitoring systems and mechanisms on how learners' healthcare services are implemented. The survey, therefore, recommended a standards-driven approach to realize the desired objectives. The report, however, did not analyze the effectiveness of the few service models noted in 102 countries.

Youngminds (2018) noted the emerging health problem as being rampant among students in the UK. These are worrying trends and calls for attention by the concerned authorities. According to Youngminds, the problem can be attributed to many factors, key among them being complex and ever-changing environments, which amass numerous pressures on students' health in different aspects of their lives. In Western Australia, school healthcare services are dedicated to health promotion, early detection and intervention, and specialist health expert services (Department of Health Western Australia, 2014). In Japan,

the school health programme is highly structured and regulated. The country has elaborate structure starting from the ministry of health education, Prefectural Boards of Education, Municipal Boards of Education, and School management (Yamamoto & Moriwaki, 2019).

In Africa, the management of students' healthcare in secondary school is largely fragmented, where some schools have elaborate programmes, while others are still struggling with policy matters. For example, Nigeria has a National School Health Policy, which is expected to place adequate facilities, resources and programmes to support healthcare provision on school learners. However, the policy is not bearing fruits due to mismanagement and inadequate implementation mechanisms (Sarkin-Kebbi & Bakwai, 2016). Sarkin-Kebbi and Bakwai (2016) reviewed several studies that linked the health of student to learning outcomes. Their findings also coupled school healthcare programmes with effectiveness in the school administration by underpinning the manager's role in protecting, preserving, and promoting the health of individual learners in the school. Furthermore, the study noted that students' health was significant in determining the effective realization of educational goals and objectives. However, according to Sarkin-Kebbi and Bakwai (2016), the management of healthcare provisions in schools in Nigeria was experiencing challenges such as insufficient school health personnel, inadequate health facilities, poor commitment from school administrators in implementing school healthcare programmes; as well as insufficient involvement of the community, Ministry of Health and the Ministry of Education.

Similarly, a cross-sectional survey was done in Ogun state, Western Nigeria, by Kuponiyi et al. (2016) who compared the nature of school health services and practices in private and public primary schools. The study used a multi-stage sampling technique to

collect data from head teachers. The results indicated presence of school health services in many primary schools, although they were facing three key challenges; namely, poor infrastructures (51.7 %), lack of funds (42.8 %) and inadequate health personnel (31.1 %).

Borge et al. (2008) focused on understanding health professionals' perspectives on school health programme in Tanzania. Their study noted serious weaknesses in implementing healthcare programmes. The weaknesses were attributed to lack of clarity in the guidelines for school healthcare services. The study used a semi-structured interview guide in collecting views from school health personnel. Notably, the study did not collect data from students who are the main beneficiary of a primary healthcare program. It also failed to solicit views from school administrators who have great responsibility in managing learners' healthcare in schools. The study further assumed that each school in Tanzania had engaged health professionals, which is indeed far from the truth due to different social-economic conditions prevalent in Tanzania.

Kenya is one of the African countries that have taken the health of students very seriously. School health in Kenya is perceived to having a strong link with national development (Wasonga et al., 2014). The new constitution of Kenya, promulgated in 2010, stipulates that every child have the right to healthcare and primary education. In that regard, the Ministry of Education in conjunction with the Ministry of Health proposed a nationwide implementation of school healthcare strategic plan, 2011-2015. However, the success of the implementation of this strategy is not explicitly documented.

That notwithstanding, the available report and other published literature from the Ministry of Public Health and Sanitation, (2010); Ministry of Education (2011); Taskforce on Healthcare & Kenya Healthcare Federation (2016). Wasonga et al. (2014) describe

health as a core pillar and one of the four agendas that are pursued towards social-economic development and in making Kenya a prosperous nation. It is regarded as a critical strategy towards achieving vision 2030 and the sustainable development goals (Ministry of Education, 2013). The country envisages having a comprehensive school health policy that aims to provide access to health services to students in all public secondary schools. This initiative is expected to enhance students' retention in schools, inclusion, equity, and promote completion of education by learners, which is further hoped to help in facilitating the achievement of the desired national development (Wasonga et al., 2014).

Notably, parents in Kenya have increasingly been spending a lot of money on healthcare of their children in schools, something that is rapidly becoming difficult to handle. This calls for intervention to which the government of Kenya has undertaken to address through introduction of a health insurance cover. However, the systems of managing students' healthcare in secondary school are not elaborate (Wasonga et al., 2014). There have been many attempts to impose control and direction by the government via the Ministry of Education and Ministry of Health, but the two ministries have not provided a foolproof healthcare delivery model for secondary school students.

There are a handful studies done in Kenya on school healthcare. A synopsis of the literature shows that most of these studies have focused on policy, status and health programmes, among other issues. Some of the studies, such as Wasonga et al. (2014), carried out a pilot study on Kenya's comprehensive school health policy. The study used focus group discussions, field observations, and in-depth interviews to collect data from government officers who were tasked with implementing the comprehensive school health pilot program. The report revealed the functionality of the health programme and the

challenges encountered during the implementation. The lessons learnt were aimed to inform policy changes and shed light on programme implementation. The report noted the need to involve all stakeholders, establish supportive and monitoring systems, and the need for good coordination of school comprehensive s health program in order to make it sustainable.

Munyasya's study of 2014 conducted in public secondary schools in Kitui Central noted that some schools had health service programmes that included nutrition and food services, counselling services, health promotion programs, and health education programs; while others provided sex health services. None of the aforementioned studies focused on exploring healthcare provision models in secondary schools. This points out to a research gap that the current study aims to fill.

It is indisputable that the primary mission of secondary schools is to promote student's success in academics for future social-economic attainment (Olga, 2016). However, the desired academic achievement can be frustrated if learners lack proper healthcare during the schooling period. Notably, learners who wrestle with health problems are likely to miss attendance of classes, something that may ultimately affect their academic achievement negatively. This is because the poor health status of learners increases the risk for poor educational outcomes (Sprigg, Wolgin, Chubinski & Keller, 2017). Unfortunately, learners in secondary schools are part of the youth that lack access to consistent, high-quality healthcare, especially in developing countries. For example, approximately 60% of students who miss classes in Nigeria do so on account of ill-health (Kolawole, 2015). This underscores the need to re-think the strategies for providing healthcare to learners in high schools. When secondary school students fall sick, they

access medical care through a variety of methods such as through school clinics, National Hospital Insurance Fund (NHIF), personal medical insurance and also in some occasions, they are sent home, or their parents are called via phones to pick their children and help them seek medical care services. The section that follows discusses the school-based health clinics as an approach for managing students' healthcare in public secondary schools.

2.3 The School-Based Health Clinics and the Management of Students' Healthcare

The main purpose of the provision of healthcare in secondary schools is to promote the holistic health of students in a bid to maximize the education process (Shaw et al., 2015; Wood Johnson Foundation, 2016). Niranjana and Gamboa (2017) conducted a cross-sectional survey with 156 school principals of all public and private schools in Maharashtra State, India, to assess health promotion activities and policies in Schools. They reported prevention and health promotion as necessary initiatives in addressing the burden of diseases among learners. Center for School, Health and Education (2015) too challenged the principals and heads of secondary schools to become more aware of the health statuses of learners and purpose to make a difference by instituting appropriate healthcare approaches in managing the health of students. The Center for School, Health and Education say that doing this will ultimately increase their success in educational ambitions. The school-based health centers are therefore regarded as solutions to this challenge.

School-based health clinics (SBHC) is a health provision model found in a school. It provides diversified healthcare services to students and other workers in a given school (Olga, 2016). Byrd (2014) describes SBHCs as health clinics that bring preventive and

immediate care and counselling and health education to students. Howe (2019) sees SBHC as healthcare centres providing on-school site services to the school community. SBHC is conveniently located, mainly in the school compound and is designed to overcome healthcare-related barriers that include the lack of medical health insurance covers, lack of resources for medication, and the lack of transportation of medical facilities (Strolin-Goltzman, 2010).

Well-established SBHCs are instrumental in preventive and curative care since they allow for diagnosis, assessment, treatment, and monitoring of learners' physical and behavioural health conditions. According to Strolin-Goltzman (2010), these services are delivered by an interdisciplinary group of health professionals, who include mental health clinicians and primary care medical practitioners. Barnett and Allison (2012) argue that the establishment of SBHCs helps expand basic healthcare services provided by schools and come up with better policies and guidelines for enhancing healthcare of learners. Hayley et al. (2019) described SBHCs as efficient and trustworthy healthcare providers that are not only convenient to learners but also are gainfully utilized since they are familiar to the student and their families. They have notably become important avenues through which students receive timely preventive and clinical healthcare (Salazar et al., 2015). In the US, SBHCs are regarded as critical vehicles for delivering quick response to the health needs of learners (Langille & Rigby, 2006). Shrestha et al. (2019) commended the establishment of SBHCs for providing cost-effective healthcare intervention to all students regardless of their financial background.

Notably, SBHCs are unique and easily distinguished from other healthcare delivery models. Their common characteristics include; they are located within the school

compound; they provide comprehensive services by various health professionals; and they are integrated within the school community. They provide clinical services through qualified health providers and have advisory boards consisting of community representatives, parents, students, teachers, among others who do the planning and play an oversight role in ensuring prudent management and functionality of SBHC (Keeton et al., 2010). Most of SBHCs mainly provide healthcare services to student populations in the school. In contrast, others allow school personnel, students from other schools, members of families of the student or staff, as well as neighbouring communities (Lovenheim et al., 2016).

Studies by Hayley et al. (2019); Olga, (2016) have shown an increasing change in landscape and models for providing healthcare to learners in secondary schools in most developed countries where SBHCs are becoming more prominent than before. Olga (2016) noted that healthcare provision to high school students in America is realized through SBHCs that provide convenient, accessible, and comprehensive healthcare services through partnerships and collaborations with sponsoring agencies, health providers, and the community integrated within the school setting. According to Olga(2016), this healthcare delivery model was developed and tested in high school settings across America. The model ensured students in public high schools had access to primary healthcare, as well as preventive and curative care services. Howe (2019) also reported that in America, the school-based health centres are held in high regard due to their significant role in addressing health challenges in high schools. In India, the Central Board of Secondary Education (CBSE) launched a comprehensive school health programme in 2007 (Niranjan

& Gamboa, 2017). However, its implementation practices differ from one school to another, depending on socio-economic and demographic factors.

On matters of adoption and functionality, SBHC is implemented using different modes. For example, Howe (2019) found four methods of implementing school-based health centres in New Jersey, that included school operated centres, collaboration centres, private non-profit entities and federal-qualified health centres. The other standard mode of delivering SBHCs in the USA is where an external provider conduct screening periodically and any follow up required is referred to their clinics. By May 2019, as noted by Olga (2016), the US had 2,584 SBHCs, which profess different delivery models that include traditional SBHCs, and school-linked health facilities. Also noted was that some SBHC offer healthcare services to populations beyond the students enrolled in their affiliated schools; that is, they include students from other schools, staff and family members of students.

The success of SBHC in America can be attributed to unique composite financing model with funding from school district offices, county or city government; or patient revenue, through either third-party insurers or patient fees. A majority also get reimbursement from public and private health insurers, as well as from Medicaid (Olga, 2016). Moreover, the Council of State Governments Healthy States Initiative demand that state legislators offer financial resources to have well-equipped school-based health centres, maintain the present infrastructure and expand existing structures depending on need (International Union for Health Promotion and Education, 2013). Also noted is that most SBHCs are mainly sponsored by the government, school systems, local health organizations, non-governmental organizations, universities, among others (Keeton et al.,

2012). Hayley et al. (2019) noted that SBHCs in the US enjoy advocacy resulting in federal funding for capital expenses that include construction and renovation needs. This model of providing proximity healthcare to learners has also been included in America's Affordable Care Act and Children's Health Insurance Program Reauthorization Act (Center for School, Health and Education, 2015). The existence of such a legal framework is critical in soliciting financial support and operationalization of the same. Also helpful is an advisory board that is made up of healthcare practitioners, parents and heads of schools, as well as government representatives who help in coming up with management policies and the government budgetary allocations to SBHCs (New York Health Foundation, 2014). This shows that SBHCs in America flourish due to the support in funding, legal and policy framework, and good management structures.

The adoption of SBHC in high schools has been associated with numerous benefits to students and the community. Dilley (2009) provided evidence that links students' health with academic performance, arguing that health risk influences one's academic behaviour and performance. Therefore, Dilley noted that the presence of SBHC in a high school would act like interventions for mitigating risks and enhancing chances for quality of life that the Center for School, Health and Education (2015) said would ultimately lead to improved academic behavior of learners. In addition, available literature indicates that school-based health centers deliver preventive care by providing immunizations and managing chronic diseases such as diabetes, asthma, mental health conditions, and provide reproductive health services to adolescents. This ultimately improves academic performance, and ensures improved health and satisfaction levels among students (Keeton et al., 2013). Thus, SBHCs are valuable assets in prevention programming and health

promotion for adolescents. They also provide essential access to corrective health services for abuse of drugs and mental health services for young people to whom healthy behaviour is encouraged (Brindis, et al., 2003).

Milosavljevic (2015) evaluated integrated healthcare services in SBHC in three high schools located in Massachusetts and underscored the value of SBHC in reducing barriers to accessing healthcare, lowering treatment costs, and decreasing high school absenteeism. The available infrastructure and equipment in the three high schools in Massachusetts made Milosavljevic's study conclude that SBHCs are feasible initiatives. According to him, SBHCs should be embraced by all public high schools in the United States of America. However, generalization of the results may be difficult considering that the study's population in Milosavljevic's research was too small; that is data from three high schools with school clinics. He refuted that other schools were experiencing shortages in facilities and personnel.

Strolin-Goltzman (2010) argued that school-based health centers (SBHCs) had improved accessibility to both primary and preventive healthcare for the unprivileged children and youth. This is significant in establishing profound health services in the schools, which goes a long way in increasing attendance of lessons; hence good academic outcomes. The study demonstrated that SBHC was significant in influencing educational outcomes.

Langille and Rigby (2006); Shrestha et al. (2019) linked SBHCs to learners' health and specifically to their cognitive development and academic performance. These studies concluded that emotional, mental, and physical health is directly related to academic performance. Similarly, a study on a school-based health center in Seattle, Washington

found out that students with mental health needs, and who used institutional-based medical facilities demonstrated better General Point Average (GPA) over the years compared to nonusers (Walker et al., 2010). United Way of Greater Richmond and Petersburg (2018) noted that students who accessed SBHCs had better grades, and were noted as having better class attendance than those who do not use such centres in USA. The report further provides numerous benefits associated with SBHCs, which convincingly underscores the indispensable value of SBHCs in community development, social mobility, and improving health equity among young citizens. In addition, Byrd (2014) noted that school-based health centres did help increase school attendance and usually reduced hospitalization among school children with asthma. Moreover, in Texas, School-Based Health Centres enabled students to receive timely clinical preventive care (Salazar et al., 2015). The same case applies in California, where SBHC programmes did not substantially contribute to children's access to primary healthcare (Reback, 2018). However, Reback (2018) noted that school-based clinics were not prevalent in rural areas of California and also in special education schools despite their contribution to improving the overall school learning outcomes, reducing learners' dropout rates in schools. Therefore, Reback recommended policymakers to continue focusing on strengthening and expanding school-based clinics as an effective and reliable healthcare delivery model (Center for School, Health and Education, 2015).

A recent survey (2016–17) conducted by the School-Based Health Alliance reported an exponential growth of SBHCs in the US, which were also be accessed remotely according to (Hayley et al., 2019). Some of the essential information gathered during Hayley's study included; school enrollment; the school profile, student characteristics,

number of students with access to SBHC, students' ethnic/racial characteristics, availability of lunch program, and eligibility for the healthcare services in the SBHC. These important details found essential and enlightening when coming up with specific items that are included in the instruments of the current study.

In majority of African countries, youths account for the largest proportion of the country's population. They, therefore, play an important role in national growth and development due to their active involvement in economic, political, technological, agricultural and educational sectors (Kolawole, 2015). Approaches for providing adequate healthcare to learners in high school are therefore inevitable. Accordingly, some African countries have made a good attempt towards adopting SBHCs in high school. For example, the school-based health centers have been imperative in most secondary schools in the provision of accessible and convenient health care services, in addressing complex health needs of students, and is contributing significantly to the educational success of learners in Ethiopia (Ministry of Education, Ethiopia, 2012; Olga, 2016).

School health services in Nigeria are not elaborate and suffer a setback due to poor organization and administration; inadequate funding by the national government; hence, many public secondary schools cannot procure requisite health infrastructures and personnel necessary in establishing school-based health centres (Kolawole, 2015). In Kenya, the establishment of SBHCs is a far desired outcome that is also curtailed by lack of facilities and finance. Nation Team (2018) reported the desolate state of ill-equipped school dispensaries in most secondary schools in Kenya, hence unable to take care of sick students. Some of the deterrents reported included; inadequate medical fee paid by parents, negligence and unnecessary delays where sick students are held in sickbays for too long

before they are attended; lack of qualified medical staff due to poor pay; non-existent dispensaries in some schools; poor leadership; and poorly equipped school dispensaries.

There are very limited studies on SBHCs in Kenya. Although Mbogo's study of 2016 was based on primary schools, it recommended establishment of structures for implementing SBHC, formation of school health committees, capacity building, installation of school infrastructure, and provision of supervision support for head teachers. This state of affairs corroborates with Shrestha et al. (2019) who carried a qualitative study in Nepal to explore stakeholders' perceptions of school health program implementation process. Shrestha and colleagues interviewed key informants through personal network and snowballing. The study identified poor coordination, lack of resources, limited training opportunities and sustainability challenges as common impediments in implementing the program in Nepal.

2.3.1 Hospital Referrals Services

Hospital referral systems can be used as tools for accessing healthcare for students in secondary schools. This is most common in secondary schools that have institutional-based health centers. School-based health centers are significant in addressing simple health illness and appropriately providing referrals (Center for School, Health and Education, 2015). This is because the services offered by SBHCs aid in the identification, treatment and referral of children with behavioral or emotional issues (Buse, et al., 2012). The SBHCs complement the nurse's work considering their proximity to students and better monitoring of learners due to accrued and readily accessible history, hence more personalized healthcare services. Through proper coordination, SBHCs provide instant

access to a healthcare provider who can immediately address students' acute healthcare issues (United Way of Greater Richmond and Petersburg, 2018).

The hospital referral system refers to the comprehensive healthcare system used for managing particular healthcare needs through referral of patients from one facility to another to provide a better level of care (GOK/MOH, 2016). It comprises a set of activities that a health care provider or health facility undertakes in response to the inability to provide the intended intervention to meet a patient's needs. In a referral system, health services may be hosted and managed by different organizations (Simpson & Stallard, 2004). In addition, a hospital referral system is instrumental in curbing the problem of insufficient resources in terms of drugs, skills and equipment to meet patients' clinical needs.

In health industry, quality health services are great indicators for a working hospital referral system that is ideally expected to be reliable, competent, and handled by a cadre of professional health officers. It is characterized by a well-functioning information system that serves the role of analyzing, disseminating and producing timely and reliable information (GOK/MOH, 2016). Another indicator is an efficient system of access that is elaborate and simple. The system of access should be scientifically sound and cost-effective (Kiwuwa et al., 2005a). Moreover, a hospital referral system should have a well-defined leadership scheme that provides governance and guidance to oversee smooth and harmonized operations. The health infrastructure is also critical. This constitutes physical infrastructure, equipment, transport, technology and a well-established communication system (GOK/MOH, 2016)

The hospital referral system aims to improve research and collaboration with other organizations to enhance the nature of health delivery (Kiwuwa et al., 2005a). It also cuts across all levels of health systems by building good networking of service providers. Also noted is the need to develop a clinical support program that links low-level health providers and high-level providers (Kenya, 2014a). Another goal is promoting transparency and accountability across the different levels of health providers; promoting continuity of health care across different levels of care; building and upholding faith in health systems, and in helping to realize the mission of health providers and health institutions (Kenya, 2014a; Kenya, 2014b).

Management of healthcare in secondary schools through hospital referral systems can be achieved through various ways such as coordinating and monitoring client movement (Kenya, 2014b). According to Kenya (2014b), client movement entails the process of moving a patient from one health facility to another to seek additional healthcare service, which in this case can be school-based services to another well-established health facility where one can get required healthcare. Client movement is very critical since it allows for access to quality health services. Another approach that engages hospital referral systems in managing healthcare in secondary schools is client parameter movement. Client parameter movement is an indirect referral system that involves moving clients' information or analysis with the aim of seeking further diagnosis. If the referrer is uncertain of the required service, multiple services are requested (Simpson & Stallard, 2004). This type of referral method is beneficial and crucial in analyzing students' condition for correct diagnosis (Kenya, 2014b).

Consultation is also often used as an approach by referral systems in managing healthcare in secondary schools. Consultation, in this case, involves a process where a student seeks specialized services to address health problems. This can also be termed as a self-directed referral system where a sick student decides to consult a specialist directly without an intermediary (Koce et al., 2019). Counter-referral as an approach in managing healthcare may also be used, which involves redirecting a referred student back to the original unit for follow up. This process is significant in ensuring rehabilitation process and close monitoring of already established diagnosis or condition (Kenya, 2014b). An emergency referral process may also be adopted to manage unexpected health conditions among secondary schools.

Most of the principals interviewed by Nation Team (2018) said that minor illnesses are handled in secondary schools' clinics in Kenya. Still, the complicated ones are usually referred to as better-equipped hospitals. The main challenge cited was logistical management in transferring students to better hospitals owing to distantly located government hospitals, lack of transport and sometimes poor planning. In many secondary schools, this was noted to be taking too long, with few notable fatalities. However, a record case is where a Form Three student at Alliance High School in Kenya passed away in April 2018 due to a delay by the school management to undertake quick action on his illness.

One more key challenge affecting referral service as noted in government health centers is the time taken from identification of a need for referral service, to the time of initiation of treatment (Kiwuwa et al., 2005b). In a health referral system, delay in diagnosis and treatment of diseases can easily cause morbidity and mortality among sick secondary

school students, hence an essential need for efficient health services and mechanisms for addressing the situation. Also reported were weak communication systems and poor coordination of activities, which caused confusion (Simpson & Stallard, 2004). The other one is a challenge in managing transition of the client to the required facility. Moreover, some hospitals accept self-directed referrals, while others only get referral emanating from established health facilities (Kiwuwa et al., 2005b). A record case is Nigeria, where healthcare providers in the referral facilities are usually over-loaded with minor sicknesses instead of focusing on complex illness (Koce et al., 2019). Thus, it was clear that the role of referral facilities in addressing complex conditions is seriously undermined in Nigeria (Koce et al., 2019). These challenges imply a great need for good coordination systems; hence, the role of the principal is critical.

2.3.2 The Responsibility of Principals of Secondary Schools in Managing SBHCs

The value of SBHCs cannot be overemphasized. A review study conducted by Dilley (2009) provided convincing empirical literature which advocates for comprehensive school-based healthcare programme due to its effectiveness in addressing health risks of learners. Such healthcare programme may include preventive, clinical, nutritional and counselling services; supportive health environment, and healthcare education and training. Dilley's study emphasized the essence of planning, policy guidelines formulation, and efficient coordination; sufficient allocation of resources; effective administration; and continuous evaluation to ensure learners' healthcare services are sustainable. These objectives put principals of secondary schools at the center as chief accounting officers, and as functional catalysts for the progressive growth of SBHCs. Similarly, an extensive mixed method study by Bridgeman (2019) at North High School in the Pacific Northwest

recommended communication, and the spirit of working together among stakeholders in ensuring the sustainable provision of appropriate healthcare services to learners in high school. This further indicates the strategic issue that revolves around the management responsibilities of the chief accounting officers (principals of secondary schools).

As much as the establishment of SBHCs in public secondary schools can be burdensome to the principals and other stakeholders, it is indisputable that secondary schools, through the establishment of SBHCs, are well placed to address healthcare challenges affecting their learners. Kolawole (2015) noted that the largest burden of ensuring school healthcare services is usually on school administrators and the education policy makers. This puts the principals of public secondary schools at the center in managing students' healthcare services; hence, a study on the appropriate approaches and service delivery models is very significant. Davis (2018) urged the school principals to ensure feasible healthcare delivery models are adopted in providing healthcare to students. Davis further urged principals to ensure full maximization of staff to meet the growing healthcare needs of students in high schools. The leadership role of principals is further expected to ensure proper control of expenditures with a subsequent goal of minimizing mismanagement of funds (Longest & Darr, 2014).

To ensure quality assurance in SBHC as a healthcare provision model, Kolawole (2015) recommended need to expand the regular inspections of instructional facilities by the Ministry of Education. This inspection should also include the assessment of its organization, administration, facilities and equipment for school healthcare services. Further, Nguuwe, Kisimbii and Said (2018) underscored the need to integrate health programs into the school education systems.

There exists several studies that have provided detailed guidelines on how to start and run school-based health centres and programmes (Gullotta & Noyes, 1995; Hayley et al., 2019; Institute of Medicine, 2019; Sarkin-Kebbi & Bakwai, 2016; Shrestha et al., 2019; Sprigg et al., 2017) These scholars have pointed out the need for appropriate policy, planning, leadership, infrastructure, and personnel. Other scholars such as Byrd (2014); Gonzales (2018); Salazar et al. (2015) developed a comprehensive manual that guides the establishment of an SBHC in West Virginia. An essential component to effective establishment of SBHCs is funding, which principals of secondary schools ought to address. Notably, the survival of SBHC delivery model in the USA can be attributed to the combination of multiple funding streams, including the enhanced Medicaid reimbursement rate available to federally qualified SBHC (Sprigg et al., 2017). Other critical success factors for SBHCs are writing winning funding proposals, partners identification, staff management, networking and collaborations; billing management; and appropriate policies at the state and national levels (Keeton et al., 2012; Sprigg, et al., 2017).

Personnel management in the health industry is essential, hence the need for principals to have good people and leadership skills to attract and retain quality staff in a school dispensary. Some of the crucial personnel associated with SBHCs are school nurses. In America, using school nurse in providing healthcare in SBHC is very common in legislation that allowed advanced practice registered nurses (APRNs) to operate clinics because of their status as independent providers (Taras, 2014). This is also favored because there is heightened public awareness of primary healthcare and the recent expansion of insurance coverage for all citizens. Literature has shown that in the United States, some high schools have a registered school nurse who administer medications, perform medical

procedures, and conduct health screens in the SBHC (Taras, 2014). Taras also noted that school nurses in some states could delegate, while in others, one cannot delegate unless to licensed vocational nurses or licensed practical nurses.

Many studies have investigated the relationship between SBHCs and educational attainment and other health-related matters such as reproductive health, mental health, and chronic diseases, especially in developed countries. Some of these studies include (Lovenheim et al., 2016). However, no research has investigated the coordination and functional role of principals in fostering effectiveness of SBHCs. Other studies such as Yip and Berman (2001) investigated the extent to which the School Health Insurance Programme (SHIP) had achieved its stated goals in Egypt; while others, for example, (Kolawole, 2015) had focused on determining the status of implementation of SCBCs.

2.3.3 Challenges facing SBHCs in Kenya

Despite the significance of school-based health centres in providing ready healthcare to learners in secondary schools, they encounter various challenges that hinder their effectiveness. In the first instance, SBHCs faces inadequate financial resources and financial mismanagement (Eaton et al., 2011). There are limited or lack of well-structured monitoring and auditing systems in developing countries; and efforts to ensure that funds are used for the intended purposes (Eaton et al., 2011; Basu, Andrews, Kishore, Panjabi & Stuckler, 2012). Inadequate funds can be linked directly to the lack of healthcare infrastructure in most secondary schools in developing countries.

Inadequate high-skilled healthcare workers are also a significant challenge that has continually hampered healthcare services around the globe. Luxford et al. (2011) noted that

highly skilled doctors, administrators, nurses, and ancillary staff are essential in any attempt to provide high-quality health services. However, in most regions, they lacked such calibre of health professionals. In developing countries, this situation has been attributed to inefficient school health system and limited funding. Greater emphasis on recruiting qualified personnel and retaining top-level physicians can significantly reduce this problem (Jacobs, et al., 2012). Proper monitoring of staff and ensuring that the school health workers meet specific performance and standards is crucial (Smith et al., 2009).

Shortage of technology is essential for harnessing information, and limited data are limiting factors in providing high-quality health service in many institutions (Free et al., 2013). Technology plays a crucial role in providing health services since high accuracy is essential in diagnoses, according to (Jacobs et al., 2012). However, there is severe shortage of critical health equipment, mainly in developing countries. The need for investment in technology that helps in-service assessment and improvement process cannot be overemphasized (Bigdeli et al., 2012). The current study interrogated whether the shortage of technology affected healthcare provision via SBHCs in Meru County. In addition, the use of telehealth in the school-based health centre is emerging in developed countries such as America. This calls for more research, development, training and sufficient funding to explore its operational characteristics in staffing, utilization, and reimbursement (Hayley et al., 2019).

Limited support from the government is partly to blame for the lack of proper equipment and technology in some regions, which affects service delivery in healthcare services. Other factors limiting access to quality healthcare are non-accessibility of some areas, making it hard for sick students to be referred to another health centre. Consequently,

there are numerous instances of delays of lab tests resulting in worsening of illness (Free et al., 2013).

Proper communication channels are an integral aspect of delivery of any particular healthcare service. The importance of communication in health service industry cannot be emphasized. Students' lives are at stake whenever communication on health matters is poor. The sad reality is that these communication channels are underdeveloped in many areas, especially when it is not private treatment being offered (Heung et al., 2011). According to Jacobs et al. (2012), communication challenges have had adverse effects on initial accessibility to health services. As a result, the patients face significant barriers to efforts directed towards disease prevention and health promotion programs.

From the previous studies, the challenging issues in the management of SBHCs are funding (infrastructure establishment and operational cost), fiscal sustainability, and continuous coordination of delivering healthcare services (Keeton et al., 2012). In addition, Olga (2016) noted a need for more studies of school-based health approaches aimed to realize the full provision of healthcare to learners in high school.

2.4 National Hospital Insurance Fund and the Management of Students' Healthcare

Different approaches are used in various schools to facilitate access to healthcare for secondary school students. This section covers a review of literature on the National Hospital Insurance Fund (NHIF). Reviewed literature indicates that each country has a unique national health system that mostly reflects on its history, economic development, and dominant political ideologies (Roemer, 1993). Generally, studies that have analysed universal health coverage and equity on healthcare in Kenya, reported that the nature of

national health insurance systems might differ from country to country depending on diverse circumstances that dictate its performance. Some of these circumstances include; the availability of resource in terms of personnel, facilities and commodities. In addition, the nature of organization, mode or pattern of management; economic support; and delivery services also contribute to the diversity and differentiation of national health insurance systems from one country to another. The need for national health insurance systems creeps in since not every citizen in a country can access or afford sustainable and quality health care. For this reason, the concept of a national health insurance system finds utility and validity (Okech & Lelegwe, 2015).

National Hospital Insurance Fund (NHIF) is a concept derived from the National Insurance Fund, which refers to a system of health insurance that insures a national population against the costs incurred amid seeking healthcare services. Either a public institution or the private sector administers NHIF. It may also be handled by a combination of both (World Health Organization, 2019a). In Kenya, it is a pool of funds managed by the government where citizens make monthly contributions. In contrast, in Sudan, the government aims to reduce the risks of high cost of health services on both the government and the population by facilitating quality and accessible health services. In many countries, the concept is increasingly being overshadowed by Universal Health Care (UHC), which ensures that all people have access to preventive, curative, rehabilitative and palliative care without exposing the user to financial restraint (World Health Organization, 2019b). The benefits are usually provided by accredited health centers (public and private) and national hospitals.

The citizens from the countries that have implemented National Insurance Fund stand to benefit in a significant way. Chiduo (2017) divides these benefits into two broad categories; services accredited to NHIF outpatient covered member; and benefits accredited to in-patient covered member. The benefits fronted to NHIF outpatient member include consultation, laboratory investigations, dispensing of drugs, physiotherapy services, gynaecology services, and dental services, radiology services, nursing services, surgical services, optical care, occupational therapy services, referral services and any other benefits as approved by the Board of Management.

Benefits availed to NHIF inpatient members include hospital bed charges, specialists' consultations fees, nursing care, diagnostic costs, laboratory services, operating theatre charges, drugs dispensing, dressings or associated medications for in-hospital use. NHIF also covers maternity and reproductive health in most countries. Under this section, the cover includes delivery, caesarean services, family planning services, excluding fertility treatment. The aforementioned benefits are not available for dependents other than the declared spouse (Scheme, 2015). The discussion that follows examines how National Insurance Fund is implemented in selected countries (both developed and developing), focusing on secondary school students.

Literature shows that in Germany, national social health insurance systems dates back to Otto Von Bismarck's social legislation time. In this country, it is a mandatory for the whole population to have health insurance. The citizens enjoy health privileges that are partly financed by employers and employees. Notably, the German government to ensure those out of work or on low wage remain covered heavily subsidizes the healthcare services provided. The majority of the population is enrolled in the public healthcare insurance

systems; with the other 10% having private health insurance (Chiduo, 2017). The system covers general practitioners appointments, in-hospital treatment and outpatient treatment, surgery services, maternity, and primary dental care (Healthcare in Germany, 2008). The majority of high school students in Germany access medical care through this method, while the small percentage uses private insurances to access medical care.

Health insurance is an upcoming sector in the economy of India. The Indian health system, with nearly 1.3 billion potential beneficiaries is one of the largest globally (Prinja, et al., 2012). In India, both public and private providers are heavily involved in providing healthcare services. However, public health facilities are supported financially by the federal states and managed by national authorities. Notably, the India's health insurance usually foot the bill in inpatient hospitalization and treatment in India's hospitals (Prinja, et al., 2012). The program also covers maternal care, which includes normal child delivery or caesarean. Moreover, the scheme covers insured persons against old age, disability, death and sickness (Bhandari, 2015). In addition, most secondary school students in India access medical care through public providers, who are usually funded by the federal states.

The Canada's government funded healthcare system—known as Medicare—which is a source of national pride and a model of universal health coverage. Medicare was founded in 1947 in one province (Medicare, 2002) and permeated into other federal states with the support of legislation and policies. Among many other general issues, Medicare-covered mental health, in-vitro fertilization, gender reconstructive surgery, and midwifery or autism treatment and pharmaceutical medications (Medicare, 2002). To date, secondary school students in Canada access medical care through publicly funded healthcare known as Medicare.

Studies done in Australia show that her healthcare system is one of the most inclusive globally. It offers a wide range of health care services ranging from general and preventative health care, to treating complex conditions that may need a specialist or in-hospital care. Public health is also under a system known as Medicare. Medicare is under the Department of Human Service. It is a universal health scheme covering Australian citizens, secondary school students, while other programs cover specific groups. The program is funded through taxpayers' money (medical levy), which is charged to people with a certain income level. In addition, Medicare gives certain benefits to its members, including pharmaceutical benefits, medical care benefits, supporting and regulating private health insurance; monitoring efficiency of public health care; and subsidizing healthcare services for the aged population (Health care in Australia, 2007). These benefits are extended to high school students in Australia.

Regionally, published literature has shown that many African countries have initiated systems that aim to facilitate access to healthcare by secondary schools students. For example, in Nigeria, the provision of healthcare is a direct responsibility of the government. It is enhanced and executed through the National Health Insurance Scheme (NHIS). It is a health financing initiative towards universal health care in Nigeria, and it covers secondary school students. The NHIS operates a prepaid system where each member is charged every month without considering whether one had used the scheme or not. The objective is to enhance equity in accessing healthcare regardless of social-economic background. However, despite its crucial role in achieving equity of access to healthcare, NHIS is heavily criticized for mismanagement and for being disorganized. Another hindrance that NHIS faces is the high population in Nigeria. Due to these factors

and many more, NHIS does not fully qualify to be named a national insurance health care body since it cannot be accessed by all citizens (including secondary school students) (Kuponiyi et al., 2016b; Sarkin-Kebbi & Bakwai, 2016).

The health system in Tanzania reflects a political-administrative hierarchy. The healthcare services are primarily through referral that starts at a community health facility. It then progresses to district healthcare facilities, and then district hospitals. A case can also be referred to regional hospitals, specialist consultant hospitals, or national hospitals. In some cases, patients are referred to doctors in foreign countries to receive medical care. Secondary students are also included in the health system. (Healthcare in Tanzania, 2009).

Kenya has continued to implement measures for ensuring 100% transition of learners from primary to secondary education. This provides an opportunity for the government to provide primary healthcare to a large population of adolescents. A comprehensive medical cover such as National Hospital Insurance Fund (NHIF) for secondary school learners is a big step towards making this dream a reality. The NHIF in Kenya pools together funds contributed by members. In the first instance, the statutory insurance plan started with employees in the formal sector, but was later rolled to individuals in the informal sector (Namuhisa, 2014). An Act of Parliament established it in 1966 as a department in the Ministry of Health with the aim of helping the country realize healthcare, which was one of the significant national agendas. It has since been established as a government state corporation. NHIF has undergone several transformations to improve effectiveness and make healthcare services sustainable, affordable, and accessible by all Kenyans (NHIF, 2019). The recent change of NHIF was through a bill published on 1st

March 2019 in Kenya Gazette Supplementary number 12; National Assembly bill number 5.

The aforementioned bill made it mandatory for public and private sector workers to contribute to NHIF, whose medical insurance covers the principal member, the spouse, and their declared dependents (Kiroji et al., 2019). However, NHIF is working to become a social insurance health scheme targeting all citizens who are from 18 years and above. To achieve its desired outcomes, NHIF usually pools revenue and risks from members, and utilizes the accrued funds to provide primary care health services (Mwangi et al., 2019). By 2019, NHIF had 61 fully autonomous branches across the country. All these branches are fully-fledged and provide all NHIF services.

Additionally, NHIF has several satellite offices and service points in most county hospitals (NHIF, 2019). It has a clear organization structure, headed by the cabinet secretary in charge of health. The principal secretary in the ministry of health comes second in rank in the chain of leadership of NHIF (Ministry of health, 2017).

The Kenya's government recently made a deliberate initiative of improving access to health care to secondary school students in April 2018 (EduAfya, 2019). This was realized through signing an agreement to offer a unique, inclusive medical insurance coverage for public secondary school students in Kenya (Muli, 2018). To benefit, the student should be registered with NHIF and be in National Education Management Information System (NEMIS) database (Capital Digital Media, 2018; Ministry of Education and NHIF, 2018). Upon uploading NEMIS data into the NHIF database, the NHIF student member number is given to the students to enable utilization of the scheme

(Muli, 2018). According to Muli (2018), NHIF branch offices were responsible for ensuring students' biometric registration in the schools and further issue biometric cards.

NHIF benefits package for secondary students includes outpatient and inpatient services in all accredited hospitals and health centers countrywide. In addition, the negotiated package also provides limited services for optical and dental, and emergency medical services that include emergency road ambulance services for transportation and transfer of a student for treatment from one facility to another NHIF-accredited facility, that has adequate healthcare services hospitals. Another listed service is air rescue to enable transport and transfer of a student from a place of incident or facility to the next available NHIF-accredited hospital. Other services in the cover are the final expense, group life cover and group personal accident cover. In addition, according to EduAfya (2019), NHIF shall, upon the passing on of a student, pay to the next of kin or such other person as directed, the amount indicated in the limits within two (2) days to cater for the funeral costs. Moreover, the scheme covers treatment expenses arising from a condition that requires treatment abroad, provided the treatment is unavailable locally or as advised by a medical specialist. However, such an arrangement is subject to pre-authorization (Muli, 2018).

This bold move has led to increased budgetary allocations on health to complement the provision of affordable healthcare to learners (Murunga et al., 2019). However, since this is a relatively new concept in Kenya, there is no empirical study carried out to determine NHIF effectiveness in addressing the health needs of secondary school students. That notwithstanding, several parameters can be used to measure the effectiveness of NHIF in providing healthcare to secondary school students. The parameters include healthcare

accessibility, affordability and quality of health care to secondary school students (Sundays, 2015).

There is a dearth of research on national health insurance in Kenya. However, there are few ones such as by Kiroji et al. (2019) who used multiple regressions to determine the perception of NHIF outpatient facilities vis-à-vis utilization of primary care services by private university employees in Nairobi County. The study recommended the need to address the safety of healthcare services, train workers on practical interpersonal skills, and improve facility amenities and physical outlook of NHIF outpatient facilities. Another study by Mwangi et al. (2019) used Chi-square in determining the implementation of social insurance national scheme in selected Counties in Kenya. They reported implementation challenges that included inadequate capitation, poor communication from NHIF, insufficient guidelines from NHIF, inadequate county health facility infrastructure, and poor NHIF accountability. Although the two studies did not specifically examine NHIF concepts from students' point of view, they were found informative. The studies did not address deeper telnet as regards healthcare provisions to secondary school students.

2.5 Personal Medical Health Insurance and the Management of Students' Healthcare

Pursuing secondary school can be a rewarding experience as learners prepare to face the future. However, secondary school students' education ambitions can be curtailed by a lack of tuition fees and funds for meeting health needs, among many other factors. Both tuition and the ever-increasing health costs can be a severe strain to learners and parents or guardians (Medical Billing and Coding Online, 2019). Medical health insurance has been

identified as very significant in mitigating the cost of health challenge to both adults and children.

In this context, medical health insurance refers to a risk handling arrangement that takes care of the whole or a part of an individual's medical expenses by spreading the risk over numerous members of a given health insurance scheme. In such a scenario, the overall risk of healthcare and health system expenses is spread over a pool of risks. Therefore, the concerned health insurance company comes up with appropriate routine finance structures that can be done periodically to cater for healthcare benefits specified in the health insurance contract (Health Insurance Association of America, 2008; Medical Billing and Coding Online, 2019). Indeed, a personal medical insurance plan can offer the beneficiary health expenses reprieve and further enable a high school learner to concentrate on education matters. With health insurance, the medical bills arising from unexpected illness or any other emergency are met effectively (Ayimbillah, 2012).

Personal medical insurance, which is at the centre of discussion in this section, is itself a form of health insurance coverage that protects an individual from paying directly for illness (Laycock, 2019). It refers to an arrangement where people pool resources and risks together, which help to shield them from unnecessary financial expenses of medical care if they fall sick. It also ensures access of members to healthcare service from identified health facilities. Many countries have embraced health insurance to ensure access to healthcare and protect patients from financial risk (Yip & Berman, 2001). The companies that provide health insurance services usually pools the risk of healthcare costs from the entire membership, hence spreading the risks, which eventually help lower the prices of health insurance products (Health Insurance Association of America, 2008).

The principal member of personal medical health insurance usually pays a monthly subscription depending on the terms agreed upon with an insurance company. Therefore, the monthly subscription normally varies across health insurance companies and the prescribed services (Laibuch, 2019). According to Health Insurance Association of America (2008), personal medical insurance can be provided by public organizations through national insurance program, or private health insurance companies, where medical insurance cover is procured or sponsored by employers or through private arrangement by individuals.

Personal medical insurance takes three different forms. First, there are cases where the parents have a medical insurance cover gotten through the organization where the parent works. Hence, the benefits are extended to cover the children who are under eighteen years. Second, it is usually referred to as employer-sponsored health insurance (Heck & Makuc, 2000). In such a case, the health insurance companies as contracted by the employer organization of the parent meet medical bills for the prescribed conditions. A good example is a Stanbic bank (2019). Third, in some organizations, the person benefiting from personal medical insurance pays some money at the end of every month, while in others; the medical insurance company deducts money from the principal member of the medical cover salary in a kind of a co-pay arrangement (Bose, 2016; Laibuch, 2019).

Parents who have a job in established organizations, or who have sufficient family income can also facilitate health insurance coverage for their children (Heck & Makuc, 2000). However, Heck and Makuc (2000) argues that students with special needs depend heavily on government-sponsored insurance rather than employer-sponsored insurance. However, many students with special needs often remain uninsured. This is because some

parents relinquish employment to take care of their special needs children. The study further noted that some students enjoyed dual coverage, both government-sponsored and employer-sponsored health insurance coverage. Heck and Makuc (2000) gathered data from parents and children and utilized logistic regression models in the analysis. However, the results of their study had highlighted limitations in Kenya because opinions that would inform on management approaches, such as those drawn from principals of secondary schools were not solicited. The second form of personal medical insurance cover is where parents or guardians procure individual medical insurance cover from a private life insurance company to cover the family members or cover a particular son or daughter.

The third form is where a given secondary school procures medical insurance cover for its entire student population. This option ensures that students get the best treatment (Schoolsure, 2015). The main benefit associated with this form of personal medical insurance is that there is no worry on whether a student has medical aid, or the financial means to afford a private hospital or ambulance service. Further, personal medical insurance ensures students have access to medical emergency services; especially when they are on a school outing or playing sport in a different school. This form of personal medical insurance usually has a policy that outlines how the medical provider is involved, the communication role of the school, how the affected students should benefit from the agreed health services, and how to include parents or guardians (Schoolsure, 2015). The last two forms of personal medical insurance are contributory schemes where the parents submit health insurance premium as agreed with an insurance company, or the school.

Published literature from developed and developing countries shows the widespread use of personal medical insurance by parents and guardians, especially those

working in informal organizations (Heck & Makuc, 2000). Consequently, some secondary school students have benefited from accelerated access to healthcare. There are few cases where high schools have contracted an insurance company to provide medical insurance cover for its students, while in other countries, for example, United States, public health insurance program has been expanded to include the uninsured populace; something that positively improves childhood health status and enhances access to schooling (Cohodes et al., 2014).

Regardless of the country in consideration, various features characterize a personal medical insurance cover for students. The features include a declaration of a pre-existing condition - a health problem that a person had before applying for a medical cover policy; the time a beneficiary will have to wait before the medical cover company starts to pay for the pre-existing conditions; the cost involved; capping policy regarding spending threshold; and the baggage of accompanying packages. The scope of coverage in personal medical insurance varies with each product. However, the majority include inpatient benefits, maternity, outpatient benefits, medical check-up, wellness package, dental, optical, dialysis, disability, dismemberment, accidental death, overseas treatment services, among others (Bose, 2016).

Despite its significance, the global adoption of personal medical insurance to access medical care among secondary school students is facing some drawbacks. Notably, some parents usually associate personal medical insurance with the high cost of paying the prescribed premiums. It is also clear that some specialists prefer treating patients who are paying cash than those who are using medical insurance covers, citing the long waiting periods before the insurance company pays for the medical expenses incurred (Breslau,

2014). In other cases, medical officers may prescribe drugs that are not available in hospitals or pharmacies that a given health insurance company accredits; something that forces sick high school students to use the money for upkeep to buy drugs elsewhere, which is an additional financial burden to parents. Moreover, some conditions are not covered in the scope of the prescribed medical services, for example, travel vaccines, acupuncture, cosmetic surgery, nursing home care, weight loss services, and others (Muli, 2018). Failure to cover some conditions forces the affected students to seek related assistance elsewhere at their costs. Also noted is that some insurance company suffers from a bad reputation or faces integrity cases leading to losses of funds through corrupt deals (Breslau, 2014; Muli 2018). There are also cases raised regarding poor coordination from schools whenever a student has fallen sick within the compound (Nation Team, 2018; Muli, 2018).

Previous research has linked students' health insurance to improved access to healthcare, noting that the uninsured students are more likely to delay in seeking healthcare than students who have insurance covers. The delay in seeking medical attention may contribute to the complication of a health condition of an uninsured student. On the one hand, health insurance for students has been linked to healthier living and academic success (Rickard et al., 2010). In addition, it has been linked to reduced school absenteeism cases and decreasing school dropout cases, and increasing learners' academic performance (Cohodes et al., 2014). On the other hand, absence of students' health insurance has been cited as a cause of family stress, that arise from financial strain associated with the sickness of the uninsured student (Schwarz & Lui, 2000; Rickard et al., 2010).

Rickard et al. (2010) further reported the perception noted among nurses regarding assisting students' parents with filling out the enrollment forms to obtain public health

insurance cover in the United States. Their argument supported the need for school administration and the school nurses to help students get health insurance covers. Despite the crucial role played by personal medical health insurance, only a few high schools were promoting it among students in the United States (Rickard et al., 2010). One point of departure of the current study was on the target population and data analysis methods. This was because Rickard and colleagues collected data from school nurses. As such, they assumed that all high schools had nurses. The researchers also used t-test and Chi-square in analyzing data. These inferential statistical tests were not adopted in this study due to the kind of data that was collected. However, the use of descriptive statistics such as means, frequencies, and standard deviations was also adopted in this study. The discussion that follows highlights some countries with elaborate personal medical insurances that trickle down to secondary school students.

Undoubtedly, personal medical health insurance coverage relates to improved accessibility to health services and improved health for secondary school students. Data from California Healthy Start Initiative, a school-based/school-linked services, supports the link between medical health insurance and good health (Schwarz & Lui, 2000). Schwarz and Lui argued that health insurance minimizes the barriers of access to health, and largely determines the health-seeking behaviour of individuals (Ayimbillah, 2012). Barriers to health insurance encountered by many disadvantaged families affect their student's school performance (Wahlstrom et al., 2014).

Research by Schwarz and Lui (2000) confirmed a strong link between personal medical health insurance coverage with improved health and school performance. It concluded that insured students are likely to be healthy and likely to perform well in school.

Likewise, Cohode et al. (2014) said that personal medical health insurance increases high school completion rate. Rickard et al. (2011) also reported a relationship between personal medical health insurance of students and education outcomes. They hence recommended appropriate action by school personnel, and public policymakers in soliciting collaborations in getting students enrolled in personal medical health insurance. This hints at the role of the school principal in advocating, lobbying and fostering health insurance for students in secondary schools. The study by Rickard, et al. (2011) however, analyzed views collected from superintendents and it negated opinions from students and principals of secondary school; hence, the management challenges associated with the health insurance approach in providing healthcare to students could not be informed by the collected data.

China is one of the most developed countries in the world with a high population. Its government through the Ministry of Health developed personal health insurance cover for its citizens. According to InterNations GO (2018), there were variations in insurance schemes across residence areas (rural or urban). Initially, China had a rural co-operative medical scheme covering people in rural areas and an urban employee basic medical insurance that caters for the urban residents' basic medical insurance. Additionally, the government of China has made a legal requirement for all students (local and international) in China to have a personal medical insurance. As a country, it has achieved near-universal health insurance coverage, which has gone a long way in increasing public access to healthcare services (Fang et al., 2019). The common modes of payments noted among numerous medical health insurance included an arrangement where costs are met by the student directly and are then reimbursed by the insurance company later. In addition, there

is the use of a direct billing card – where a student receives a card that one uses to pay for the expenses in the hospital directly. Research by Fang et al. (2019) shows that China is putting up measures to strengthen its health system efficiency for all its citizens.

In Africa, Egypt was among the first countries to provide school health insurance programme to all students enrolled in school (Yip & Berman, 2001). In Egypt, the School Health Insurance Programme (SHIP) was anchored in law in 1992, and opened up the coverage to all school children regardless of enrollment status (Yip & Berman, 2001). In Kenya, the NHIF program for schools targets public secondary school students. The programme in Egypt is subsidized through a government health insurance system whose primary goal is to improve accessibility and equity in access to health care for learners.

The Health Insurance Organization (HIO) in Egypt is mandated to provide school health insurance. It offers a comprehensive benefits package that includes preventive services, outpatient care, inpatient care, and subsidized pharmaceuticals. The study reported other medical insurance apart from SHIP, such as private insurance and employer-provided insurance through parents. However, their market share in Egypt was minimal (3%) (Yip & Berman, 2001). Despite providing instrumental empirical data, the study by Yip and Berman (2001) collected data from households to determine the effect of school health insurance programmes in relation to health care. It did not interrogate the beneficiaries of the school health insurance programme; hence, the report negated views from principals of secondary schools and the students.

Ghana is a country in West Africa with a well-regulated health insurance industry as guided by the National Health Insurance Act of 2012. The National Health Insurance Scheme (NHIS) is mandated to provide financial coverage and equitable accessibility for

primary health care services for the citizens. NHIS further provides licenses to private insurance companies so that they are kept under check. In this country, the private insurance schemes were initially associated with elites, but people later accepted public insurance scheme. The regulated insurance companies are noted to be offering various personal covers to high school students. The main services provided through NHIS are consultation, prescription of medicine, optical, dental, hospital deliveries and surgeries (Ayimbillah, 2012). Ayimbillah reported the main challenges affecting NHIS from cardholder's perspective. These challenges included poor relationship, red tapes and bureaucracy, occasioning undue delays and compromise on the quality of health services.

Although the study by Ayimbillah (2012) collected views from cardholders drawn from general patients in selected hospitals, it provides important highlights on the key issues that affect students who have access to health insurance cards. From Ayimbillah's study, the nature of pre-qualified/accredited hospitals was a critical consideration to patients owing to the significance of physical outlook in terms of decor/layout, cleanliness, the ambience of hygienic environment and facilities, as well as the waiting time; and the provider demeanour in delivering the expected healthcare to patients. The study further pointed out the shortcoming in government policy in implementing NHIS, and hence called for concerted efforts from all stakeholders in creating appropriate operational environmental conditions for health insurance.

In South Africa, the National Health Insurance (NHI) was initiated in 2011 to promote equity of access to healthcare and to foster efficiency and quality health services (Naidoo, 2012). Despite encountering serious drawbacks ranging from health professionals to non-performing public institutions, the success of NHI in South Africa has been

anchored on social justice principles which focus on the right to access healthcare, adoption of innovative health service delivery models, universal and equity coverage with care, cognizance of health as a public good, and efficient administrative structures (Naidoo, 2012). However, the role of principals in the use of NHI among secondary school students is ambiguous since the emphasis is mainly on hospital-based benefits at designated health facilities.

In Kenya, many companies provide personal medical health insurance. They include Jubilee health insurance, Madison insurance, Britam Insurance, UAP insurance and many more (Launch, 2019). They work with pre-qualified medical providers and offer various products to different clients and markets. Depending on the nature of a prescribed personal medical health insurance cover, the outpatient services provided to students may include outpatient consultation, diagnostic laboratory services, radiology services, dispensing of drugs, pre-existing conditions, chronic and specialized surgery. The inpatient services offered to students consist of hospital accommodation charges, pre-hospitalization diagnostic services, medication, doctor's fees and internal surgical appliances, diagnostic services, operating theatre services, rehabilitative services radiological diagnostics, for example, CT scan, x-ray services, ECG and MRI. Other services include dental, optical, and ambulance services (Muli, 2018).

The adoption of personal medical health insurance among students of secondary schools in Kenya is not widespread. This may be attributed to the high cost of premium payments, unemployment, unstable jobs, lack of knowledge, and the fact that many parents are peasant farmers or are self-employed, hence lack exposure on medical insurance (Graves & Long, 2006).

As demonstrated in this chapter, there is enormous published literature on school health. Majority of these studies have focused on analyzing the health services and activities offered to high school students. However, no study has attempted to demonstrate the critical role that is played by principals of secondary school in healthcare provision considering that students are under teachers' watch, and that the principal is held responsible for learner's health while in school; that is, they are the first ones to be questioned in case of illness is reported from their schools. The current study will obtain data from principals and students to examine how personal medical insurance has been embraced in providing healthcare to students in secondary schools in Meru County. In addition, it will explore the place of principals in the entire healthcare provision programme to public secondary school students in Meru County.

2.6 Theoretical Framework

This study will be guided by Andersen's model of health service utilization and theory U. Andersen's model of health service utilization underpins independent variables in this research. In contrast, theory U helps to explore the dependent variable. The two theories are discussed in section 2.6.1 and 2.6.2.

2.6.1 Andersen's Model of Health Service Utilization

In the late 1960s, the model was initially established to help in the comprehension of why people use health services. It was initially focused on family as the basic unit. Still, advanced research and study on the model led to a shift of focus to individuals as a unit of analysis. The shift resulted from the inability to develop measures for addressing the potential heterogeneity of family members (Bradley et al., 2000). As a result, the model

predicts that various factors predispose individuals' health services (Americans & Indians, 2005).

Andersen's model of health service utilization describes predisposing factors such as demographic factors, social structures and health beliefs. According to Andersen, social norms and self-determination are attributing determinants under predisposing factors. Enabling factors entail the resources obtainability, the earnings, free services access, and access to health services. A vital enabling factor that facilitates the use of health services solely is the obtainability of support financial resources. Need factors listed four main factors that motivate individuals to utilize health services are: physical condition illness, disease conditions, degree of disability, and duration of disability (Bradley et al., 2000).

The model exhibits adaptability in forming a vigorous theoretical skeleton for studies used to investigate health services, health systems and health conditions (Babitsh et al., 2012). It is significant in this study as it helps understand why secondary school students as individuals seek to utilize health services. Understanding the particular factors that interest secondary school students to use health services is vital. It plays a significant role in arriving at the most appropriate approach and method for providing access to health services by secondary school students. According to Andersen model, the distinctive and most appropriate approach should be able to counter best predisposing factors, enabling factors, and needing factors.

Andersen's model of health utilization was found applicable in guiding the investigation in this study. It helps to predict factors and determinants that will lead secondary school students to seek health services. It will specifically help explore the push factors that lead to the utilization/application of a given approach by secondary school

students. The most prominent healthcare approaches for secondary school students are using school-based clinics, using NHIF and using personal medical insurance covers. Andersen model, therefore, helps to understand individual preferences in utilizing a healthcare approach from the consumer point of view. The data collected from principals and students of public secondary schools regarding each health provision approach will help guide the understanding of the existing healthcare approaches and would ultimately help perform analysis and comparison. This kind of information will be used as a unit of measure in exploring the most appropriate approach to be adopted by secondary school principals for promoting and coordinating access to health services for their students. The lessons learnt would go a long way in informing policy improvements.

This model has inherent weaknesses as it explains the utilization of health services from a consumer point of view. It helps explain the user behaviour. However, it cannot explain the management behaviour from health providers, and from other stakeholders such as the principals of secondary schools who play a profound coordinating role in managing students' healthcare in public secondary schools. Owing to this weakness, theory U was considered appropriate in bridging the gap.

2.6.2 Theory U

Theory U was propagated by Dr C. Otto Scharmer originally in 2006. Theory U is an organizational and leadership theory. Theory U focuses on how individuals, groups, and organizations can sense and actualize their highest potential by identifying blind spots, and highlights practical methods and tools for change-makers. It discusses ways to lead by learning from an occasion in the past, linking with situations that are current; creating responsive structures and support systems; and crafting strategies for the survival of an

organization. The U shape represents the five main stages in theory visually. That is, co-initializing, co-sensing, co-presencing, co-creating and co-shaping - all of which are critical to a modern leader (Scharmer, 2018).

Co-initializing is a listening stage where one can respond to calls and connect with people and contexts about the call. It also involves listening to what one is called to do, and listening to what emerges. Co-sensing is about the process of identifying with the most potential, observing, and listening to minds and heart. It entails seeing from the edges of the system. The essence of co-sensing is getting out of one's bubble. Co-sensing entails foregoing of old ideologies, stances, and accrued know how and entertaining new ideas that arise from the immediate environment (Scharmer, 2018).

The above steps of theory U represent important virtues that underpin the role of a school principal in handling students' healthcare matters. As a chief accounting officer, the principal is expected to be committed, be in touch with the ground, and be fully aware of the health status of the students; and hence, put up responsive systems for providing various healthcare solutions. Getting out of the way to address illness among secondary school students is an unexpected thing that requires well-coordinated effort. Nowadays, there are different ways of managing healthcare for secondary school students; hence, choosing and applying the most appropriate one requires sobriety of minds, and well-laid policy structures. A case in point is where near hospitals are preferred depending on the nature of the hospital and the nature of the illness. Some illnesses and upcoming technologies can also force a departure from the standard practice and embrace an approach that is most appropriate and cost-effective. It is also noted that the future of health care is under insurance; hence, there is increased utilization of national health insurance, or widespread

personal medical use. This is because personal medical covers embrace the future by connecting it to the present.

In most secondary schools, school clinics do not match the concept of co-sensing, which talks about letting go of old ideologies by connecting and allowing for a deeper source of knowledge. Co-sensing emphasizes the need to identify with the most potential and the essence of getting out of one's bubble. Most school clinics are not equipped; few staff, inadequate or substandard hospital machines, and lack of enough drugs characterize them. These characteristics of school clinics may not be a reason enough to make one pop out of own bubble, and is a critical consideration in the effective management of students' healthcare in secondary schools.

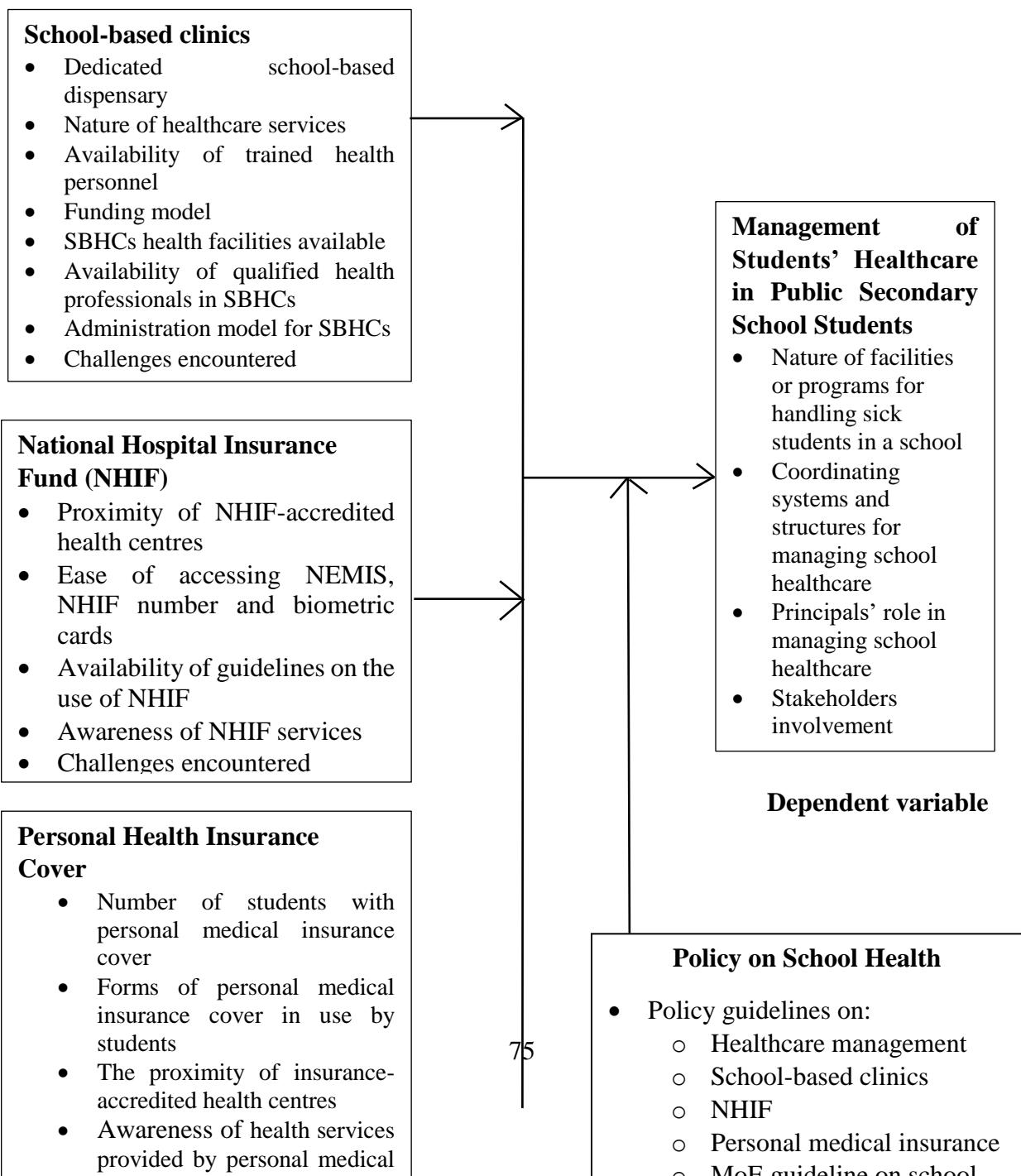
Theory U was very significant in this study. This was because it features the healthcare management aspects and behavior of principals of secondary schools. Furthermore, it regards principals as the CEOs who are charged with great responsibility; hence, it is effective in underscoring their leadership role in ensuring healthcare of learners in their respective secondary schools.

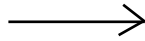
2.7 Conceptual Framework

This study was guided by the following conceptual framework, which shows that both the dependent and independent variable can be affected by the irrelevant variable. The visual representation of extraneous variable has been adopted from (Shuttleworth & Wilson 2020).

Figure 2. 1

Conceptual Framework



**Independent variables****Moderating Variable**

This study had three significant independent variables: school-based clinics, national hospital insurance fund (NHIF), and personal health insurance cover. Figure 2.1 show indicators that are vital in characterizing each variable. A brief description of the same has been provided hereafter, enabling a comparative analysis of different approaches.

The three approaches have a direct influence on how principals manage the healthcare of secondary school students. Therefore, to understand the school-based clinic as an approach for addressing the health needs of secondary school students, several factors were explored. The investigated features included: availability of dedicated school-based dispensary; nature of healthcare services offered in secondary schools; availability of trained and specialized health personnel to administer SBHCs; mode of implementation; funding model; nature of health facilities available; management model used; referral arrangement; and analysis of challenges encountered in handling this approach.

For NHIF construct, the study assessed vital features. They included the proximity of NHIF-accredited health centres, integration of stakeholder's views, availability of NEMIS and NHIF number; availability of biometric cards among students, and availability of NHIF guidelines in the school; nature of healthcare services covered in by NHIF, the management model used by principals in handling NHIF, and challenges encountered in handling this approach. The personal health insurance was determined by assessing the number of students who had personal medical insurance cover, forms of personal medical

insurance in use among students, establishing the proximity of insurance-accredited health centres, nature of healthcare services covered by personal medical insurance, and by investigating the management model used as well as challenges encountered in handling this approach.

Management of healthcare of secondary school students is the main issue in this study owing to its relationship with academic outcomes of secondary school students. It was characterized by the nature of healthcare services offered in secondary schools, coordination systems for healthcare programs, elaborate management structures, available healthcare management guidelines from the ministry, stakeholder's involvement, equity, efficiency and accessibility to healthcare by students; and challenges encountered in coordinating healthcare of secondary school students. Each secondary school was expected to have a comprehensive healthcare policy. However, lack of it may not bear significant effects on the different approaches used by principals to manage the healthcare of secondary school students. This being an extraneous variable, its confounding effect on both the independent and dependent variables was assessed accordingly.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter discusses the methodology for the study. The chapter starts by describing the area of study followed by research philosophy and approach. It then describes the research design, target population, sampling technique; tools used to collect data, data quality strategies used, methods and techniques used to analyze data, and concludes by describing ethical issues that were considered in carrying out this study.

3.2 Location of the Study

The study was carried out in Meru County. Meru County is located on the eastern side of Mt Kenya, covering 6,936 square kilometres (Appendix V). On immediate North is Isiolo County, while Nyeri County is on South West. On the East, side is Tharaka –Nithi and Laikipia County is located on the Westside. The County has eleven Sub-Counties: Imenti South, Meru Central, Imenti North, Igembe South, Igembe North, Igembe Central, Tigania East, Tigania West, Tigania Central, Buuri west and Buuri East. The County has 1872 healthcare professionals who work in 498 health facilities (Meru County Government, 2018). Table 3.1 shows the order of prevalence of the five most common diseases in Meru County.

Table 3. 1*Five Most Common Diseases in Order of Prevalence in Meru County*

Diseases	Number of cases
1. Upper respiratory tract infections	770,146
2. Arthritis, joint pains etc.	83,435
3. Intestinal worms	74,422
4. Disease of the skin	61,041
5. Other diseases of respiratory system	56,657

Source: Meru County Government (2018)

Meru County had 375 secondary schools (both public and private) (Meru County Director of Education Records, 2019) with total enrollment of 93,217 students (Meru County Government, 2019). According to Meru County Integrated Development Plan of 2018-2022, the percentage of students in secondary school is lower than the population of young people aged between fourteen and seventeen years, where only 45 per cent were in school. This points a concern that cannot be wished away. This indicated a great need to ensure the 45% remains in school to have reasonable completion rates. Many measures can be used to retain students in schools; one of which is to ensure students' health. Undoubtedly, students' health is essential in building a future economy and national development; hence, the need for appropriate healthcare measures justify why Meru County was selected as an area of study. Cases of students getting sick while in school is a common occurrence across the country. This is because a few outbreak cases in secondary schools have been reported. The situation is not different in Meru County. According to Micheni and Jagero (2016), sickness was one of the factors responsible for school dropout rates among students in secondary schools in Meru South Sub-County. Evidence showed that some schools were

enjoying proximity to good health facilities, while others lacked good access to health facilities (Meru County Government, 2018).

Moreover, different levels of income among people residing in Meru County present a healthcare equity disparity (Meru County Government, 2018), which is also witnessed among secondary school students. Therefore, principals of secondary schools in Meru County encounter management dilemma in coordinating the healthcare needs of students considering the various diseases that keep on affecting citizens in the regions that are noted in Meru County Government report of 2018. Therefore, analysis of the predominant management approaches for students' healthcare in this County was significant in guiding the decisions made by principals of public secondary schools. The other reason for the choice of this location is the researcher's familiarity and accessibility to Meru County, as advocated by (Smith, 2001).

3.3 Research Philosophy and Approach

The research practice is usually influenced by philosophical stances (Creswell, 2009). Research philosophy refers to belief about how data on a particular phenomenon is gathered, analyzed and used; hence describes the ideas which the researchers believe in and which largely guide every step in the research process (Saunders, Lewis & Thornhill, 2009). According to Walliman (2011), philosophical stances and the associated methodologies usually create a way to reality; ultimately determining what can be regarded as legitimate knowledge. Therefore, research philosophy presents a worldview that refers to the basic set of beliefs that guide action, or gives lenses in through which the researcher sees the research (Creswell, 2009). It helps explain why a researcher prefers or chooses one research approach over others. There are various philosophical ideas as outlined by

multiple authors. The most common ones are pragmatism, constructivism, positivism and post-positivism, among others.

The constructivist paradigm under the interpretivism worldview (Walliam, 2011) underpins philosophical arguments of idealism and humanism. It argues that the world that we see around us is a creation of minds. Walliman (2011) noted that in the constructivism paradigm, part of the research process is the researcher, and does not observe the phenomena from the system but is explicitly part of the system one is studying. Constructivism is subjective and inductive. This is because it starts from specific observation, and then develops general conclusions from them. Thus, the qualitative approach is aligned to constructivist philosophical ideas.

A pragmatic worldview is another philosophical worldview. According to Creswell (2009), the studies based on pragmatism point of view primarily focus on methods and techniques used to investigate a research problem and therefore applies all probable approaches that help to understand the problem domain. Pragmatic is a philosophical worldview that underpins mixed-method research. The proponents of mixed methods believe that both qualitative and quantitative complement each other in arriving at conclusions. Although, as noted by Creswell (2009) studies that adopt a pragmatism worldview usually have the flexibility to utilize several methods, techniques, and procedures provided. They enhance better achievement of solutions to the problem. Pragmatism, therefore, presents some flexibility to researchers, something that fosters effective triangulation.

According to Walliman (2011), positivism is anchored on realities that exist in the world and idea that one has to accept them. This means that one can investigate the domain

and the nature of such truths. Flick (2002) described positivism as a worldview that supports quantitative research. The present study was a quantitative research that investigated phenomena that transform the existing standards of the natural sciences. Post-positivist, according to Creswell (2009), is more positioned in quantitative analysis than qualitative research. The positivist approach is deductive. The deductive technique usually begins with general and logical statements and then progresses to a specific conclusion. In such a case, the enquiry is guided by the theory that precedes it. Consequently, the researcher becomes a natural observer in a positivist approach (Walliman, 2011).

The argument underlying this study was anchored in the positivism paradigm. Notably, this study adopted the quantitative research approach. In the quantitative approach, the researcher aims to collect statistical data and use quantitative analysis techniques to validate, reject, or refine hypotheses. As noted by Walliman (2011) research is heavily influenced by the theory or philosophy that underpins it in the positivism paradigm. In this study, two theories had been identified. These are Andersen's model of health service utilization and Theory U. These two theories were significant in guiding the inquiry process. Further, they acted as reference points when evaluating and interpreting findings and making conclusions (Morgan, 2014). The findings may confirm or refute the stances that were propagated by the two theories.

3.4 Research Design

This study employed the descriptive survey research design. Descriptive survey research design has been used in exploring phenomena and enables one to obtain data to support or refute an argument (Ranjit, 2011). According to Bryman (2012), a descriptive survey is about describing the current state of affairs. Hence, one usually collects data that help to

provide answers to the research questions or help to test the hypothesis. The study fitted within the provisions because the researcher collected data and used the findings to report the effectiveness of the approaches used to manage students' healthcare in public secondary schools in Meru County. The underlying research hypotheses were tested, by way of examining whether there was a statistical difference in adopting the three approaches across different categories of schools.

The research design of descriptive survey was considered suitable in this study due to its strength in enabling accurate answers from the respondents (Patton, 2015). Adopting this design in the current research complemented the intent and stances held concerning the management of student's healthcare in public secondary schools. Notably, concerns of the study were on establishing the actual scenario and practices adopted by principals of secondary schools to manage learners' healthcare. The extent and range of problems, issues and concerns from students were also gathered by administering questionnaires (Ritchie & Lewis, 2012). They were evaluated to inform healthcare delivery decisions in public secondary schools.

3.5 Target Population

A population is the sum total of, objects, individuals, or items under investigation (Kombo & Tromp, 2009). It indicates the large group on which the sample results would be generalized. (Johnson & Christensen, 2012). The target population for this study was 375 public secondary schools in Meru County. Data was provided by principals whose total population was 375. Information was also gathered from principals and students' council chairpersons from each sampled secondary school, as shown in Table 3.2.

Table 3. 2*Target Population*

Sub-County	School	Principals	Chairpersons of the students' council
1. Buuri East	15	15	15
2. Buuri West	19	19	19
3. Meru Central	45	45	45
4. Imenti North	41	41	41
5. Imenti South	70	70	70
6. Tigania West	45	45	45
7. Tigania Central	25	25	25
8. Tigania East	25	25	25
9. Igembe North	30	30	30
10. Igembe Central	39	39	39
11. Igembe South	21	21	21
Total	375	375	375

Source: Meru County Director of Education Records (2019)

As noted in Table 3.2, Principals of secondary schools were the primary respondents in this study. They provided firsthand information on how they handled students' healthcare. They specifically offered information on health services and programs at their schools; including the facilities, and health personnel staffing levels (Denny et al., 2014). In addition, they provided information on how they managed and coordinated systems of addressing the healthcare needs of students. Their opinions were also regarded as critical in enabling the study to unravel the intricacies of managing students' healthcare in public secondary schools. The students' council chairpersons were better placed to represent the views of the entire students' population. This is because, as a head of student body, the chair is usually involved in handling welfare matters of fellow students, and

better placed to provide a well-informed opinion about coordination of health services. They also provided information that aided to validate students' experience on various approaches used in managing healthcare. Additional information was gathered from County Director of Education, Meru County. The County Director provided crucial information about government directive, policy matters and guidance on management of students' healthcare in public secondary schools.

3.6 Sampling Techniques and Sample size

3.6.1 Sampling Techniques

Sampling is a process of choosing the number of objects or individuals from a population, such that the chosen group contains representative elements of features found in the entire group (Bryman, 2012). The accuracy of the sampling frame from which a sample is selected determines the degree of generalization of research (Saunders et al., 2009). The list of all public secondary schools, as obtained from the Directorate of Education, Meru County Office, formed the sampling frame for the schools.

There were 375 registered public secondary schools in Meru County by 2019. To ensure representativeness, this population was categorized into the ten Sub Counties namely; Buuri, Meru Central, Imenti North, Imenti South, Tigania West, Tigania Central, Tigania East, Igembe North, Igembe Central and Igembe South. A proportionate systematic sampling technique was used to select schools to be selected from each Sub County. The proportional systematic sampling technique further ensured that all categories of schools were well represented by stratifying them accordingly. The four categories were boys' boarding schools, girls' boarding schools, mixed boarding schools and mixed day secondary schools.

Simple random sampling technique was used to select an appropriate proportion of the secondary schools within a given stratum. This meant that all public secondary schools in each category from a given sub-county were grouped together, and then, the required numbers of schools were picked randomly. This gave an equal chance for each secondary school to be included in the study (Bryman, 2012).

The principal and the chairperson of the students' council from each sampled school were purposely selected to participate in the study. This allowed better comparisons of responses, and further facilitated objective conclusions. There was only one Director of Education in Meru County who was purposely identified as the key person in providing policy information that guides how all principals handle and manage students' healthcare in public secondary schools.

3.6.2 Sample Size

Bryman (2012) describe sample size as a group of subjects who have been drawn from the large population and whose numbers and views are considered representative of its members. Therefore, to determine the number of schools to participate in this study, the researcher adopted (Mugenda and Mugenda, 2003) formula for obtaining a sample from less than 10,000 population. The formula is given below.

$$nf = \frac{n}{(1+n/N)}$$

Where:

nf = desired sample size when the population is less than 10000

n = sample size (when population is greater than 10000) = 384

N = estimate of population size = 395

Using this formula, the number of public secondary school participating in this study will be:

$$\frac{384}{1 + 384/395} = 196$$

Application of this recommendation translated into a sample size of 195 public secondary schools. From the formula, a similar number of principals and chairs of students' council was obtained. Sample size information was summarized in Table 3.3.

Table 3.3
Sample Matrix

Sub-County	Target schools	Sample size Number of schools sampled
1. Buuri East	15	8
2. Buuri West	19	10
3. Meru Central	45	24
4. Imenti North	41	21
5. Imenti South	70	37
6. Tigania West	45	24
7. Tigania Central	25	13
8. Tigania East	25	13
9. Igembe North	30	16
10. Igembe Central	39	21
11. Igembe South	21	10
Total	375	196

Based on information in Table 3.3, the number of public secondary schools sampled from each category was hence computed proportionally; that is, a sample for each category of schools (boys' boarding schools, girls' boarding schools, mixed boarding schools and mixed day secondary schools) was obtained, based on the sample size of schools required per sub-county.

3.7 Research Instruments

In this study, self-administered questionnaires and an interview guide were used to collect data. A questionnaire is a tool for collecting data whose structure enables a researcher to gather a lot of information over a large area (Kumar, 2014). Questionnaires are commonly used in soliciting important information about given phenomena from a given population.

By using questionnaires in this study, many respondents were reached by the researcher within a short period. In addition, the questionnaire accorded respondents sufficient time to respond to the items in the questionnaire. These items measured different aspects of the management of students' healthcare in public secondary schools. It was believed that respondents were more confident filling the questionnaire given the anonymity and the sense of confidentiality they assured. This was also because the researcher could minimize subjective biases resulting from the respondents' characteristics (Bryman, 2012). According to David and Sutton (2011), questionnaires are the most suitable tools for collecting data in survey research due to their ability to obtain information that describes the current conditions and practices; hence, the researcher can determine attitudes and opinions in a standardized tool.

In this study, two sets of questionnaires were used to obtain information on approaches used to manage students' healthcare in public secondary schools in Meru County. One set was for the principals (appendix II), and the second one was for the students' council chairpersons (appendix III). The questions were developed and organized according to the research objectives. Specifically, the questionnaire was divided into five sections. Section A contained questions on profiles of respondents, while section B contained questions on the dependent variable. Sections C, D and E contained inquisitive questions based on each independent variable, while the last section (F) contained questions on school policy (moderator). The majority of questions were close-ended, with few open-ended questions meant to provide quantitative data and explanatory information on given phenomena. Most close-ended questions were on a five-point Likert scale. Chapter two was very instrumental in informing on specific sentiments that were included

in each section. Instruments used in previous studies such as by Chiduo (2017) were consulted in coming up with appropriate contents and design.

An interview guide was administered to the Director of Education Meru County. The interview guide (see appendix IV) was divided into six sections in line with the main constructs of this study, just like the questionnaire. In addition, investigative questions had been drawn from the reviewed literature.

3.8 Pre-testing of Research Instruments

To reduce the shortcomings in contents and design, and ensure the effectiveness of the research instruments, piloting of instruments on a different sample was conducted but had similar features to that of the target population (Bryman, 2012). According to David and Sutton (2011), the pre-test cases should range from 1% to 10%. The study settled for the upper range of the sample size for pre-testing. Hence, ten schools in Tharaka Nithi County were used for the pre-test accordingly. Tharaka Nithi County had been chosen since it had many similar characteristics to that of Meru County in terms of culture, topographical and climatic conditions. In addition, Tharaka Nithi County had proximity to Meru County.

The other Counties that had proximity to Meru County are Isiolo and Laikipia Counties. However, the two Counties would not be matched with Tharaka Nithi County regarding their similarities with Meru County. The 10 per cent pilot respondents were obtained through a simple random sampling technique; the self-administered piloting of instruments was very significant in this study. It enabled the researcher to get the validity and reliability of items in the tools. Further, it allowed the removal of all ambiguities in the questions and helped determine whether respondents understood the questions well.

Moreover, pre-testing helped to validate methods of analyzing data as had been proposed in this study.

3.9 Validity of Research Instruments

Instrument validity is about measuring what it is expected to measure (Cresswell, 2014; Cohen et al., 2011). It helps determine the extent to which the information obtained for analysis is meaningful and represents the investigated constructs (Bryman, 2012). In this study, content validity was determined by ensuring several sentiments, all of which measured each approach used to manage healthcare of students in public secondary schools in Meru County. The content also covered healthcare services that are common in public secondary schools. The study also sought to ascertain the challenges encountered by public secondary schools in managing healthcare services. The reviewed literature in chapter two was instrumental in coming up with specific sentiments and questions included in the questionnaire. Thesis supervisors whose critiques were very useful evaluated the relevancy of each question. In addition, subject experts on healthcare provision were contacted for advice.

Construct validity was also determined on all instruments of collecting data. The structure of questions was given careful consideration to ensure clarity. Sub-headings were used to ensure all areas of key constructs were well covered. Instruments used in previous and related studies such as (Chiduo, 2017; Denny et al., 2014) were consulted in ensuring that only valid questions were included, and that the questionnaire was structured in a manner that enabled the researcher to solicit required information from the respondents. The input and constructive criticisms from other lecturers in Department of Education also helped improve construct, content and face validity. Pre-testing further enabled the

researcher to validate the accuracy of questions, and confirm respondents' understandability. This further helped improve face validity, and was critical in removing ambiguity; and consequently, enhanced correct responses.

3.10 Reliability of Research Instruments

Reliability is about instruments producing the same results in repeated trials (Bryman, 2012). Pre-testing was done to determine the reliability of the instruments, as noted in section 3.8. Specifically, internal consistency reliability was assessed to determine the embedded consistency in measuring similar phenomena (Yin, 2013). In this case, items used to measure constructs like the effectiveness of the approaches applied to manage the students' healthcare services in public secondary schools in Meru County, were developed. In this study, Cronbach's Coefficient Alpha value was computed for group of items representing a construct; hence determining internal consistency (Kumar, 2014). A correlation coefficient alpha value, $r > 0.7$, was considered appropriate in social sciences (Siegle, 2011).

3.11 Data Collection Procedures

Data collection in this study was initiated by the distribution of questionnaires to the respondents in the selected public secondary schools. The discussion that follows outlines the specific procedures followed in administering the questionnaire.

3.11.1 Procedure for Administering the Questionnaire

Questionnaires were administered to the principals and chair of students' council from the sampled schools. They were collected on the material day of administration, unless an alternative arrangement was agreed with the respondent. Upon obtaining the necessary

research authorization letter, and the research permit, the researcher contracted ten research assistants. The ten research assistants were trained on approaching a respondent in courtesy and on how to respond to queries from respondents. The telephone contacts of principals whose secondary schools were selected was sought. The researcher personally established a rapport with these principals by making a telephone call before sending research assistants. This paved the way for a smooth administering of the questionnaire, and minimized frustrations. While on the ground, the sampled respondents were approached courteously and after introduction, the research assistants explained the significance of the study and requested them to participate. The major sections contained in the questionnaire were highlighted to the respondents, and then they were allowed time to complete the questionnaire. The returned questionnaires were received by research assistants, and numbered accordingly.

3.11.2 Procedure for Conducting Interview

An appointment with the County Director of Education Meru County was made through a telephone call. The appointment was critical in setting the date, venue and time for conducting the interview. On the interview date, the researcher had a face-to-face dialogue/interaction with the Director of Education as guided by pre-set questions in the interview schedule (Appendix IV). The responses obtained were written down in a notebook. Clarification was sought where appropriate to capture information correctly. A mobile phone was used as a supplementary recording tool, to which the respondent was notified in advance for permission. A thank you card was given to the Director of Education at the end of the interview session.

3.12 Data Analysis and Presentation

Data analysis is about summarizing, categorizing and interrogating the collected information to find answers to the research questions (Bryman, 2012). Collected data was both quantitative and qualitative.

3.12.1 Analysis of Quantitative data

Quantitative data was coded appropriately. The Statistical Package for Social Sciences (SPSS) version 24 was used to analyze the quantitative data. Hence, descriptive statistics were used to summarize the quantitative data where frequencies, percentages, and factors analysis were used. This provided an initial picture of affairs' status, and further enabled the study to decide on adequacy and relevancy of the same.

Specifically, for data collected on objectives one to three, descriptive statistics were the first to be computed for composite variable, where mean, factor loading and standard deviation were instrumental in summarizing large data sets. Data on indicators for main variable of the study were summed to a composite variable and transformed to a latent variable using composite mean, which was on a continuous scale, and hence linear regression analysis was employed to test the first three hypotheses. A one-way ANOVA was adopted to compare if the three approaches differed statistically across the various category of public secondary schools.

Further a multiple regression analysis was applied to analyze the relationship between a single dependent variable and the three independent variables. The multiple regression model used to test is shown below:

$$y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$$

Where;

Y= Management of healthcare in public secondary schools

β_0 =constant

$\beta_1 + \beta_3$ = weights credited from the variables (x_1, x_2, x_3) as shown below

X_1 = School-based clinics

X_2 = National health insurance

X_3 = Personal medical health insurance

ε is the estimated error of the model that has a mean of zero at constant variance.

In this study, diagnostic tests such as the normality test, linearity test, heteroskedasticity tests, auto-correlation test, and multicollinearity tests were conducted to ascertain fulfilment of the assumptions of regression and analysis of variance.

3.12.2 Analysis of qualitative data

A thematic analysis technique was applied for the few open-ended questions and information gathered from the Director of Education. The identified themes were organized according to the critical components as hinted by Andersen's model, which were also reflected in the research objectives of this study. This was expected to enhance easy integration of data during the interpretation and discussion of the findings. The findings of this study were synthesized and presented using tables and charts, while logical narratives were used for qualitative data.

3.13 Ethical Considerations

The researcher sought an introduction letter from Kenya Methodist University, Directorate of Postgraduate Studies, which was used to apply for a research permit from the National Commission for Science Technology and Innovation (NACOSTI). The researcher also sought the consent of principals of the sampled schools as advised by (Oso and Onen, 2009).

Ethical research respects the rights of the respondents to participate in a study voluntarily. Voluntary participation of respondents was sought through a cover letter as shown in appendix I. Clear and adequate explanations showing the purpose and the intention of the study was conveyed in the cover letter. Stigmatization of students' leaders was avoided by explaining clearly the purpose of the study before administering the questionnaire. The students' respondents were not contained in a controlled room, but were given the freedom to fill the questionnaire from a location of their choice. Permission to tape-record the interview session was also obtained from the Director of Education prior to its administration.

Ethical issues such as confidentiality, privacy, and respondent's anonymity (Chakraborty, 2012) were strictly observed and adhered to during the research period. Specifically, respondents were not required to write their names on the questionnaire. The same was acclaimed during fieldwork. Collected data was handled with utmost care and it was not inflated or mishandled to reflect the true status investigated in this study. All materials used in developing this thesis were duly acknowledged using APA referencing style.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 Introduction

This chapter provides the findings and discussions presented in line with the research objectives of the study. Published literature was consulted during the discussion of the results. The study aimed to examine the effectiveness of approaches used by principals in managing students' healthcare in public secondary schools in Meru County, Kenya, with a view to suggesting a localized delivery mechanism for coordinating healthcare provision for learners.

For each construct, descriptive results as well as the skewness and factor loading of different components were first presented and discussed accordingly. The adequacy and dependability of loading of each indicator was determined using Kaiser-Meyer-Olkin (KMO) and Bartlett's tests of sphericity. Inferential statistical results are then presented, including testing of hypothesis at the end of every variable. This was done to achieve a good flow of discussion and testing of underlying assumptions.

The chapter starts by presenting information on reliability, response rates and background information of respondents. Thereafter, results based on the dependent variable; that is, management of students' healthcare in public secondary schools are presented and discussed. This is followed by results of diagnostic tests that were carried out. The findings, based on each independent variable, are then presented and discussed accordingly.

4.1.2 Reliability test

In determining the fitness of the data for analysis, Cronbach's Alpha value was computed using the SPSS. Results on reliability of the data are summarized in Table 4.1.

Table 4. 1

Result on reliability test

Constructs	Cronbach's Alpha based on data from Principals	Cronbach's Alpha based on data from students
School-based clinics (X1)	0.902	0.900
The National Hospital Insurance Fund (NHIF) (X2)	0.970	0.955
Personal medical insurance (X3)	0.974	0.957
Management of students' healthcare in public secondary schools (Y)	0.828	0.891

Reliability test results in Table 4.1 show that Cronbach's coefficient alpha values for the key constructs were more than 0.7, ($\alpha < 0.700$). Selvam (2017) noted that Cronbach's Alpha (α) coefficient that is above 0.7 indicates that data is reliable and can hence be used in analysis.

4.1.3 Response rate

Information about approaches for managing students' healthcare in public secondary schools was critical in this study. It was gathered from principals, students (chairpersons of students councils) and the County Director of Education. The study had targeted a sample size of 196 public secondary schools but only 138 (70.4%) were able to participate. Therefore, out of the 196 questionnaires which had been distributed to the principals, 138

(70.4%) were returned. A total of 196 questionnaires had also been distributed to student leaders' chairpersons from which 142 were returned. This represented a response rate of 72.4%. Some schools proved difficult to access due to COVID-19 restrictions. There is only one Director of Education in Meru County who successfully responded to the interview questions. A summary of response rates is provided in Table 4.2.

Table 4. 2

Response rate of the study

Population Categories	Sample size	Returned valid questionnaires	Percentage response rate
Public secondary schools	196	138	70.4%
Principals/ Deputy Principals	196	138	70.4%
Students	196	142	72.4%
County Director of Education	1	1	100%

The unit of analysis in this study was the public secondary schools in Meru County and therefore a response rate of 70.4, as shown in Table 4.2, was considered adequate for a survey research as recommended by (Morton et al., 2019).

4.1.4 Background information of schools and respondents

The type of public secondary school was of interest to this study. The results were used to provide fair comparison parameters as sought by objective four. Frequency information regarding public secondary schools in Meru County is shown in Tables 4.3.

Table 4. 3*Categories of public secondary schools*

Type of school	Frequency	Percent	Cumulative Percent
Girls' boarding secondary schools	33	23.7	23.7
Boys' boarding secondary schools	51	37.1	60.8
Mixed boarding secondary schools	3	2.1	62.9
Mixed day secondary schools	51	37.1	100.0
Total	138	100.0	

The results are show that there are more boys boarding public secondary schools than counterparts. Similarly, there is a sizeable number of mixed day secondary schools (37.1%) in Meru County. Overall, Meru County has more public boarding secondary schools (62.9%) than day schools (37.1%). The study was interested in finding out whether these characteristics differed in the manner in which principals were addressing health of learners in public secondary schools. For example, were the school-based clinics more prominent in public boarding secondary schools than in public day secondary schools?

The study was established on the premise that the government's directive of 100% transition of learners from primary to secondary schools was exerting pressure on health facilities available in public secondary schools. Similarly, the higher the number of students in a school, the higher the chances of students falling sick. Furthermore, the principals are also likely to encounter complex health issues among the learners if the student population is high. Information on the average number of students per class was gathered and summarized as shown in Figure 4.1.

Figure 4. 1

Average number of students per class



Figure 4.1 shows a gradual increase in student population in all the four classes in secondary schools. This progressive increase of student population is consistent with the government's directive of 100% transition of learners from primary to secondary schools; where the number learners joining public secondary schools has been growing every year as evidenced by average numbers presented in Figure 4.1. According to the County Director of Education, Meru County, the provision of basic education is a global and universal human right to be enjoyed by every child. In Kenya, the Director of Education - Meru County noted that the basic education Act 2013 made access to basic education free and compulsory after the government instituted policies to actualize this vision.

The results have implications not only on learning facilities, but also on related social and human-related issues, such as the management of learners' healthcare. Principals of secondary schools have to think outside the box and come up with measures for ensuring

superb healthcare services, to realize continued academic achievement for their schools. These findings are consistent with the results of Muriithi (2020) who observed that 100% transition of adolescents to secondary school has put pressure on both the physical facilities of secondary school institutions, and on health facilities as well. Hence, a health scheme (Eduafya) would help improve the health of the students. The researcher found out that schools had basic information on NHIF and Universal health schemes for students. In addition, a feedback mechanism assessing the effectiveness of the health schemes was not available. This implied a need for a procedure to address health schemes for students in secondary schools. The study by Muriithi (2020) was, however, did not examine the role played by principals regarding health of students.

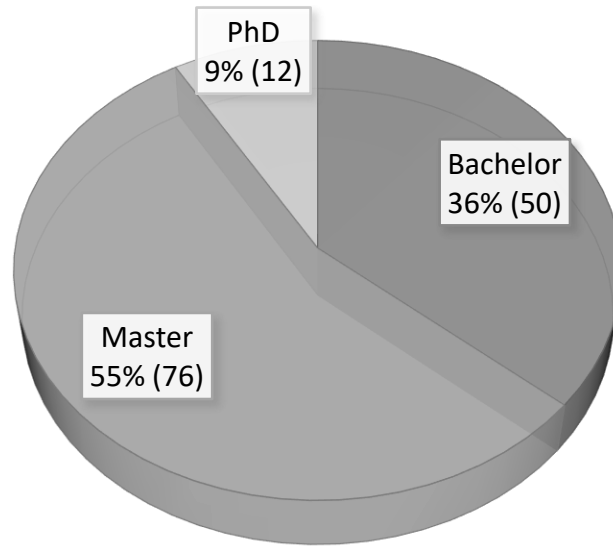
On the issue of transition of learners from primary to secondary schools in (Machakos et al., 2020) noted that there was an influx in student enrolment. Although it is a good idea in achieving education literacy for all, there were numerous challenges resulting from the same. Challenges such as unbalance teacher-student ratio, and over-stretched infrastructural resources. The study recommended adoption of innovative strategies by school principals on how they could meet the needs of students. Further, the researchers recommended the government to work with secondary schools to address the challenges resulting from 100% transition.

This study set out to examine the effectiveness of approaches for managing students' healthcare in public secondary schools in Meru County. In that connection, principals of secondary schools were the primary respondents. They were required to provide insights into challenges they encounter in managing students' healthcare in public

secondary schools. First, the academic qualifications of principals was sought. The findings are summarized in Figure 4.2.

Figure 4. 2

Highest level of education of principals



The findings indicated that most principals, 88 (64%), had postgraduate qualifications. The rest, 50 (36%), had bachelor's degree. This shows that principals of public secondary schools in Meru County were adequately qualified, and hence better placed to handle different approaches for addressing the healthcare of learners at their respective schools. Findings by Wangari (2015) matches with this finding that secondary school teachers were adequately qualified. Wangari noted that 60% of teachers had bachelors' degree while the others had postgraduate qualifications. It was clear that teachers had the requisite qualifications to handle the issue of healthcare in secondary schools.

The study further sought to establish the experiences of principals since they were appointed to the headship position. The results are presented in Table 4.4.

Table 4. 4

Results on how long one had served as a principal

Years served as a principal	Frequency	Percent	Cumulative Percent
Less than three years	50	36.2	36.2
Three to five years	38	27.7	63.8
Six to Eight years	21	14.9	78.7
Nine to ten years	9	6.4	85.1
More than ten years	21	14.9	100.0
Total	138	100.0	

The information in Table 4.4 shows that most principals, 89 (63.9%) had worked as principals for more than three years. Only 50 (36.2%) had served as principals for less than three years. The percentage of principals with less than two years' experience as principals can be explained by the recent delocalization reshuffles and promotion by the Teachers Service Commission (TSC). However, the information provided confidence that the principals of public secondary schools who participated in this study must have had encounters with sick students during their tenure, and they were therefore qualified to share their experiences on the manner in which they addressed healthcare of learners in public secondary schools. The findings of the study corroborates with the results of Wangari (2015) that school heads in secondary schools possessed experience of over ten years as leaders.

4.2 Results on Management of Students' Healthcare in Public Secondary Schools

The dependent variable in this study was the management of students' healthcare in public secondary schools in Meru County. Data was obtained from both the principals and the students' leaders in public secondary schools in Meru County. The study had questions in form of sentiments on management of students' healthcare in public secondary schools. These sentiments were presented to respondents in a five-point Likert scale, which helped

to ascertain respondents' views. The indicators featured in the sentiments largely focused on the nature of healthcare services offered to students in secondary schools as well as the systems used by principals for coordinating school healthcare programs. They also assessed equity, efficiency and accessibility of healthcare services; involvement of stakeholders on healthcare matters; and examined challenges encountered by principals when managing students' healthcare in public secondary schools. All sentiments in the questionnaire were stated in positive and were measurable on ordinal scale.

Since the study was interested in the composite variable (managing students' healthcare in public secondary schools), the mean and standard deviation values for all indicators of the dependent variable and sub-variables were summed up accordingly. The summated mean values enhanced appropriate data transformation that resulted to a composite variable that was continuous. The transformed (composite) variable was later used in this study for parametric tests. The study noted some variability in the descriptive results from both categories of respondents, and hence, the descriptive information from principals and students' leaders was presented separately; one following the other, for ease of comparison and interpretation. The qualitative data from the open-ended questions and interview were also integrated in the discussion with a view to clarifying and expounding interpretation of quantitative results.

Several interrogative questions – all of which aimed to clarify the mechanisms used by principals in managing healthcare of students in public secondary schools, were therefore posed to respondents. Results were grouped into sub-sections for ease of discussion as presented hereafter.

4.2.1 Principals' responses on common ailments facing students in secondary schools

Principals of secondary schools in Meru County were asked to indicate the frequency of occurrence of common ailments noted among students in secondary schools. Their responses were summarized and presented in Table 4.5.

Table 4. 5

Descriptive statistics on common ailments in secondary schools in Meru County

Common health conditions / ailments facing students in secondary schools (N = 142)	Factor loading	Mean Statistic	Std. Deviation Statistic	Skewness Statistic	Std. Error	Kurtosis Statistic	Std. Error
Non-communicable diseases	.574	2.68	.975	.684	.249	.208	.493
Sexual health related concerns, e.g. STI, pregnancies, etc.	.550	2.57	.823	.230	.249	.610	.493
Communicable diseases	.779	2.53	.991	.383	.249	.071	.493
Drug abuse and addiction	.745	2.47	.799	-.023	.249	-.418	.493
Alcoholic problems	.631	2.30	.853	.231	.249	-.506	.493
Violence related injuries	.600	1.85	.829	.750	.249	.024	.493
Child abuse	.781	1.81	.820	.609	.249	-.576	.493
Mental health concerns	.566	1.68	.691	.519	.249	-.798	.493
Food poisoning	.791	1.49	.618	.880	.249	-.212	.493
Disease outbreak	.747	1.45	.616	1.055	.249	.100	.493
Kaiser-Meyer-Olkin Measure of Sampling Adequacy							.606
Bartlett's Test of Sphericity							.000

A factor analysis indicated that all the common ailments noted among students in secondary school loaded very well, where each ailment had a factor Eigen value above 0.5.

Tabachinick and Fidell (2007) recommended a minimum factor loading of 0.45 for real life

data. The Kaiser-Meyer-Olkin measure of sampling adequacy (KMO) was .606, which is more than 0.6, and a Bartlett's test of sphericity is, $P = .000$, which was significant. This provided confidence that the loading of the given ailments was acceptable in the analysis.

The results showed that there were three common ailments reported in most public secondary schools in Meru County. These were: non-communicable diseases, mean = 2.68, standard deviation = .975; sexual health related concerns, such as STI, pregnancies, etc. (mean = .57; standard deviation = .823; and communicable diseases with a mean of .779

2.53 and a standard deviation of .991. These findings refute the results by Halliday et al. (2020) who, in a randomized study done in Malawi, investigated the effect of student ill-health, particularly malaria, on the school attendance, and health and education outcomes. The study reported that most students suffered from communicable diseases, although the sickness had no significant effect on class attendance and education outcomes. The least common ailments noted in the current study were violence-related injuries, child abuse, mental health, food poisoning, and disease outbreak, all of which had a mean value below two. The information gathered from County Director of Education confirmed the aforementioned ailments, and confirmed that they are commonly reported in most public secondary schools in Meru County. The list included; malaria, amoeba, common worms; diabetes type I, trachoma in semi-arid regions, pneumonia, and arthritis.

The study further sought to establish the outcomes of illness in public secondary schools with an aim to explaining the most common effects of the aforementioned illnesses. Few sentiments were posed to principals requiring them to rate each occurrence. The results were organized in a descending order as per mean values as presented in Table 4.6.

Table 4. 6*Descriptive statistics on nature of illness in public secondary schools*

Nature of illness outcomes in public secondary schools (N= 138)	Factor loading	Mean	Std. Deviation	Skewness	Std. Error	Kurtosis	Std. Error
		Statistic	Statistic	Statistic	Statistic	Statistic	Statistic
Illness where students are treated and go back to class	.630	3.83	.888	-.599	.249	.692	.493
Illness where students are unwell and are unable to attend classes	.643	2.74	.816	.748	.249	.869	.493
Illness where students are treated and asked to go home	.645	2.68	.806	.900	.249	1.217	.493
Illness where students are unwell to a point of missing examinations or CATs	.733	2.43	.740	1.399	.249	2.152	.493
Hospitalization cases	.788	2.34	.559	.663	.249	.192	.493
Pro-longed illness with bedrest	.815	2.06	.435	.347	.249	2.303	.493
Disease outbreak in the school / area	.662	1.45	.616	1.055	.249	.100	.493
Death of a student due to sickness	.514	1.34	.476	.684	.249	-1.565	.493
Kaiser-Meyer-Olkin Measure of Sampling Adequacy							.687
Bartlett's Test of Sphericity							.000

A factor analysis indicated that all the outcomes of illness in public secondary schools loaded very well, where, each occurrence had a factor Eigen value above 0.5; with a KMO value of .687, and a significant Bartlett's test of sphericity, P= .000. This provided confidence that the loading of each outcome of illness was acceptable in the analysis.

The results show that there were three most common outcomes of illness noted in most public secondary schools in Meru County. The outcomes are: illness where students are treated and allowed to go back to class (mean = 3.83; standard deviation = .888); illness where unwell students were unable to attend classes (mean = 2.74; standard deviation = .816); and illness where students were treated and asked to go home for specialized attention (mean = 2.68; standard deviation = .806). Similarly, these findings support the directives offered by the Center for Disease Control and Prevention (CDCP, (2016) which outlined several health precautionary procedures to be undertaken in schools. CDCP advised that the school clinicians should attend to students. However, in the event of a serious peril or emergency at school, hospitals with better services should be contacted.

Obviously, whenever secondary school students fall sick, they access medical care through different mechanisms. To ascertain the mechanisms used, and the common practices, principals of secondary schools were presented with several statements requiring them to indicate the frequency at which each of the approaches was used in their school. The results were organized in the order of descending mean values as presented in Table 4.39 in the appendix.

A factor analysis in Table 4.39 (in the appendix) indicated that most of the mechanisms of handling sick students in public secondary schools loaded very well where each occurrence had a factor Eigen value above 0.5; with a KMO value of .641, and a Bartlett's test of sphericity being significant ($P = .000$). Only one mechanism, 'teacher accompany the sick students to a medical facility' had Eigen value (.434) that was below 0.45, and which fell slightly below the recommendation by (Tabachinick & Fidell, 2007).

This provided confidence that the loading of most mechanisms for handling sick students in public secondary schools was acceptable in the analysis.

The results show that there were five common actions or outcomes of illnesses reported in most public secondary schools in Meru County. These were: students utilize NHIF to access medical services from accredited hospitals (mean = 3.66; standard deviation = .934); students are treated in the school-based health clinic/ dispensary (mean = 2.74; standard deviation = 1.516); students are sent home to be assisted by their parents in seeking medication (mean = 2.70; standard deviation =.801); parents are called via phones to pick their sick students (mean = 2.60; standard deviation =.677); teacher accompany the sick students to a medical facility (mean = 2.60; standard deviation =1.030); and students are given leave out to seek medical care services on their own at identified health facilities (mean = 2.57; standard deviation = 1.307). Information gathered from principals on open-ended question confirmed these findings, as most principals said that whenever a student fell sick in the school, they were taken to school dispensary (where they exists); in case of critical conditions, they were taken to nearby health facilities. Other principals said that they usually administered drugs, while others either involved parents or release the sick student to go home to be assisted to seek medical attention.

The results show that more than a third (73.2%) of public secondary schools advised sick students to utilize NHIF in accessing medical services from accredited hospitals. This percentage was low considering that NHIF program in public secondary schools was fully funded by the Government. The percentage indicated an element of underutilization. The results further indicated that some schools had a form of school dispensary where sick students were treated or drugs administered. The quality of such

school-based dispensaries was not covered in this study. It also clear that a sizeable number of schools involved parents by sending the sick student home to be assisted in seeking medication from a health facility. Another most common practice noted was allowing students leave school compound and seek medical attention on their own at recommended health facilities.

The last three common practices show less involvement of school management in addressing sickness of students in most public secondary schools in Meru County. The findings of Muriithi (2020) aimed at investigating the nature of the interaction between healthcare organizations and educational institutions with regard to Eduafya. Muriithi (2020) found that NHIF services were underutilized, which can be attributed to the weak communication mechanisms and follow-up systems. The mechanisms such as the school dispensary and the use of leave outs or sending students home or to hospitals outside the school for medication which were mostly used by many schools were not covered in (Muriithi, 2020) study, probably because they were outside the scope of his study.

The three least common mechanisms of handling sick students in public secondary schools were; use of a trained school nurse to administer medicines to students (mean = 2.19; standard deviation =1.615); the matron or designated teacher administering common medicines to students (mean = 2.11; standard deviation = 1.121); and non-trained school nurse administering common medicines to students (mean = 1.47; standard deviation =.924). The County Director of Education stressed that it was illegal for unqualified personal to administer medicines to students, but admitted that in some instances, minor ailments not requiring qualified health personnel were being handled by matrons in some schools.

The results further confirmed a detachment of school management from healthcare matters of learners in most public secondary schools in Meru County. However, these findings refute those of Baltag et al. (2015) who collected data from 102 developed countries and found that most schools had trained nurses, doctors, psychologists, dentists and social workers. Moreover, majority of the surveyed countries in Baltag et al. (2015) study were reported to be providing healthcare services within the school premises. Additional health services provided to students in most of the sampled schools included vaccination, health education, screening, counseling; and referral services for specialized treatments.

The study was further interested in establishing the effectiveness of the foregoing mechanisms for handling sick students in public secondary schools. This was achieved by asking students' leaders to rate each of the mechanism using a 5-points Likert rating scale. The results were organized in the order of descending mean values as presented in Table 4.40 in the appendix.

A factor analysis in Table 4.40 (in the appendix) indicated that the rating of most of the mechanisms for handling sick students in public secondary schools loaded very well, where each occurrence had a factor Eigen value above 0.5; with an overall KMO value of .623, and a Bartlett's test of sphericity being significant ($P = .000$). Only one mechanism, namely, 'students utilize NHIF to access medical services from accredited hospitals' had Eigen value (.430) that was below 0.45.

The results show that the idea of involving parents whenever a student fell sick while in school had been effective according to students. This confirmed responses obtained from principals on the same by making it clear that by sending the sick student

home to be assisted in seeking medication, or by school calling the parent to pick their sick sons/daughters, parents were involved. The mean values were .634 and 598 respectively.

Regarding this observation, the County Director of Education stressed that,

“It is the responsibility of the school to linkup sick students with the health facilities of their choice for treatment. However, where parents are required, then, the school should make necessary arrangements”. The Director further asserted that, *“Principals should not give students leave out to seek medical care services on their own unless the ailment is not serious and the health facility is within reach and well monitored by the school”*.

From students’ perspective, the most ineffective mechanisms of handling sick students in public secondary schools was where students were given leave out to seek medical services on their own at any health facilities (mean = 2.29; standard deviation = 1.199). Others included instances where a trained school nurse administered medicines to students (mean = 2.18; standard deviation = 1.399), and non-trained school nurse administered common medicines to students (mean = 1.47; standard deviation = .843). These findings indicated the practices that should be avoided or strengthened when addressing healthcare of learners in public secondary schools in Meru County. According to Nation Team (2018), in Kenya, minor illnesses were handled in schools, while the complicated ones were referred to better-equipped hospitals. However, the study found that there were ineffective logistical management procedures in transferring students to better hospitals due to lack of transport and poor planning. There were notable fatalities, such as that of a student at Alliance High School in Kenya who died in April 2018 due to delay by school management to undertake quick action on his illness. These statistics can illustrate

why students ranked self-referral as an ineffective mechanism, owing the numerous challenges associated with it.

Matters of health are critical to learners in secondary schools. The nature of facilities and related effort shows the kind of commitment and priorities of school management in addressing it. The study therefore asked principals to indicate the availability and utilization of health facilities at their schools in addressing healthcare matters of students. A 5-points rating scale was used where, not available equals to zero, available but not utilized = 1, available and less utilized =2, available and moderately utilized =3, and available and highly utilized =4. The results were organized in the order of descending mean values as presented in Table 4.39 in the appendix.

A factor analysis indicated that the availability and utilization of health facilities in public secondary school in addressing healthcare matters of students loaded very well where each occurrence had a factor Eigen value above 0.5; with an overall KMO value of .605, and a Bartlett's test of sphericity being significant ($P= .000$). However, a number of facilities were not available in most public secondary schools in Meru County. They had mean values below two. These were sickbay managed by a trained medical staff; a cupboard stocked with common medicines - handled by a trained nurse; the school having procured an insurance medical cover for all students; dedicated room for handling referrals to other hospitals; sickbay managed by non-trained medical staff; and school having an ambulance for handling emergencies. It was also clear that many schools lacked a dedicated health clinic / dispensary in the school, mean = 2.15; standard deviation of 1.722.

In concurrence with the above findings, a report by Nation Team (2018) exposed the desolate state of ill-equipped school dispensaries in Kenya. The report indicated that

most schools were unable to take care of sick students promptly. Some of the deterrants noted in the report included; inadequate medical fee paid by parents, negligence and unnecessary delays where sick students were held on sickbay for too long before being attended to; lack of qualified medical staff in the school, poor leadership, and poorly equipped school dispensaries. This situation may be due to the financial strain that most secondary schools go through in Kenya; hence, they are unable to provide quality healthcare service to the students.

Although availability and utilization of health facilities loaded well, only two of them were available and utilized in most public secondary schools. It was clear that most public secondary schools had MOUs with the local dispensaries / health center / hospitals, (mean = 2.72; standard deviation = 1.719); and that most schools were advising students to utilize NHIF arrangement, (mean = 2.72; standard deviation = 1.719). It was clear that provision of healthcare to students is costly, and hence, collaborations with local dispensaries / health center / hospitals was a commendable idea. Additional information on collaborations was sought from principals and results were summarized as shown in Table 4.7.

Table 4.7

Collaborations with local primary healthcare providers

Collaborations with local primary healthcare providers (N = 138)	Factor loading	Mean Statistic	Std. Deviation Statistic	Skewness Statistic	Std. Error	Kurtosis Statistic	Std. Error
Hospital	.557	2.87	1.354	.131	.249	-1.371	.493

Local dispensary	.380	2.64	1.335	.528	.249	-1.034	.493
Practitioner / medical consultant	.399	2.04	1.226	.919	.249	-.338	.493
Private health center	.366	1.83	1.179	1.223	.249	.140	.493
Pharmacy	.405	1.47	1.013	2.500	.249	5.527	.493
Kaiser-Meyer-Olkin Measure of Sampling Adequacy							.684
Bartlett's Test of Sphericity							.000

Results in Table 4.7 show that more than half of secondary schools collaborate with various public hospitals and local dispensaries, mean value is 2.87 and 2.64 respectively. The least collaborations were observed with private health centers and pharmacies (mean = 1.83 and 1.47) respectively.

With reference to information on management approaches that are commonly used by principals to handle healthcare of students in public secondary schools (see Tables 4.6 and 4.7), the students' leaders were asked to indicate the extent to which they agreed or disagreed with various statements. Results were summarized as shown in Table 4.41 (in the appendix).

According to information presented in Table 4.41 (in the appendix), students agreed that there was a procedure to be followed before a student was issued with a medical leave out. This approach utilized in management of students' healthcare had led to the reduction of class absenteeism, students medical information was treated with confidentiality, thus enhancing their concentration in class. Healthcare management system in place was reassuring the students; hence, increasing their concentration in class, and the communication between the school and the guardian in case a sickness occurred, where the mean values were 4.21, 3.91, 3.91, 3.90, and 3.90 respectively.

The foregoing findings were consistent with benefits envisaged from an effective school health program. However, affirmativeness with the sentiments does not show the

extent to which the school management was committed to ensuring effective management of healthcare matters in public secondary schools in Meru County. These findings were in contrast with the guidelines provided by (Sprigg et al., 2017) who described how to start and run school-based health centers. One key recommendation was the need for appropriate policy, planning, leadership, infrastructure, personnel, and a funding mechanism in order to meet the operational expenses for a school dispensary. Other success factors for SBHCs noted were ability to write winning funding proposals, partner identification, staff management, and appropriate communication.

Some students however expressed different opinions and reservations regarding handling of chronic medical conditions in the school, and that academic performance of students who regularly sought medical attention was not significantly different from the rest (mean = 3.30 in both cases). A sizeable number of students disagreed that the staff who handled sick students in the school were trained medical professionals. Unlike the findings from the current study regarding absence of the trained health professionals in schools, (Baltag et al., 2015) reported that schools which were surveyed had trained nurses, doctors, psychologists, dentists and social workers, who attended to the sick learners within the school premises.

The effective management of students' healthcare in public secondary school calls for principals to undertake certain critical roles. Various roles were suggested to respondents requiring them to indicate the level of agreement or disagreement with each sentiment. Results were summarized as shown in Table 4.8.

Table 4. 8*Principal's role in managing students' healthcare in public secondary school*

	Factor loading	Mean Statistic	Std. Deviation Statistic	Skewness Statistic	Std. Error	Kurtosis Statistic	Std. Error
Sentiments (N = 94)							
Directing and supporting healthcare services in the school	.716	4.38	.791	-1.335	.249	1.553	.493
Coordinating various resources and facilities, and championing requisite leadership	.816	4.32	.779	-1.187	.249	1.380	.493

Following the policy guidelines from the Ministry of Health on how to handle students healthcare matters	.512	4.30	.801	-.851	.249	-.119	.493
Figurehead and resource allocator	.575	4.04	1.015	-.591	.249	-.933	.493
Ensuring an effective healthcare delivery model is adopted in the school	.752	3.94	.959	-.915	.249	.705	.493
Working with advisory boards consisting community representatives, parents, students, teachers among others	.380	3.87	1.029	-.949	.249	.771	.493
Kaiser-Meyer-Olkin Measure of Sampling Adequacy							.737
Bartlett's Test of Sphericity							.000

According to the findings in Table 4.8, most principals (114, 82.8%), with aggregate mean value of 4.14, agreed with various roles played by principals in managing students' healthcare in public secondary schools. A factor analysis indicated that most of the roles played by principals in managing students' healthcare in public secondary schools loaded very well where each occurrence had a factor Eigen value above 0.5; with an overall KMO value of .737, and a Bartlett's test of sphericity being significant ($P = .000$). Only one mechanism, 'working with advisory boards consisting of community representatives, parents, students, teachers among others' had Eigen value of .380, which was below 0.5.

Notably, principals of public secondary schools were the accounting CEOs, hence they are expected to direct, support, coordinate, and allocate resources; be figurehead, provide policy guidelines, and ensure adoption of effective healthcare delivery model in

their schools. These findings were consistent with a study done by Bridgeman (2019) in Northwest Pacific. Bridgeman described school heads as figurehead who played a key role in spearheading healthcare services in the school. Notably, through proper communication and collaboration, it was confirmed that principals played the duty of giving direction, coordinating and allocating resources. Principals also helped in promoting adherence to the health policies in the school.

4.2.2 Challenges faced by Principals in Managing Students' Healthcare

With the foregoing results, it is clear that the management of students' healthcare can be very demanding. Consequently, many principals appeared less committed, while others appeared to have escalated the burden to parents and guardians. The study therefore sought to establish the nature of challenges faced by principals in managing students' healthcare in public secondary school in Meru County. Responses from principals were summarized and organized in the order of descending mean values as presented in Table 4.42 (in the appendix).

A factor analysis in Table 4.42 (in the appendix) indicated that all the suggested challenges loaded very well, where each occurrence had a factor Eigen value above 0.5; with an overall KMO value of .807, and a Bartlett's test of sphericity being significant ($P = .000$). Results further indicate top three major challenges hindering effective management of students' healthcare in public secondary school in Meru County. These were lack of financial ability to employ school health professionals, (mean = 3.89; standard deviation = 1.177), lack of health facilities and infrastructures (mean = 3.43; standard deviation = 1.291), and inadequate policy guideline from Ministry of Education and the Ministry of Health on school healthcare matters (mean = 3.38; standard deviation = 1.201). The

findings narrowed down to lack of finances, lack of health facilities, and lack of sufficient school health policy. Certainly, healthcare provision is a complex and costly undertaking that calls for adequate health facilities and better coordination as well as adoption of appropriate management approaches. The County Director of Education emphasized the need for effective management approach noting that learners' healthcare is a vital factor in determining their academic performance. In comparison, Wamunyu (2012) found out that principals mainly face financial challenge as the greatest in managing learner healthcare. Wamunyu (2012) argued that with financial stability, infrastructural and human resource capacities could be developed with ease. Undoubtedly, effective management of students' healthcare calls for a comprehensive policy. Information on policy guidelines was gathered and presented separately towards the end of this chapter where its moderation effect was also determined.

According to the information presented in Table 4.40 (in the appendix), the less weighty challenges were lack of cooperation from parents and communities on school healthcare programs (mean = 2.72; standard deviation = 1.204); mistrust between various stakeholders (mean = 2.64; standard deviation = 1.217); and slow decision-making process (mean = 2.57; standard deviation = 1.372). It is believed that when the first three challenges are addressed, then, the provision and management of students' healthcare would be effective. Bezem et al. (2017) underscored the indispensable need for close collaborations of schools with stakeholders in addressing healthcare of learners.

In bid to overcome the above challenges and improve the management of students' healthcare in public secondary schools in Meru County, both principals and students were asked to suggest measures to be taken. Majority emphasized on the need for the

government to provide adequate funds to put up health facilities in public secondary schools. They also pointed out the need for government to provide guidelines on the engagement of trained and qualified health professionals in the school health facilities. In addition, it was necessary for the government to empower principals to run students healthcare services. Respondents further said that the government should allocate funds to cater for emergencies and referral cases. The alternative to this approach was for the government to allow public secondary schools to charge little medical fee to cater for emergencies and referrals. In such cases, the principals should collaborate with county government for the provision of ambulance services for emergencies. Principals should also organize meetings to create awareness on medical covers and health insurance policies to the stakeholders, while the government should consider providing personal medical insurance covers to students in public secondary schools. The government should also provide clear guidelines and policies on the management of healthcare of learners in public secondary schools. The principals further felt the need for the Ministry of Education to come up with mechanisms through which health education can be provided to learners in secondary schools.

The cost associated with healthcare can be enormous. This is because funding seems to be a serious deterrent to accessing healthcare among students in public secondary schools. The Government's budgetary allocation towards healthcare of learners was approximately 4 billion Kenya shillings which was still inadequate owing to increased students' enrolment in public secondary schools. To overcome this shortcoming, the County Director of Education noted that the government of Kenya through the Ministry of Education had allowed parents to supplement the government's effort through a resolution

by parent's association and Boards of Management. The Director further noted, "*Schools are encouraged to build strong linkages with the county government's health organizations, private sector and well-wishers to enhance the provision of healthcare at the school level*". This indicates that provision of healthcare to learners in public secondary schools requires concerted effort from various stakeholders. The initiative of a principal in pursuit of such linkages and collaborations is indispensable. Moreover, parental involvement was noted as critical considering that parents are directly involved whenever students are unwell.

4.2.3 Diagnostic Tests Based on the Management of Students' Healthcare

Management of students' healthcare in public secondary schools was the dependent variable in this study; hence, checking of normality and linearity status of the data on its indicators was essential in determining whether to conduct parametric or non-parametric tests during the deeper assessment of predictors. For parametric tests to be carried out, data on the dependent variable should be normally distributed, and it should exhibit linearity. In this study, skewness of the data was assessed and kurtosis values were computed to determine whether data on indicators of the management of students' healthcare was normally distributed.

Most indicators of management of students' healthcare in public secondary schools were normally distributed, since most of their skewness statistic and the kurtosis values (see data presented in the preceding section) were within the acceptable range ($-2 >$ skewness, Kurtosis value < 2) (Doane & Sward, 2011). There were no attempts to standardize the data using log10 since most data showed normal distribution (Gravetter & Wallnau, 2014). Instead, further diagnostic tests on normality using p-values and other

graphical methods were conducted on the dependent variable, Y (management of students' healthcare in public secondary schools). The results of the P-values based on the Kolmogorov-Smirnov and Shapiro-Wilk tests are presented in Table 4.9.

Table 4. 9

Tests of normality on management of students' healthcare

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	df	Sig.
Y - Management of students' healthcare in Public Secondary schools	.068	138	.200*	.977	138	.094
X1 - School-based clinics	.072	138	.310*	.912	138	.298
X2 - NHIF	.075	138	.217*	.857	138	.280
X2 – Personal health insurance	.066	138	.117*	.786	138	.068

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

According to the results in Table 4.9, it is clear that data from principals show insignificant P-value (P value is greater than 0.05), which means, that the target population was normally distributed. The findings on histograms, Q-Q plots and box plots are presented in Figure 4.3, 4.4 and 4.5 respectively.

Figure 4. 3

Histograms showing the normality of data

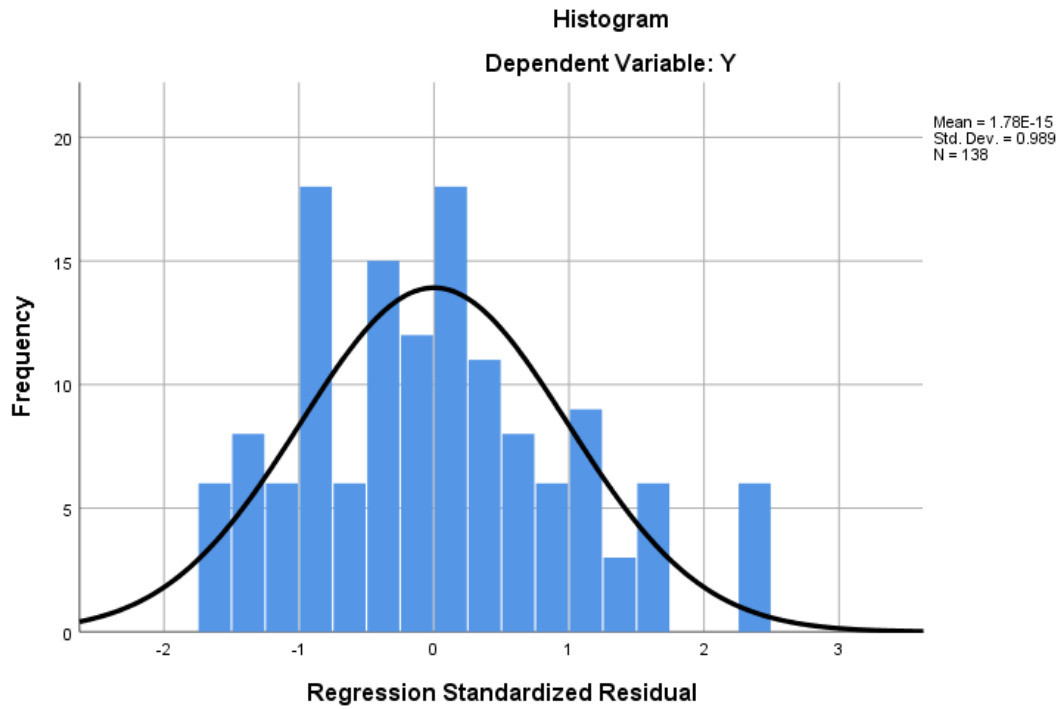
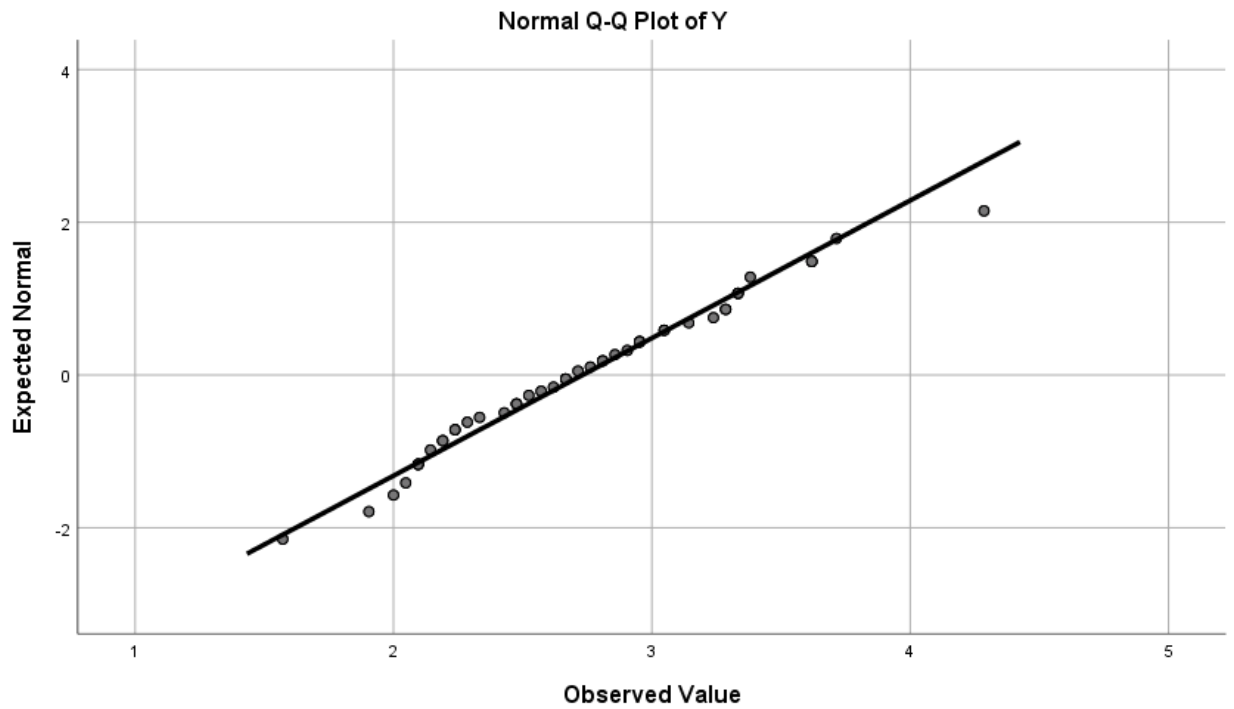


Figure 4.3 shows that data is slightly skewed although not completely out of the normal distribution. The same is demonstrated with the standard Q-Q plots found in Figure 4.4.

Figure 4. 4

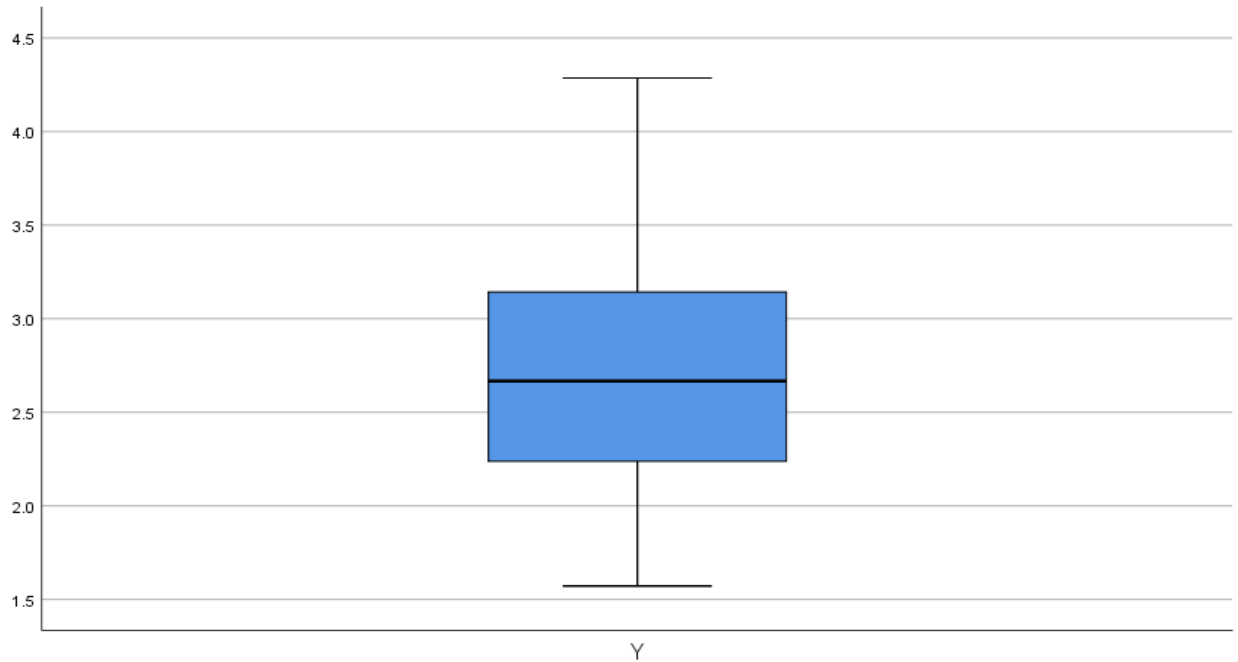
Q-Q showing the normality of data



The Q-Q plot in Figure 4.4 shows that data on the dependent variable fits closely along the line of the best fit; hence, it does not deviate from a normal distribution, and therefore, there is a linear dependency. Further, to confirm the foregoing observations, Whiskers box plots were generated. The resulting outputs are presented in Figure 4.5.

Figure 4. 5

Box plot on management of students' healthcare



The whickers box plots in Figure 4.5 further indicate lack of serious skewedness in the data.

After establishing normality of the dependent variable (y), it was important to check multicollinearity and autocorrelation with the independent variables (school-based clinics, NHIF, and personal health insurance). Results are presented in Table 4.10.

Table 4. 10

Multicollinearity and autocorrelation tests results

	Tolerance	VIF	Durbin-Watson value
X1	.997	1.003	1.378
X2	.825	1.212	1,397
X3	.824	1.214	1.524

Dependent Variable: Y

Results in Table 4.10 show that all the independent variables had no multicollinearity problem, as indicated by a Variance Inflation Factor (VIF) values that are more than 0.2, and less than 5 in each case. The VIF values should be closer to 1. Any VIF that closer to 10 would indicate collinearity among variables (Cooper & Schindler, 2011). The results supported application of parametric inferential statistics.

The Durbin-Watson value shown in Table 4.10 indicates the likelihood that the variables are auto-correlated. The value is expected to be more than 0.8 (Singh, 2007; Gupta, 2000). The value of Durbin-Watson value in this study was more than 1.000 for each key variable; indicating that no autocorrelation was detected among the variables.

The sections that follow contain presentations and discussion of results related to each objective. Descriptive and corresponding inferential results for each objective were provided respectively. The results from qualitative data were largely explanatory, and were integrated in the discussion appropriately.

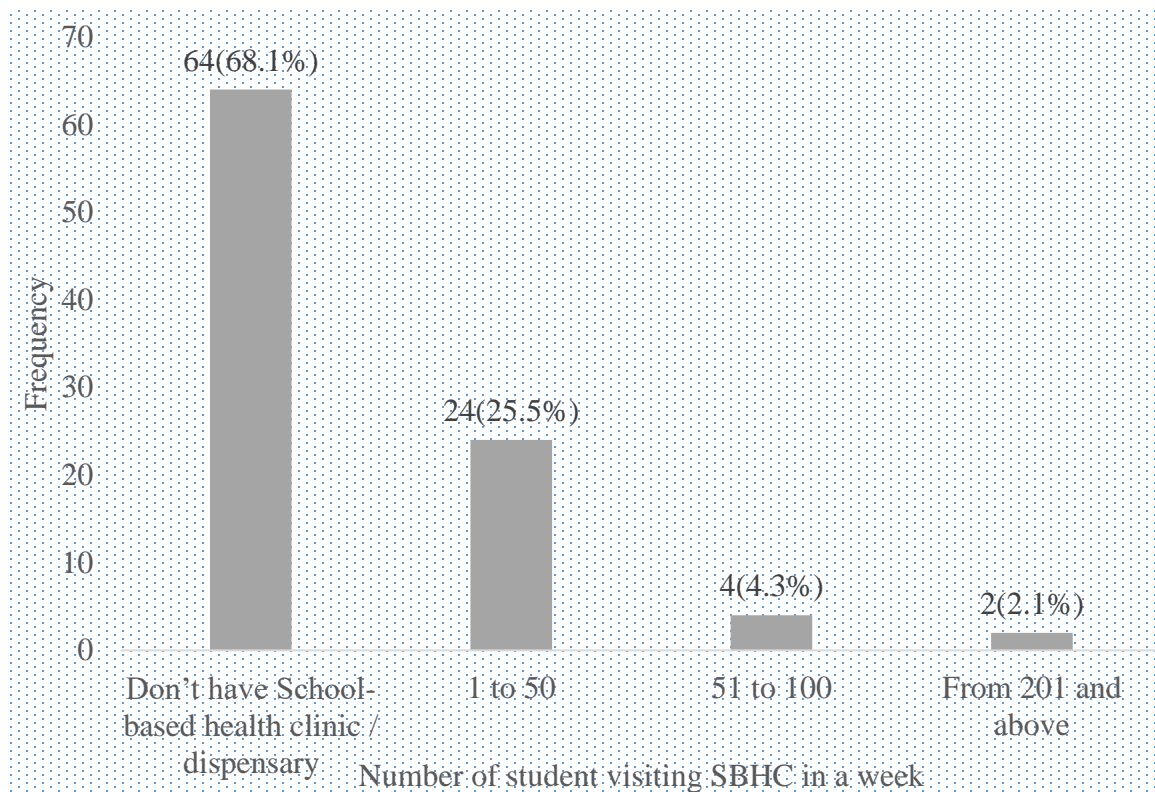
4.3 School-Based Health Clinics in Public Secondary Schools

The first objective sought to assess the school-based health clinic as an approach for managing students' healthcare in public secondary schools in Meru County. Information was gathered from principals and students. County Director of Education, Meru County was also instrumental in clarifying information on key issues with regard to prevalence and handling of school-based health clinics in public secondary schools in Meru County. Various sentiments on school-based factors, which were in Likert scale, were presented in a tabular form to respondents regarding various components of a school-based clinic. Applicable descriptive statistics were computed and results provided accordingly. In the first instance, principals were asked to indicate the average number of students who visited

the school-based health clinic / dispensary per week in their schools. The response choices to the question had been designed in a manner that enabled the study to ascertain the existence of school-based health clinic / dispensary in public secondary schools. Results were summarized and presented in Figure 4.6.

Figure 4. 6

Students visiting school-based clinics



Out of the 138 public secondary schools that took part in the study, 94 (68.1%) did not have school-based health clinic / dispensary. The public secondary schools that had SBHC were approximately one third ($\frac{1}{3}$). Information gathered from the County Director of Education confirmed the findings on few SBHCs. This was attributed to lack of vote head for school-based clinics. According to the County Director of Education, the government through the ministry of education had no provision for funding SBHCs. Despite SBHCs

suffering a funding challenge, the Director described school-based clinics as custodians of student's health data, and therefore provided vital and quick medical attention to learners. The Director, however, said that *“large boarding schools are encouraged to establish school-based health clinics. This is meant to take care of minor illnesses and emergencies, especially at night”*. The Director further reiterated that it was the responsibility of the school to arrange referrals for serious cases to NHIF-accredited health facilities.

The study further established that SBHC which were visited between 1 and 50 times per week were 24 (25.5%), while between 50 and 100 times per week were 4 (4.3%). This data showed that SBHC as an approach for addressing students' healthcare in public secondary schools was less famous in Meru County. The results indicated that the few SBHC that existed were underutilized. Underutilization of SBHC can be attributed to various reasons, and hence, this study sought to understand from principals, the available school-based health facilities at their schools. The information gathered was summarized as shown in Table 4.11.

Table 4. 11*School-based health facilities available in public secondary schools*

School-based health facilities available in the school (N=138)	Factor loading	Mode	Mean	Std. Deviation
A designated waiting area for sick students	.713	1	2.09	1.373
Room for a school nurse	.736	1	1.87	1.475
A purpose-build school-based health clinic / dispensary	.771	1	1.79	1.327
Consultation room	.783	1	1.68	1.263
A reception at the school health clinic / dispensary	.793	1	1.49	1.055
Pharmacy services	.853	1	1.45	1.033
Toilet facilities for students within the health clinic/ dispensary	.799	1	1.40	.943
Computers - for health clinic staff	.942	1	1.30	.902
Rooms for others health professional e.g. social worker	.938	1	1.28	.822
Laboratory services	.676	1	1.17	.598
Kaiser-Meyer-Olkin Measure of Sampling Adequacy				.709
Bartlett's Test of Sphericity				.000

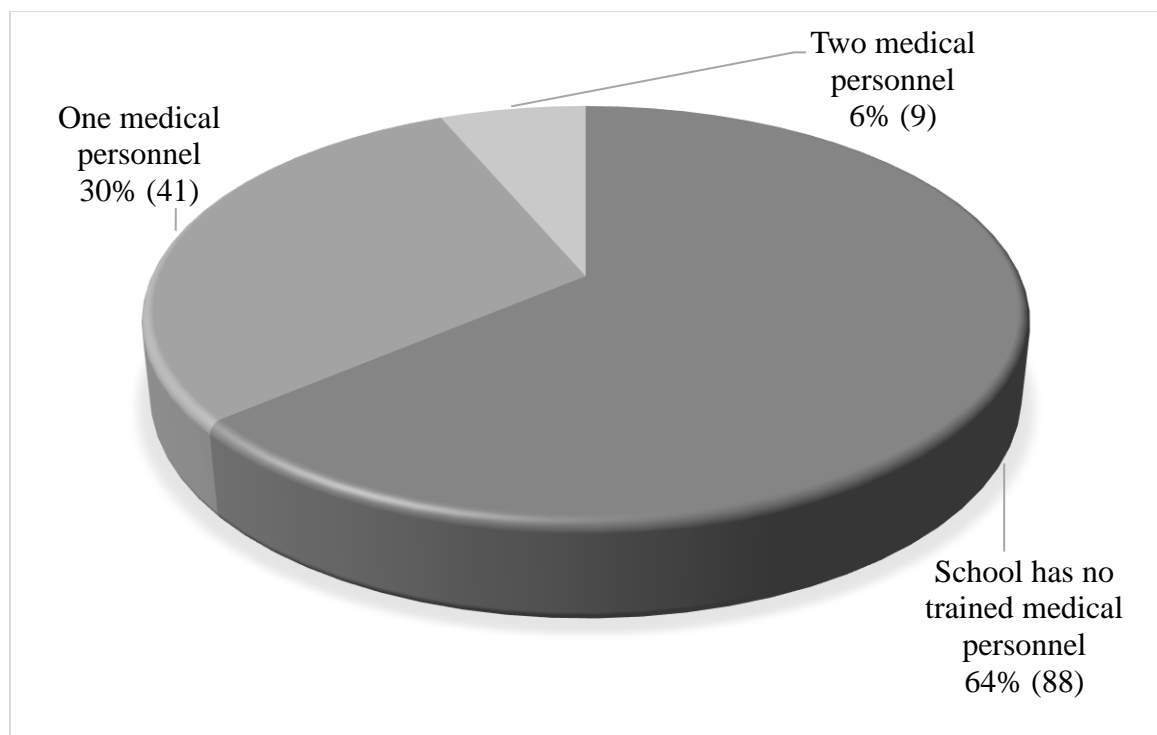
The findings in Table 4.11 show that majority of principals indicated ‘not available’ response category (mode = 1) in each case. These findings are supporting the observation in the preceding discussion regarding the absence of SBHC in most public secondary schools in Meru County. The existing SBHC’s facilities appear to be in deplorable status. These results corresponded with findings by the (Nation Team report, 2018). The nation team reported that most secondary schools in Kenya were inadequately equipped, lacked important infrastructural health facilities and manpower. Further, it was reported that some schools had no healthcare facilities at all.

The responses were reliable considering that all sentiments on health facilities loaded well and exhibited a strong KMO (.709) with a significant Bartlett's Test of

Sphericity of .000. However, some schools said that they had a designated waiting area for sick students, 57 (41.8%) at a mean value of 2.09 and a standard deviation of 1.373. However, it is one thing to have a designated waiting area for sick students, and a different thing to have them treated in the SBHC. Apart from availability of SBHC facilities, the study further sought to understand the number of trained medical personnel hired in a public secondary school in Meru County. The findings (See Figure 4.7) show that 88 (64%) of public secondary schools had no trained medical personnel.

Figure 4. 7

Number of trained medical personnel hired in a public secondary school



The findings in Figure 4.7 further confirm the results reported in Figure 4.6. This implies that the engagement of trained medical personnel in SBHC is not a common practice in most public secondary schools in Meru County.

4.3.1 Healthcare programmes and services in a school-based health facility

Although there were few schools that had SBHCs, the study sought to determine the nature of healthcare programmes and services offered in a school-based health facility by asking students to indicate the extent to which such programmes and services were utilized. Results were summarized as shown in Table 4.12.

Table 4. 12

Healthcare programmes and services offered in a school-based health facility

Healthcare programmes and services offered in a school-based health facilities (N=142)	Factor loading	Mode	Mean	Std. Deviation
Counseling services	.757	1	3.06	1.560
Health promotion and education programs	.838	1	2.43	1.450
Hospital referral system	.533	1	2.40	1.566
Nutrition and food services	.627	1	2.34	1.513
Access to substance and drugs abuse services	.634	1	2.24	1.526
Psychological and social support services	.715	1	2.18	1.392
Prevention programming activities	.783	1	2.11	1.391
Reproductive / sexual health services	.673	1	2.07	1.293
Management of chronic diseases	.793	1	2.04	1.436
Vaccination services	.801	1	1.71	1.181
Mental health services	.632	1	1.62	1.075
Screening services (early detection and intervention)	.600	1	1.25	.693
Summation			2.12	
Kaiser-Meyer-Olkin Measure of Sampling Adequacy				.796
Bartlett's Test of Sphericity				.000

The findings on absence of elaborate SBHC services and programmes are consistent with the foregoing results on SBHC facilities where most of health services were poorly rated by students (mode was 1 in each case), and had an aggregate mean of 2.12. Establishing

and running a full-fledged school-based health clinic where all health services, such as the ones listed in Table 4.16 are offered, requires prudent management and leadership practices. Therefore, this study sought to understand the role that principals play in ensuring SBHCs are operating effectively. The results of rating on suggested roles were summarized and arranged in descending mean order as shown in Table 4.13.

Table 4. 13

Responsibility of Principals of Secondary Schools in Managing SBHCs

Responsibility of Principals of Secondary Schools in Managing SBHCs (N=138)	Factor loading	Mode	Mean	Std. Deviation
Ensure proper control of expenditures to minimize mismanagement of funds	.874	5	4.28	1.186
Planning	.759	5	4.17	1.123
Chief accounting officer	.821	5	4.17	1.267
Ensure quality assurance in SBHC	.865	5	4.17	1.179
Networking and collaborations	.820	5	4.09	1.241
Policy formulation	.680	4	4.06	1.162
Coordination	.851	4	4.06	1.105
Allocation of resources	.797	5	4.06	1.162
Continuous evaluation in order to ensure healthcare services of learners are sustainable	.735	5	4.04	1.209
Staff management and supervision	.743	5	4.00	1.295
Administration	.770	4	3.96	1.226
Billing management	.673	5	3.77	1.440
Write winning funding proposals	.537	5	3.72	1.387
Summation			4.04	1.229
Kaiser-Meyer-Olkin Measure of Sampling Adequacy				.907
Bartlett's Test of Sphericity				.000

A factor analysis indicated that the responsibility of principals of secondary schools in managing SBHCs listed in Table 4.13 loaded very well, where, each role had a factor Eigen value above 0.45; with an overall KMO value of .907, and a significant Bartlett's test of sphericity (P= .000). Furthermore, all the stated roles showed a summated mean value of 4.04 and standard deviation of 1.229. This meant that an overwhelming majority, 111 (81%) agreed that principals were expected to play a critical role in managing school-

based health clinics / dispensaries. Top on the list of the roles included ensuring proper control of expenditures to minimize mismanagement of funds, planning, accounting, and being the quality assurance officer of the SBHCs. The roles that had the lowest rating were billing management, and writing winning funding proposals.

The results indicated crucial roles expected of principals in ensuring effectiveness of school-based health clinics / dispensaries in public secondary schools in Meru County. One of the roles listed in Table 4.13, requires principals to source for external funding through writing funding proposals. This has implications on the skills for writing grants and funding proposals. The sourced funds would go a long way in overcoming the fiscal, human resources, infrastructure, and health facilities challenges that prove to be serious drawback to the effectiveness of SBHCs in public secondary schools.

The findings do not exonerate principals from leadership and management roles towards fostering effectiveness of SBHCs. This implies the need for measures, mechanisms, and policies that would guide principals on how to go about the endeavour. Mutia (2015) agreed with these findings and he acknowledges drawbacks, such as lack of enough resources to facilitate student health in the school. Despite that, many principals were found to be unaware of what they can do to enhance the school health based systems. Mutia's study recommended the need for government practitioners creating awareness through trainings on the measures, mechanism and policies for facilitating health needs of students.

The study further sought to establish how school-based health clinics / dispensaries were being funded. The issue of funding featured prominently as a key drawback in the foregoing results. Principals were presented with various sources of funds and were asked

to indicate the extent to which school-based health clinics / dispensaries were funded from each source. Results were summarized as shown in Table 4.14.

Table 4. 14

Sources of funding for school-based health clinic / dispensary

Sources of funding for school-based health clinic / dispensary (N=138)	Factor loading	Mode	Mean	Std. Deviation
Revenue from students-patients	.861	1	2.57	1.656
Partnerships and collaborations with other sponsoring agencies	.774	1	2.11	1.513
Reimbursement from public and private health insurers	.733	1	1.62	1.165
Non-governmental organizations	.838	1	1.30	.619
Funding from school county offices	.840	1	1.26	.527
Sponsored by national government	.683	1	1.17	.561
Kaiser-Meyer-Olkin Measure of Sampling Adequacy				.603
Bartlett's Test of Sphericity				.000

All the sentiments on the various sources of funding for SBHCs loaded well and exhibited a strong KMO (.709) and a significant Bartlett's Test of Sphericity of .000. However, the majority of principals chose the option 'to a very small extent' against all sources (mode = 1). A few schools 70 (51.4%) with a mean of 2.57 and a standard deviation of 1.626 reported to have been relying on funding from student patients. This means that the funding of SBHCs is a serious detriment to their effectiveness in public secondary schools. Similar results had been reported by Mutia (2015) arguing that there was no budgetary allocation to the school health strategic plan, and the few services that were rendered to the sick students were out of their own cost. According to the County Director of Education, the principals of public secondary schools were expected to champion income-generating

activities whose proceeds can be used to cater for other expenses such as establishing school-based clinics. They were also expected to persuade other stakeholders such as private investors, alumni and well-wishers to support the idea of establishing school-based clinics.

4.3.2 Challenges facing school-based clinics / dispensaries

A synopsis of challenges affecting the effectiveness of SBHCs was sought from principals whose responses were analyzed and presented in descending order of the mean values as shown in Table 4.15.

Table 4. 15

Challenges facing school-based clinics / dispensaries

Challenges facing school-based clinics / dispensaries (N=138)	Factor loading	Mode	Mean	Std. Deviation
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Lack of funds to establish a school clinic / dispensary	.806	5	4.15	1.375
Insufficient funding to maintain the school clinic / dispensary	.860	5	4.06	1.443
Lack of requisite health infrastructures	.857	5	3.85	1.421
Poorly-equipped school clinic / dispensary	.856	5	3.74	1.599
Financial inability to hire medical staff due to poor pay	.762	5	3.57	1.669
Inability to afford health technology	.714	5	3.43	1.630
Inadequate medical fee paid by parents	.623	5	3.40	1.718
Lack of transport for referral cases	.683	1	3.09	1.644
Complexity in managing transition of the patient to the required facility	.864	1	3.02	1.531
Limited or lack of well-structured monitoring and evaluation systems	.884	1	2.81	1.547
Delay in diagnosis and treatment of diseases	.806	1	2.68	1.553
Unnecessary delays where sick students are held on sick bay for too long before they are attended	.701	1	2.53	1.644
Poor communication and coordination of services which often lead to duplication of work or confusion	.836	1	2.53	1.550
Poor organization and administration the school clinic / dispensary	.510	1	2.40	1.461
Delay in diagnosis and treatment of diseases	.772	1	2.40	1.505
Poor leadership of school clinic / dispensary	.818	1	2.28	1.432
Negligence by management	.806	1	2.28	1.491
Leaking of students' confidential information	.720	1	2.11	1.395
Kaiser-Meyer-Olkin Measure of Sampling Adequacy				.815
Bartlett's Test of Sphericity				.000

A factor analysis indicated that all the challenges affecting the effectiveness of SBHCs in public secondary schools which had been posed to respondents, loaded very well where each challenge had a factor Eigen value above 0.5; with an overall KMO value of .815, and a Bartlett's test of sphericity being significant ($P = .000$). The funding of SBHCs is evident from the results presented in Table 4.15. Notably, seven challenges, which had a mean value above 3.4 were all narrowing down to one finding. These were lack of funds to establish a school clinic / dispensary (mean = 4.15; standard deviation = 1.375); insufficient funding to maintain the school clinic / dispensary (mean = 4.06; standard deviation =

1.443); lack of requisite health infrastructures (mean = 3.85; standard deviation = 1.421); and poorly equipped school clinic / dispensary (mean = 3.74; standard deviation = 1.599). Financial inability to hire medical staff due to poor pay (mean = 3.57; standard deviation = 1.669); inability to afford health technology (mean = 3.43; standard deviation = 1.630); and inadequate medical fee paid by parents (mean = 3.40; standard deviation = 1.718) were also cited. These results complement the findings presented in Table 4.7 where scanty sources for funds were noted. Without sufficient funding, it would be very difficult for a public secondary school to establish and run an effective SBHC.

The capitation from government to public secondary schools is usually inadequate, highly controlled, and is meant to be spent in identified expenditure vote, hence difficult to divert. Moreover, the Ministry of Education usually sensitize parents not to pay additional money except what is stipulated as fees; hence, financing and operating a school-based health clinic / dispensary is an uphill task in public secondary schools. Both Wamunyu (2012) and Mutia (2015) studies agree with these findings by noting that principals mainly face financial challenge in undertaking school health projects. However, the study by Denny et al. (2014) disagreed, noting that secondary schools in New Zealand were equipped with professional nurses, equipment and designated budgetary allocations. These differences, however, could be due to the economic gap between the developed and developing countries such as Kenya.

4.3.3 Testing of Hypothesis One on School-Based Health Clinic Approach

The foregoing descriptive results have indicated that although school-based health clinics were not very common in most public secondary schools, their establishment is worthwhile. In that connection, it was critical to check whether the use of school-based

health clinic approach in providing health services was statistically significant in the management of the healthcare of students in public secondary schools in Meru County. Considering the diagnostic test results presented in Figures 4.3, 4.4 and 4.5, a linear regression analysis was carried out. In the model summary of a linear regression results, the Durbin-Watson value helped to check autocorrelation with a view to determining the relevancy of the variables in the analysis. R-square value was used to show the proportion of the variance that was explained by the independent variable on the dependent variable. The ANOVA result was used to indicate whether the model was significant (valid) and good fit of the data where, the significant value was expected to be less than 0.05 ($p \leq 0.05$). The regression coefficients helped to show the impact and significant minimum beta weight of each approach. The multicollinearity effect was regarded present if the VIF value was more than 5 (Salmerón Gómez, et al., 2016). The beta weight to be considered for one unit of the independent variable is also provided. The first null hypothesis ($H0_1$) premised that school-based health clinic approach is not statistically significant in managing students' healthcare in public secondary schools in Meru County. The results are presented in Tables 4.16, 4.17, and 4.18.

Table 4. 16

Linear regression results on school-based clinic: Model Summary

Model	Model Summary ^b				
	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.435 ^a	.189	.180	.50230	1.378

a. Dependent Variable: Y
b. Predictors: (Constant), X1

From the results in Table 4.16, the construct in this context did show autocorrelation as shown by the Durbin-Watson value, which is more than 1, hence the model was relevant in the analysis. The results show a prediction value where, $R^2=.189$. This implies that school-based health clinic approach account for 18.9% of the impact on management of students' healthcare in public secondary schools when all other factors are held constant. ANOVA results in Table 4.17 were critical in determining the validity of the model.

Table 4. 17

Linear regression results on school-based clinic: ANOVA-Model Validity

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	5.417	1	5.417	21.471	.000 ^b
	Residual	23.212	137	.252		
	Total	28.630	138			

. Dependent Variable: Y
b. Predictors: (Constant), X1

The ANOVA results in Table 4.17 shows the significance of school-based health clinic approach in predicting variations in the management of students' healthcare in public secondary schools in Meru County. Results show that school-based health clinic approach (X1), is statistically significant ($F_{(1, 137)} = 21.471$; $P = .000$) in predicting the variations in the management of students' healthcare in public secondary schools in Meru County. Results in Table 4.18 show the regression coefficient values for the predictor.

Table 4. 18

Linear regression results on school-based clinic: Regression weight

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	2.079	.150		13.853	.000		

X1	.293	.063	.435	4.634	.000	1.000	1.000
a. Dependent Variable: Y							
b. Predictors: (Constant), X1							

The findings show a VIF value of 1 which indicated that there was no multicollinearity in the constructs under study, hence the model was found fit for data analysis and interpretations. The findings further show unstandardized B-coefficient value of .293, and a significant constant value, that is, $P < 0.005$.

Considering the ANOVA result which shows $p = .000$, then the study rejected the null hypothesis and concluded that there was a statistically significant impact of school-based health clinic approach on the management of students' healthcare in public secondary schools in Meru County. The regression weight indicated that the impacts of school-based health clinic approach on management of students' healthcare in public secondary schools will always exist at significant minimum ($\beta_1 = .293$, $p = .000$).

The findings show the indispensable need for school-based health clinic approach in addressing healthcare of students in public secondary schools. These results had implications on establishment and funding policy for school-based health clinics. The findings call for prudence in running and managing such an establishment. A study by Guo et al. (2008) compliments the results that rejected the null hypothesis on school-based health clinic approach. The study found out that school-based health centers positively impacted students life. It further reported that the better the services received from the school dispensaries, the better the students' mental health and the vice-versa.

4.4 National Hospital Insurance Fund (NHIF) and Students' Healthcare

In responding to research objective two, the study sought to examine the National Hospital Insurance Fund (NHIF) as an approach for managing students' healthcare in public

secondary schools in Meru County. The health of learners is of great concern in the entire nation as noted by (Wasonga et al., 2014). This is because, unhealthy students hardly concentrate in class, while those at home due to sickness suffer absenteeism and may lose track in the learning process. Prolonged absence from school can adversely affect one's future (Sarkin-Kebbi & Bakwai, 2016).

The government of Kenya also appreciates that free and compulsory education cannot be achieved without effective healthcare. The County Director of Education explained that, as part of the government's effort towards achieving universal health, the Ministry of Education and the National Hospital Insurance Fund on 13th of April 2018, signed a contract to offer a comprehensive medical insurance cover for students in public secondary schools during their duration of study in high school. The agreed medical scheme provides a wide range of benefits; including outpatient, inpatient, dental cover, specialized services, optical cover, emergency road and Aid evacuation services and the last respect expenses. The package is referred to as EduAfya. The study therefore sought to first ascertain the level of awareness of NHIF and the health services offered to students under this package.

4.4.1 Level of principals' awareness of the NHIF services

Since the government of Kenya had initiated a special NHIF program for students in public secondary schools, it was important to assess the effectiveness of this approach. In the first instance, both principals and students were asked to indicate their level of awareness of

each service provided through NHIF to secondary school students in Kenya. The results are provided in appendix 4.43.

The results on factor analysis are showing that all services loaded very well with Eigen values above 0.5 in each case, and further exhibited a high KMO .841; and a significant Bartlett's Test of Sphericity ($p = .000$). This confirmed that all NHIF services questions posed to principals were valid, although principals' level of awareness varied greatly. The low awareness noted could be attributed to the rate at which NHIF services were utilized by students. The descending order of mean values show the most famous NHIF services provided to secondary school students. They included consultation, laboratory investigations, medicines and medical consumables, drug administration and dispensing, dressings; and medical prescriptions. The least famous ones included medical / orthopedic appliances, occupational therapy services, ophthalmological services; and maternity and reproductive health services.

4.4.2 Level of awareness of the NHIF services by students

The study was interested in establishing the level of awareness of the health services provided through NHIF by students. Results were summarized and arranged in descending order of the mean values as shown in Table 4.44 (in the appendix).

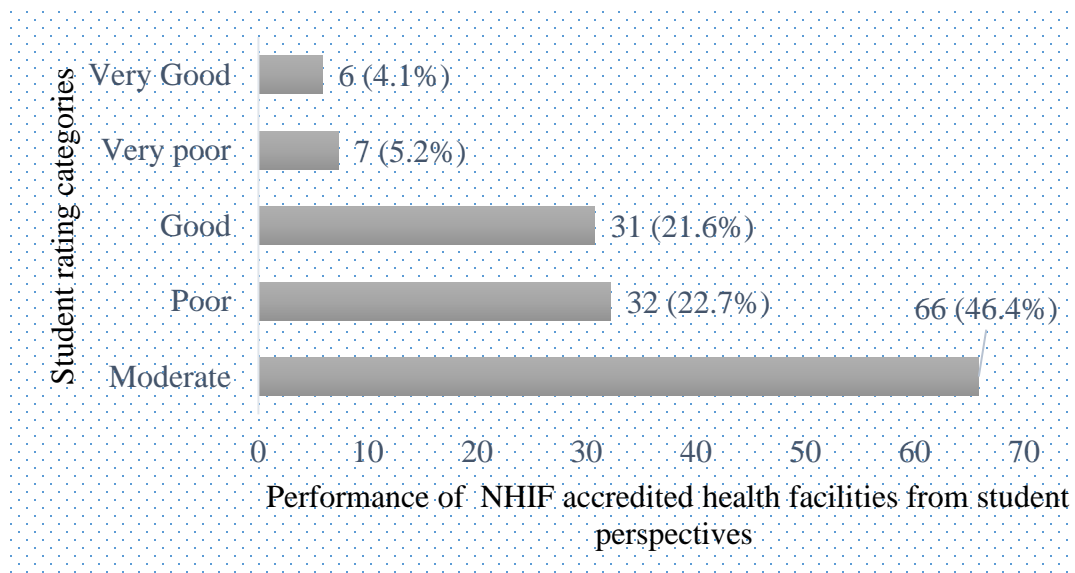
The findings show that all health services that constituted the composite variable (in-patient and out-patient services) through NHIF loaded very well with an Eigen value above 0.45, and exhibited a high KMO .848 and a significant Bartlett's Test of Sphericity ($p = .000$). in each case. This shows that, all health services (in-patient and outpatient) provided to public secondary school students were prevalent, but exhibited different level

of awareness among students. NHIF services which were famous to public secondary schools 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, physiotherapy and rehabilitative services, medical / orthopedic appliances, and occupational therapy services.

When students were asked to indicate how often they required to use NHIF , some noted that they were told that the service they were seeking was not in the package, while the majority indicated ‘sometimes’ 48 (49.5%), and 45 (46.4%) said ‘never’. Students’ opinion on the performance of NHIF was also sought. This further helped to obtain information on the effectiveness of NHIF as an approach for managing students’ healthcare in public secondary schools. Results are presented in Figure 4.8.

Figure 4. 8

Students’ perspective on performance of NHIF accredited health facilities



Responses gotten from principals and students in Tables 4.41 and 4.42 (in the appendix) indicated different levels of awareness on eligible NHIF services to students in public secondary schools. This points out weaknesses in the awareness program that results to information asymmetry, which ultimately affect the extent to which such services are utilized. It was clear from the results that, although the government of Kenya had invested money in NHIF program for students, its utilization in public secondary schools was low.

According to Figure 4.8, the majority users of NHIF services 66 students, (46.4%) rated the healthcare services received from accredited facilities as moderate, while 32% described them as poor. This poses the question, first, on its awareness among principals and students. Second, it raised questions on the effectiveness of this approach in addressing the healthcare of students in public secondary schools in Meru County. Mechanisms used and intricacies encountered by the Ministry of Health in using this approach were out of scope and were therefore not investigated in this study. However, instances where teachers accompany students to NHIF-accredited hospitals was sought from students. According to the findings, slightly more than a half of students indicated ‘sometimes’ 53 (54.6%), while 33, (34%) said ‘never’.

4.4.3 Challenges facing NHIF use by students in public secondary schools

Considering that principals were figurehead and chief executive officers in secondary schools, the study sought to find out their opinions on the challenges they face regarding NHIF approach to healthcare management in their schools. The findings are presented in Table 4.19.

Table 4. 19*Challenges facing NHIF use by students in public secondary schools*

Challenges facing NHIF use by students in public secondary schools (N = 138)	N Factor loading	Mean Statistic	Std. 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 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

A factor analysis in Table 4.19 indicates that most challenges facing the use of NHIF by students in public secondary schools loaded very well, where, most occurrences had a factor Eigen value above 0.45; with an overall KMO value of .719, and a 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 KMO. The failure to load by these two aspects can be explained by the fact that government does not expect County government to put up extra infrastructure for NHIF program. Instead, students are expected to utilize NHIF accredited facilities; hence, no capitation is available to public secondary schools for this program.

The 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). Muriithi (2020) also noted challenges

such as lack of information technology solutions for informing decisions, inadequate guidelines, communication breakdown, and confidentiality challenge in the NHIF health program.

The County Director of Education, Meru County, further indicated that the amount allocated for Eduafya was inadequate in catering for all the health needs of learners. The Director further pointed out that the registration process of learners into the Eduafya program was experiencing delays due to requirements for birth certificates and Unique Personal Identifier (UPI). This was because some students lacked birth certificates and the process of obtaining UPI was marked by some delays. He also noted that emergency and evacuation services as one of the listed services offered by the NHIF was facing a big challenge especially in the rural areas. The Director said, *“This was forcing many schools to incur extra expenses in providing mobility service on behalf of the health providers”*.

It appears that, effectiveness of NHIF as an approach for managing students ‘healthcare in public secondary schools is largely beyond the control of principals. However, according to the County Director of Education, principals of public secondary schools were expected to establish a close working collaboration with the nearest NHIF office, acquaint themselves with information on the provision of NHIF cover for learners; ensure students are allocated NHIF –accredited health facilities; and organize issuance of NHIF cards to students.

In attempt to solicit solutions to the challenges affecting the use of NHIF as an approach for managing healthcare of students in public secondary schools, principals were asked to indicate the extent of their agreement with suggested success factors for

effectiveness of students' NHIF-funded healthcare services. The findings are presented in Table 4.20.

Table 4. 20

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
Proximity of NHIF-accredited health centers	.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

The results in Table 4.20 show that proximity of NHIF-accredited health centers is a critical success factor for effectiveness of NHIF-funded healthcare services. Another key determinant of the success of NHIF-funded healthcare services was clear policy and adequate funding. Others, although not major were; integration of stakeholder's views, and availability of NHIF guidelines on operating modality. The findings hinted on key areas of focus in order to make NHIF program effective in addressing the students' healthcare in public secondary schools. The key role of NHIF was very clear. It aims to enhance accessibility of healthcare services by all Kenyans (NHIF, 2019). In that connection, Muriithi (2020) recommended that stakeholders such as the government, the NHIF practitioners and others to create awareness of the program. The study further recommended bolstering of the school-based health care platforms by the NHIF,

improvement of health facilities by addressing the barriers affecting enrolment into the scheme. Moreover, government intervention through adequate funding of the scheme was noted by the County Director of Education as very essential. A research by Fang et al. (2019) in China reported measures put by government in addressing health system efficiency for all citizens including schooling children. Another key measure was the use of common modes of payments to facilitate students' access to health services. These measures would apply in cases where cost is met by student directly and is then reimbursed by the insurance company later, and the use of direct billing card.

4.3.1 Testing of Hypothesis Two on NHIF Approach

Although the Government of Kenya has invested a lot of money in the NHIF program for students in public secondary schools, the descriptive results have provided evidence for its under-utilization. In order to further validate the National Hospital Insurance Fund as an approach in addressing healthcare of students, it was important to check whether the approach was statistically significant in managing healthcare of students in public secondary schools in Meru County. Considering the diagnostic tests results presented in Figures 4.3, 4.4 and 4.5, a linear regression analysis was carried out to test the hypothesis.

The second null hypothesis ($H0_2$) premised that National Hospital Insurance Fund approach was not statistically significant in the management of students' healthcare in public secondary schools in Meru County. The results were summarized and presented in Tables 4.21, 4.22 and 4.23.

Table 4. 21*Linear regression results on NHIF approach: Model Summary*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.342 ^a	.117	.108	.52414	1.397

a. Predictors: (Constant), X2

b. Dependent Variable: Y

From the results in Table 4.21, the construct in this context did show autocorrelation as shown by the Durbin-Watson value, which is more than 1, hence the model was relevant in the analysis. The results show a prediction value where, $R^2=.117$. This implies that NHIF approach account for 11.7% of the impact on management of students' healthcare in public secondary schools when other factors are held constant. ANOVA results in Table 4.22 were critical in determining the validity of the model.

Table 4. 22*Linear regression results on NHIF approach: 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			

a. Predictors: (Constant), X2

b. Dependent Variable: Y

The ANOVA results show the significance of NHIF approach in predicting variations in the management of students' healthcare in public secondary schools in Meru County. Results show that NHIF approach (X2), is statistically significant ($F_{(1, 137)} = 12.213$; $P=$

.001) in predicting the variations in the management of students' healthcare in public secondary schools in Meru County. Results in Table 4.23 show the regression coefficient values for the predictor.

Table 4. 23

Linear regression results on NHIF approach: Regression Weights

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	.001	1.000	1.000

a. Predictors: (Constant), X2

b. Dependent Variable: Y

The findings show a VIF value of 1 which indicated that there was no multicollinearity in the constructs under study; hence, the model was found fit for data analysis and interpretations. The findings further show the unstandardized B-coefficient value of .170, and a significant constant value, that is, $P < 0.005$.

Considering the ANOVA result which shows $p = .001$ then the study rejected the null hypothesis and concluded that there was a statistically significant impact of NHIF approach on the management of students' healthcare in public secondary schools in Meru County. The regression weight indicated that the impact of NHIF approach on management of students' healthcare in public secondary schools will always exist at significant minimum ($\beta_1 = .170, p = .001$).

The initiative by Government of Kenya to fund the NHIF program for students in public secondary school was a commendable undertaking and it is significant in addressing healthcare of students. Results had implications for structural, administrative, and funding

policy for NHIF programs in public secondary schools in Kenya. The findings further called for collaborations and partnerships with all stakeholders who include accredited health providers, parents, principals of secondary schools, the ministry of Health, and the Ministry of Education. According to County Director of Education, principals of public secondary schools were specifically expected to play a crucial role in establishing close collaboration with the nearest NHIF fund, familiarize NHIF services to students, allocate students the accredited healthcare facilities, and organize for students to obtain NHIF cards. Muriithi (2020) concurred with the foregoing findings and further emphasized on inclusion of reproductive health services in NHIF program, arguing that it would help secondary school middle-aged female students to overcome related challenges. Muriithi also noted that students were facing serious information asymmetry, which was attributed to poor awareness of the scheme.

4.5 Personal Medical Health Insurance and Management of Students' Healthcare

The third research objective aimed to examine personal medical health insurance as an approach for managing students' healthcare in public secondary schools in Meru County. The study was based on the understanding that principals were charged with the responsibility of managing secondary schools; and hence, they were expected to ensure that an effective healthcare delivery model was adopted. In a school setting, appropriate healthcare management approach is meant to promote wellbeing, prevent and control communicable diseases, and provide emergency care solutions to students (Munyasya, 2014). In that connection, personal medical health insurance was assessed to determine its

adoption and effectiveness in catering for health of students in public secondary schools in Meru County. Personal medical health insurance ensures that members have access to healthcare services whenever they need them, and cushions them against financial risk (Yip & Berman, 2001) by spreading the risks which ultimately makes the cost of healthcare reasonably affordable to many people (Health Insurance Association of America, 2008). In addressing the third research objective, it was necessary to first find out the forms of personal medical insurance and the frequency of their usage by students. Responses were presented in Table 4.24.

Table 4. 24

Forms of personal medical insurance

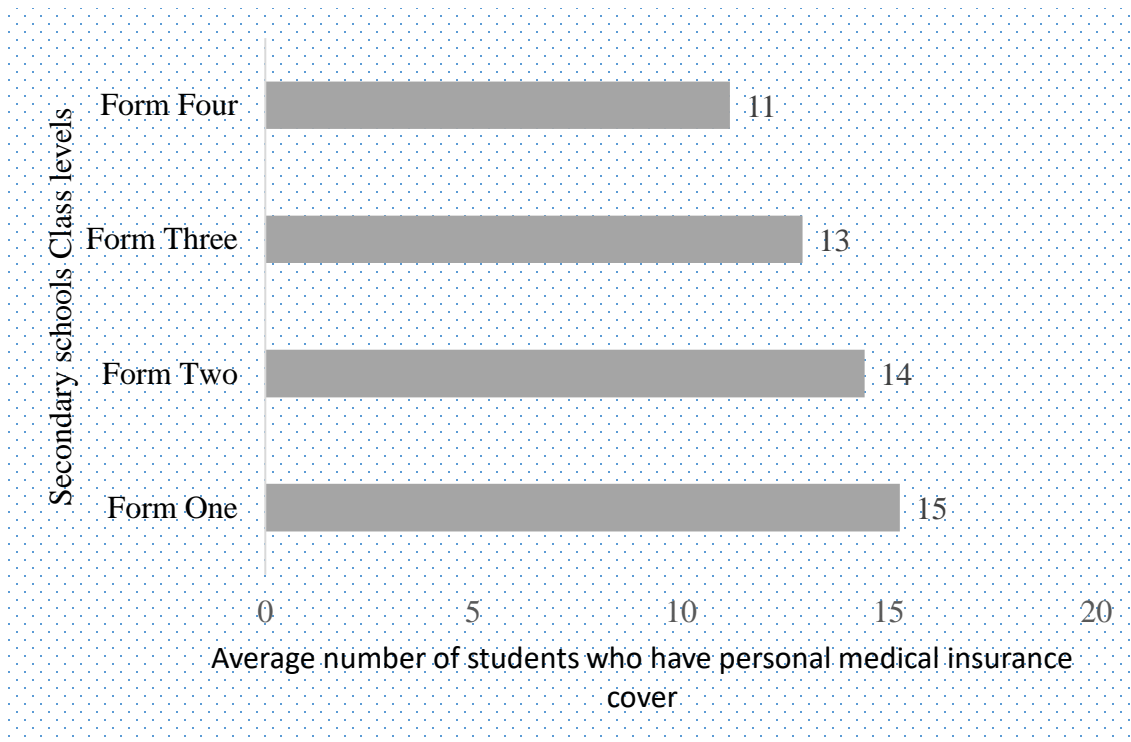
Forms of personal medical insurance (N = 138)	Never	Rarely	Occasionally	Frequently	Very Frequently
Some parents have their employer-sponsored insurance personal insurance covers extended to their children	9 (6.4%)	62 (44.7%)	53 (38.3%)	12 (8.5%)	3 (2.1%)
Some parents or guardians have procured individual medical insurance cover from a private life insurance company to cover their sons or daughters.	21 (14.9%)	76 (55.3%)	35 (25.5%)	6 (4.3%)	0

Our school has procured a medical insurance cover for its entire student population.	103 (74.5%)	21 (14.9%)	9 (6.4%)	6 (4.3%)	0
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The results in Table 4.24 show that the use of personal medical insurance as an approach for managing students' healthcare was not common in public secondary schools in Meru County. Approximately three quarters, 103 (74.5%) of public secondary schools had not procured a medical insurance cover for the entire student population. Some parents, 53(38.3%) occasionally used their employer-sponsored insurance personal medical insurance being extended to their children, while 35(25.5%) had procured individual medical insurance from private life insurance companies to cover their sons or daughters in public secondary schools. Figure 4.9 provides further information on students who had personal medical insurance in public secondary schools.

Figure 4. 9

Average number of students with personal medical insurance in public secondary schools



The results in Figure 4.9 confirm the unpopularity of personal medical insurance in public secondary schools in Meru County. The few numbers of students who had personal medical insurance was however incremental from form four to form one. This is likely to correlate with students' population following the government directive on 100% transition from standard eight to form one.

The overall information noted in Table 4.24 and Figure 4.9 shows dismal adoption of personal medical insurance approach, which indicated its unpopularity in public secondary schools. Although there is no clear policy on the use of personal medical health insurance in public secondary schools, the County Director of Education said that the government encourages its use considering that NHIF cover has limitations. The approach is viewed as effort to supplement the Government effort in the provision of universal health care. The Director noted, "*Students should not be denied to use personal medical insurance services. However, the school must be informed about it*". The finding is different from the situation reported by (Yip and Berman, 2001) in Egypt who noted that school health insurance was provided to all students enrolled in the schools, irrespective of the type and categories. The same was supported by a law, which is anchored in School Health Insurance Programme (SHIP). The government of Egypt usually chips in by financing SHIP to realize the primary goal of achieving equitable health service access for all children in schools. The study also noted existence and active use of other medical insurance schemes such as private insurances and employer-provided insurances through parents.

4.5.1 Awareness of health services through personal health insurance schemes

The study was further interested in establishing the level of awareness of various health services that are provided to members through personal health insurance schemes. Both

principals and students were asked to indicate their level of awareness of common health services provided through personal medical insurance to secondary school students in Kenya. The responses were presented separately in Tables 4.25 and 4.26 respectively.

Table 4. 25

Awareness of Principals on health services through personal medical insurance

Outpatient and inpatient health services offered to students who have personal medical insurance (N = 138)	N= 138	Mean	Std. Deviation	Skewness	Kurtosis		
Factor loading	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error	
Consultation	.856	2.45	1.449	.433	.249	-1.283	.493
Diagnostic laboratory	.898	2.53	1.464	.230	.249	-1.532	.493
Radiology services	.918	2.36	1.382	.469	.249	-1.272	.493
Prescribed drugs and dressings	.924	2.60	1.505	.257	.249	-1.486	.493
Chronic diseases treatment	.834	2.40	1.476	.499	.249	-1.310	.493
Pre-existing conditions	.780	2.11	1.213	.751	.249	-.535	.493
Day care specialized surgery	.722	2.02	1.287	1.012	.249	-.216	.493
Hospital accommodation charges	.872	2.47	1.550	.450	.249	-1.390	.493
Pre-hospitalization diagnostic services	.702	2.06	1.285	.810	.249	-.719	.493
Doctor's fees	.862	2.30	1.421	.559	.249	-1.292	.493
Diagnostic services	.884	2.43	1.403	.347	.249	-1.411	.493

Rehabilitative services	.647	1.91	1.074	.811	.249	-.701	.493
Operating theater services	.844	2.15	1.261	.699	.249	-.786	.493
Radiological diagnostics	.880	2.13	1.202	.659	.249	-.874	.493
Dental services	.917	2.43	1.433	.377	.249	-1.354	.493
Optical services	.873	2.38	1.400	.438	.249	-1.348	.493
Summated mean value		2.296	1.363				

Kaiser-Meyer-Olkin Measure of Sampling Adequacy	.857
Bartlett's Test of Sphericity	.000

The factor loading Eigen values in Table 4.25 indicated that all health services were offered to students who had personal medical insurance loaded very well, where, each had a factor Eigen value above 0.5; with an overall KMO value of .857, and a significant Bartlett's test of sphericity ($P = .000$). Furthermore, all the stated outpatient and inpatient health services provided through personal health insurance schemes showed a summated mean value of 2.296, and standard deviation of 1.363. This meant that a majority of principals was less aware of the outpatient and inpatient health services provided through personal health insurance schemes.

Data collected was less skewed as indicated by the skewness statistics and Kurtosis values, hence were reliable. The less awareness of outpatient and inpatient health services provided through personal health insurance schemes explained the unpopularity of this approach in managing healthcare of students in public secondary schools in Meru County. It could also be attributed to the entry behavior of students found in public secondary schools, and social economic factors of their parents. Studies such as Ndung'u (2015); Nyorera and Okibo (2015) in Kenya, show that poverty, levels of education, awareness and socio-economic factors significantly influence the level of enrollment to insurance schemes. Individuals who have higher levels of income showed high level of adoption of

insurance schemes, including their family members. Although the level of awareness was very low, those who were less privileged negated taking up insurance cover, claiming that the procedures, premium payment mechanisms and the benefit packages were slow and low respectively. The two studies concluded that the demographic characteristics such as gender, age, marital status, household size, and the number of children a parent had; the level of education, socio-economic factors, and awareness were critical in influencing the uptake of NHIF in the informal sector. The study recommended a need for increasing awareness of insurance schemes for parents to appreciate the importance and benefits of taking personal health covers. This was because most parents who take children to public secondary schools were from poor backgrounds, and some lack social empowerment. The findings about the awareness level among students on outpatient and inpatient health services provided through personal health insurance schemes are presented in Table 4.26.

Table 4. 26*Awareness of students on health services through personal medical insurance*

Outpatient and inpatient health services offered to students who have personal medical insurance (N = 142)	N= 142	Mean	Std. Deviation	Skewness	Kurtosis		
	Factor loading	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Consultation	.876	2.47	1.324	.304	.245	-1.318	.485
Diagnostic laboratory	.892	2.22	1.277	.626	.245	-1.047	.485
Radiology services	.916	1.84	1.077	1.256	.245	.671	.485
Prescribed drugs and dressings	.836	2.60	1.397	.169	.245	-1.476	.485
Chronic diseases treatment	.768	2.09	1.191	.724	.245	-.763	.485
Pre-existing conditions	.889	2.01	1.177	1.076	.245	.129	.485
Day care specialized surgery	.855	1.70	1.138	1.653	.245	1.687	.485
Hospital accommodation charges	.684	2.10	1.229	.831	.245	-.505	.485
Pre-hospitalization diagnostic services	.662	1.75	1.011	1.136	.245	.057	.485
Doctor's fees	.620	2.10	1.237	.777	.245	-.723	.485
Diagnostic services	.742	2.08	1.170	.874	.245	-.328	.485
Rehabilitative services	.747	1.61	.861	1.458	.245	1.495	.485
Operating theater services	.905	1.78	1.033	1.143	.245	.064	.485

Radiological diagnostics	.757	1.67	1.087	1.538	.245	1.239	.485
Dental services	.925	2.44	1.283	.265	.245	-1.368	.485
Optical services	.904	2.35	1.225	.372	.245	-1.235	.485
Medication and internal surgical appliances	.808	1.78	1.148	1.197	.245	.141	.485
Ambulance services	.824	1.63	.928	1.371	.245	.835	.485
Summated mean		2.012	1.155				
Kaiser-Meyer-Olkin Measure of Sampling Adequacy							.868
Bartlett's Test of Sphericity							.000

Just like the findings from principals, the factor loading Eigen values in Table 4.26 indicate that all the health services offered to students who had personal medical insurance loaded very well, where, each had a factor Eigen value above 0.45; with an overall KMO value of .868, and a significant Bartlett's test of sphericity ($P = .000$). Furthermore, all the stated outpatient and inpatient health services provided through personal health insurance schemes had a summated mean value of 2.012 and standard deviation of 1.155. This meant that an overwhelming majority of students were less aware of outpatient and inpatient health services that were being provided through personal health insurance schemes. Data collected was less skewed, as indicated by skewness statistics and Kurtosis values hence were reliable.

The results presented in both Tables 4.25 and 4.26 are showing less awareness of outpatient and inpatient health services provided through personal insurance schemes. The County Director of Education also emphasized the need for sensitization of all stakeholders on personal health insurance. Sigh and Begum (2010) who found out that only 14% of students in Bangladesh were aware of such medical insurance schemes reported similar findings in a comparative study. Sigh and Begum challenged insurance companies to strengthen their health awareness campaigns to all stakeholders. Similar findings were also

reported by Ndung'u (2015) who found out that the informal sector lacked awareness of personal health insurance schemes, which was negatively affecting the uptake of insurance schemes in Kenya. Although the study collected data from the informal sector, it still bore significance in the current study since the informal sector constitute of parents who probably could be having students in public secondary schools in Meru County. The findings have implications on insurance companies in creating necessary awareness for their products and services to learners and parents in public secondary schools. It calls for customized products and services that can fit public secondary schools. Just like the way schools procure insurance for properties, they could as well consider procuring a health insurance package for students.

4.5.2 Challenges of adopting personal health insurance approach in schools

Although the use of personal health insurance was unpopular in public secondary schools, the study sought to determine the challenges encountered by principals in the use of personal health insurance approach in managing the students' healthcare in their schools. The findings are presented in Table 4.45 (in the appendix).

The results of factor analysis (Table 4.45 in the appendix) show that all the suggested challenges facing the use of personal health insurance in public secondary schools loaded very well, where, all had a factor Eigen value above 0.5; with an overall KMO value of .834, and a Bartlett's test of sphericity being significant ($P = .000$). Two challenges were common in the majority of secondary schools. These were unstable jobs of parents mean = 3.74 and standard deviation = 1.414; and lack of exposure and knowledge on medical insurance, mean = 3.49 and standard deviation of 1.435. It was also clear that many public secondary schools had no problems allowing students to seek medical services under the

personal health services. It was also hard for principals to comment on poor patient-provider relationship under the same scheme.

From the results presented above, it can be deduced that unpopularity of personal health insurance in public secondary school is largely attributed to economic factors of parents or guardians, and lack of exposure and knowledge on personal medical insurance. This implies less awareness among students and principals. According to interview data gathered from the County Director of Education, lack of clear policy guidelines from the Ministry of Education on how to handle personal medical insurance was a serious drawback.

The findings have implications on funding of the program and point out the need for insurance to come up with personal medical insurance packages tailored to students of public secondary schools. These findings compliment findings by Nyorera and Okibo (2015) who focused on the uptake of insurance schemes among informal sector workers. Their study that the populace suffered from rampant poverty and lacked awareness of the private insurance schemes, which were being advocated for by trade unions. Nyorera and Okibo (2015) blamed it on lack of exposure by parents –which influenced the level of awareness of their children. Nevertheless, the public felt the services were un-accessible as characterized by lengthy and tedious registrations process. The problem can be mitigated through awareness and education programs on medical schemes.

4.5.3 Testing of hypothesis three on Personal medical insurance approach

The personal medical insurance as an approach for managing students' healthcare in public secondary schools has been proved unpopular by the forgoing descriptive results, despite its effectiveness in addressing healthcare in developed countries. In view of the above, it

was necessary to further test whether the approach was statistically significant in managing healthcare of students in public secondary schools in Meru County. Considering the diagnostic tests results presented in Table 4.9 and Figures 4.3, 4.4 and 4.5, a linear regression analysis was carried out to test the hypothesis. The third null hypothesis (H03) postulated that personal medical insurance approach is statistically insignificant in managing students' healthcare in public secondary schools in Meru County. The results of the test were summarized and presented in Tables 4.27, 4.28, and 4.29.

Table 4. 27

Linear regression results on personal medical insurance approach: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.372 ^a	.138	.129	.51786	1.524

a. Dependent Variable: Y
b. Predictors: (Constant), X3

From the results in Table 4.27, the construct herein did show autocorrelation as shown by the Durbin-Watson value, which is more than 1; hence, the model was considered relevant in the intended analysis. The results show a prediction value of the independent variable, where, $R^2=.138$. This implies that personal medical insurance approach account for 13.8% of the impact on management of students' healthcare in public secondary schools when other factors are held constant. The ANOVA results in Table 4.28 were critical in determining the validity of the model.

Table 4. 28

Linear regression results on personal medical insurance approach: ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	3.957	1	3.957	14.757	.000 ^b

Residual	24.672	137	.268
Total	28.630	138	

a. Dependent Variable: Y

b. Predictors: (Constant), X3

The ANOVA results in Table 4.28 show the significance of personal medical health insurance approach in predicting variations in the management of students' healthcare in public secondary schools in Meru County. Results show that personal medical insurance approach (X1), is statistically significant ($F_{(1, 137)} = 14.757$; $P = .000$) in predicting the variations in the management of students' healthcare in public secondary schools in Meru County. Results in Table 4.29 show the regression coefficient values for the predictor.

Table 4. 29

Linear regression results on personal medical insurance approach: Regression Weights

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	2.320	.120		19.388	.000		
	X3	.181	.047	.372	3.841	.000	1.000	1.000

a. Dependent Variable: Y

b. Predictors: (Constant), X3

The findings in Table 4.29 show a VIF value of 1 which indicated that there was no multicollinearity in the constructs under study; hence, the model was found fit for data analysis and interpretations. The findings further show the unstandardized B-coefficient value of .181, and a significant constant value P, that is, $P < 0.005$.

Considering the ANOVA result which shows $p = .000$ which is also confirmed in Table 4.29, then, the study rejected the null hypothesis and concluded that there was a statistically significant impact of personal medical health insurance approach on the management of students' healthcare in public secondary schools in Meru County. The

regression weight indicate that the impact of personal medical health insurance approach on management of students' healthcare in public secondary schools will always exist at significant minimum ($\beta_1 = .181, p = .000$).

Despite the unpopularity of personal medical insurance in public secondary schools, the findings in Table 4.29 provided evidence that the approach is statistically significant in addressing healthcare of students in public secondary schools. The fact that some schools are able to purchase insurance schemes for their properties, is evidence proof that a similar approach can be used by exploring mechanisms for adopting personal medical insurance for students in public secondary schools. Moreover, the evidence that some students have access to this mode of healthcare service provision in secondary schools is a strong pointer to the need to have policy guidelines from the Government of Kenya through the Ministry of Health and the Ministry of Education. This has implications on mechanisms of engaging private health insurance companies in supplementing healthcare services to students in public secondary schools. These findings are in line with those of a research carried out in Egypt by (Yip & Berman, 2001). Yip and Berman (2001) indicated that although the percentage use of private insurance and employer-provided insurance was small, (3%), they significantly impacted students' healthcare. The study was, however, limited in that data was obtained from students only. It negated soliciting information from the school heads who could provide information on operationalization, that is, how they handled students who have personal medical insurance covers at their schools. In China, Fang et al. (2019) noted that the government had made personal medical insurance a statutory requirement for all students. In that case, students directly made payment on their own, which was then reimbursed by the insurance company later, while others used direct

billing cards. This shows that in countries where relevant legislations and policies existed on personal medical health insurance, the students were able to access health care with fewer intricacies.

4.6 Managing Students' Healthcare across Categories of Public Secondary Schools

Having confirmed that the three approaches were statistically significant in managing the students' healthcare, it was important to assess whether each approach differed significantly across the four common categories of public secondary schools in Meru County. This enabled the testing of the fourth null hypothesis, which stated there is no statistically significant differences between approaches for managing students' healthcare across categories of public secondary schools in Meru County. Consequently, a One-way Analysis of Variance (ANOVA) was carried out to assess whether each approach for managing students' healthcare differed significantly across categories of public secondary schools in Meru County. The school categories were girls' boarding schools; boys' boarding schools; mixed boarding schools; and mixed day secondary school. The level of significance was assessed at $p < 0.05$. Results are shown in Tables 4.30, 4.31, and 4.32.

Table 4. 30*Approaches for managing healthcare of students across public secondary schools*

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minim um	Maxi mum
						Lower Bound	Upper Bound		
X1	Girls' boarding schools	32	2.3636	.82558	.17601	1.9976	2.7297	1.00	3.83
	Boys' boarding schools	53	2.5926	.83803	.13967	2.3090	2.8761	1.00	4.50
	Mixed boarding schools	3	2.0000	.00000	.00000	2.0000	2.0000	2.00	2.00
	Mixed Day Secondary school	50	1.7745	.60564	.10387	1.5632	1.9858	1.00	3.00
	Total	138	2.2305	.82491	.08508	2.0615	2.3995	1.00	4.50
X2	Girls' boarding schools	32	3.3369	1.04947	.22375	2.8716	3.8022	1.76	4.82
	Boys' boarding schools	53	2.8170	1.14821	.19137	2.4285	3.2055	1.00	4.53
	Mixed boarding schools	3	2.3529	.00000	.00000	2.3529	2.3529	2.35	2.35
	Mixed Day Secondary school	50	2.9896	1.13070	.19391	2.5951	3.3841	1.00	5.00
	Total	138	2.9912	1.11683	.11519	2.7625	3.2200	1.00	5.00
X3	Girls' boarding schools	32	2.7222	1.22126	.26037	2.1807	3.2637	1.00	4.78
	Boys' boarding schools	53	2.4198	1.07812	.17969	2.0550	2.7845	1.00	4.28
	Mixed boarding schools	3	2.4444	.00000	.00000	2.4444	2.4444	2.44	2.44
	Mixed Day Secondary school	50	1.8072	1.04162	.17864	1.4438	2.1706	1.00	4.00
	Total	138	2.2695	1.13808	.11738	2.0364	2.5026	1.00	4.78

The results in Table 4.30 provides useful information about the descriptive statistics including mean, standard deviation, and 95% confidence interval with respect to dependent variable; that is, management of students' healthcare for three groups. The groups are school-based health clinics (X1), NHIF (X2), and personal medical insurance (X3). Here "N" represented the sample size for each group. We can see that there was not much difference in the average mean. Further, a test on homogeneity of variances was carried out and results are presented in Table 4.31.

Table 4. 31

Test of homogeneity of variances on approaches for managing healthcare of students

		Levene	df1	df2	Sig.
		Statistic			
X1	Based on Mean	1.906	3	135	.134
	Based on Median	1.481	3	135	.225
	Based on Median and with adjusted df	1.481	3	135	.225
	Based on trimmed mean	1.938	3	135	.129
X2	Based on Mean	1.886	3	135	.138
	Based on Median	1.331	3	135	.269
	Based on Median and with adjusted df	1.331	3	135	.270
	Based on trimmed mean	1.878	3	135	.139
X3	Based on Mean	3.047	3	135	.033
	Based on Median	1.430	3	135	.239
	Based on Median and with adjusted df	1.430	3	135	.242
	Based on trimmed mean	2.892	3	135	.040

The results show a P value which is insignificant, $P > 0.05$; while the Levene value is more than 1. This was critical in determining whether the variation was real or was due to chance.

Table 4. 32*ANOVA on variation of approaches for managing healthcare of students*

		Sum of Squares	df	Mean Square	F	Sig.
X1	Between Groups	12.286	3	4.095	7.227	.000
	Within Groups	50.998	135	.567		
	Total	63.284	138			
X2	Between Groups	4.537	3	1.512	1.221	.307
	Within Groups	111.463	135	1.238		
	Total	116.000	138			
X3	Between Groups	12.650	3	4.217	3.520	.018
	Within Groups	107.807	135	1.198		
	Total	120.457	138			

According to the information presented in 4.32, there was a statistically significant difference between school-based health clinics across the four common categories of public secondary schools in Meru County, ($p < .000$ where, $F(3, 135) = 7.227$, $p < .000$). This meant that school-based health clinics as an approach for managing the students' healthcare, differed across the four categories of public secondary schools (girls' boarding schools, boys' boarding schools, mixed boarding schools, and mixed day secondary school). The results showed that there existed different practices in handling school-based health clinics across categories of schools. The mean values in Table 4.32 indicate that school-based health clinics were more common in boys' boarding schools and in girls' boarding schools. The Levene's test for equality of variances in Table 4.31 is more than 0.05; that is, the value was non-significant. This indicates that variation was real and not due to chance.

A post hoc test was then carried out and results presented in Table 4.46 (in the appendices). The Post-hoc tests are used when the results show a statistical significance between conditions. They are also useful when the independent variable includes more than

two groups. In this case, independent variables were three. The Post-hoc tests results showed absence of standardization and policy in guiding application of school-based approach in managing students' healthcare in public secondary schools. Despite this approach reaching statistical significance, the actual difference in mean scores between groups (categories of schools) was small. A research by Niranjana and Gamboa (2017) done in India reported that the Ministry of Education launched a comprehensive school health programme in 2007 through a special programme which was successfully implemented in different schools. However, it was evident that the practice on comprehensive school health programme differed from one school to another. These differences may have been caused by the diverse socio-economic and demographic factors prevailing in various regions in India. The schools where the programme was most effective were noted to have invested well in infrastructural resources and had engaged qualified health personnel.

For the second construct, X² (use of NHIF as an approach for managing students' healthcare), the results in Table 4.32 show a statistically insignificant difference between NHIF across the four common categories of public secondary schools in Meru County, ($p > .000$ where, $F(3, 135) = 1.221, p = .307$). This means that NHIF as an approach for managing students' healthcare did not differ across the four categories of public secondary schools. This could be largely because the government of Kenya had given clear guidelines on how students should access and utilize NHIF (EDUafya program) in public secondary schools. A post hoc test was not discussed because the P value was insignificant. The results showed compliance with set guidelines in adopting NHIF in addressing students' healthcare in public secondary schools in Meru County. This meant that, although there was less awareness of the NHIF (EDUafya program) in public secondary schools, the

practices in handling this approach were common across all the categories of public secondary schools in Meru County. A study by Muli (2018) supports these findings. Muli reported that the government introduced a health insurance scheme for all students in public secondary schools by signing a contract to offer a unique comprehensive medical insurance cover for public secondary school students in Kenya. A clear procedure for using the scheme was stipulated, such that a student ought to have registered with NHIF, and be in the National Education Management Information System (NEMIS) database. Upon the uploading of NEMIS data into the NHIF database, the NHIF generate member number after which, each learner is issued with a biometric card to enable utilization of the scheme (Muli, 2018). According to Muli, the NHIF branch offices are expected to carry out biometric registration of the students in the schools and issue them biometric cards. This clear procedure explains why there is standardization and common practices among all public secondary schools in Kenya.

With regard to the third construct X3 (use of personal medical health insurance as an approach for managing students' healthcare), the results in Table 4.32, showed a statistically significant difference between NHIF across the four common categories of public secondary schools in Meru County, ($p < .000$; where, $F(3, 90) = 3.520$, $p < .018$). This meant that, the personal medical health insurance as an approach for managing the students' healthcare differed across the four categories of public secondary. The findings indicated that there existed different practices in handling personal medical health insurance across girls' boarding schools, boys' boarding schools, mixed boarding schools, and mixed day secondary schools. The mean values in Table 4.31 indicate that personal medical health insurance were more common in boys' boarding schools than Girls'

boarding schools. The Levene's test for equality of variances in Table 4.31 was more than 0.05; that is, the P value was non-significant. This indicates that variation was real and not due to chance. A post hoc test was then carried out and results presented in Table 4.44 (in the appendix). Post hoc tests are used when results show a statistical significance between conditions. They are also useful when the independent variable includes more than two groups; in this case, they were three.

The results showed a lack of standardization and policy in guiding the application / adoption of personal medical health insurance approach in managing the students' healthcare in public secondary schools. Despite this approach reaching a statistical significance, the actual difference in mean scores between groups (categories of schools) was small (see Table 4.30). Comparably, Laibuch (2019) explains that there exists numerous companies, which provide personal health insurance. This was regarded as a cause for the difference in service delivery since there is no single standard measure guiding their operations. Moreover, the health services provided vary depending on the premiums paid, and the ability of parents since its use in school was initiated by having parents who are knowledgeable and financially able to pay for the insurance premiums.

With reference to the foregoing results and discussion, it is clear that the adoption of personal medical health insurance in public secondary school students in Kenya is not widespread. This is attributed to the high cost of premium payments, unemployment, unstable jobs, and lack of information.

4.7 Overall Model on the Three Approaches for Managing the Healthcare of Students

The purpose of this study was to examine the effectiveness of approaches for managing students' healthcare in public secondary schools in Meru County, Kenya; and suggest a delivery mechanism for providing healthcare services to learners. Having assessed the effectiveness of each approach, and their predictive impact in the management of healthcare of students in public secondary schools in Meru County, the study explored a mechanism that would lead to a health service model for consideration by the Ministry of Education. Consequently, an impact prediction assessment based on all the three approaches was carried out to examine the impact of the three approaches when combined. The dependent variable (the management of students' healthcare in public secondary schools) was therefore regressed on the three predictor-variables in a combined model to determine the nature of relationship, and composite prediction value.

In the model summary of multiple regression results, Durbin-Watson value helped to check autocorrelation with a view to determine the relevancy of the variables in the analysis. R-Square value was used to show the proportion of the variance that was explained by the approaches on the management of students' healthcare in public secondary schools. The ANOVA result was used to indicate whether the model was significant, and good fit of the data (model validity) where, the significant value was expected to be less than 0.05 ($p = \leq 0.05$). The regression coefficients helped to show the impact and significant minimum of each approach when all of them are combined in one model. Multicollinearity was regarded present if the VIF value was more than 5 (Salmerón Gómez, et al., 2016). The beta weights to be considered for one unit of the independent variable of a combined model are also provided. The results of a multiple regression analysis are presented in Table 4.33, 4.34, and 4.35.

Table 4. 33*Multiple regression results on the three approaches: Model Summary*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.593 ^a	.351	.330	.45422	1.778

a. Dependent Variable: Y

b. Predictors: (Constant), X3, X1, X2

The results in Table 4.33 show Durbin-Watson value of 1.885, which is more than 1; hence, the model was found relevant for use in the intended analysis since no autocorrelation was noted between variables under investigation. The results further showed that the three predictors, namely; school-based health clinics (X1) NHIF (X2), and personal medical health insurance (X3) jointly account for 35.1% of variation on the management of students' healthcare in public secondary schools ($R^2 = .351$). The ANOVA results in Table 4.34 helped to determine the validity of the model.

Table 4. 34*Multiple regression results on the three approaches: ANOVA*

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	10.061	3	3.354	16.255	.000 ^b
	Residual	18.569	135	.206		
	Total	28.630	138			

a. Dependent Variable: Y

b. Predictors: (Constant), X3, X1, X2

The regression ANOVA output (Table 4.34) containing all the independent variables in a single model was found to be valid (a good fit of the data); where ($F_{(3,135)} = 16.255, P < .000$). This meant the three predictors, when combined together, form a model that is statistically significant in explaining the variations in the management of students' healthcare in public secondary schools in Meru County. The coefficients values of each predictor in a combined model was computed and results presented in Table 4.35.

Table 4. 35*Multiple regression results on the three approaches: Regression Weights*

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1.498	.187		8.019	.000		
	X1	.278	.057	.414	4.869	.000	.997	1.003
	X2	.109	.046	.220	2.355	.021	.825	1.212
	X3	.126	.046	.258	2.761	.007	.824	1.214

a. Dependent Variable: Y

b. Predictors: (Constant), X3, X1, X2

The results of the regression weights for each predictor in the model shows a VIF value that is above 1.000, and below 5.000. This helped to rule out possibility of multicollinearity in the variables under study. This also implied that the regression model was fit for data analysis and interpretations; meaning, the three approaches when combined produces a best combination in the management of students' healthcare in public secondary schools. The findings further showed the unstandardized B-coefficient value of .278, .109, and .126; and a significant constant value, that is, $P < 0.005$. The findings imply that all public secondary schools in Meru County ought to pursue a hybrid healthcare model for effective management of students' healthcare.

The hypothesized model of this study; ($Y = B_0 + B_1X_1 + B_2X_2 + B_3X_3 + e$) hence validated the strength of the relationships presumed in this study. Notably, the model showed the management of students' healthcare in public secondary schools = $(.278x_1$ school-based health clinics) + $(.109x_2$ NHIF) + $(.126x_3$ personal medical health insurance) + 1.498). In this model, 1.498 is the baseline score that is unrelated to any other variable; which means that it is the same 1.498 points for each variable. For example, on average 1

point higher on school-based health clinics, scores .109 points higher on the management of students' healthcare in public secondary schools in Meru County.

The results indicate that all the three variables: school-based health clinics (X1) NHIF (X2), and personal medical health insurance (X3) are jointly significant in determining the management of students' healthcare in public secondary schools in Meru County. The resulting regression model is:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$$

$$Y = 1.498 + .278 X_1 + .109 X_2 + .126 X_3 + e$$

Where:

Y = Management of students' healthcare in public secondary schools

β_0 = Constant

$\beta_1 + \beta_3$ = weights credited from the variables (X₁, X₂, X₃) as shown below

X₁ = School-based health clinics

X₂ = NHIF

X₃ = Personal medical health insurance

ε = is the estimated error of the model that has a mean of zero at constant variance.

The overall results of this study as shown in the above model largely agreed with studies conducted in Ghana, Kenya and India by (Ayimbillah, 2012; Muli, 2018; Niranjana and Gamboa, 2017) respectively. They reported dominance of school health schemes through national hospital insurance services.

As noted in the multiple regressions results of coefficients in Table 4.35, when all the three approaches are combined, the most significant approach was school-based clinics (X₁), ($\beta_1 = .278$, $p = .000$), followed by personal medical health insurance (X₃), ($\beta_1 = 109$,

$p = .007$), and finally NHIF (X_2) ($\beta_1 = .126$, $p = .021$) in that order. This implies that, although all the three approaches are relevant in influencing the management of students' healthcare in public secondary schools in Meru County, only school-based clinics appeared most effective, followed by personal medical health insurance, and finally NHIF. Niranjana and Gamboa's cross-sectional survey done in 2017 in India assessed health promotion activities and policies in schools. Niranjana and Gamboa reported that school-based health centers had numerous benefits, which explain their popularity. Some of the benefits mentioned included prevention, control, and health promotion. The survey stressed the benefits of schools having their own health centers.

4.8 Ascertaining the Moderation Effect of School Healthcare Policy

Considering the existence of various approaches and models for addressing students' healthcare in public secondary schools, principals require necessary policy guidance on the same, or else, their roles in managing the students' healthcare will remain unclear. The study therefore sought opinions from the principals by asking them to indicate the extent to which they agreed or disagreed with each statement that was provided to them regarding the public secondary schools' healthy policy. Their responses were summarized, organized in a descending order of the mean values, and presented in Table 4.47 (in the appendix).

Although most policy statements loaded well ($KMO = .836$, with a significant Bartlett's Test of Sphericity $p = .000$), one indicator failed to load adequately; that is, the Ministry of Education has provided policy on how the principal should handle the personal medical insurance in public secondary schools. This implies that lack of policy guidance on how principals should handle the personal medical insurance in public secondary schools, and on establishment and running of a school-based clinic / dispensary in public secondary schools in Meru County was a serious drawback to the adoption of these two

approaches. Similarly, there is a lot of ambiguity in relation to policies guiding how principals should handle personal medical insurance in public secondary schools in Kenya. The results, however, indicated the existence of a policy framework on two areas. These were policy on the principal's role in the use of NHIF by public secondary school students, and on allocation of school funds in order to cater for healthcare of students in public secondary schools.

With regard to the health policy framework, the County Director of Education noted existence of a policy on healthcare of students in public secondary schools. A highlight on key policy statements as noted by the County Director of Education were:

- Principals are expected to ensure that all learners are put in the NEMIS database, and after being issued with unique identifier numbers, be issued with the NHIF card.
- Principals to ensure learners are enlisted within convenient health care facilities. They should either be public or private but registered and accredited by the NHIF.
- Public secondary schools to obtain and retain details of student's health history.
- Schools to provide a department in charge of the same with proper record keeping practices.

It was noted that the above policy statements were biased to NHIF as an approach for managing the students' healthcare. According to the County Director of Education, the entire amount (the 4 billion Kenya shillings) allocated by the Government towards students healthcare is channeled to the NHIF (EDUafya), and was therefore not managed by the

schools. It was also clear that the EDUafya does not cater for cases of pregnancy among students. Notably, the government's policy on students' healthcare had negated other approaches; namely, school-based and personal medical health insurance.

A few studies have discussed the health of secondary school students in relation to the National Hospital Insurance Schemes, although the role of principals does not come out clearly (Naidoo, 2012 & Muli, 2018). However, similar results were noted in Ghana where Ayimbillah (2012) reported how NHIS was providing licenses to private insurance companies that helped it in the monitoring of their activities. The study further pointed out the shortcomings of government policy on implementation of NHIS for its citizens. This calls for concerted efforts from the concerned stakeholders in creating appropriate operational policies for addressing personal health insurance, and the school dispensary / school-based clinics with a view to enhancing their standardization and application since they have proven their importance in influencing students' healthcare.

Although, the study by Ayimbillah (2012) collected views from card holders who were drawn from general patients in selected hospitals, it provided important highlights on the key issues which were affecting students patients who had access to health insurance cards. From Ayimbillah's study, it was clear that the nature of prequalified / accredited hospitals was a critical consideration to patients owing to the significance of physical outlook in terms of décor, layout, cleanliness, ambience of hygienic environment and facilities; the waiting time; and provider demeanor in delivering the expected healthcare to patients.

The results in Table 4.47 (in the appendix) show that the Ministry of Education has provided policy on the principal's role in the use of NHIF by public secondary school

students (mean = 3.85; standard deviation = 1.116). Results further indicate that the management decisions made by the principals from time to time regarding the students' healthcare in public secondary schools are anchored and guided by the existing public secondary schools healthcare policies (mean = 3.53; standard deviation = 1.189). In addition, the Ministry of Education had provided policy on allocation of school funds in order to cater for healthcare of students in public secondary schools (mean = 3.40; standard deviation = 1.339).

The foregoing findings point out a deficiency in the policy framework regarding healthcare of learners in public secondary schools. As already noted by Shah (2011); Flaherty (2013); Wood Johnson Foundation (2016) the health of a secondary school student is of great importance in contributing to sustainable social economic development; hence, it should be supported by relevant policy and legislation. The scope of such a policy should take into consideration all health service provision models and approaches that are applicable in the nation and the neighboring regions.

4.8.1 Moderation effect of school health policy on the overall model

This study had hypothesized that the effectiveness of approaches for managing the healthcare of students in public secondary schools is moderated by the schools' health policy. In order to test the moderation effect on the overall model, a moderated multiple regression model (MMR) was conducted. To understand the moderator's effect, the model summary table was interpreted. This is because it provided the change in R square measure (within the change statistics columns for "model 2"). Change in R was used to determine the statistical significance of the interaction term; and subsequently, a conclusion was made

on whether school policy moderated the effect of the three approaches on the management of students' healthcare in public secondary schools in Meru County.

The following MMR model was used;

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_jZ_j + \varepsilon$$

Where: Y= managing students' healthcare in public secondary schools, β_0 = constant, β_i = coefficient of independent variable X_i , where $i = (1, 2, 3)$, $X_1 - X_3$ = independent variables (school-based health clinics, NHIF, and personal medical insurance, Z_j = moderating variable (school policy), $X_i Z_j$ = interaction terms, $j = (1)$ ε = error term.

The variables linked to the three approaches were tested in a combined relationship and the findings presented in Tables 4.36.

Table 4. 36

Moderation effect of school policy on all the three variables: Model validity

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	10.061	3	3.354	16.255	.000 ^b
	Residual	18.569	135	.206		
	Total	28.630	138			
2	Regression	13.367	4	3.342	19.487	.000 ^c
	Residual	15.262	134	.171		
	Total	28.630	138			
3	Regression	13.601	5	2.720	15.927	.000 ^d
	Residual	15.029	133	.171		
	Total	28.630	138			

a. Dependent Variable: Y

b. Predictors: (Constant), X3, X1, X2

c. Predictors: (Constant), X3, X1, X2, Policy

d. Predictors: (Constant), X3, X1, X2, Policy, interaction terms.

Results in Table 4.36 show that model one, $F(3, 134) = 16.255, P < .000$ is valid for further analysis. When the school health policy was introduced as a moderating variable, the F statistics, $F(4, 134) = 19.487, P < .000$ indicated that model two remained valid, and demonstrated significant impacts among all the approach predictor variables; school health policy and the management of the students' healthcare in public secondary schools. When the interaction term ($X_i * Z_j$) was introduced, the new model three, $F(5, 133) = 15.927, P < .000$ remained valid indicating significant influence among all approaches; school health policy, interaction term ($X_i * Z_j$) on the management of students' healthcare in public secondary schools.

Table 4. 37

Moderation effect of school policy in all the three variables: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			Sig. F Change	Durbin-Watson
						F	df1	df2		
1	.593 ^a	.351	.330	.45422	.351	16.255	3	135	.000	
2	.683 ^b	.467	.443	.41411	.115	19.280	1	133	.000	
3	.689 ^c	.475	.445	.41326	.008	1.366	1	132	.246	1.684

a. Predictors: (Constant), X3, X1, X2

b. Predictors: (Constant), X3, X1, X2, Policy

c. Predictors: (Constant), X3, X1, X2, Policy, interaction terms

d. Dependent Variable: Y

The column denoted as, "R Square Change" in Table 4.37, shows the increase in variation explained by the addition of the interaction term (that is, the change in R^2). The results indicate that all the three approaches explain 35.1 % of the total variations in the management of the of students' healthcare in public secondary schools ($R^2 = .351$). When

the school policy, as a moderator, was introduced into the model, the R² improved by 11.5%. This meant that the school policy slightly improved the model ($\Delta R^2 = .115$, $p = .000$), hence, the model remained significant. This helps to determine whether the study had a statistically significant moderating effect.

By adding the interaction term ($Z1 * Xi$) in model three, it improved the R square further by 0.8% ($\Delta R^2 = .008$, $p = .246$) which now became insignificant. This led to the conclusion that Z1 (the school policy) is not a significant moderator between the approaches and management of the students' healthcare in public secondary schools in Meru County. The study therefore concluded that the school health policy does not statistically moderate the relationship between the overall model comprising of three approaches, and management of students' healthcare in public secondary schools in Meru County. With this conclusion, there was no need to examine the regression weight results. In contrast to this, a prospective study by Abukari et al. (2015) on the education and healthcare policies in Ghana examined the prospects and challenges resulting from the implementation of the health policies. The researchers found out that having a healthcare policy greatly influenced healthcare of school going children.

The findings show that although school's health policy is important in managing students' healthcare in public secondary schools, it is not a moderator. This study acknowledges that there were no profound school health policies in place, and hence the findings on moderation are not shocking, but reflect the scenario on the ground.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter provides a summary of the study, conclusions arrived at and recommendations. The purpose of the study was to analyze the approaches used in managing students' healthcare in public secondary schools in Meru County. The following objectives guided it: to assess the school-based health clinics, National Hospital Insurance Fund (NHIF), and personal medical insurance as approaches for managing students' healthcare; and to compare these approaches across categories of public secondary schools in Meru County. Literature was reviewed and organized according to the main constructs of the study. The reviewed studies indicated knowledge gaps that the present study sought to fill on management of students' healthcare in public secondary schools. Andersen's model theory and theory U guided the study.

The study employed a descriptive survey research design. It targeted a population of 375 principals, 375 students' council chairpersons, and one County Director of Education. Data was collected from a sample size of 196 principles, 196 students' council chairpersons and one Director of Education through a questionnaire and an interview schedule. Three hundreds and ninety two (392) questionnaires were distributed to both the principals and the students' leaders' chairpersons, where 138 (70.4%) and 142 (72.4%) were returned, respectively. Quantitative data were analyzed using SPSS version 24. Descriptive statistics such as factor loading mean and standard deviations were computed, while inferential statistics (ANOVA and regression analysis) were used to test the hypothesized relationship between variables. Data from the interviews were analyzed using thematic analysis. Finally, the findings were presented using tables, figures and narratives.

5.2 Summary of Major Findings

This section presents the summary of the key findings based on the main constructs of the study.

5.2.1 Summary on Background Profiles of the Respondents

The background profile results of respondents indicated that there were more boarding public secondary schools (62.9%) than the mixed day secondary schools (37.1%) in Meru County. The results further revealed a gradually progressive increase in students' numbers in all four classes (from one to four), attributed to government's directive of 100% transition from primary to secondary schools. The majority of public secondary schools principals (64%) had postgraduate qualifications, with the rest (36%) having bachelor's degrees. It

was also evident that most principals (63.9%) had over three years work experience in their present position. Only 36.2% had served less than three years as principals.

5.2.2 Management of Students' Healthcare in Public Secondary Schools

Information gathered from principals and the student leaders on the management of students' healthcare revealed three prevalent ailments in Meru County; namely, non-communicable diseases, sexual health-related concerns, and communicable diseases. The study noted diverse mechanisms and practices of handling illness across public secondary schools in Meru County. Notably, whenever a student fell sick, most schools utilized NHIF to access health services from accredited hospitals. A few students occasionally received treatment in the school-based health clinics; and some were sent home to be assisted by their parents in seeking medication. In other cases, parents were called via phones to pick their sick students. It was also noted that in a few cases, teachers were accompanying the sick students to a medical facility. In some other cases, students were given leave out to seek medical healthcare services on their own at identified health facilities.

The study noted that principals of public secondary schools played a central role in managing students' healthcare. As an officer-in-charge, a principal was expected to be the figurehead and also to direct, support, coordinate and allocate resources for effective management of students' healthcare in a school. However, the role of principal was reported as being curtailed by lack of funds to employ school health professionals (mean = 3.89), lack of health facilities and infrastructures (mean = 3.43); and inadequate policy guideline from the Ministry of Education and the Ministry of Health on school healthcare matters (mean = 3.38).

5.2.3 School-Based Health Clinics and Management of Students' Healthcare

The first objective sought to assess school-based health clinic as an approach for managing students' healthcare in public secondary schools in Meru County. Information gathered from students revealed that 68.1% of public secondary schools did not have a school-based health clinic/dispensary, while a few had a designated waiting area (sickbay) for sick students. Only a third ($\frac{1}{3}$) had a school-based health clinic/dispensary, and where available, the clinic/dispensaries were in deplorable conditions. Furthermore, it was revealed that the schools had had dispensaries were underutilized, and many had nurses who had no medical training background. This implied that the engagement of trained medical personnel was not a common practice in most public secondary schools in Meru County.

Majority of respondents (81%) agreed that principals usually play a critical role in managing a school-based health clinic. Principals were expected to ensure proper control of expenditures to minimize mismanagement of funds, planning, were chief accounting officers, and they were in-charge of quality assurance of SBHCs. Approximately half of the principals (51.4%) reported having been relying on funding from student patients. This shows that funding of SBHCs is a severe detriment to their establishment and effectiveness in public secondary schools. Other challenges affecting the effectiveness of SBHCs included lack of requisite health infrastructures (mean = 3.85), poorly equipped school clinic / dispensary (mean = 3.74), financial inability to hire medical staff (mean = 3.57), inability to afford health technology (mean = 3.43); and inadequate medical fee paid by parents (mean = 3.40).

Despite many public secondary schools lacking dedicated school health clinic/dispensary, SBHCs were empirically noted as statistically significant in the management of students' healthcare in public secondary schools in Meru County. This was in consideration to the ANOVA result which indicated a $p = .000$, which was less than the alpha value/significance level of 0.05; hence, the null hypothesis was rejected and concluded that there was a positive and statistically significant impact of school-based health clinic approach on the management of students' healthcare in public secondary schools in Meru County. The findings further indicated different practices of handling school-based health clinics across categories of schools; namely, girls' boarding schools, boys' boarding schools, mixed boarding schools, and mixed Day Secondary school in Meru County.

5.2.4 NHIF and Management of Students' Healthcare

In responding to research objective two, the study sought to examine the National Hospital Insurance Fund (NHIF) as an approach for managing students' healthcare in public secondary schools in Meru County. A factor analysis confirmed that all the NHIF services posed to principals and students were valid, although the level of awareness varied among respondents. Less awareness was reported regarding ophthalmological services, radiological examination, maternity and reproductive health, physiotherapy and rehabilitative services, medical/orthopedic appliances, and occupational therapy services. Students attributed the low awareness to low utilization of NHIF.

Key challenges facing the use of NHIF by students were inadequate NHIF-accredited health facility infrastructure (mean = 4.57), poor communication from NHIF

(mean = 4.13), and insufficient guidelines from NHIF (mean = 4.09). Some of the solutions suggested by respondents included increasing the NHIF-accredited health centres, having a clear healthcare policy for high school students, and ensuring adequate funding of the NHIF program by the government.

Univariate regression results indicated the significance of the NHIF approach in predicting variations in students' healthcare management in public secondary schools in Meru County. The ANOVA result showed a $p = .001$, which was less than the alpha value/significance level of 0.05. Consequently, the study rejected the null hypothesis. It concluded that there was a positive and statistically significant impact of the NHIF approach on managing students' healthcare in public secondary schools in Meru County. The study further found that NHIF, as an approach for managing students' healthcare did not differ across the four categories of public secondary schools; that is, girls' boarding schools, boys' boarding schools, mixed boarding schools, and mixed day secondary school in Meru County.

5.2.5 Personal Medical Insurance Approach

For the third research objective, the study aimed to examine personal medical insurance to manage students' healthcare in public secondary schools in Meru County. Results indicated that personal medical insurance as an approach for managing students' healthcare was dismally used in public secondary schools in Meru County. A majority of schools (74.5%) had not procured a medical insurance cover for the entire student population. Some parents (38.3%) occasionally used their employer-sponsored insurance personal insurance covers and extended to their children, while 25.5% others had procured individual medical

insurance cover. This confirmed the unpopularity of personal medical insurance in public secondary schools in Meru County.

The level of awareness for both principals and students regarding health services that are offered through personal medical insurance schemes was low. This further explained the unpopularity of this approach in managing the healthcare of students. Most public secondary schools faced challenges in adopting and using personal medical health insurance despite some schools indicating they had no problem allowing their students to seek medical attention from health facilities outside school premises. The two most common challenges were unstable jobs of parents (mean = 3.74), and lack of exposure and knowledge on medical insurance (mean = 3.49).

Despite unpopularity of personal medical health insurance in most public secondary schools, the findings evidenced that the approach was statistically significant in addressing students' healthcare. The ANOVA result (model validity) showed $p = .001$, which was less than the alpha value/significance level of 0.05. Therefore, the study rejected the null hypothesis and concluded that there were positive and statistically significant impact of the personal medical insurance approach on managing students' healthcare in public secondary schools in Meru County. The results showed that personal medical insurance approach accounted for 13.8% of the impact on students' healthcare management in secondary schools. The findings further indicated different practices of handling personal medical health insurance across categories of schools; that is, girls' boarding schools, and boys' boarding schools, mixed boarding schools, and mixed day secondary school in Meru County.

5.2.6 Overall Model on the Three Approaches

A prediction assessment based on all three approaches was carried out to examine the impact of the three approaches (when combined) on the management of students' healthcare. This was because the regression ANOVA output containing all the independent variables in a single model was found to be valid (a good fit of the data), ($F_{(3,135)} = 16.255$, $P < .000$). The statistics meant that all the three predictors (school-based health clinics, NHIF, and personal medical health insurance) were jointly significant in determining the healthcare among students in public secondary schools in Meru County. It implied that when all the three predictors were combined, they formed a statistically significant model in explaining the variations in the management of students' healthcare in public secondary schools in Meru County. However, in a combined model, the most effective approach was the school-based health clinics, followed by NHIF, and the personal medical insurance.

5.2.7 Approaches for Managing Students' Healthcare across Category of Schools

An assessment on whether approaches for managing students' healthcare differed significantly across categories of public secondary schools in Meru County was carried out. The results indicated a statistically significant difference between school-based health clinics across the four common categories of public secondary schools (girls' boarding schools, boys' boarding schools, mixed boarding schools, and mixed day secondary school) in Meru County. This showed a lack of standardization and policy in guiding this approach in managing students' healthcare in public secondary schools in Meru County.

For NHIF, despite the low awareness level in secondary schools, results showed compliance with set guidelines in adopting it in addressing students' healthcare in public secondary schools in Meru County. Regarding personal medical insurance, the findings indicated that there existed different practices in handling personal medical health

insurance across girls' boarding schools, boys' boarding schools, mixed boarding schools, and mixed day secondary school in Meru County.

5.2.7 Moderation effects of School Healthcare Policy

The results indicated a policy framework on the principal's role in the use of NHIF by public secondary school students and on the allocation of school funds to cater for healthcare of students in public secondary schools. However, it was also clear that the Ministry of Education had not provided policy on establishing and running a school-based clinic/dispensary in public secondary schools. Moreover, public secondary schools lacked policy guidelines on how the principals should handle personal medical insurance among students.

The study had hypothesized that schools' health policy would moderate the effectiveness of approaches. Overall, the results indicated that policy was not a significant moderator between the approaches and managing students' healthcare in public secondary schools in Meru County. It was specifically noted that, by adding the interaction term in the overall model, the ANOVA results had $p = .246$, which was insignificant. This led to the conclusion that school policy was not a significant moderator between the approaches and managing students' healthcare in public secondary schools in Meru County.

5.3 Conclusions

The study aimed to analyze the approaches used in managing students' healthcare in public secondary schools in Meru County, to suggest a delivery mechanism for providing healthcare services to learners. The results showed three ailments that were prevalent in public secondary schools in Meru County. These were on-communicable diseases, sex

health-related diseases, and communicable diseases in that order. Whenever a student fell sick, most schools were utilizing NHIF to access health services from accredited hospitals. Others were receiving treatment from a school-based health clinic, while in some incidences, sick students were sent home, or their parents/ guardians were called to pick sick students to seek medication from a health centre of their choice. In addition, some schools would provide leave out to the sick students to enable them seek health services on their own from identified or any health facility, while in other cases, sick students were accompanied by a teacher to a specified health facility.

The study noted that school management was less actively involved in managing students' healthcare in public secondary schools. Most principals were focusing on academic matters. However, the study underscored the critical role played by principals of public secondary schools in the management of students' healthcare. They were expected to be the figurehead and direct, support, coordinate and allocate resources for effective management of students' healthcare in their schools. Unfortunately, their effectiveness in performing this role was being derailed by lack of finances, inadequate health facilities and infrastructure, lack of health professionals in public secondary schools, and inadequate policy guidelines from the Ministry of Education.

Concerning objective one, the study concluded a positive and statistically significant impact of the school-based health clinic approach on the management of students' healthcare in public secondary schools in Meru County. However, the SBHCs were not available in most public secondary schools. In the schools where SBHCs were available, the facilities were underutilized, lacked sufficient equipment and trained health professionals, and were facing severe funding constraints. These challenges were hindering

the effectiveness of SBHCs despite their significance in addressing the healthcare of learners in public secondary schools. The crucial roles of principals in effective running of school-based clinics were noted. These roles include ensuring proper control of expenditures to minimize mismanagement of funds, planning, taking the role of chief accounting officer, and being in charge of quality assurance of SBHCs. They were also expected to source external funding through writing funding proposals.

From the findings of objective two, the study concluded that there was a statistically significant and positive impact of using NHIF to manage students' healthcare in public secondary schools in Meru County. Despite this positive significance, the level of awareness on NHIF services offered through the government's program among principals and students was low. This explained why there was underutilization of NHIF in public secondary schools despite the government investing money in this program. Challenges affecting the effectiveness of NHIF program in public secondary schools were poor communication, insufficient guidelines from the NHIF organization, inadequate NHIF-accredited health facilities, and students being unaware of their NEMIS numbers. Critical factors for the success of NHIF included increasing NHIF-accredited health facilities, clear policy, and adequate funding of the NHIF program by the government.

On objective three, the study concluded that although the personal medical insurance approach was extraordinarily unpopular, it was statistically and positively significant in addressing students' healthcare in public secondary schools. However, it was also clear that the adoption of personal medical health insurance in public secondary schools was not widespread in Meru County. Key challenges associated with adopting personal medical insurance approach in public secondary schools included instability of

parents' jobs and lack of information among principals on the common in-patient and out-patient health services offered. The study, therefore, attributed the unpopularity of personal health insurance in public secondary schools in Meru County to high cost of premium, unemployment, unstable jobs, lack of information on health insurance, and the fact that many parents are peasant farmers or are self-employed; hence, they lacked exposure and information on personal medical insurance. Additionally, low-income parents were less aware of personal medical insurance approach to health service provision. It was also clear that structures and mechanisms for providing personal medical health insurance to students in secondary schools in Meru County, Kenya were not elaborate and lacked profound operational systems and policy.

Objective four aimed to compare the three approaches used to manage students' healthcare in public secondary schools. The study noted statistically significant differences in the practices of school-based health clinics and personal medical health insurance across the four categories of schools; girls' boarding schools, boys' boarding schools, mixed boarding schools, and mixed day secondary school. However, NHIF as an approach for managing students' healthcare did not differ across the four categories of public secondary schools. It was clear that the government of Kenya had standardized the process of using the NHIF program across all public secondary schools. Since public secondary schools belong to the government, and were guided by the Ministry of Education, the study did not anticipate finding differences in managing students' healthcare practices. However, variation in practices indicated that there were no standardization and policy guiding the adoption of school-based health clinics, and personal medical health insurance as approaches for managing students' healthcare in public secondary schools.

Regarding the overall model, the study concluded that all the three approaches (school-based clinics, NHIF, and personal medical health insurance) were jointly statistically significant in managing the healthcare of students in public secondary schools in Meru County. This underscored the value of the three approaches in addressing students' healthcare in public secondary schools.

The study noted the existence of a policy framework on the principal's role in the use of NHIF by students, and on the allocation of school funds to cater for the healthcare of students in public secondary schools. However, it was also clear that the Ministry of Education had not provided policy on establishment and running of a school-based clinic/dispensary in public secondary schools. Further, it lacked policy guidelines on how the principals should handle personal medical insurance among public secondary schools students. This situation explained why health policy was not a significant moderator between the three approaches (combined) and managing of students' healthcare in public secondary schools in Meru County.

5.4 Recommendations

The study came up with the following recommendations based on the findings and conclusions.

5.4.1 Recommendations Based on the Primary Constructs of the Study

On objective one, owing to the significance of the school-based health clinic approach on the management of students' healthcare in public secondary schools in Meru County, the study recommended that the Ministry of Education develop a guided mechanism for establishing school-based health clinics in public secondary schools in

Meru County. Specific measures should include infrastructural development, buying requisite equipment and facilities and other supplies; and employing qualified health professionals. Establishing a policy framework was necessary to guide principals of public secondary schools on utilizing collaborations with health facilities in the absence of SBHCs in the schools. The SBHC approach also requires adequate funding from the government to meet the operational costs. Therefore, alternative sources of funding to support the establishment of SBHCs in public secondary schools was inevitable. This is because capitation from the government to public secondary schools is usually inadequate. The study recommended capacity building program for all principals to equip them with skills for managing a health facility, and writing funding and grants proposals. The monies obtained through such proposals would go a long way in supporting the establishment of school-based health clinics.

Concerning the NHIF approach, the study noted standardized practices in using this approach across all public secondary schools. However, NHIF program was underutilized by students despite its significance in addressing their healthcare. This was attributed to low awareness and lack of sensitization among students on health services provided under NHIF program. Therefore, NHIF staff should conduct training and awareness in public secondary schools with a view to sensitizing both students and principals. This was deemed critical in providing clear guidance concerning the health services offered, and how and where to access them. The need to widen the scope of NHIF-accredited health facilities under this program was also noted. The Ministry of Education and NHIF should collaboratively liaise with other stakeholders in accrediting more local health facilities, including private health centres. This is critical in achieving proximity in accessing health

services by learners. The policy guidance regarding this program should include the coordinating role of principals in ensuring utilization of NHIF by sick students.

From the findings of the third objective, it was evident that the personal medical insurance approach was statistically significant in the management of healthcare of students despite its unpopularity in public secondary schools. The study, therefore, recommends the need for public secondary schools to explore and procure a comprehensive personal medical health insurance scheme for all students in the school. This implies a tremendous demand for legislation and policy guidance from the government on handling the same. This is critical in operationalizing the adoption of this approach, shielding parents from exploitations by private insurance companies, and facilitating the equity of access to healthcare among learners in public secondary schools. Furthermore, public secondary schools should liaise with medical insurance companies in organizing sensitization sessions for parents and students about the scheme and associated health services. They are also expected to advocate, lobby and foster personal health insurance for students in public secondary schools.

The medical health insurance companies should also customize and tailor-make products for learners in public secondary schools. This would encourage public secondary schools to pursue personal medical health insurance for their students corporately. The Ministry of Education should develop measures for providing medical expenses reprieve for students in public secondary schools by sponsoring or subsidizing personal medical insurance expenses. This means that the Ministry of Education should develop policies that provide conducive operational conditions for health insurance companies in order to widen the coverage of the scheme to students in public secondary schools.

Regarding the overall model of the study, the three approaches were jointly statistically significant in the management of students' healthcare in public secondary schools. The study, therefore, recommended the need to consider a hybrid health service provision model where all the approaches are adopted. Modalities of implementing a hybrid health service provision model in public secondary schools call for adequate policy, clear roles and commitment by principals. It also requires pursuance of partnerships, collaborations and involvement of all stakeholders.

5.4.2 Implications of the Findings on Practices and Policy

The study established three prevalent ailments (non-communicable diseases, sexual health-related diseases, and communicable diseases) in public secondary school in Meru County. This revelation has implications for the Ministry of Health and the Meru County Government in addressing these ailments. The findings also implicate the local health facilities in terms of preparedness and response strategies to the identified ailments. Identification of specific communicable and non-communicable diseases was outside the scope of this study, and hence, health practitioners should institute measures for address the matter. Furthermore, the prevalence of sexual-related diseases in public secondary schools in Meru County speaks volumes on the sexual behaviour of students. This has implications on schools counselling programs in all public secondary schools in Meru County, and points out the great need to involve parents in addressing this issue.

The study noted the crucial role played by principals of public secondary schools in managing students' healthcare. This has implications on training and capacity building programs for principals by the Ministry of Education. Ministry of Education should ensure

that principals of public secondary schools are equipped with skills and knowledge that will enable them to play their role effectively. This further implicates the amount of money allocated for training and development by the Ministry of Education. In the context of this study, the specialized capacity-building program should, among other things, focus on the oversight role of principals in managing students' healthcare, writing grant proposals, and coordinating handling of a hybrid health service provision model in public secondary schools.

To manage students' healthcare in public secondary schools effectively, principals are expected to be figurehead and accounting officers. They should also direct, support, coordinate and allocate resources on students' healthcare at their schools. As officers-in-charge, they are further expected to ensure an appropriate healthcare provision model is adopted following the approved policy.

The findings of this study also have enormous implications on legislation and policy framework as regards healthcare service provision to learners in public secondary schools. This is because a combined model involving all the three approaches (school-based, NHIF, and personal medical health insurance) was statistically significant in managing students' healthcare in public secondary schools. The weak policy framework and lack of profound implementation mechanisms on school health matters was noted in this study. Variation in practices of handling healthcare of students in most schools also lacked standardization and quality assurance systems. This has implications for the Ministry of Education in coming up with an appropriate policy for effectively managing students' healthcare, and establishing quality assurance systems. It was also clear that the adoption of personal medical health insurance in public secondary school was not

widespread in Meru County. This further implicates policy guideline to allow the pursuance of personal medical health insurance by principals for learners in public secondary schools. Finally, the findings have implications on medical health insurance companies regarding the nature of products and services that should be tailored to suit learners in public secondary schools.

5.5 Recommendations for Future Studies

Having considered the circumstances and the context of the current study, the following recommendations for further studies were made:

- i. In carrying out this study, it was observed that the principals played a pivotal role in the management of students' healthcare in public secondary schools. However, the specific skills and knowledge which they should possess in that connection were not ascertained in this study. Therefore, a further study should be carried out to develop a training module on the same.
- ii. The study investigated the main phenomena where students and principals of public secondary schools were the primary respondents. A further wider study can be carried out involving other stakeholders such as medical insurance companies, NHIF officials and health facilities.
- iii. The study recommended the adoption of a hybrid healthcare model in public secondary schools. Further study should therefore be done to compare the practices in other countries that have adopted the same.

- iv. The study focused on public secondary schools in Meru County. A further study can be carried out to establish the practices in private secondary schools and probably compare the two.
- v. Deeper interrogation needs to establish the diseases found prevalent in most public secondary schools in Meru County to find out whether they are common in all categories of schools, or whether there are some differences. This would help to address the menace actively and effectively.

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APPENDICES

Appendix I: Cover letter and Participant Consent

Dear participant,

I am a PhD student at Kenya Methodist University undertaking a research titled, *Analysis of Approaches used in Managing Students' Healthcare in Public Secondary Schools in Meru County, Kenya*. The purpose of this study is to collect data which will help to analyze the approaches used to manage students' health care in public secondary schools in Meru County. You have been selected to participate in this study. Thank you for accepting to complete this anonymous survey which should take approximately 20 minutes. See the attached participant's consent.

Thank you,

Mbaabu Silas Muguna

Participant's Consent

I have read the details about the purpose of this study, and by submitting the completed questionnaire to the researcher; I give my consent for the outcomes to be used in the research. I am aware that this survey is anonymous and does not contain any information which may personally identify me. I know that I may change my mind and withdraw my consent at any time; and I acknowledge that once my questionnaire has been submitted, it may not be possible to withdraw my data.

I appreciate that the scholar will treat all information I provide with confidentiality and will not release it to a third party unless if required so by the law.

I understand that no information which can specifically identify me will be published as part of the results.

Appendix II: Questionnaire for Principals of Public Secondary School
Instructions

- Do not write your name on the questionnaire.
- Answer all questions to the best of your ability.
- Indicate with a tick in the space provided your choice of response and provide comments where applicable

SECTION A: DEMOGRAPHIC INFORMATION

1) What is your highest level of Education?

- a) Diploma
- b) Bachelor
- c) Master
- d) PhD

2) How long have you served as the principal of this secondary school?

- a) Less than three years
- b) Three to five years
- c) Six to Eight years
- d) Nine to ten years
- e) More than ten years

3) Indicate the school type (tick appropriately)

- a) Girls' boarding schools
- b) Boys' boarding schools
- c) Mixed boarding schools
- d) Mixed Day Secondary school

4) Categorized ranking of your school (Tick appropriately)

- a) National Boys
- b) National Girls
- c) Extra County Boys
- d) Extra County Girls
- e) County Boys
- f) County Girls
- g) Mixed Day Secondary school

5) Kindly indicate the number of students that are in this school.

- a) Form One _____
- b) Form Two _____
- c) Form Three _____
- d) Form Four _____

SECTION B: MANAGEMENT OF STUDENTS' HEALTHCARE IN PUBLIC SECONDARY SCHOOLS

6) What action do you take whenever a student becomes sick while in school?

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7) What are the common health conditions / ailments facing students in your secondary school? Provide your comment on each of health condition provided below.

No	Common health conditions / ailments facing students in secondary schools	Never occurred	Rarely occurred	Occurs occasionally	Occurs frequently	Occurs very frequently
a)	Communicable diseases	[1]	[2]	[3]	[4]	[5]
b)	Non-communicable diseases	[1]	[2]	[3]	[4]	[5]
c)	Disease outbreak	[1]	[2]	[3]	[4]	[5]
d)	Food poisoning	[1]	[2]	[3]	[4]	[5]
e)	Drug abuse and addiction	[1]	[2]	[3]	[4]	[5]
f)	Alcoholic problems	[1]	[2]	[3]	[4]	[5]
g)	Mental health concerns	[1]	[2]	[3]	[4]	[5]
h)	Sexual health related concerns, e.g. STI, pregnancies, etc.	[1]	[2]	[3]	[4]	[5]
i)	Child abuse	[1]	[2]	[3]	[4]	[5]
j)	Violence related injuries	[1]	[2]	[3]	[4]	[5]

8) How often are the following illness occurrences noted in your school?

No	Frequency of illness outcomes in public secondary schools	Never	Rarely	Occasionally	Often	Very often
a)	Illness where students are unwell and are unable to attend classes	[1]	[2]	[3]	[4]	[5]
b)	Illness where students are treated and go back to class	[1]	[2]	[3]	[4]	[5]
c)	Death of a student due to sickness	[1]	[2]	[3]	[4]	[5]
d)	Disease outbreak in the school / area	[1]	[2]	[3]	[4]	[5]
e)	Illness where students are treated and asked to go home	[1]	[2]	[3]	[4]	[5]
f)	Illness where students are unwell to a point of missing examinations or CATs	[1]	[2]	[3]	[4]	[5]
g)	Hospitalization cases	[1]	[2]	[3]	[4]	[5]
h)	Pro-longed illness with bedrest	[1]	[2]	[3]	[4]	[5]
i)	Any other, specify _____	[1]	[2]	[3]	[4]	[5]

9) In most cases, whenever secondary school students fall sick, they access medical care through different approaches such as the ones that are provided below. Indicate the frequency at which each of the approaches given below is used in school.

No	Different approaches through which students receive healthcare while in the secondary school	Never	Rarely	Occasionally	Frequently	Very Frequently

a)	Students are treated in the school-based health clinic/ dispensary	[1]	[2]	[3]	[4]	[5]
b)	Students utilize NHIF to access medical services from accredited hospitals	[1]	[2]	[3]	[4]	[5]
c)	Students utilize personal medical insurance to access medical services	[1]	[2]	[3]	[4]	[5]
d)	Students are sent home to be assisted by their parents in seeking medication	[1]	[2]	[3]	[4]	[5]
e)	Parents are called via phones to pick their sick students	[1]	[2]	[3]	[4]	[5]
f)	Students are given leave out to seek medical care services on their own at identified health facilities	[1]	[2]	[3]	[4]	[5]
g)	Students are given leave out to seek medical services on their own at any health facilities	[1]	[2]	[3]	[4]	[5]
h)	The matron or designated teacher administers common medicines to students	[1]	[2]	[3]	[4]	[5]
i)	Non-trained school nurse administers common medicines to students	[1]	[2]	[3]	[4]	[5]
j)	A trained school nurse administers medicines to students	[1]	[2]	[3]	[4]	[5]
k)	Teacher accompany the sick students to a medical facility	[1]	[2]	[3]	[4]	[5]
l)	The students are directly referred to a medical facility and usually go on their own	[1]	[2]	[3]	[4]	[5]
m)	Any other, specify _____ _____	[1]	[2]	[3]	[4]	[5]

10) The table below shows health facilities that could be available in a school for addressing healthcare matters of students. Provide a rating regarding the status of each of them with reference to your school.

No	Health facilities available in the school	Not available	Available but not utilized	Available and less utilized	Available and moderately utilized	Available and highly utilized
a)	A cupboard stocked with common medicines - handled by a trained nurse	[1]	[2]	[3]	[4]	[5]
b)	A cupboard stocked with common medicines - handled by a non-trained nurse	[1]	[2]	[3]	[4]	[5]
c)	Ambulance for handling emergency illness	[1]	[2]	[3]	[4]	[5]
d)	Dedicated room for handling referrals to other hospitals	[1]	[2]	[3]	[4]	[5]
e)	Sick bay managed by a trained medical staff	[1]	[2]	[3]	[4]	[5]
f)	Sick bay managed by non-trained medical staff	[1]	[2]	[3]	[4]	[5]
g)	The school advises students to utilize NHIF arrangement provided by government	[1]	[2]	[3]	[4]	[5]

h)	The school has MOU with local dispensaries / health center / hospitals	[1]	[2]	[3]	[4]	[5]
i)	The school has procured insurance medical cover for all students	[1]	[2]	[3]	[4]	[5]
j)	There is a dedicated health clinic / dispensary in the school	[1]	[2]	[3]	[4]	[5]
k)	Any other, Specify _____ _____	[1]	[2]	[3]	[4]	[5]

11) With regard to the way you personally manage students' healthcare in your secondary school, indicate the level of your agreement or disagreement with each sentiment provided below which describe the role played by principals; where; SA = Strongly agree, A = Agree, N = Neutral, D = Disagree, SD = Strongly disagree.

No	Principal's role in managing students' healthcare in secondary school	SD	D	N	A	SA
a)	Directing and supporting healthcare services in the school	[1]	[2]	[3]	[4]	[5]
b)	Coordinating various resources and facilities, and championing requisite leadership	[1]	[2]	[3]	[4]	[5]
c)	Ensuring an effective healthcare delivery model is adopted in the school	[1]	[2]	[3]	[4]	[5]
d)	Working with advisory boards consisting community representatives, parents, students, teachers among others	[1]	[2]	[3]	[4]	[5]
e)	Following the policy guidelines from the Ministry of Health on how to handle students healthcare matters	[1]	[2]	[3]	[4]	[5]
f)	Figurehead and resource allocator	[1]	[2]	[3]	[4]	[5]
g)	Any other, Specify _____ _____	[1]	[2]	[3]	[4]	[5]

12) Does your school have a working relationship in form of collaborations with a local primary healthcare provider? Answer by ticking against each provider in the table below.

No	Collaborations with local primary healthcare providers	None	Yes, but not written	Yes, it is written	Good	Excellent
a)	Local dispensary	[1]	[2]	[3]	[4]	[5]
b)	Hospital	[1]	[2]	[3]	[4]	[5]
c)	Pharmacy	[1]	[2]	[3]	[4]	[5]
d)	Practitioner / medical consultant	[1]	[2]	[3]	[4]	[5]
e)	Private health center	[1]	[2]	[3]	[4]	[5]
f)	Any other, Specify _____ _____	[1]	[2]	[3]	[4]	[5]

13) How major is each of the following challenge to you when managing and coordinating healthcare of public secondary school students?

No	Challenges faced by principals in managing healthcare of public secondary school students	It is not a challenge in our school (1)	It is a minor challenge in our school (2)	Is an average challenge in our school (3)	It is a major challenge in our school (4)	It is a very major challenge in our school (5)
a)	Complex to coordinate multiple health service providers	[1]	[2]	[3]	[4]	[5]
b)	Complex to coordinate multiple approaches that provide access to healthcare to public secondary school students	[1]	[2]	[3]	[4]	[5]
c)	Lack of cooperation from parents and communities in the school healthcare programs	[1]	[2]	[3]	[4]	[5]
d)	Scarcity of data on secondary school healthcare systems	[1]	[2]	[3]	[4]	[5]
e)	Lack of mechanisms and systems for monitoring, controlling, evaluating learners' healthcare services	[1]	[2]	[3]	[4]	[5]
f)	Complex and ever-changing environment which amass numerous pressures on health of students	[1]	[2]	[3]	[4]	[5]
g)	Lack of health facilities and infrastructures	[1]	[2]	[3]	[4]	[5]
h)	Lack of financial ability to employ school health professionals	[1]	[2]	[3]	[4]	[5]
i)	Lack of sufficient attention toward the provision of school healthcare programmes due other school responsibilities	[1]	[2]	[3]	[4]	[5]
j)	Mistrust between various stakeholders	[1]	[2]	[3]	[4]	[5]
k)	Slow decision making process	[1]	[2]	[3]	[4]	[5]
l)	High medical employee turnover	[1]	[2]	[3]	[4]	[5]
m)	Technology challenge for harnessing data and information	[1]	[2]	[3]	[4]	[5]
n)	Instances of self - diagnosis and over the counter purchase of drugs	[1]	[2]	[3]	[4]	[5]
o)	Poor involvement of school community in healthcare matters of students	[1]	[2]	[3]	[4]	[5]
p)	Inadequate policy guideline from Ministry of Education and the Ministry of Health	[1]	[2]	[3]	[4]	[5]

	on school healthcare matters					
q)	Lack of clarity in the policy guidelines for school healthcare services and programs	[1]	[2]	[3]	[4]	[5]
r)	Any other, Specify _____	[1]	[2]	[3]	[4]	[5]

SECTION C: SCHOOL-BASED HEALTH CLINICS AS AN APPROACH FOR MANAGING STUDENTS' HEALTHCARE IN PUBLIC SECONDARY SCHOOL

14) The table below shows school-based health facilities that could be available in your school for addressing healthcare matters of students. Provide a rating regarding the status of each of them.

No	School-based health facilities available in the school	Not available	Very Poor	Poor	Good	Excellent
a)	A purpose-build school-based health clinic / dispensary	[1]	[2]	[3]	[4]	[5]
b)	A designated waiting area for sick students	[1]	[2]	[3]	[4]	[5]
c)	A reception at the school health clinic / dispensary	[1]	[2]	[3]	[4]	[5]
d)	Room for the school nurse	[1]	[2]	[3]	[4]	[5]
e)	Laboratory services	[1]	[2]	[3]	[4]	[5]
f)	Pharmacy services	[1]	[2]	[3]	[4]	[5]
g)	Consultation room	[1]	[2]	[3]	[4]	[5]
h)	Toilet facilities for students within the health clinic/ dispensary	[1]	[2]	[3]	[4]	[5]
i)	Computers - for health clinic staff	[1]	[2]	[3]	[4]	[5]
j)	Rooms for others health professional e.g. social worker	[1]	[2]	[3]	[4]	[5]
k)	Any other, Specify _____	[1]	[2]	[3]	[4]	[5]

15) Tick to indicate the number of trained medical personnel that are hired by your school?

- | | |
|--|--------------------------|
| a) School has no trained medical personnel | <input type="checkbox"/> |
| b) One medical personnel | <input type="checkbox"/> |
| c) Two medical personnel | <input type="checkbox"/> |
| d) Three medical personnel | <input type="checkbox"/> |
| e) Five medical personnel | <input type="checkbox"/> |
| f) Above five medical personnel | <input type="checkbox"/> |

16) The following are healthcare programmes and services offered in a school-based health facilities. Indicate the extent to which each is utilized by students in your school.

No	Healthcare programmes and services offered in a school-based health facilities	Not available	Not utilized	Less utilized	Moderately utilized	Highly utilized
a)	Nutrition and food services	[1]	[2]	[3]	[4]	[5]
b)	Counseling services	[1]	[2]	[3]	[4]	[5]
c)	Health promotion and education programs	[1]	[2]	[3]	[4]	[5]
d)	Reproductive / sexual health services	[1]	[2]	[3]	[4]	[5]
e)	Mental health services	[1]	[2]	[3]	[4]	[5]
f)	Access to substance and drugs abuse services	[1]	[2]	[3]	[4]	[5]
g)	Psychological and social support services	[1]	[2]	[3]	[4]	[5]
h)	Vaccination services	[1]	[2]	[3]	[4]	[5]
i)	Screening services (early detection and intervention)	[1]	[2]	[3]	[4]	[5]
j)	Management of chronic diseases	[1]	[2]	[3]	[4]	[5]
k)	Prevention programming activities	[1]	[2]	[3]	[4]	[5]
l)	Hospital referral system	[1]	[2]	[3]	[4]	[5]

17) On average, how many students access School-based health clinic / dispensary per week in your school SBHC?

- a) Don't have School-based health clinic / dispensary
- b) 1 - 50
- c) 51 - 100
- d) 101 - 200
- e) From 201 and above

18) What is the eligibility for students' healthcare services in your School-based health clinic / dispensary?

Students' Eligibility guidelines for accessing the School-based health clinic / dispensary services		Not required (1)	Must have (2)
a)	Cleared school fees	[1]	[2]
b)	Paid medical fee	[1]	[2]
c)	Biometric card	[1]	[2]
d)	Student ID	[1]	[2]
e)	Any other, specify _____	[1]	[2]

19) Indicate by ticking the level of your agreement or disagreement with each sentiment provided below which describes the way school-based healthcare services are delivered to students in your school; where; SA = Strongly agree, A = Agree, N = Neutral, D = Disagree, SD = Strongly disagree.

No	Way the school-based healthcare services are delivered to students in public secondary school	SD	D	N	A	SA
a)	School health professionals are permanently available in the school	[1]	[2]	[3]	[4]	[5]

b)	School health professionals are available on part-time based in school	[1]	[2]	[3]	[4]	[5]
c)	School health professionals are based outside the school premises	[1]	[2]	[3]	[4]	[5]
d)	Healthcare services are delivered by primary care professionals who visit the school on regular days	[1]	[2]	[3]	[4]	[5]
e)	Healthcare services are delivered by outside primary care professionals who are visited by students for primary healthcare	[1]	[2]	[3]	[4]	[5]
f)	School has adopted a mixed community-based model, where school health professionals are based outside the school premises, but in addition, there is provision of school health services by primary care professionals	[1]	[2]	[3]	[4]	[5]
g)	Any other, Specify _____	[1]	[2]	[3]	[4]	[5]

20) What are the sources of funding for school-based health clinic / dispensary at your school? Indicate your answers by ticking the extent of funds from each source provided below.

Sources of funding for school-based health clinic / dispensary		To a very small extent (1)	To a small extent (2)	To a Moderately extent (3)	To a large extent (4)	To a very large extent (5)
a)	Funding from school county offices	[1]	[2]	[3]	[4]	[5]
b)	Sponsored by national government	[1]	[2]	[3]	[4]	[5]
c)	Revenue from students-patients	[1]	[2]	[3]	[4]	[5]
d)	Reimbursement from public and private health insurers	[1]	[2]	[3]	[4]	[5]
e)	Non-governmental organizations,	[1]	[2]	[3]	[4]	[5]
f)	Partnerships and collaborations with other sponsoring agencies	[1]	[2]	[3]	[4]	[5]

21) The table below shows responsibilities of Principals of Secondary Schools in Managing School-based health clinics / dispensaries. Indicate how you would rate the importance of each role.

No	Responsibility of Principals of Secondary Schools in Managing SBHCs	Not Important	Slightly important	Fairly important	Important	Extremely Important
a)	Planning	[1]	[2]	[3]	[4]	[5]
b)	Policy formulation	[1]	[2]	[3]	[4]	[5]
c)	Coordination	[1]	[2]	[3]	[4]	[5]
d)	Allocation of resources	[1]	[2]	[3]	[4]	[5]
e)	Administration	[1]	[2]	[3]	[4]	[5]
f)	Continuous evaluation in order to ensure healthcare services of learners are sustainable	[1]	[2]	[3]	[4]	[5]
g)	Chief accounting officer	[1]	[2]	[3]	[4]	[5]
h)	Ensure proper control of expenditures to minimize mismanagement of funds	[1]	[2]	[3]	[4]	[5]
i)	Ensure quality assurance in SBHC	[1]	[2]	[3]	[4]	[5]

j)	Write winning funding proposals	[1]	[2]	[3]	[4]	[5]
k)	Staff management and supervision	[1]	[2]	[3]	[4]	[5]
l)	Networking and collaborations	[1]	[2]	[3]	[4]	[5]
m)	Billing management	[1]	[2]	[3]	[4]	[5]
n)	Any other, Specify _____ _____ _____	[1]	[2]	[3]	[4]	[5]

22) How major is each of the following challenge to you when managing and coordinating school-based health clinic/ dispensary?

Challenges facing school-based clinics / dispensaries		It is not a challeng e in our school (1)	It is a minor challeng e in our school (2)	Is an average challeng e in our school (3)	It is a major challeng e in our school (4)	It is a very major challeng e in our school (5)
a)	Lack of funds to establish a school clinic / dispensary	[1]	[2]	[3]	[4]	[5]
b)	Poor organization and administration the school clinic / dispensary	[1]	[2]	[3]	[4]	[5]
c)	Insufficient funding to maintain the school clinic / dispensary	[1]	[2]	[3]	[4]	[5]
d)	Lack of requisite health infrastructures	[1]	[2]	[3]	[4]	[5]
e)	Poorly-equipped school clinic / dispensary	[1]	[2]	[3]	[4]	[5]
f)	Poor leadership of school clinic / dispensary	[1]	[2]	[3]	[4]	[5]
g)	Negligence by management	[1]	[2]	[3]	[4]	[5]
h)	Financial inability to hire medical staff due to poor pay	[1]	[2]	[3]	[4]	[5]
i)	Unnecessary delays where sick students are held on sick bay for too long before they are attended	[1]	[2]	[3]	[4]	[5]
j)	Inadequate medical fee paid by parents	[1]	[2]	[3]	[4]	[5]
k)	Delay in diagnosis and treatment of diseases	[1]	[2]	[3]	[4]	[5]
l)	Leaking of students' confidential information	[1]	[2]	[3]	[4]	[5]
m)	Lack of transport for referral cases	[1]	[2]	[3]	[4]	[5]
n)	Poor communication and coordination of services which often lead to duplication of work or confusion	[1]	[2]	[3]	[4]	[5]
o)	Limited or lack of well-structured monitoring and evaluation systems	[1]	[2]	[3]	[4]	[5]
p)	Inability to afford health technology	[1]	[2]	[3]	[4]	[5]

q)	Complexity in managing transition of the patient to the required facility	[1]	[2]	[3]	[4]	[5]
r)	Delay in diagnosis and treatment of diseases	[1]	[2]	[3]	[4]	[5]
s)	Any other, Specify _____ _____	[1]	[2]	[3]	[4]	[5]

SECTION D: THE NATIONAL HOSPITAL INSURANCE FUND (NHIF) AS AN APPROACH FOR MANAGING STUDENTS' HEALTHCARE IN PUBLIC SECONDARY SCHOOLS

23) What are the students' eligibility guidelines for accessing the NHIF-funded healthcare services?

Students' Eligibility guidelines for accessing the School-based health clinic / dispensary services		Not required (1)	Must have (2)
a)	NEMIS number	[1]	[2]
b)	NHIF number	[1]	[2]
c)	Biometric card	[1]	[2]
d)	Student ID	[1]	[2]
e)	Any other, specify _____	[1]	[2]

24) Are you aware of the existing NHIF benefit package for students? Indicate the level of your awareness of each benefit / service provided through NHIF to secondary school students in Kenya.

Benefits / services (in-patient and out-patient) provided to public secondary school students through NHIF	Not Aware at all (1)	Less aware (2)	Moderately aware (3)	Aware (4)	Highly aware (5)
a) Consultation	[1]	[2]	[3]	[4]	[5]
b) Laboratory investigations	[1]	[2]	[3]	[4]	[5]
c) Medicines and medical consumables	[1]	[2]	[3]	[4]	[5]
d) Drug administration and dispensing	[1]	[2]	[3]	[4]	[5]
e) Surgical services	[1]	[2]	[3]	[4]	[5]
f) Physiotherapy and rehabilitative services	[1]	[2]	[3]	[4]	[5]
g) Radiological examination	[1]	[2]	[3]	[4]	[5]

h)	Operating theatre charges	[1]	[2]	[3]	[4]	[5]
i)	Dressings or medications prescribed by the physician for in-hospital use	[1]	[2]	[3]	[4]	[5]
j)	Maternity and reproductive health	[1]	[2]	[3]	[4]	[5]
k)	Ophthalmological services	[1]	[2]	[3]	[4]	[5]
l)	Optical services	[1]	[2]	[3]	[4]	[5]
m)	Medical / Orthopedic appliances	[1]	[2]	[3]	[4]	[5]
n)	Dental and Oral Health services,	[1]	[2]	[3]	[4]	[5]
o)	Occupational therapy services	[1]	[2]	[3]	[4]	[5]
p)	Referral for specialized services	[1]	[2]	[3]	[4]	[5]
q)	Emergency services	[1]	[2]	[3]	[4]	[5]

1) Are there instances where teachers accompany students to NHIF-accredited hospitals?

- a) Never
- b) Sometimes
- c) Many times
- d) Always

25) To what extent do you agree with the following success factors for students' NHIF-funded healthcare services, where; SA = Strongly agree, A = Agree, N = Neutral, D = Disagree, SD = Strongly disagree.

No	Success factors for students' NHIF-funded healthcare services in secondary school	SD	D	N	A	SA
a)	Proximity of NHIF-accredited health centers	[1]	[2]	[3]	[4]	[5]
b)	Integration of stakeholders views	[1]	[2]	[3]	[4]	[5]
c)	Adequate government funding	[1]	[2]	[3]	[4]	[5]
d)	NHIF guidelines on operating modality	[1]	[2]	[3]	[4]	[5]
e)	Technology	[1]	[2]	[3]	[4]	[5]
f)	Clear access policy	[1]	[2]	[3]	[4]	[5]
g)	Any other, specify _____	[1]	[2]	[3]	[4]	[5]

26) How major is each of the following challenge to you when managing and coordinating NHIF for secondary school students?

Challenges facing school-based clinics / dispensaries	It is <u>not</u> a challenge in our school (1)	It is a minor challenge in our school (2)	Is an average challenge in our school (3)	It is a major challenge in our school (4)	It is a very major challenge in our school (5)
a) Inadequate capitation	[1]	[2]	[3]	[4]	[5]
b) Poor communication from NHIF	[1]	[2]	[3]	[4]	[5]
c) Insufficient guidelines from NHIF	[1]	[2]	[3]	[4]	[5]
d) Inadequate county health facility infrastructure	[1]	[2]	[3]	[4]	[5]
e) Poor NHIF accountability	[1]	[2]	[3]	[4]	[5]
f) Lack of clear policy on use of NHIF by secondary school students	[1]	[2]	[3]	[4]	[5]

g)	Poor services of NHIF accredited health facilities	[1]	[2]	[3]	[4]	[5]
h)	Any other, specify _____ _____	[1]	[2]	[3]	[4]	[5]

**SECTION E: PERSONAL MEDICAL INSURANCE COVER AS AN APPROACH
FOR MANAGING STUDENT HEALTHCARE PROVISIONS IN
SECONDARY SCHOOL**

27) How often do you come across the following forms of personal medical insurance cover among students in your school?

No	Forms of personal medical insurance cover	Never	Rarely	Occasionally	Frequently	Very Frequently
a)	Some parents have their employer-sponsored insurance personal insurance covers extended to their children	[1]	[2]	[3]	[4]	[5]
b)	Some parents or guardians have procured individual medical insurance cover from a private life insurance company to cover their sons or daughters.	[1]	[2]	[3]	[4]	[5]
c)	Our school has procured a medical insurance cover for its entire student population.	[1]	[2]	[3]	[4]	[5]
d)	Any other, specify _____ _____	[1]	[2]	[3]	[4]	[5]

28) Kindly indicate the number of students that have personal medical insurance cover in your school.

a) Form One _____

b) Form Two _____

c) Form Three _____

d) Form Four _____

29) There are numerous outpatient and inpatient health services offered to students who have personal medical insurance covers. Indicate the level of your awareness about each of the listed service offered under personal medical insurance covers to secondary school students.

Outpatient and inpatient health services offered to students who have personal medical insurance covers		Not Aware at all (1)	Less aware (2)	Moderately aware (3)	Aware (4)	Highly aware (5)
a)	Consultation	[1]	[2]	[3]	[4]	[5]
b)	Diagnostic laboratory	[1]	[2]	[3]	[4]	[5]
c)	Radiology services	[1]	[2]	[3]	[4]	[5]
d)	Prescribed drugs and dressings	[1]	[2]	[3]	[4]	[5]
e)	Chronic diseases treatment	[1]	[2]	[3]	[4]	[5]
f)	Pre-existing conditions	[1]	[2]	[3]	[4]	[5]
g)	Day care specialized surgery	[1]	[2]	[3]	[4]	[5]
h)	Hospital accommodation charges	[1]	[2]	[3]	[4]	[5]
i)	Pre-hospitalization diagnostic services	[1]	[2]	[3]	[4]	[5]
j)	Doctor's fees	[1]	[2]	[3]	[4]	[5]
k)	Diagnostic services	[1]	[2]	[3]	[4]	[5]
l)	Rehabilitative services	[1]	[2]	[3]	[4]	[5]
m)	Operating theater services	[1]	[2]	[3]	[4]	[5]
n)	Radiological diagnostics	[1]	[2]	[3]	[4]	[5]
o)	Dental services	[1]	[2]	[3]	[4]	[5]
p)	Optical services	[1]	[2]	[3]	[4]	[5]
q)	Medication and internal surgical appliances	[1]	[2]	[3]	[4]	[5]
r)	Ambulance services	[1]	[2]	[3]	[4]	[5]
s)	Any other, specify _____	[1]	[2]	[3]	[4]	[5]

30) How major is each of the following challenge to you when coordinating access to students' healthcare services through personal medical insurance cover?

Challenges facing Personal Medical Insurance Cover among secondary school students in Meru County		It is <u>not</u> a challenge in our school (1)	It is a minor challenge in our school (2)	Is an average challenge in our school (3)	It is a major challenge in our school (4)	It is a very major challenge in our school (5)
a)	Age limit for personal medical insurance cover for students	[1]	[2]	[3]	[4]	[5]
b)	Limiting medical cover policy	[1]	[2]	[3]	[4]	[5]
c)	The waiting period which the beneficiary will have to wait before the medical cover company starts the services	[1]	[2]	[3]	[4]	[5]
d)	The payment required for the pre-existing conditions	[1]	[2]	[3]	[4]	[5]
e)	Capping policy with reference to spending threshold	[1]	[2]	[3]	[4]	[5]
f)	Lack of insurance coverage for public secondary school students	[1]	[2]	[3]	[4]	[5]

g)	Some insurance companies require co-paying arrangement which disadvantage public secondary school students due to lack of cash	[1]	[2]	[3]	[4]	[5]
h)	Administrative procedures and bureaucracy with services providers	[1]	[2]	[3]	[4]	[5]
i)	Underperformance of public institutions that are contracted to provide the healthcare services	[1]	[2]	[3]	[4]	[5]
j)	Operational lapses of hospitals that are contracted to provide the healthcare services	[1]	[2]	[3]	[4]	[5]
k)	Poor patient-provider relationship	[1]	[2]	[3]	[4]	[5]
l)	Delays in medical attention	[1]	[2]	[3]	[4]	[5]
m)	Difficult to monitor learners' healthcare services	[1]	[2]	[3]	[4]	[5]
n)	Approved health facilities being too far from the school	[1]	[2]	[3]	[4]	[5]
o)	Inconvenient appointment times	[1]	[2]	[3]	[4]	[5]
p)	High cost of premium payments	[1]	[2]	[3]	[4]	[5]
q)	Lack of exposure and knowledge on medical insurance	[1]	[2]	[3]	[4]	[5]
r)	Unstable jobs of parents	[1]	[2]	[3]	[4]	[5]
s)	Lack of permission (leave out)	[1]	[2]	[3]	[4]	[5]
t)	Any other, specify _____ _____	[1]	[2]	[3]	[4]	[5]

SECTION F: SCHOOL HEALTHCARE POLICY

31) To what extent do you agree or disagree with each statement provided below with regards to public secondary school healthy policy; where; SA = Strongly agree, A = Agree, N = Neutral, D = Disagree, SD = Strongly disagree.

No	Managing students' healthcare in secondary school	SD	D	N	A	SA
a)	Our school has an elaborate policy on management of healthcare of students	[1]	[2]	[3]	[4]	[5]
b)	Ministry of Education has provided policy on establishment and running of a school-based clinic / dispensary in public secondary schools	[1]	[2]	[3]	[4]	[5]
c)	Ministry of Education has provided policy on the principal's role in the use of NHIF by public secondary school students	[1]	[2]	[3]	[4]	[5]
d)	Ministry of Education has provided policy on how the principal should handle personal medical insurance covers among public secondary school students	[1]	[2]	[3]	[4]	[5]
e)	Ministry of Education has provided policy on allocation of school funds in order to cater for healthcare of students in public secondary schools	[1]	[2]	[3]	[4]	[5]
f)	The management decisions made by principals from time to time with regard to students' healthcare in public secondary schools are anchored and guided by the existing public secondary schools healthcare policies	[1]	[2]	[3]	[4]	[5]
g)	The facilities and execution of school healthcare programs and services are guided by the existing public secondary schools healthcare policies	[1]	[2]	[3]	[4]	[5]
h)	The policy on management of students' healthcare in public secondary schools has promoted equity in access to healthcare services.	[1]	[2]	[3]	[4]	[5]

32) Provide any other comments that would help to improve the management of students' healthcare in public secondary schools.

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Appendix III: Questionnaire for Students' Council Chairpersons
Instructions

- Do not write your name on the questionnaire.
- Answer all questions to the best of your ability.
- Indicate with a tick in the space provided your choice of response and provide comments where applicable

Section A: Demographic Information

2) Gender.

a) Female

b) Male

3) Indicate the school type (tick appropriately)

a) Girls' boarding schools

b) Boys' boarding schools

c) Mixed boarding schools

239

d) Mixed Day Secondary school

SECTION B: MANAGEMENT OF STUDENTS' HEALTHCARE IN PUBLIC SECONDARY SCHOOLS

4) What are the common health conditions / ailments facing students in this secondary school? Provide your comment on each of health condition provided below.

No	Common health conditions / ailments facing students in secondary schools	Never occurred	Rarely occurred	Occurs occasionally	Occurs frequently	Occurs very frequently
a)	Communicable diseases	[1]	[2]	[3]	[4]	[5]
b)	Non-communicable diseases	[1]	[2]	[3]	[4]	[5]
c)	Disease outbreak	[1]	[2]	[3]	[4]	[5]
d)	Food poisoning	[1]	[2]	[3]	[4]	[5]
e)	Drug abuse and addiction	[1]	[2]	[3]	[4]	[5]
f)	Alcoholic problems	[1]	[2]	[3]	[4]	[5]
g)	Mental health concerns	[1]	[2]	[3]	[4]	[5]
h)	Sexual health related concerns, e.g. STI, pregnancies, etc.	[1]	[2]	[3]	[4]	[5]
i)	Child abuse	[1]	[2]	[3]	[4]	[5]
j)	Violence related injuries	[1]	[2]	[3]	[4]	[5]
k)	Any other, specify _____ _____	[1]	[2]	[3]	[4]	[5]

5) In most cases, whenever secondary school students fall sick, they access medical care through different approaches such as the ones that are provided below. Indicate the frequency at which each of the approaches given below is used in your school.

No	Different approaches through which students receive healthcare while in the secondary school	Never	Rarely	Occasionally	Frequently	Very Frequently
a)	Students are treated in the school-based health clinic/ dispensary	[1]	[2]	[3]	[4]	[5]
b)	Students utilize NHIF to access medical services from accredited hospitals	[1]	[2]	[3]	[4]	[5]
c)	Students utilize personal medical insurance covers to access medical services	[1]	[2]	[3]	[4]	[5]
d)	Students are sent home to be assisted by their parents in seeking medication	[1]	[2]	[3]	[4]	[5]
e)	Parents are called via phones to pick their sick students	[1]	[2]	[3]	[4]	[5]
f)	Students are given leave out to seek medical care services on their own at identified health facilities	[1]	[2]	[3]	[4]	[5]
g)	Students are given leave out to seek medical services on their own at any health facilities	[1]	[2]	[3]	[4]	[5]
h)	The matron or designated teacher administers common medicines to students	[1]	[2]	[3]	[4]	[5]
i)	Non-trained school nurse administers common medicines to students	[1]	[2]	[3]	[4]	[5]

j)	A trained school nurse administers medicines to students	[1]	[2]	[3]	[4]	[5]
k)	Teacher accompany the sick students to a medical facility	[1]	[2]	[3]	[4]	[5]
l)	The students are directly referred to a medical facility and usually go on their own	[1]	[2]	[3]	[4]	[5]
m)	Any other, specify _____ _____	[1]	[2]	[3]	[4]	[5]

6) To what extent do you agree or disagree with the following statements regarding the management approach used on students' healthcare matters. (Where; SA = Strongly agree, A = Agree, N = Neutral, D = Disagree, SD = Strongly disagree)

No	Statement	SD	D	N	A	SA
a)	Medical emergencies for students in school are promptly attended to thus minimizing the amount of time spent out of school	[1]	[2]	[3]	[4]	[5]
b)	Our school has a good healthcare plan for students	[1]	[2]	[3]	[4]	[5]
c)	Students medical information is treated with confidentiality thus enhancing their concentration	[1]	[2]	[3]	[4]	[5]
d)	Students with chronic medical conditions are well catered for within the school	[1]	[2]	[3]	[4]	[5]
e)	The academic performance of students who regularly seek for medical attention is not significantly different from the rest	[1]	[2]	[3]	[4]	[5]
f)	The approach utilized in management of provision of students' health care has brought about a sense of confidence and self-importance among the students	[1]	[2]	[3]	[4]	[5]
g)	The approach utilized in the management of students' healthcare has led to reduction of class absenteeism	[1]	[2]	[3]	[4]	[5]
h)	The communication between the school and the guardian in the event of a sick student is prompt	[1]	[2]	[3]	[4]	[5]
i)	The health care management system in place effectively supports curriculum delivery	[1]	[2]	[3]	[4]	[5]
j)	The health care management system in place ensures students miss minimal lessons when seeking for medical attention	[1]	[2]	[3]	[4]	[5]
k)	The health care management system in place reassures the students hence increasing their concentration in class	[1]	[2]	[3]	[4]	[5]
l)	The staff who handle sick students in the school is a trained medical professional	[1]	[2]	[3]	[4]	[5]
m)	There is a clear procedure stipulated before a student is issued with a medical leave out	[1]	[2]	[3]	[4]	[5]

SECTION C: SCHOOL-BASED HEALTH CLINICS AS AN APPROACH FOR MANAGING STUDENTS' HEALTHCARE IN PUBLIC SECONDARY SCHOOL

7) The following are healthcare programmes and services offered to students in a school-based health facilities. Indicate the extent to which you utilize each of them in your school.

No	Healthcare programmes and services offered in a school-based health facilities	Not available	Not utilized	Less utilized	Moderately utilized	Highly utilized
a)	Nutrition and food services	[1]	[2]	[3]	[4]	[5]
b)	Counseling services	[1]	[2]	[3]	[4]	[5]
c)	Health promotion and education programs	[1]	[2]	[3]	[4]	[5]
d)	Reproductive / sexual health services	[1]	[2]	[3]	[4]	[5]
e)	Mental health services	[1]	[2]	[3]	[4]	[5]
f)	Access to substance and drugs abuse services	[1]	[2]	[3]	[4]	[5]
g)	Psychological and social support services	[1]	[2]	[3]	[4]	[5]
h)	Vaccination services	[1]	[2]	[3]	[4]	[5]
i)	Screening services (early detection and intervention)	[1]	[2]	[3]	[4]	[5]
j)	Management of chronic diseases	[1]	[2]	[3]	[4]	[5]
k)	Prevention programming activities	[1]	[2]	[3]	[4]	[5]
l)	Hospital referral system	[1]	[2]	[3]	[4]	[5]

8) How would you rate the quality of healthcare services that you receive from School-based health clinic / dispensary?

a) Low

b) Moderate

c) High

SECTION D: THE NATIONAL HOSPITAL INSURANCE FUND (NHIF) AS AN APPROACH FOR MANAGING STUDENTS' HEALTHCARE IN PUBLIC SECONDARY SCHOOLS

9) Are you aware about the existing NHIF benefit package for students? Indicate the level of your awareness of each benefit / service provided through NHIF to secondary school students in Kenya.

Benefits / services (in-patient and out-patient) provided to public secondary school students through NHIF	Not Aware at all (1)	Less aware (2)	Moderately aware (3)	Aware (4)	Highly aware (5)
a) Consultation	[1]	[2]	[3]	[4]	[5]
b) Laboratory services	[1]	[2]	[3]	[4]	[5]
c) Medicines and medical consumables	[1]	[2]	[3]	[4]	[5]
d) Drug administration and dispensing	[1]	[2]	[3]	[4]	[5]
e) Laboratory investigations	[1]	[2]	[3]	[4]	[5]
f) Surgical services	[1]	[2]	[3]	[4]	[5]
g) Physiotherapy and rehabilitative services	[1]	[2]	[3]	[4]	[5]
h) Radiological examination	[1]	[2]	[3]	[4]	[5]
i) Operating theatre charges	[1]	[2]	[3]	[4]	[5]
j) Dressings or medications prescribed by the physician for in-hospital use	[1]	[2]	[3]	[4]	[5]
k) Maternity and reproductive health	[1]	[2]	[3]	[4]	[5]

l)	Ophthalmological services	[1]	[2]	[3]	[4]	[5]
m)	Optical services	[1]	[2]	[3]	[4]	[5]
n)	Medical / Orthopedic appliances	[1]	[2]	[3]	[4]	[5]
o)	Dental and Oral Health services,	[1]	[2]	[3]	[4]	[5]
p)	Occupational therapy services	[1]	[2]	[3]	[4]	[5]
q)	Referral for specialized services	[1]	[2]	[3]	[4]	[5]
r)	Emergency services	[1]	[2]	[3]	[4]	[5]

10) How often have you required any NHIF service which you were told that it is not in the package?

- a) Never
- b) Sometimes
- c) Many times
- d) Always

11) How do you rate performance of the NHIF-accredited health facilities regarding the provision of healthcare services to public secondary school students?

- a) Very poor
- b) Poor
- c) Moderate
- d) Good
- e) Very good

SECTION E: PERSONAL MEDICAL INSURANCE COVER AS AN APPROACH FOR MANAGING STUDENT HEALTHCARE PROVISIONS IN SECONDARY SCHOOL

12) How often do you come across the following forms of personal medical insurance cover among students in your school?

No	Forms of personal medical insurance cover	Never	Rarely	Occasionally	Frequently	Very Frequently
a)	Some parents have their employer-sponsored insurance personal insurance covers extended to their children	[1]	[2]	[3]	[4]	[5]
b)	Some parents or guardians have procured individual medical insurance cover from a private life insurance company to cover their sons or daughters.	[1]	[2]	[3]	[4]	[5]
c)	Our school has procured a medical insurance cover for its entire student population.	[1]	[2]	[3]	[4]	[5]
d)	Any _____ other, specify _____	[1]	[2]	[3]	[4]	[5]

13) There are numerous outpatient and inpatient health services offered to students who have personal medical insurance covers. Indicate the level of your awareness about each of the listed service offered under personal medical insurance covers to secondary school students.

Outpatient and inpatient health services offered to students who have personal medical insurance covers		Not Aware at all (1)	Less aware (2)	Moderately aware (3)	Aware (2)	Highly aware (5)
a)	Consultation	[1]	[2]	[3]	[4]	[5]
b)	Diagnostic laboratory	[1]	[2]	[3]	[4]	[5]
c)	Radiology services	[1]	[2]	[3]	[4]	[5]
d)	Prescribed drugs and dressings	[1]	[2]	[3]	[4]	[5]
e)	Chronic diseases treatment	[1]	[2]	[3]	[4]	[5]
f)	Pre-existing conditions	[1]	[2]	[3]	[4]	[5]
g)	Day care specialized surgery	[1]	[2]	[3]	[4]	[5]
h)	Hospital accommodation charges	[1]	[2]	[3]	[4]	[5]
i)	Pre-hospitalization diagnostic services	[1]	[2]	[3]	[4]	[5]
j)	Doctor's fees	[1]	[2]	[3]	[4]	[5]
k)	Diagnostic services	[1]	[2]	[3]	[4]	[5]
l)	Rehabilitative services	[1]	[2]	[3]	[4]	[5]
m)	Operating theater services	[1]	[2]	[3]	[4]	[5]
n)	Radiological diagnostics	[1]	[2]	[3]	[4]	[5]
o)	Dental services	[1]	[2]	[3]	[4]	[5]
p)	Optical services	[1]	[2]	[3]	[4]	[5]
q)	Medication and internal surgical appliances	[1]	[2]	[3]	[4]	[5]
r)	Ambulance services	[1]	[2]	[3]	[4]	[5]

14) Provide any other comments that would help to improve the management of students' healthcare in public secondary schools.

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Appendix IV: Interview Guide for County Director of Education

Introduction

The purpose of this study is to collect data which will help to analyze the approaches used to manage students' health care in public secondary schools in Meru County. Thank you for accepting to be interviewed. The interview will take approximately 30 minutes.

SECTION A: MANAGEMENT OF STUDENTS' HEALTHCARE IN PUBLIC SECONDARY SCHOOLS

1. What are the common diseases reported in most secondary school in Meru County?
2. Would you say that the above diseases have affected the secondary schools students' academic performance in Meru County?

3. What effort has government made towards addressing healthcare of students in public secondary schools in Meru County?
4. Comment on government's funding towards supporting healthcare of students in public secondary schools in Meru County.
5. Has the Ministry provided policy guidelines to principals of secondary school on how to manage healthcare of students in public secondary schools? Explain your answer.
6. There exist different approaches through which students receive healthcare while in the secondary school. Examples are:
 - a) Students are treated in the school-based health clinic/ dispensary
 - b) Students utilize NHIF to access medical services from accredited hospitals
 - c) Students utilize personal medical insurance covers to access medical services
 - d) Students are sent home to be assisted by their parents in seeking medication
 - e) Parents are called via phones to pick their sick students
 - f) Students are given leave out to seek medical care services on their own at identified health facilities
 - g) Students are given leave out to seek medical services on their own at any health facilities
 - h) The matron or designated teacher administers common medicines to students
 - i) Non-trained school nurse administers common medicines to students
 - j) A trained school nurse administers medicines to students
 - k) Teacher accompany the sick students to a medical facility
 - l) The students are directly referred to a medical facility and go on their own

What is the Ministry's position regarding each of them?

SECTION B: SCHOOL-BASED HEALTH CLINICS AS AN APPROACH FOR MANAGING STUDENTS' HEALTHCARE IN PUBLIC SECONDARY SCHOOL

7. Does the Ministry support establishment of school-based health clinics / dispensaries in public secondary schools? Explain your answer?
8. Explain the Ministry's policy guidelines regarding how principals should handle school-based health clinic / dispensary as an approach for managing healthcare of students in public secondary schools.

SECTION C: THE NATIONAL HOSPITAL INSURANCE FUND (NHIF) AS AN APPROACH FOR MANAGING STUDENTS' HEALTHCARE IN PUBLIC SECONDARY SCHOOLS

9. The Government is committed to providing free healthcare to all students in public secondary school in Kenya. Explain the NHIF working modalities.
10. What lessons has government learnt so far on the use of NHIF as an approach for managing healthcare of students in public secondary schools?
11. The government expects the NHIF-accredited hospitals to set emergency centers near the school. Comment on progress of this expectation and explain how such undertaking is to be funded.
12. Explain the ministry's policy guidelines regarding how principals should handle NHIF as an approach of managing healthcare of students in public secondary schools.

SECTION D: PERSONAL MEDICAL INSURANCE COVER AS AN APPROACH FOR MANAGING STUDENT HEALTHCARE PROVISIONS IN SECONDARY SCHOOL

13. Does the Ministry support the use of personal medical insurance cover by students of public secondary schools? Explain your answer.
14. Explain the Ministry's policy guidelines regarding how principals should handle personal medical insurance cover as an approach of managing healthcare of students in public secondary schools.
15. With the existence of different approaches of providing access to students' healthcare in public secondary schools, what managerial challenges are facing the principals?
16. Provide any other comments that would help to improve the management of students' healthcare in public secondary schools.

Appendix V: Map of Meru County

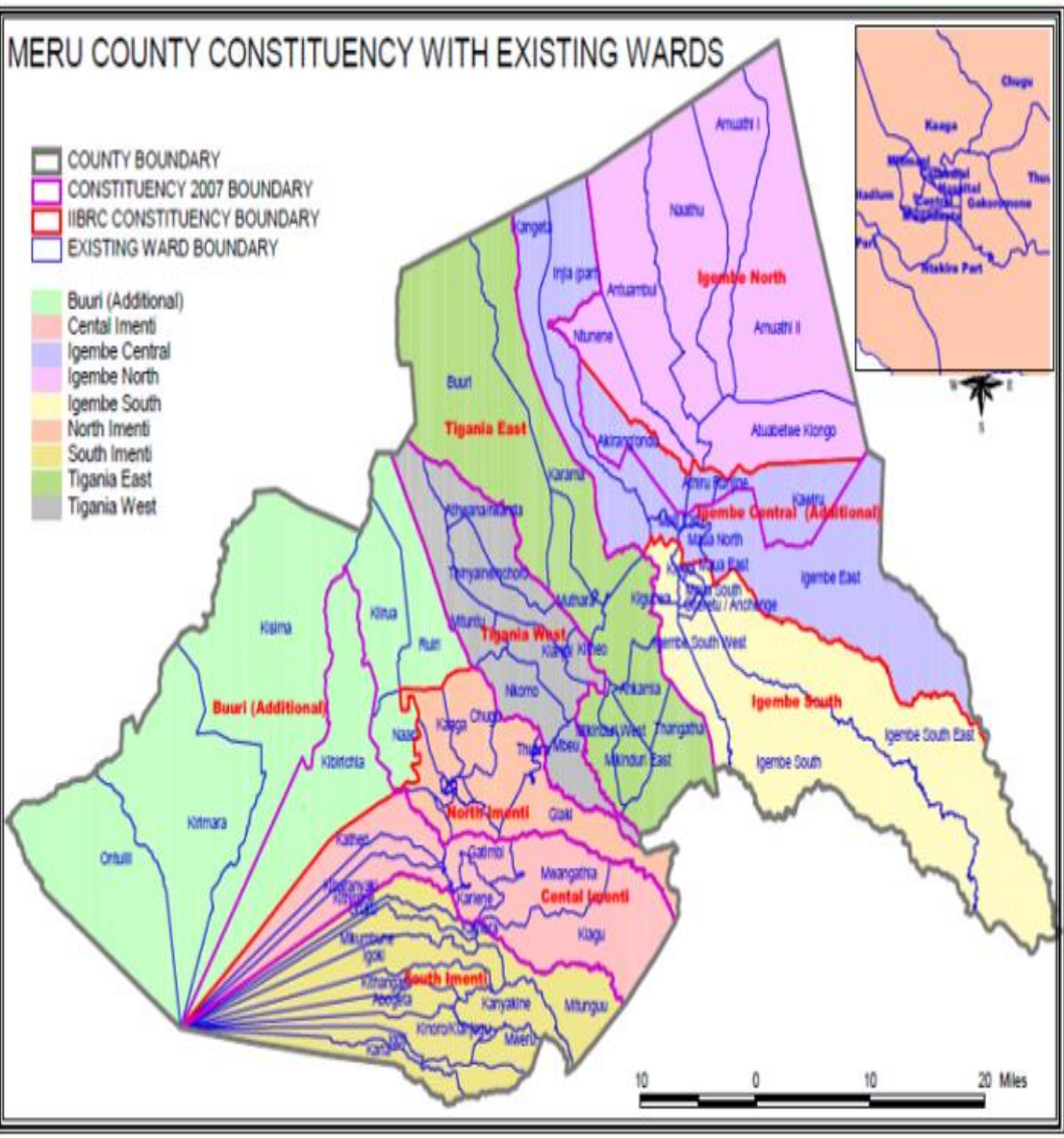


Table 4. 38*Availability and utilization of health facilities in public secondary schools*

Health facilities available in the school (N = 138)	Factor loading	Mean Statistic	Std. Deviation Statistic	Skewness Statistic	Std. Error	Kurtosis Statistic	Std. Error
The school has MOU with local dispensaries / health center / hospitals	.875	2.72	1.719	.208	.249	-1.715	.493
The school advises students to utilize NHIF arrangement provided by government	.875	2.72	1.719	.208	.249	-1.715	.493
There is a dedicated health clinic / dispensary in the school	.612	2.15	1.722	.900	.249	-1.108	.493
A cupboard stocked with common medicines - handled by a non-trained nurse	.463	2.02	1.270	.603	.249	-1.423	.493
Sick bay managed by a trained medical staff	.754	1.91	1.536	1.274	.249	-.143	.493
A cupboard stocked with common medicines - handled by a trained nurse	.714	1.91	1.604	1.259	.249	-.303	.493
The school has procured insurance medical cover for all students	.602	1.83	1.514	1.434	.249	.267	.493
Dedicated room for handling referrals to other hospitals	.377	1.45	1.033	2.358	.249	4.683	.493
Sick bay managed by non-trained medical staff	.754	1.21	.620	3.148	.249	9.633	.493
Ambulance for handling emergency illness	.746	1.06	.435	6.743	.249	44.412	.493

Kaiser-Meyer-Olkin Measure of Sampling Adequacy	.605
Bartlett's Test of Sphericity	.000

Table 4. 39*Results on how sick students are handled in public secondary schools*

How sick students are handled in public secondary schools (N= 138)	Factor loading	Mean	Std. Deviation	Skewness	Std. Kurtosis	Std. Error	Std. Error
		Statistic	Statistic	Statistic	Statistic	Statistic	Error
Students utilize NHIF to access medical services from accredited hospitals	.713	3.66	.934	-.559	.249	.186	.493
Students are treated in the school-based health clinic/ dispensary	.786	2.74	1.516	-.046	.249	-1.640	.493
Students are sent home to be assisted by their parents in seeking medication	.714	2.70	.801	.594	.249	.151	.493
Parents are called via phones to pick their sick students	.644	2.60	.677	.705	.249	2.024	.493
Teacher accompany the sick students to a medical facility	.434	2.60	1.030	.401	.249	-.334	.493
Students are given leave out to seek medical care services on their own at identified health facilities	.732	2.57	1.307	.306	.249	-1.082	.493
Students are given leave out to seek medical services on their own at any health facilities	.822	2.26	1.145	.447	.249	-.898	.493
Students utilize personal medical insurance covers to access medical services	.666	2.23	.694	.436	.249	.378	.493

The students are directly referred to a medical facility and usually go on their own	.752	2.21	1.311	.591	.249	-1.073	.493
A trained school nurse administers medicines to students	.791	2.19	1.615	.840	.249	-1.046	.493
The matron or designated teacher administers common medicines to students	.582	2.11	1.121	.628	.249	-.634	.493
Non-trained school nurse administers common medicines to students	.635	1.47	.924	2.268	.249	4.802	.493
Kaiser-Meyer-Olkin Measure of Sampling Adequacy							.641
Bartlett's Test of Sphericity							.000

Table 4. 40*Students' rating on mechanisms of handling sick students in public secondary schools*

Different approaches through which students receive healthcare while in school (N= 142)	Factor loading	Mean Statistic	Std. Deviation Statistic	Skewness Statistic	Std. Error	Kurtosis Statistic	Std. Error
Parents are called via phones to pick their sick students	.634	3.15	.928	-.795	.245	-.375	.485
Students utilize NHIF to access medical services from accredited hospitals	.430	2.93	.916	-.603	.245	-.353	.485
Students are sent home to be assisted by their parents in seeking medication	.598	2.93	.971	-.690	.245	-.413	.485
Teacher accompany the sick students to a medical facility	.573	2.86	1.070	-.539	.245	-.947	.485
Students are treated in the school-based health clinic/ dispensary	.752	2.55	1.422	-.107	.245	-1.918	.485
Students are given leave out to seek medical care services on their own at identified health facilities	.825	2.52	1.191	-.113	.245	-1.516	.485
Students utilize personal medical insurance covers to access medical services	.821	2.39	.985	-.125	.245	-1.097	.485
The students are directly referred to a medical facility and usually go on their own	.705	2.32	1.095	.012	.245	-1.402	.485

The matron or designated teacher administers common medicines to students	.357	2.31	1.131	.068	.245	-1.459	.485
Students are given leave out to seek medical services on their own at any health facilities	.813	2.29	1.199	.310	.245	-1.450	.485
A trained school nurse administers medicines to students	.793	2.18	1.399	.425	.245	-1.756	.485
Non-trained school nurse administers common medicines to students	.715	1.47	.843	1.895	.245	2.856	.485
Kaiser-Meyer-Olkin Measure of Sampling Adequacy							.623
Bartlett's Test of Sphericity							.000

Table 4. 41

Students' views regarding healthcare management approach commonly used in public secondary school

Management approach used on students' healthcare matters (N = 142)	Factor loading	Mean Statistic	Std. Deviation Statistic	Skewness Statistic	Std. Error	Kurtosis Statistic	Std. Error
There is a clear procedure stipulated before a student is issued with a medical leave out	.511	4.21	.935	-1.833	.245	4.087	.485
The approach utilized in the management of students' healthcare has led to reduction of class absenteeism	.722	3.91	1.128	-1.237	.245	.894	.485
Students medical information is treated with confidentiality thus enhancing their concentration	.706	3.91	1.164	-1.352	.245	1.113	.485
The health care management system in place reassures the students hence increasing their concentration in class	.743	3.90	.984	-.861	.245	.407	.485
The communication between the school and the guardian in the event of a sick student is prompt	.561	3.90	.973	-1.312	.245	1.835	.485

The approach utilized in management of provision of students' health care has brought about a sense of confidence and self-importance among the students	.694	3.87	1.142	-.931	.245	.001	.485
The health care management system in place ensures students miss minimal lessons when seeking for medical attention	.728	3.72	1.256	-.743	.245	-.612	.485
The health care management system in place effectively supports curriculum delivery	.748	3.72	1.028	-.941	.245	.498	.485
Medical emergencies for students in school are promptly attended to thus minimizing the amount of time spent out of school	.692	3.63	1.236	-.641	.245	-.701	.485
Our school has a good healthcare plan for students	.633	3.57	1.274	-.708	.245	-.534	.485
Students with chronic medical conditions are well catered for within the school	.679	3.30	1.268	-.365	.245	-1.006	.485

The academic performance of students who regularly seek for medical attention is not significantly different from the rest	.734	3.30	1.156	-.610	.245	-.530	.485	
The staff who handle sick students in the school is a trained medical professional	.655	2.85	1.523	.195	.245	-1.478	.485	
Kaiser-Meyer-Olkin Measure of Sampling Adequacy								.821
Bartlett's Test of Sphericity								.000

Table 4. 42

Challenges faced by principals in managing students' healthcare in public secondary school

Challenges faced by principals in managing healthcare of public secondary school students (N = 138)	Factor loading	Mean	Std. Deviation	Skewness		Kurtosis	
		Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Lack of financial ability to employ school health professionals	.652	3.89	1.177	-1.082	.249	.367	.493
Lack of health facilities and infrastructures	.690	3.43	1.291	-.537	.249	-.871	.493
Inadequate policy guideline from Ministry of Education and the Ministry of Health on school healthcare matters	.664	3.38	1.201	-.402	.249	-.692	.493
Technology challenge for harnessing data and information	.771	3.34	1.456	-.402	.249	-1.242	.493
Lack of mechanisms and systems for monitoring, controlling, evaluating learners' healthcare services	.657	3.30	1.260	-.321	.249	-.905	.493
Lack of clarity in the policy guidelines for school healthcare services and programs	.822	3.23	1.395	-.333	.249	-1.173	.493
Instances of self - diagnosis and over the counter purchase of drugs	.749	3.23	1.299	-.388	.249	-.912	.493

Lack of sufficient attention toward the provision of school healthcare programmes due to other school responsibilities	.524	3.21	1.260	-.347	.249	-.929	.493
Complex and ever-changing environment which amass numerous pressures on health of students	.801	3.13	1.202	-.327	.249	-1.096	.493
Poor involvement of school community in healthcare matters of students	.769	3.06	1.350	-.225	.249	-1.159	.493
Complex to coordinate multiple approaches that provide access to healthcare to public secondary school students	.879	3.06	1.216	-.271	.249	-.826	.493
Scarcity of data on secondary school healthcare systems	.770	2.96	1.191	-.385	.249	-1.042	.493
Complex to coordinate multiple health service providers	.822	2.87	1.238	-.100	.249	-.982	.493
High medical employee turnover	.765	2.79	1.579	.159	.249	-1.538	.493
Lack of cooperation from parents and communities in the school healthcare programs	.672	2.72	1.204	-.051	.249	-1.142	.493
Mistrust between various stakeholders	.756	2.64	1.217	.072	.249	-1.166	.493
Slow decision making process	.759	2.57	1.372	.198	.249	-1.291	.493
Kaiser-Meyer-Olkin Measure of Sampling Adequacy							.807

Table 4. 43*NHIF benefit package / services offered to secondary school students in Kenya*

NHIF benefit package / services for students secondary school students in Kenya (N = 138)	Factor loading	Mean	Std. Deviation	Skewness	Kurtosis		
		Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Consultation	.755	3.51	1.310	-.787	.249	-.414	.493
Laboratory investigations	.902	3.49	1.342	-.741	.249	-.642	.493
Medicines and medical consumables	.875	3.49	1.310	-.798	.249	-.468	.493
Drug administration and dispensing	.843	3.38	1.237	-.701	.249	-.521	.493
Dressings or medications prescribed by the physician for in-hospital use	.690	3.17	1.333	-.486	.249	-1.027	.493
Surgical services	.684	3.13	1.322	-.354	.249	-.957	.493
Emergency services	.678	3.02	1.429	-.174	.249	-1.314	.493
Dental and Oral Health services,	.646	2.98	1.336	-.237	.249	-1.222	.493
Optical services	.809	2.94	1.366	-.244	.249	-1.246	.493
Referral for specialized services	.793	2.89	1.527	-.002	.249	-1.508	.493
Physiotherapy and rehabilitative services	.811	2.87	1.354	-.135	.249	-1.230	.493
Radiological examination	.719	2.81	1.306	-.051	.249	-1.209	.493
Operating theatre charges	.659	2.81	1.431	.120	.249	-1.371	.493
Medical / Orthopedic appliances	.755	2.77	1.379	.031	.249	-1.315	.493

Occupational therapy services	.772	2.64	1.382	.330	.249	-1.153	.493
Ophthalmological services	.801	2.60	1.322	.216	.249	-1.143	.493
Maternity and reproductive health	.665	2.36	1.398	.629	.249	-.961	.493
Kaiser-Meyer-Olkin Measure of Sampling Adequacy							.841
Bartlett's Test of Sphericity							.000

Table 4. 44

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

Services (in-patient and out-patient) provided to public secondary school students through NHIF (N = 142)	Factor loading	Mean Statistic	Std. Deviation Statistic	Skewness Statistic	Std. Error	Kurtosis Statistic	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, Dressings or medications prescribed by the physician for in-hospital use	.685	2.41	1.265	.343	.245	-1.175	.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

Table 4. 45

Challenges facing the adoption of personal health insurance approach in public secondary schools

Challenges facing Personal Medical Insurance Cover among secondary school students in Meru County	N =	Mean	Std. Deviation	Skewness	Std. Error	Kurtosis	Std. Error
	138						
Unstable jobs of parents		3.74	1.414	-.980	.249	-.396	.493
Lack of exposure and knowledge on medical insurance		3.49	1.435	-.603	.249	-1.057	.493
Difficult to monitor learners' healthcare services		3.36	1.302	-.764	.249	-.599	.493
Underperformance of public institutions that are contracted to provide the healthcare services		3.32	1.453	-.491	.249	-1.197	.493
Approved health facilities being too far from the school		3.32	1.423	-.539	.249	-1.092	.493
Capping policy with reference to spending threshold		3.30	1.405	-.596	.249	-.956	.493
Administrative procedures and bureaucracy with services providers		3.30	1.436	-.497	.249	-1.175	.493
Delays in medical attention		3.30	1.243	-.589	.249	-.766	.493
High cost of premium payments		3.26	1.558	-.507	.249	-1.354	.493
Lack of insurance coverage for public secondary school students		3.21	1.451	-.338	.249	-1.332	.493
Inconvenient appointment times		3.19	1.431	-.525	.249	-1.211	.493

Operational lapses of hospitals that are contracted to provide the healthcare services	.885	3.17	1.396	-.456	.249	-1.175	.493
The payment required for the pre-existing conditions	.855	3.04	1.495	-.271	.249	-1.437	.493
Some insurance companies require co-paying arrangement which disadvantage public secondary school students due to lack of cash	.778	3.04	1.495	-.193	.249	-1.446	.493
Limiting medical cover policy	.787	3.02	1.531	-.220	.249	-1.480	.493
The waiting period which the beneficiary will have to wait before the medical cover company starts the services	.828	2.94	1.428	-.067	.249	-1.408	.493
Poor patient-provider relationship	.739	2.91	1.309	-.192	.249	-1.240	.493
Lack of permission (leave out)	.488	2.45	1.535	.376	.249	-1.534	.493
Age limit for personal medical insurance cover for students	.564	2.40	1.432	.466	.249	-1.311	.493
Kaiser-Meyer-Olkin Measure of Sampling Adequacy							.834
Bartlett's Test of Sphericity							.000

Table 4. 46

Post-hoc multiple comparisons on variation of approaches for managing healthcare of students across categories of schools

Tukey HSD Dependent Variable	(I) Indicate the school type	(J) Indicate the school type	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
X1	Girls' boarding schools	Boys' boarding schools	-.22896	.20371	.676	-.7622	.3043
		Mixed boarding schools	.36364	.55595	.914	-1.0917	1.8189
		Mixed Day Secondary school	.58913*	.20597	.027	.0500	1.1283
	Boys' boarding schools	Girls' boarding schools	.22896	.20371	.676	-.3043	.7622
		Mixed boarding schools	.59259	.54687	.700	-.8389	2.0241
		Mixed Day Secondary school	.81808*	.18002	.000	.3469	1.2893
	Mixed boarding schools	Girls' boarding schools	-.36364	.55595	.914	-1.8189	1.0917
		Boys' boarding schools	-.59259	.54687	.700	-2.0241	.8389
		Mixed Day Secondary school	.22549	.54771	.976	-1.2082	1.6592
	Mixed Day Secondary school	Girls' boarding schools	-.58913*	.20597	.027	-1.1283	-.0500
		Boys' boarding schools	-.81808*	.18002	.000	-1.2893	-.3469
		Mixed boarding schools	-.22549	.54771	.976	-1.6592	1.2082

X2	Girls' boarding schools	Boys' boarding schools	.51990	.30116	.316	-.2684	1.3082
		Mixed boarding schools	.98396	.82191	.630	-	3.1355
		Mixed Day Secondary school	.34728	.30450	.666	-.4498	1.1444
	Boys' boarding schools	Girls' boarding schools	-.51990	.30116	.316	-	.2684
		Mixed boarding schools	.46405	.80848	.940	-	2.5804
		Mixed Day Secondary school	-.17263	.26614	.916	-.8693	.5240
	Mixed boarding schools	Girls' boarding schools	-.98396	.82191	.630	-	1.1675
		Boys' boarding schools	-.46405	.80848	.940	-	1.6523
		Mixed Day Secondary school	-.63668	.80973	.861	-	1.4829
	Mixed Day Secondary school	Girls' boarding schools	-.34728	.30450	.666	-	.4498
		Boys' boarding schools	.17263	.26614	.916	-.5240	.8693
		Mixed boarding schools	.63668	.80973	.861	-	2.7563
X3	Girls' boarding schools	Boys' boarding schools	.30247	.29618	.737	-.4728	1.0778
		Mixed boarding schools	.27778	.80832	.986	-	2.3937
		Mixed Day Secondary school	.91503*	.29946	.015	.1311	1.6989

Boys' boarding schools	Girls' boarding schools	-.30247	.29618	.737	-	1.0778	.4728
	Mixed boarding schools	-.02469	.79511	1.000	-	2.1060	2.0567
	Mixed Day Secondary school	.61256	.26173	.097	-.0726		1.2977
Mixed boarding schools	Girls' boarding schools	-.27778	.80832	.986	-	2.3937	1.8381
	Boys' boarding schools	.02469	.79511	1.000	-	2.0567	2.1060
	Mixed Day Secondary school	.63725	.79634	.854	-	1.4473	2.7218
Mixed Day Secondary school	Girls' boarding schools	-.91503*	.29946	.015	-	1.6989	-.1311
	Boys' boarding schools	-.61256	.26173	.097	-	1.2977	.0726
	Mixed boarding schools	-.63725	.79634	.854	-	2.7218	1.4473

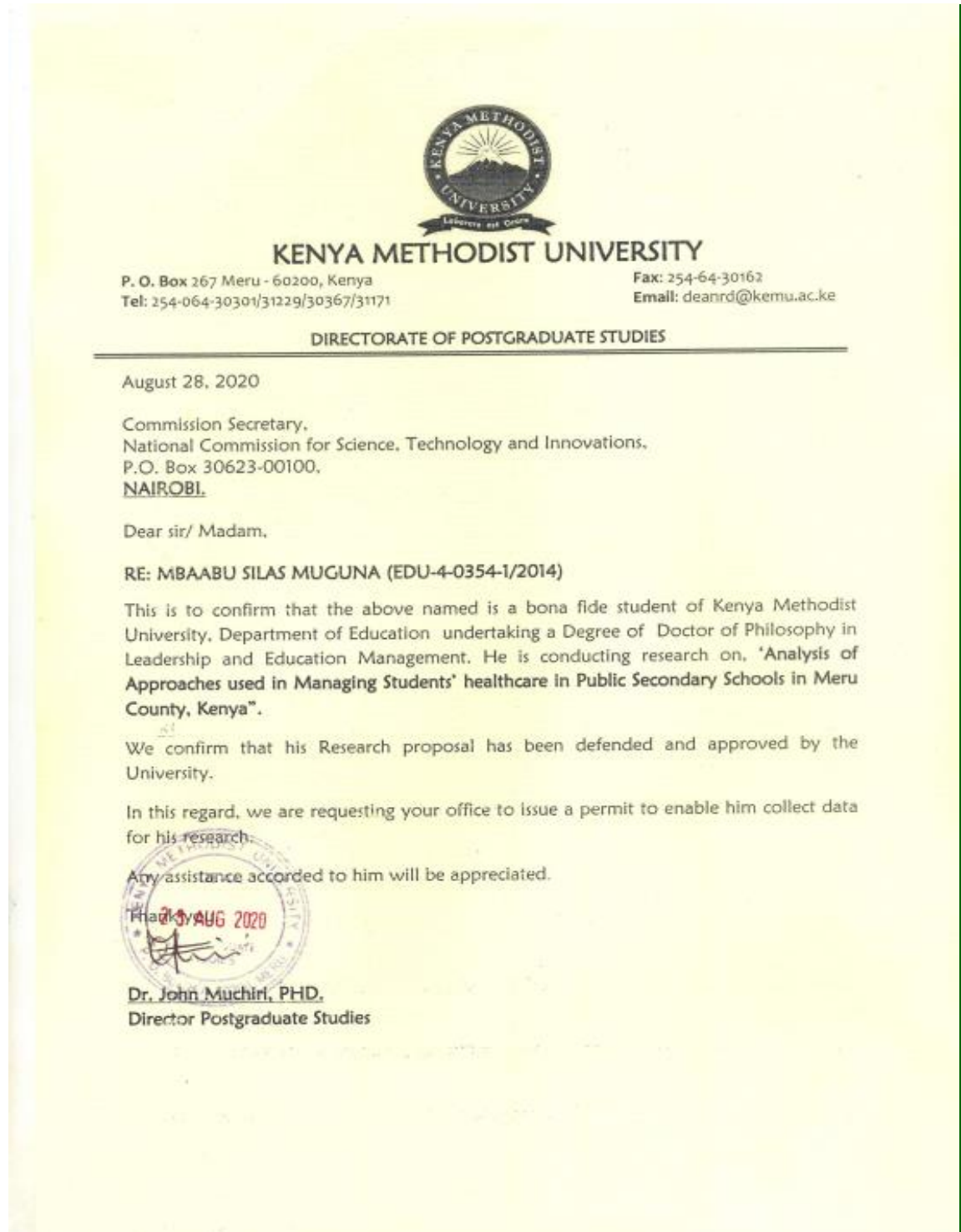
*. The mean difference is significant at the 0.05 level.

Table 4. 47*Descriptive statistics on school healthcare policy*

Policy guidance on managing students' healthcare in public secondary school (N = 138)	Factor loading	Mean	Std. Deviation	Skewness		Kurtosis	
		Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Ministry of Education has provided policy on the principal's role in the use of NHIF by public secondary school students	.575	3.85	1.116	-1.310	.249	1.003	.493
The management decisions made by principals from time to time with regard to students' healthcare in public secondary schools are anchored and guided by the existing public secondary schools healthcare policies	.743	3.53	1.189	-.902	.249	-.039	.493
Ministry of Education has provided policy on allocation of school funds in order to cater for healthcare of students in public secondary schools	.739	3.40	1.339	-.615	.249	-.808	.493
Our school has an elaborate policy on management of healthcare of students	.655	3.38	1.304	-.689	.249	-.707	.493

The facilities and execution of school healthcare programs and services are guided by the existing public secondary schools healthcare policies	.784	3.32	1.246	-.564	.249	-.704	.493
The policy on management of students' healthcare in public secondary schools has promoted equity in access to healthcare services.	.572	3.30	1.327	-.399	.249	-1.080	.493
Ministry of Education has provided policy on establishment and running of a school-based clinic / dispensary in public secondary schools	.872	2.94	1.268	-.007	.249	-1.176	.493
Ministry of Education has provided policy on how the principal should handle personal medical insurance among public secondary school students	.434	2.79	1.406	.151	.249	-1.259	.493
Kaiser-Meyer-Olkin Measure of Sampling Adequacy					.836		
Bartlett's Test of Sphericity					.000		

Appendix Vi: Introduction Letter from KeMU




Appendix Vii: Copy of the NACOSTI Research Permit

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