

# Tracking Universal Health Coverage in Ang'orom Ward, Teso-South Sub-County - Busia County, Kenya

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## Abstract

Universal Health Coverage (UHC) has received renewed attention in Global Health because it is seen as the vehicle to deliver goal 3 of the SDGs of having all people receiving quality health services without financial hardships by 2030. Despite strong political pronouncements about commitments to UHC both at national and county levels, the status of UHC in Busia County is unknown. This study assessed the planning, implementation and management of UHC in Angoromo ward based on the four categories of essential services namely Reproductive, Maternal, Newborn and Child Health; Infectious Diseases; Non-Communicable Diseases; and, Service Capacity and Access. A cross-sectional descriptive and analytical study design was used. A systematic sample size of 103 heads of households was taken. Data collection methods used included document analysis, interviews and key informant interviews. Quantitative data was analysed using the SPSS social science programme while qualitative data was analysed using thematic analysis. The study found that initiation of UHC had not taken place in Angoromo ward. This was attributed to the poor leadership and governance in the Department of Health at the County level. Despite this finding, the study found that UHC in Angoromo wards stood at 50%, no data was available for Busia County. The study recommends that issues of leadership and governance be addressed urgently; establishment of a disease surveillance system at Alupe Hospital which has served as treatment Centre for cross border diseases including Covid-19 and Ebola; and that a comprehensive county-wide UHC study be conducted to establish the status of UHC in Busia County.

## 1. Introduction

The 2030 Sustainable Development Goals emphasize having all people receive quality health services they need without financial hardship [1]. Universal Health Coverage (UHC) means that all people and communities receive the full spectrum of health services (health promotion; prevention, treatment, rehabilitation and palliative care across the life course they need. The services should be of sufficient quality to be effective while also ensuring that the use of services does not expose the users to financial hardship. The 2017 WHO and World Bank report shows that 50% of the world's population still lacks access to essential services and some 800 million people spend more than 10% of their household budget on health care, while almost 100 million people are pushed into extreme poverty each year because of out of pocket health expenses [2].

Primary Health Care (PHC) is seen as the programmatic engine for UHC [3]. This is because of its emphasis on community empowerment; social accountability; multisectoral action (Education; Nutrition; water and sanitation) and thus provides a platform for

addressing both demographic and epidemiological challenges facing many countries. PHC also facilitates integration of services such as prevention and control of communicable diseases, maternal and child health, non-communicable diseases; water and sanitation among others. PHC remains the most cost effective way to address comprehensive health needs close to people's homes and communities [4]. Scaling up PHC interventions across low and middle-income countries could save sixty (60) million lives and increase average life expectancy by 2030. Universal Health Coverage should be based on strong, people-centered PHC. Good health systems are rooted in the communities they serve and focus not only on preventive and on treatment of diseases and illness, but also in helping to improve well-being and quality of life of their communities [5].

The UN has argued that investing in broader health systems would save close to 100 million lives. Furthermore, it argues that most countries could reach the global targets for UHC by raising domestic resources to increase public spending on health by reallocating spending towards Primary Health Care. For the poorest countries

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including those affected by conflict, additional external resources through humanitarian and Development assistance for health is encouraged.

Ensuring health access to all has many benefits beyond contributing to optimum health. WHO argues that UHC is a social contract – a pillar of social cohesion and solidarity between the healthy and the sick and between the rich and the poor? Through offering financial protection from catastrophic health spending, UHC acts as core social safety net while at the same time contributing to economic growth and employment particularly of women [6]. In pursuance of the right to health, the 58th World Health Assembly urged member countries to aim at providing universally accessible health care to all members of the population based on the principles of equity and solidarity.

Following 2015 commitments agreed at the United Nations Sustainable Development Summit, which agreed to attain UHC by 2030, most countries including Kenya have developed policy frameworks and committed resources to expand health services. However, WHO notes that at current trends of resurgence of old and new diseases, UHC will not be achieved by 2030 leaving poor people and poor countries behind. The risk of pandemics and the health consequences of climate change; and rising global burden of Non-communicable diseases is accounting for 70% of deaths among people ages 30-70 years.

## 2. The Kenyan Context

The Kenya Constitution and Vision 2030 development blueprints require the country to provide the highest attainable standards of healthcare to all her population. This together with the Government's "Big Four" Agenda has made the Ministry of Health to prioritize the need to develop and operationalize a Universal Health Coverage policy (UHC) 2020-2030 that clearly outlines the strategic direction for the sector. The UHC Policy gives direction towards ensuring significant improvement in the overall status of health in Kenya in line with the Big Four Agenda, the Constitution of Kenya 2010, Kenya Health Policy 2014-2030, Kenya Vision 2030, regional and global commitments. It demonstrates the health sectors commitment under the Governments stewardship to ensuring that the country implements health plans in a manner responsive to the needs of the population.

UHC is an important pillar with the aim of transforming the country's health sector for enhanced service delivery. A productive population is an impetus for greater economic development and explains why Kenya is investing in UHC to ensure its people remain healthy. Besides health financing, UHC implies putting in place efficient health service delivery systems, adequate health facilities and human resources, information systems, good governance and enabling legislation.

This policy embraces the principles of equity, people centeredness, efficiency, social solidarity and a multi-sectoral approach. It fo-

cuses on four objectives and their related strategies to support attainment of the Government's goal in health. It is cognizant of the functional responsibilities between the National and County levels of Government with their respective accountability mechanisms and frameworks. It is envisaged that the national and county Governments will benefit from this policy as a guide for planning and budgeting for healthcare services at all levels of care. The detailed strategies and programme packages will be elaborated in specific strategic and investment implementation plans. I therefore call for the need to raise awareness to ensure that the objectives of this policy are well understood and fully owned by the various stakeholders and implementing partners.

Recognizing the vital importance of UHC to Kenya's socio-economic development, key enabler investments in the necessary infrastructure, skilled manpower, conducive legislative regimes, transport, electricity and Information Communication Technology will be necessary to achieve these objectives that will lead to a robust and resilient health system.

The Ministry plans to continue with the efforts aimed at reaching the next frontier through expansion of access to care for all and it is in the wake of increased disease burden globally that the researchers call upon all healthcare stakeholders, individuals and organizations to play an active role in improving the quality of life in Kenya.

The UHC initiative offers a paradigm shift for the Kenyan health system to improve the quality of services in all public and private healthcare facilities while ensuring these services are accessible, affordable and efficient with a focus on preventive and promotive health at the household level through revitalization of primary healthcare. Achieving UHC pillar will be of necessity and will require strong collaboration between the public and our private sector providers.

## 3. UHC in Busia County

In Busia County, Moi Teaching Referral Hospital/AMPATH and the National Hospital Insurance Fund (NHIF) helped the County Government of Busia launch its UHC pilot project in Bunyala sub-county on 26th March 2021. The goal of the pilot project was to demonstrate how the innovative approach focusing on strengthening health systems; economic empowerment and expansion of enrollment for health insurance will help achieve UHC in Busia County. The other notable UHC related projects are largely in infrastructure development which include the Kenya Devolution Support Programme (KDSP) for health projects in Busia County supported by the World Bank and the Equipment supply scheme by the Ministry of Health among others [7].

To attain true UHC, we need not only to measure the gains in health service coverage but also to understand the barriers to access and the large gaps that remain. It's only with this information that local and global decision makers can effectively target the resources

and policies to advance UHC and ensure access for all people, regardless of where they live. Critical to attaining UHC is a formal monitoring mechanism to assess progress.

The World Health Organization (WHO) and the World Bank (WB, 2013) developed a framework towards UHC2. In this framework, WHO uses 16 selected tracer indicators, four for each of the specified in the SDG indicator 3.8.1 listed below.

### 3.1 Reproductive, Maternal, Newborn and Child Health (Rm-nch)

- Family planning – Demand satisfied with modern method among women 15-49 years who are married or in union (%)
- Pregnancy and delivery care – Antenatal care, four or more visits (ANC4) (%)
- Child immunization – one-year-old children who have received 3 doses of Diphtheria-Pertussis vaccine (DPT3) %
- Child Treatment - Care seeking behavior for children with suspected pneumonia (%)
- 2. Infectious diseases
- TB treatment – TB effective treatment coverage (%)
- HIV treatment – People living with HIV receiving ART (%)
- Malaria prevention – Population at risk sleeping under insecticides treated bed (%)
- Water and Sanitation – Households with access to at least basic sanitation (5)
- 3. Non-Communicable diseases
- Prevention of Cardiovascular disease – Prevalence of normal blood pressure regardless of treatment status (%)
- Management of Diabetes - Prevention and treatment of raised blood glucose
- Tobacco control – Adults aged fifteen (15) years and above not smoking tobacco in last 30 days
- Cervical cancer screening among women aged 30-49 years (%) – hospital records
- 4. Service Capacity and Access
- Hospital Access – hospital beds per capita (w/threshold)
- Health worker density – Health professional's per capita (w/ threshold): Physicians, Psychiatrists and Surgeons.
- Access to essential medicines – Proportion of health facilities with WHO-recommended core list of essential medicines available.
- Health security-compliance with international health core capacity index
- This study will assess these sets of indicators in each of the four categories in order to shade light on the status of UHC in Angoromo ward in Busia County.

### 4. Statement of the problem

Despite strong political commitment to Universal health coverage at national level, the status of UHC coverage in Busia County is largely unknown. This is demonstrated by the late establishment of a pilot project (2021) several years since Kenya adopted UHC in

2015, and only through the help of an external partner – AMPATH [9].

### 5. Justification

In light of the above problem, it is important and indeed critical that an assessment of the status of UHC in Busia County be conducted to inform policy makers, programme implementers, planners, researchers, development partners and the general public about UHC in the county. These stakeholders will each use the information for their specific needs and cumulatively, assist in the improvement of the health of the people of Busia County.

### 6. Purpose

The purpose of this study is to make a contribution to an effective implementation of UHC in Busia County and to contribute to the existing body of knowledge on policy implementation at the local level.

#### 6.1 Objectives

- Appraise the understanding and organization of UHC services among members of Alupe Sub-County Hospital Management Team (ASHMT)
- To assess the coverage of one-year-old children who have received 3 doses of DPT vaccines in Angora ward
- Determine the percentage of households with access to the least basic sanitation in Angoromo Ward
- To assess care seeking behaviors for children with suspected pneumonia
- To determine the population at risk of malaria sleeping under insecticide treated bed nets (ITN) in Angoromo ward.
- To assess the Prevalence of normal blood pressure regardless of treatment status (%)
- To assess the service capacity and access to (hospital beds per capita; Health professionals per capita; access to essential medicines; Health security-)
- Research Questions
- What is the understanding of the concept, objectives, and categories of essential services to be delivered by UHC among members of the Alupe Sub-County HMT?
- What percentage of eligible children had received BCG, DPT 3, Polio 3, and Measles vaccine within 9-12 months since birth in Angoromo ward?
- What percentage of the population has safe excreta disposal systems?
- How do parents /caregivers respond to suspected cases of Pneumonia in children under five-years?
- How many households with children under five years and/or with pregnant mothers in Angoromo ward sleep under ITN bed-nets?
- How are the UHC essential services organized and delivered to the community?
- What is the hospital Bed occupancy and access for Alupe sub-county hospital?

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## 7. Materials and Methods

### 7.1 Study Design

A cross-sectional descriptive and analytical study design which enables collection of data from different respondents at a single point in time has been chosen for this study.

### 7.2 Study Site

The study was conducted in Angoromo ward of Angoromo location, Teso South Sub-County in Busia County.

### 7.3 Study Population

The study covered approximately 10,337 residents of Angoromo ward and the health care workers who serve the community from Alupe hospital.

### 7.4 Sample Size

A systematic sample of 102 households was chosen from lists of households in each of the three community units in Angoromo ward. From the Alupe hospital, the eighteen (18) Sub-County Health Management Team members were included in the study.

## 8. Eligibility and Exclusion Criteria

All residents of Angoromo Community Unit willing to participate in the study were eligible. However, non-residents of the Community Unit were not ineligible. Similarly, health care and development workers who neither work in Angoromo community unit nor are members of the Sub-County Health Management Team were excluded from this study.

## 9. Data collection

Document analysis, interview guides and key informant interview guides were used to collect data.

## 10. Data Analysis and Presentation

Descriptive statistics was used to describe the basic features of the data. Simple summaries of the sample and the measures of study variables were presented through tables and graphs. Qualitative data was analysed using thematic analysis and emerging themes distilled and presented in text format.

## 11. Management of the Research Process

The Principal Investigator took the overall responsibility over the smooth implementation of the research project. He was assisted by the co-research investigator. Officials of the Department of Health and Sanitation and the Community Health Volunteers (CHVs) played a key role in organizing and coordinating training and research activities and ensuring a conducive study environment.

## 12. Ethical Considerations

This study proposal was presented to the Alupe University Institutional Scientific Ethics Review Committee (ISERC) for review and approval. An application for a research license was submitted to NACOSTI and clearance was sought from the Department of Health and Sanitation, County Government of Busia to conduct the study.

## 13. Study Limitation

The study was funded by very limited seed funds from the University, consequently both the scope and breath of the study was considerably constricted. The second limitation relates to data collection, it was inevitable that the study came across instances of missing documents or incomplete records such as immunization cards, family planning attendance cards etc.

## 14. Research Findings

The hospital management team AND UHC

This part of the research presents findings from interviews with seventeen members of Alupe Sub-County Hospital Management Team (HMT) whose overall responsibility is to plan and implement all health services and programs including UHC in their catchment area namely Angoromo Ward. The Alupe Sub-County Hospital Management Team (ASCHMT) being the custodians and managers of the Universal Health Coverage in the Angoromo ward, it was in the interest of this study to assess a number of variables related to Universal Health Coverage among the team members. More specifically, we sought to determine the awareness and understanding of the members about the concept of universal health Coverage; the main objective of UHC; understanding of the essential services by category targeted by UHC; the specific roles of team members by department in the planning and implementation of UHC.

This study also sought information from the ASCHMT relating to the planning, organization, management and implementation of UHC in their catchment population. Specific information was elicited from the respondents relating to the planning process; organizational structure, roles and responsibilities of sections/units or departments; involvement of other sectors outside the health sector; community participation; supervision and monitoring mechanisms; challenges and lessons learnt. The findings are presented as follows.

## 15. Awareness and Understanding of the Uhc Concept by the Ashmt

Most respondents were generally aware of UHC and its objectives. However, it was apparent that most of them did not have a deeper understanding of the concept and often confused it with primary health care. The study also found that 52% of the ASHMT mentioned at least 2 out of 4 categories of essential services targeted for improvement under the UHC initiative while 48% mentioned only one or none.

## 16. Roles and Responsibilities of Ashmt in Planning, Organizing and Implementing Uhc Activities

The study found that members of the hospital management team were not involved in planning, organizing and implementation of UHC activities. When asked to explain their specific roll in the planning of the UHC initiative, their responses were as captured in table 1 below.

Respondent by department/title	Role in the planning process
1. Clinician – OPD	None
2. Nursing officer –OPD	None
3. Public Health Officer	None
4. Health Records Officer	No plan
5. Clinician – Comprehensive Care Centre	Not sure, no plan
6. Pharmaceutical Technologist	No plan, just have my regular departmental plan
7. Medical Officer	Not aware of any plans, not invited to any meetings
8. Health administrative Officer	No Plan
9. Medical Superintendent	-
10. Directorate of UHC	Yes, currently in the process of developing UHC plan for pilot intervention in Matayos sub-county.

**Table 1: Involvement of ASCHMT in Planning UHC**

The responses point to a lack of participation in the planning of the UHC initiative by the Hospital Management Team. These responses are vindicated by the absence of any document that describes any activities in relation to UHC in Angoromo ward. Noting the

absence of involvement and participation in the implementation of UHC activities, the ASHMT members were asked to explain the main challenges affecting implementation of the initiative in Angoromo ward. They responded as shown in table 2 below.

Respondent by department/services	Response
1. Clinical services	Lack of understanding of UHC by health workers and leadership problems at the county and ASCHMT levels
2. Nursing services	- UHC is pegged on NHIF which requires payment of Ksh.500.00 per month which is unaffordable to majority of community members - poor leadership and governance including embezzlement of funds - lack of UHC policy at county level
3. Public Health services	- UHC has never been clear to us - No plan and clear direction
4. Health Records	Poor leadership and unclear management system
5. Comprehensive Care Centre services	Lack of equipment and consumables
6. Pharmaceutical services	- Leadership sleeping on their job at county level - UHC not prioritized by the County
7. Medical services	Lack of involvement and participation in UHC
8. Health administrative services	- Acute shortage of staff, those transferred to BCRH not released back or replaced - Laizez-fair management style.
9. Medical Superintendent	-
10. Directorate of UHC	see below

**Table 2: Challenges Affecting Implementation of Essential Services Targeted By Uhc**

From the responses above, it seems that the main problems affecting the planning and management of UHC initiative in Angoromo ward includes the lack of understanding of the concept of UHC among health workers; poor leadership especially at the County level but to some extent at the ASCHMT; uncountable governance structures; lack of participatory planning and the absence of a county level policy framework.

When the key informant from the UHC directorate was asked what the main challenges were in rolling out UHC in the county, he pointed out the following.

- Resistance and skepticism to the philosophy and strategic direction of UHC by the health care providers. He explained that the UHC implementation model heavily draws from the Cuban system, where health providers see patients in the community as opposed to patients coming to the health facilities as is currently the practice in Kenya. The UHC approach directly challenges this established biomedical approach.

- Worsening of long-standing health system problems of inadequate staff; supplies and commodities as well as inadequate financial allocation.

- Inability of the majority of the community members to contribute to the National Hospital Insurance Fund. The beneficiary households are expected to pay Ksh. 6000 per year or Ksh.500 per month, however most are unable to pay due to high levels of poverty in the county.

- Underscored the need to strengthen the health system especially the availability of health supplies (drugs and commodities) if UHC is to be realized in Busia County.

### 17. The Community Survey

The community survey sought to assess the sociodemographic profile, coverage of essential services including reproductive,

maternal, newborn and child health; infectious diseases; non-communicable diseases; as well as service capacity and access. Findings on each of these broad categories are presented in the paragraphs that follow.

### 18. Sociodemographic Characterizes Of Study Population

Findings of the sociodemographic characteristics of the study population are as follows;

**Age:** Most of the respondents were above fifty-one years (25.2%). Table 1 below shows the age structure of the study population.

Age range	Frequency	Percent	Valid Percent	Cumulative Percent	
Valid	20-25	4	3.9	3.9	3.9
	26-30	12	11.7	11.7	15.5
	31-35	13	12.6	12.6	28.2
	36-40	14	13.6	13.6	41.7
	41-45	18	17.5	17.5	59.2
	46-50	16	15.5	15.5	74.8
	51 +	26	25.2	25.2	100.0
Total	103	100.0	100.0	100.0	

**TABLE 3: AGE STRUCTURE OF THE STUDY RESPONDENTS**

**Sex:** Seventy-nine point six (79.6%) of the population were female while only twenty point four percent (20.4%) were males.

(75.7%), twelve point six (12.6%) were widowed while three point nine (3.9%) were single. Six point eight (6.8) of the respondents were separated. The table below summarizes the marital status of the study population.

**Marital Status:** Majority of the study respondents were married

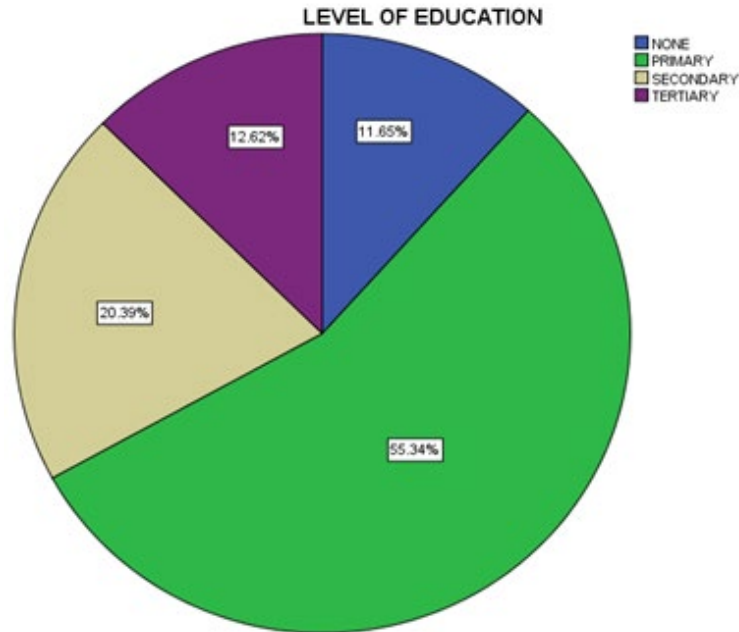
Marital Status	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	SINGLE	4	3.9	3.9
	MARRIED	78	75.7	79.6
	DIVORSED	1	1.0	80.6
	SEPARATED	7	6.8	87.4
	WIDOWED	13	12.6	100.0
	Total	103	100.0	100.0

**Table 4. Marital status of study population**

### 19. Level of Education

In terms of education, most respondents (55.3%) had primary level of education; twenty point four (20.4) had secondary level of education and twelve point six (12.6%) of the study population had

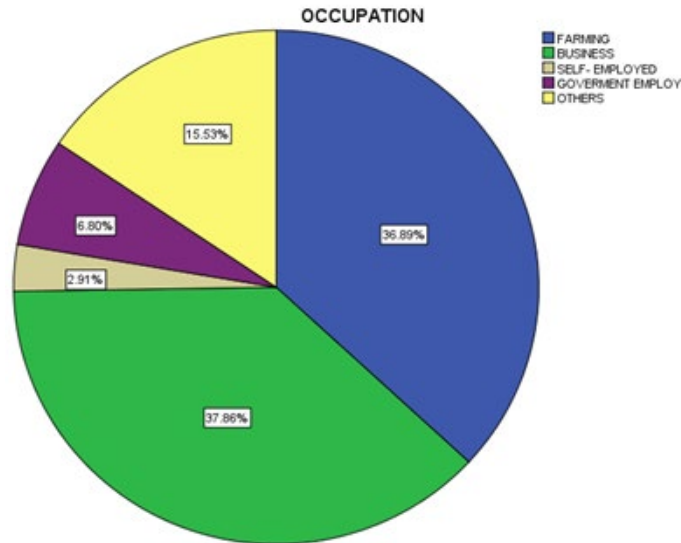
attained tertiary level of education. The study found that eleven point seven (11.7%) of the study population had no formal education. The pie chart below summarizes the education levels of the study population.



**Figure 1:** Level of Education of Respondents

## 20. Occupation

In relation to the occupation of the study respondents, thirty-seven point nine (37.9%) were involved in small and microbusiness enterprises; thirty-six point nine (36.9%) involved in peasant farming; six point seven (6.7%) were government employees while two point nine (2.9%) were self-employed.

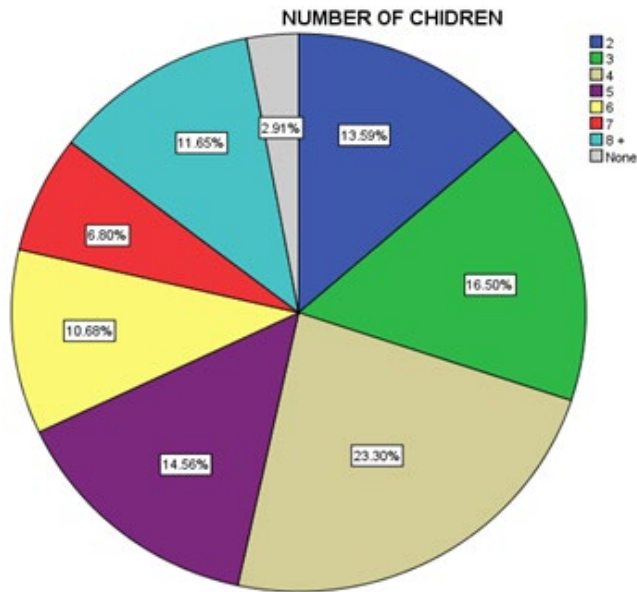


**Figure 2:** Occupation of respondents.

**Religion:** Regarding religion, study found that most of the respondents were predominantly Christian (97.1%) while 2.9% of the study population were Muslims.

## 21. Children per Household

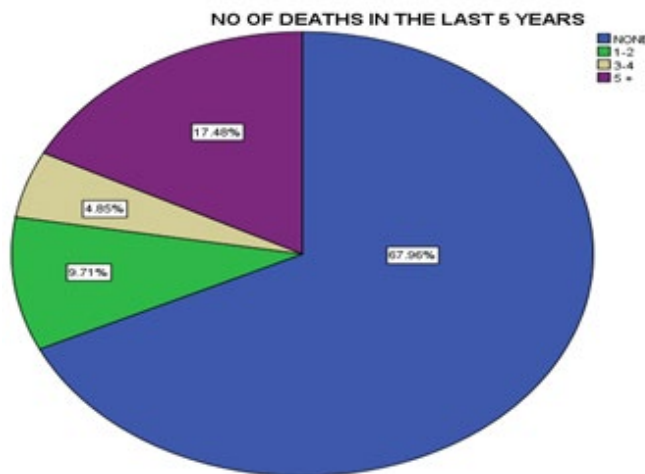
In terms of children per household, the range was between 2-8, with majority of households (23.3%) having four (4) children followed with those with three children at 16.5%. The mean number of children per household for the study population was five children.



**Figure 3:** Number of Children per Household

## 22. Deaths in the Family

The number of deaths in the households over the past five years preceding the study was investigated. It was found that in the majority of households (68%) no death had occurred. However, among the households who reported deaths, majority of the respondents (17.48%) said they had lost five or more members of the household in the past five years. This is summarized in the pie-chart below.



**Figure 4:** Number of deaths in the last 5 years in household

## 23. Migration

In relation to migration patterns, it appears the majority of the respondents (61.9%) immigrated into the study area in the past fifteen (15) years. However, 35.9% of the population is indigenous, having been borne in the area. The main reasons given for the immigration include purchase of land, marriage and staying in rental accommodation.

## 24. Essential Services

The four categories of essential services targeted by UHC namely,

Reproductive, Maternal, Newborn and child health; infectious diseases, non-communicable diseases; facility capacity and access were investigated in this study. The findings for each of this categories are presented below.

## 25. Reproductive, Maternal, Newborn and Child Health

Under this service, the study assessed the coverage of Family Planning, Antenatal and delivery care, full child immunization and the health seeking behavior of mothers and care givers.



## 26. Pregnancy and Delivery

In relation to reproductive health, the study found that majority of women aged 15-49 (56.3%) visited their nearest health facility at least 4 times during their last pregnancy. Thirteen point six (13.6%) and six point eight (6.8%) visited the facility thrice and twice respectively.

## 27. Family Planning

When asked whether they desired to postpone their next pregnancy, 58.3% of the respondents said yes while 41.7% said no. When asked if they or their spouses were using a modern contraceptive method, 53% responded in the affirmative. When asked what modern contraceptive method they were using, they responded as shown on Table 5.

Response	Frequency	Percentage	Valid %
Bilateral Tubal Ligation (BTL)	1	1.0	1.0
Intrauterine Device (IUD)	2	1.9	1.9
Implants	12	11.7	11.7
Injectable	29	28.2	28.2
Oral Pills	7	6.8	6.8
Condoms	3	2.9	2.9
Others unspecified	26	25.2	25.2
N/A	23	22.3	22.3
Totals	103	100.00	100.00

**Table 5: Modern Contraceptives Used By Respondents**

It appears most of the respondents (28.2%) are using the injectable contraceptive, followed by the implants (11.7%). The finding that only 2.9% of the respondents were using condoms was surprising. Similarly, the finding that 25.2% of respondents were using other unspecified forms of contraceptive methods was unexpected by the research team.

## 28. Child Immunization

Respondents were asked if their children aged 9-12 months had received 3 doses of diphtheria-tetanus-pertussis vaccine (DPT3). Their responses are presented in table below.

Responses		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	N/A	74	71.8	71.8	71.8
	YES	27	26.2	26.2	98.1
	NO	2	1.9	1.9	100.0
	Total	103	100.0	100.0	

**Table6: One Year Old Children Received 3 Doses of DPT (Dpt3)**

From the table above, the DPT 3 coverage in Angoromo ward stands at 93.1 % of children aged 9-12 years.

## 29. Child Treatment

Care seeking behavior for children with suspected Pneumonia was sought from the respondents. Respondents were asked “what do you do when your child aged 5 years develops cough, fast and difficult breathing?” the responses are captured in the table below.

Actions Taken		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	TAKE CHILD TO HOSPITAL	79	76.7	76.7	76.7
	N/A	10	9.7	9.7	86.4
	GIVE OVER THECOUNTER MEDICINE	6	5.8	5.8	92.2
	CONCULT COMMUNITY HEALTH VOLUNTEER	6	5.8	5.8	98.1
	NO SUCH EXPENSE	2	1.9	1.9	100.0
	Total	103	100.0	100.0	

**Table 7: Actions Taken When Child Aged 5 Years Develops Cough, Difficult In Breathing**

From the table, it seems majority of the respondents (76.7%) take their children to health facilities; only 5.8% give over the counter medicines and a similar percentage (5.8%) consult the local community volunteer (CHV).

### 30. Infectious Diseases

Prevention and control of infectious diseases namely malaria, tuberculosis, Human Immuno-deficiency virus (HIV) and environmental sanitation were investigated under this category of

infectious diseases. The findings are as follows.

### 31. Malaria Prevention

Use of insecticide treated bed nets for malaria prevention was investigated in this study. Respondents were asked if they have bed nets in their households. 90.3% reported having bed nets in their households. Only 9.7% said they do not have ITNs.

When asked who specifically sleeps under the insecticide treated bed nets, they responded as follows:

Response	Frequency	Percentage	Valid %
I and my spouse	43	41.7	41.7
I and child <5 years	42	40.8	40.8
N/A	11	10.7	10.7
Children<5	3	2.9	2.9
Children>5	3	2.9	2.9
Visitors	1	1.0	1.0

**Table 8: Household Members Sleeping Under Itns**

It appears most of the respondents and members of their households in Angoromo ward sleep under insecticide treated bed nets. When those who did not have insecticide treated bed nets were asked to explain, most of them (2.9%) stated that they could not afford buying the nets while the others said either they were not given the bed nets or they didn't know the value of the bed nets or were just negligent.

### 32. Tuberculosis Treatment

Respondents were asked whether any member of their household had been diagnosed with Tuberculosis in the last 12 months. Only 10.7% responded in the affirmative while 89.3% said none.

When they (respondents) were further asked if the affected

member of the household had successfully completed treatment, 10 (90.9%) out of 11 had completed their treatment. The one who hadn't completed treatment had defaulted.

### 33. HIV Treatment

Respondents were asked "do you know your HIV status?" 84.5% said yes while 15.5% said no, while one said he didn't know. When those who had responded in the affirmative were asked where they did the HIV test, most stated that they took the test in public health facilities, 35.9% in Alupe sub-county hospital and 29.1% in Busia county referral hospital (29.1%). 6.8% of the respondents tested in private clinics while only 1% self-tested. When those who said they did not know their HIV status were asked to explain, they responded as reflected in table below.

Reasons	Frequency	Percent	Valid Percent	Cumulative Percent
N/A	89	86.4	86.4	86.4
FAITHFULL	7	6.8	6.8	93.2
DIDNT SEE IMPORTANCE	5	4.9	4.9	98.1
LOT OF TIME TO DO TEST	1	1.0	1.0	99.0
NO TEST KIT	1	1.0	1.0	100.0
Total	103	100.0	100.0	

**Table 9: Reasons for Not Taking HIV Status Test**

As can be seen from the data above, most of those who said they did not know their HIV status explained it terms of being faithful to their spouses/partners, while a few others stated they spent a lot of time to go for the test while others gave the lack of test kits at the hospital as a main reason for not being tested.

From the Hospital data obtained by the study team, it was found that in 2022, there were three thousand four hundred seven (3,407)

HIV positive clients in the study area. One thousand four hundred and eight (1408) of these or 41.3 % were on Antiretroviral Therapy [11].

### 34. Water and Sanitation

Due to its critical role in the spread and control of infectious diseases, this issue was investigated in this study. Respondents were asked whether they have a latrine in the household.

97.1% responded in the affirmative, this was confirmed through observation by the study team. Only 2.9% said they do not have a latrine. Asked why they do not have a latrine, they stated that they use a neighbor's latrine.

Respondents were further asked how they dispose excreta of children aged below five years. Their responses are shown below.

Excreta disposal methods		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	IN PIT-LATRINE	83	80.6	80.6	80.6
	N/A	16	15.5	15.5	96.1
	IN NEIGHBORS LATRINE	3	2.9	2.9	99.0
	IN THE BUSH	1	1.0	1.0	100.0
	Total	103	100.0	100.0	

**Table 10: Methods Used To Dispose Excreta Of Children < 5 Years**

Most respondents (80.6%) dispose excreta in the pit latrine, while only 1 said he disposes it in the bush.

(diabetes); tobacco use and alcohol consumption was investigated. The findings are presented as follows.

### 35. Non-Communicable Diseases

Due to both demographic and epidemiological transitions, non-communicable diseases have become one of the main challenges in the public health sector. In this study, cardiovascular disease - hypertension or raised blood pressure (HTN); raised blood glucose

### 36. Prevention of Cardiovascular Disease

Study respondents were asked if they or a member of the household has ever been diagnosed with raised blood pressure. Their responses are shown below.

Responses		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	NO	82	79.6	79.6	79.6
	YES	20	19.4	19.4	99.0
	NOT TESTED	1	1.0	1.0	100.0
	Total	103	100.0	100.0	

**Table 11: Member of Household Ever Been Diagnosed With Htn**

Majority 79.6% responded in the negative while 19.4% responded in the affirmative.

Respondents who reported to have high blood pressure were further asked what action they had taken. A summary of their responses is provided below.

Actions Taken		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	N/A	81	78.6	78.6	78.6
	TAKING MEDICINE	17	16.5	16.5	95.1
	SUGAR AND SALT FREE FOODS	3	2.9	2.9	98.1
	PRESCRIBED DIET	1	1.0	1.0	99.0
	NOTHING	1	1.0	1.0	100.0
	Total	103	100.0	100.0	

**Table 12: Action Taken Once Diagnosed With Raised Blood Pressure**

Most of the respondents who had cases of HTN in their household reported taking medicines and eating sugar and salt free foods.

### 37. Management of Diabetes

Respondents were asked if they or a member of their household has ever been diagnosed with raised blood glucose (Diabetes). 87.4% said no while 9.7% said yes; 1% said he had not been tested. When those who had responded in the affirmative were further asked what action they had taken, they responded as follows.

Actions taken	Frequency	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	N/A	81	78.6	78.6	78.6
	TAKING MEDICINE	17	16.5	16.5	95.1
	SUGAR AND SALT FREE FOODS	3	2.9	2.9	98.1
	PRESCRIBED DIET	1	1.0	1.0	99.0
	NOTHING	1	1.0	1.0	100.0
	Total	103	100.0	100.0	

**Table 13: Action Once Diagnosed With Raised Blood Glucose**

### 38. Tobacco Control

Asked whether they or members of their households smoked tobacco, 79.6% of respondents said no while 20.4% reported that a member of the household smokes tobacco. Probed further about the age of the household member who smoked, they responded as shown in the table below.

Age of smoker	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	N/A	83	80.6	80.6
	36 +	12	11.7	92.2
	30-35 YEARS	6	5.8	98.1
	13-18 YEARS	1	1.0	99.0
	19-24 YEARS	1	1.0	100.0
	Total	103	100.0	100.0

**Table 14: If Yes, How Old Is The Individual Who Smokes**

It is clear that most of the smoking population is between the ages 30-36 years. The critical ages of 13- 29 seem not to be in the smoking habit. Overall it seems over 80% of the population does not smoke tobacco.

### 39. Service Capacity and Access

This indicator is a proxy for coverage of the full range of essential inpatient services. Hospital access, health worker density, access to essential medicines and health security were assessed in this study.

### 40. Hospital Access

Hospital access as a proxy for access to all inpatient hospital

services was requested from records and received from Alupe Sub-County hospital management. Analysis of the records indicated that there were 0.2 hospital beds per capita.

### 41. Health Worker Density

The Health worker density is used as a proxy for coverage of the full range of essential outpatient services. The WHO/World Bank Global report excludes nurses and other health care providers due to unavailability of comparable data across countries in existing global databases, however in this study the researchers included Nurses. The hospital provided data that indicated health professionals per capita as follows.

Professional Category	Numbers	Professional Per Capita	Comments
Physicians	0	0	Patients are referred to other facilities –BCRH and others
Psychiatrists	0	0	“
Surgeons	0	0	“
Nurses	26	0.026	Grossly inadequate staff

**Table 15. Health worker density at alupe sub-county hospital**

### 42. Access to Essential Medicines

The Kenya Essential Medicines List is a key tool that if effectively used to promote access to essential medicines and through the correct selection, procurement and use, can lead to the achieve of maximum therapeutic benefits and optimize patient outcomes as desired by UHC. In this study, availability of medicines for five priority diseases for UHC namely Malaria, TB, HIV, Diabetes and hypertension and a common condition (jiggers) were assessed.

The key informant was asked if the hospital has a core list of essential medicines recommended by WHO available as at the time of the study to which he responded in the affirmative and shared a copy of the Kenya Essential Medicines List 2019. The key informant was then asked to respond to the availability of the medicines to treat each of the five diseases investigated in this study. His responses are captured in the table below.

S/N	Disease/condition	Drug of choice	Availability in stock	Comments
1	Malaria	Artemether lumenfantrine – (AL)	Y	OK
2.	Tuberculosis (TB)	Pre-Packed TB Patient Kit (combi-pack)	Y	OK
3.	Human Immuno deficiency virus (HIV)	ARVs (TLD)	Y	OK
4.	Diabetes	Metformin	N	2 Months O/S
5.	Hypertension	Nifedipine	N	2 Months O/S

**Table 16. Availability of drugs for treatment diseases covered in the study**

### 43. Health Security

Since many health risks are common in Busia County, especially outbreaks of rare communicable diseases such as Ebola, Covid-19, Marburg etc., and the study sought to understand preparedness measures that the hospital had put in place in readiness to face such

challenges as part of the UHC initiative. The key informants were asked if the hospital has capacity for early warning; risk reduction and in management of national and global health risks. Responses are shown in the table below.

Capacity area	Availability of capacity	Comments/explanation
Early Warning	Yes	
Risk reduction	Yes	
Management of national and global health risks	NO	Explained this in terms of the scale and scope of the problem, together with attendant health systems challenges especially shortage of staff, lack of supplies, pharmaceuticals, relevant commodities .and finances.

**Table 17: Overall Uhc Coverage in Angoromo Ward**

This study Compared the UHC service coverage organized around the four components of service coverage (RMNCH; Infectious diseases; Non-Communicable diseases; service capacity and access). The percentage mean coverage was as follows.

Services area	Mean Service Coverage %
Reproductive Health, Maternal, Neonatal and Child Health	71%
Infectious Diseases	80%
Non-Communicable Diseases	17%
Service Capacity and Access	30%

**Table 18. Uhc coverage by component in amagoro ward**

From the table above, the disaggregation of service coverage by component shows that infectious diseases ranked highest with 80%, followed by Reproductive Health, Maternal, Neonatal and Child Health at 71%, in the third place is Service Capacity and Access, while Non-Communicable diseases was the lowest at only 17%. Taking the mean of the above data, the study found that UHC coverage in Angoromo Ward is 50%.

### 44. Discussion of Major Findings and Conclusions

This section of the report presents a summary of the major findings of the study; highlights the likely accuracy of the results; discusses the relationship of the results to other studies and literatures as appropriate; draws conclusions and justifications; outlines implications of the findings and identifies areas of need for future research.

### 45. Planning, Organization and Implementation of Uhc

The study found that members of the ASCHMT and the health workers were not aware and had not been involved in sensitization, planning, organizing and implementing UHC activities in Angoromo ward. They attributed this state of affairs to poor leadership and unclear management systems within the department of Health and Sanitation at County level.

Health leadership and governance is critical to the attainment of UHC and appears to be the main barrier to implementation of UHC in Angoromo ward. This finding is consistent with identified challenges as articulated in the Kenya UHC policy 2020-2030 [10].

### 46. Socio-Demographic Characteristics of the Study Population

The majority of the respondents were female (80%), married

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(76%), Christians (97%) most of them (55%) with primary level education. 12% of the respondents had no formal education. Most of these respondents were peasant farmers and small scale business entrepreneurs.

The average household family size was five (5) children with the range of 2-8 children per household. The majority of the households (68%) had experienced no death in the past five years preceding the study.

Majority of the respondents (62%) had immigrated into the study area over the past twenty years in search of purchasing land; marriages and living in rental accommodation.

## **47. Access to Essential Uhc Services**

### **47.1 Reproductive, Maternal, Newborn and Child Health**

The study found that 56.3% of pregnant women aged 15-49 visited their nearest health facility at least 4 times during their last pregnancy. In relation to Family planning practice, only 53% of the women reported using a modern contraceptive method. Most of them using an injectable method while on 2.9% reported using the condoms. Child immunization among children aged one year, Diphtheria, Pertussis and Tetanus (DPT3) coverage was found to be 93%, well within the national standards. In relation to care seeking behavior for children with suspected Pneumonia, majority of the respondents (77%) said they take their children to nearest health facility for treatment.

## **48. Infectious Diseases**

### **48.1 Prevention of Malaria**

Over 90% of the respondents reported sleeping under insecticide treated bed nets for malaria prevention. The main at risk populations, children under five years and pregnant women were prioritized to sleep under the nets.

### **49. Tuberculosis Treatment**

90% of the respondents reported no TB cases in their households during the last 12 months preceding the study. Among the few (11 cases) diagnosed with TB, ten (10) or 91% had completed their treatment. There was one defaulter.

### **50. HIV Treatment**

The study found that 85% of the respondents knew their HIV status having taken the test mostly in public health facilities (Alupe Sub-County and Busia County Referral Hospitals). Study also found that 3,407 people in the study area are HIV positive, and only 1,408 or 41.3% were on ART.

## **51. Water and Sanitation**

The study found that 97% of the respondents had basic water and sanitation facilities in their households. These basic facilities were also used for the disposal of excreta of children aged below five years.

## **52. Non-Communicable Diseases**

### **52.1 Prevention of cardiovascular disease.**

Eighty (80%) of the respondents reported no member of their household had ever been diagnosed with raised blood pressure. Among those (20%) who reported to have been diagnosed with raised blood pressure, almost all of them said they were taking prescribed medicines as well as eating sugar and salt free foods.

### **53. Management of Diabetes**

Eighty-seven (87%) of the respondents said none had been diagnosed with raised blood glucose in their households. Among those who had been diagnosed with raised blood glucose, they reported that they were taking prescribed medicine, prescribed diet and were eating sugar and salt free foods.

## **54. Smoking Tobacco**

Eighty (80%) of the respondents reported no smoking of tobacco in their households. Twenty (20%) reported tobacco smoking by a member of the household aged between 30-36 years.

## **55. Service Capacity and Access**

### **55.1 Hospital Access**

Analysis of the inpatient records from Alupe sub-county hospital indicated that there were only 0.2 hospital beds per 10,000 populations, compared to 14.1 beds per 10,000 population at national level and with a global average of 27 beds per 10,000 population. [11].

## **56. Health Worker Density**

The study found a gross inadequacy of health workers at the Alupe sub-county hospital. There was no physician, Psychiatrist and surgeon (the three professional categories) used as proxy indicators for coverage of the full range of essential outpatient services by WHO/World Bank [12]. These meant patients who could be managed at the facility were referred to Busia County Referral Hospital or other facilities outside the County.

## **57. Access to Essential Medicines**

The study found that the Alupe sub-County hospital had the Kenya essential medicines list. The hospital also had in stock all the drugs of choice for the management of the five diseases (malaria, tuberculosis, HIV, Diabetes, and Hypertension) that were investigated in this study.

## **58. Health Security**

Busia County being a border town, its prone to many health risks, especially outbreaks of rare communicable diseases such as Ebola, Covid-19, Marburg etc. Whereas the hospital management stated that they had capacity for early warning and risk reduction because the staff can diagnose the diseases and commence preventive action, they reported that the hospital had no capacity for management of national and global health risks. They attributed this to the scale and scope of the problem, attendant health systems challenges especially in relation to the shortage of staff, lack of

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pharmaceuticals, commodities and finances.

### 59. Overall Uhc Coverage in Angoromo Ward

The overall UHC service coverage percentage, organized around the four components of service coverage investigated in this study, namely RMNCH; Infectious diseases; Non-communicable diseases; service capacity and access; in Angoromo Ward was found to be 50%. This finding, compares favorably with the Global Burden of disease (<https://www.healthdata.org>) which approximately ranked Kenya with a UHC index of 50. This finding is also consistent with Kenya UHC policy 2020-2030 which reflects the national UHC service coverage index of 51.55 for 2013, apparently, the year in which data was available when the UHC Policy was being written.

The performance of the inter- service components in the study area was assessed. It emerged that communicable diseases emerged with highest percentage (80%), followed by RMNCH (71%), Service capacity and access (30%) and Non-Communicable diseases (17%). These performance trends are consistent with the WHO African Region trends on the disaggregated coverage by component [13].

### 60. Conclusions and Recommendations

#### The Leadership and Governance Issues

In Busia County, and especially at the Department of Health and Sanitation contributes largely to the non- initiation of UHC in Angoromo ward and in the County in general. As a consequence, the study recommends as follows.

- Strengthening the Governance of the County Health System especially in the planning, organization and implementation of the UHC initiative through the Primary Health Care (PHC) approach as articulated in the National UHC 2020-2030 policy. Systems must be developed that ensure that the leadership of the Department of Health and Sanitation is held accountable for the delivery of Universal Health Coverage
- A sustained political goodwill from the highest level of the County leadership and county Assembly expressed through allocation of additional resources to strengthen PHC as a key strategy for the delivery of Universal Health Coverage is urgently required.
- The leadership of the County Health and Sanitation Department should ensure that health workers are inducted on UHC, clear organizational structures and mechanisms for the implementation of UHC are developed through a participatory process that involves key stakeholders including the community.
- Strengthening the capacity of Alupe Sub-County Hospital Management Team as well as addressing the health system issues such as shortage of human resources, pharmaceuticals and commodities that constrain their performance should be considered and addressed.

#### Access to Essential Services

The UHC service coverage of 50% for Angoromo Ward is commendable compared to the approximate index of 52 nationally. The UHC coverage for Busia County was not available at the time of the study.

To address the challenges related to health security, we recommend the establishment of an effective and efficient disease surveillance system, preferably at Alupe Sub-County hospital. The Alupe Sub-County Hospital which has served as an isolation and treatment center for some cross-border diseases such as Covid-19 and Ebola can play an important role in strengthening the County capacity and access to essential services.

#### Future Research

This study focused only on one aspect of UHC, health coverage at ward level in a limited geographical area. A comprehensive county-wide study to include the financial aspects of UHC should be conducted to assess and illuminate the status of UHC policy implementation in Busia County.

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#### References

1. United Nations. (2015). Sustainable Development Goals. Department of Economic and Social Affairs, Geneva, Switzerland.
2. World Health Organization. (2017). Global diffusion of eHealth: making universal health coverage achievable: report of the third global survey on eHealth. World Health Organization.
3. World Health Organization. (2021). Primary health care on the road to universal health coverage: 2019 global monitoring report.
4. Kwame, A., & Petrucka, P. M. (2022). Universal healthcare coverage, patients' rights, and nurse-patient communication: a critical review of the evidence. *BMC nursing*, 21(1), 1-9.
5. United Nations. (2020). World Must Invest in Strong Health Systems that protect everyone, now and into the future.
6. Cf, O. D. D. S. (2015). Transforming our world: the 2030

---

Agenda for Sustainable Development. United Nations: New York, NY, USA.

7. Al-Shorbaji, N. (2013). The World Health Assembly resolutions on eHealth: eHealth in support of universal health coverage. *Methods of information in medicine*, 52(06), 463-466.
8. Kenya Universal Health Coverage Policy 2020-2030, Published by Ministry of Health, Afya House, Cathedral Road, P.O Box 3001, Nairobi 00100, Kenya.
9. Kidd, S., Athias, D., & Tran, A. (2021). Universal Child Benefits: transforming the lives of children across South Asia. Working Paper]. UNICEF Regional Office for South Asia.
10. Global Burden of Disease. (2023). downloaded on April 7.
11. World Health Organization. (2022). Tracking Universal Health Coverage in the WHO African Region, 2022.
12. United Nations. (2015). Sustainable Development Goals. Department of Economic and Social Affairs, Geneva, Switzerland.
13. World Health Organization. (2018). World health statistics 2018: monitoring health for the SDGs, sustainable development goals. World Health Organization.
14. Rao, E. J. O., Midega, C. A. O., Atieno, F., Auma, J. O., Cadilhon, J. J., Mango, N., ... & Wesonga, M. (2015). A situational analysis of agricultural production and marketing, and natural resources management systems in West Kenya. ILRI/icipce Project Report.
15. Kidd, S., Athias, D., & Tran, A. (2021). Universal Child Benefits: transforming the lives of children across South Asia. Working Paper]. UNICEF Regional Office for South Asia.
16. Musyoka, C. M., Mbwayo, A., Donovan, D., & Mathai, M. (2020). Alcohol and substance use among first-year students at the University of Nairobi, Kenya: Prevalence and patterns. *PLOS one*, 15(8).
17. Kamenderi, M., Muteti, J., Okioma, V., Kimani, S., Kanana, F., & Kahi, C. (2019). Status of drugs and substance abuse among the general population in Kenya. *African J Alcohol Drug Abuse*, 1, 54-9
18. Wanjala P, Njuguna D, et al, (2016). Policy Brief – Pathways to Optimal Health Infrastructure in Kenya.

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