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Policy and Governance Towards Eliminating of Malaria Among Children Under Five in Four Districts of Ghana

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Abstract
Malaria contributes significantly to the increasing mortality rate among Ghana's children under-five years of age (U5). This study sought to analyze how policies, actors, and institutions play out and interact in Ghana´s public health sector and how they affect the health outcomes of children U5 in early childhood malaria in four districts. The study findings show current health policies to tackle malaria among children U5. However, there were apparent discrepancies between policy intent and actual implementation, just as other key stakeholders are not adequately involved in policy formulations and executions in the districts. The study concludes that a functioning health system governance is critical to achieving desired results in eradicating malaria among children U5 in the four communities understudied.

Keywords: children U5, governance, healthcare, health policy, malaria

1. Introduction

The introduction of Millennium Development Goal (MDG) 4 by the United Nations (UN) in 2000 to reduce U5 mortality by two-thirds between 1990 and 2015 marked a concerted global effort to promote child health (United Nations, 2015; World Health Organization, 2021a). However, evidence suggests that Ghana also fell short in achieving MDG 4 by recording a U5 mortality rate of about 60 deaths per 1,000 live births despite its national target of 40 deaths per l,000 live births by 2015 captured in the national U5 Child Health Policy 2007-2015 (Ghana Statistical Service, 2017). One of the major causes of children U5 deaths is malaria (Amek et al., 2018; Awine et al., 2017; Bryce et al., 2005; World Health Organization, 2021b).
Malaria is a common disease that has contributed significantly to U5 mortality globally, especially in Africa. It is one of the principal causes of illnesses and death worldwide, especially among children U5 and pregnant women in developing countries (Amek et al., 2018; Owusu-Ofori et al., 2013; World Health Organization, 2021b). Several African countries, including Ghana, still grapple with eradicating malaria despite implementing various interventions to reduce the prevalence of the disease. Malaria is a deadly disease triggered by parasites transmitted to persons through the bites of infected female Anopheles mosquitoes. Children under U5 years accounted for 67% (272,000) of all malaria deaths worldwide in 2018, which increased to 77% in 2020. Africa was home to

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95% of all malaria cases (228 million), 96% of global malaria deaths (602,000), and 80% of all malaria deaths occurred among children U5 (World Health Organization, 2021b).
With the renewed target by the Sustainable Development Goal (SDG) 3 to end preventable deaths of U5 and reduce U5 mortality to 25 per 1,000 live births by 2030, it has become imperative for countries, especially in Africa, to revise existing child health policies (Bigdeli et al., 2020; Pyone et al., 2017). Despite implementing these interventions amidst substantial financial investment, Ghana's health system is still faced with a daunting challenge in improving health care outcomes about malaria among mothers and children U5. Evidence shows that malaria is a major cause of death in Ghana and contributes to 38% and 36% of out-patient and in-patient attendance, respectively. The estimated number of deaths attributable to malaria in 2019 was 12,880. The U5 malaria death rate in Ghana in 2019 was 46.2%. The increasing trend of malaria cases and deaths in Ghana, reporting that in 2020 the country recorded an estimated 2.1% of global malaria cases with 1.9% deaths (World Health Organization, 2021b).
This study fills the literature gap to undertake an in-depth investigation and analysis of the interplay of policies, various actors involved in the formulation and implementation of malaria policy intervention to ascertain the underlying causes and challenges of these interventions (Awine et al., 2017) and the overall outcomes on end beneficiaries. This study aims to provide new insights into good health sector governance, with specifics to malaria issues among children U5 in four districts of Ghana.

2. Research Methods

2.1 Study Areas

The study chose four (4) districts covering Ghana's North, South, East and West. These districts are Obuasi Municipality in the Ashanti Region, Mpohor District in the Western Region, Kassena-Nankana East District in the Upper East, and Ada West District of the Greater Accra Region.
The Obuasi municipality is located between latitudes 5º35N and 5º65N and longitudes 6º35'W and 6º90'W. It occupies a total land area of 220.7 square km. The town, over the years, has been the highest producer of gold in Africa. The 2010 population and housing census shows a total population of 168,641, representing 3.5% of the region's total population, making up 48% Males and 52% females (Ghana Statistical Service, 2011)
The Mpohor District forms part of the 22 Western Region of Ghana. The district occupies a total land area of 524.533 square kilometres. The district has a total population of 42,923, consisting of 21,486 males and 21,437 females. High malaria prevalence has been identified in the district. The increased cases of malaria in the district (Ghana Statistical Service, 2014) influenced the choice of the area to be part of the study.
The Kassena Nankana East Municipal forms part of the fifteen (15) Municipalities and Districts in the Upper East Region of Ghaha. The district population was estimated of 109,944, with 53,676 males and 56,268 females in 2010 (Ghana Statistical Service, 2011). The municipality has about 27 health facilities comprising one hospital, 20 CHPs facilities, two health centres, a Research Center (Navrongo Health Research Center), a CHAG clinic and two private clinics. Considering the challenges faced by health institutions in the district, it was imperative to include this district to be part of a study investigating how these issues affect U5 malaria outcome (Ghana Statistical Service, 2011)

The Ada West district is one of the 29 districts in the Greater Accra Region of Ghana. It is located between Latitudes 5°45'S and 6°00'N and Longitude 0°20'W and 0°35'E and occupies a total land area of approximately 323.72 square km. The district has an estimated population of 65,000, with 51.7% females and 48.3% males in 2010 (Ghana Statistical Service, 2011). There are about nine (9) health facilities in the neighbourhood consisting of one polyclinic, three (3) health centres and five Community Health Planning and Services (CHPS) centres. The district, however, has no private health facility but several Traditional Birth Attendants all over the community.

2.2 Participants

The actors for this study include the Ministry of Health (MOH) and its implementation and regulatory agencies such as the Ghana Health Service (GHS), National Healtlh Insurance Authority (NHIA), Food and Drugs Authority (FDA), National Malaria Control Programme (NMCP). Some non-public sector institutions were selected to be part of the study due to their vital role in the health policy formulation and implementation processes. These included the primary healthcare providers (Doctors, Nurses, and Hospital Administrators), private healthcare providers, traditional leaders, religious leaders, and mothers with children U5. Purposive sampling was employed to select key officials due to their experience and knowledge of the subject matter under investigation. In addition, 'Snowball' approach was employed whereby some of the respondents suggested other relevant respondents that could be interviewed. As a result, the total sample size of respondents involved in the study was 241. The specific categorisation of the institutions and the number of respondents are presented in the Actors Matrix in Table 1.

Table 1: Actors matrix

	Actors	**Location**	**No. of participants**
Government and State Institutions and Agencies	Ministry of Health (MoH)	Accra	2
	Ghana Health Service (GHS)	Accra	2
	National Malaria Control Programme (NMCP)	Accra	1
	Food and Drugs Authority (FDA)	Accra	1
	National Health Insurance Authority (NHIA)	Accra	1
	Parliament (Health Committee)	Accra	2
Sub-national institutions	District Health Director	Ada West, Mpohor, Obuasi, Kassena Nankana	4
	District Chief Executive/District Coordinating Director	Ada West, Mpohor, Obuasi, Kassena Nankana	4
	District Hospital Administrator	Ada West, Mpohor, Obuasi,	4

Chief Medical Officer (District Hospital)	Kassena Nankana Ada West, Mpohor, Obuasi, Kassena Nankana	4
Matron of Nurses (District Hospital)	Ada West, Mpohor, Obuasi, Kassena Nankana	4
Private Health Provider	Ada West, Mpohor, Obuasi, Kassena Nankana	4
Religious Leaders (Priest and Imam)	Ada West, Mpohor, Obuasi, Kassena Nankana	4
Traditional Leader (Chief)	Ada West, Mpohor, Obuasi, Kassena Nankana	4
Mothers with Children U5	Ada West, Mpohor, Obuasi, Kassena Nankana	200
Total		241

Source: Compiled by the author

Using this technique, recorded interviews were transcribed verbatim to capture every response provided by the participants to have an accurate record of the discussion with the participants in text. The transcribed data were then coded. Coding the data enabled the researchers to identify critical statements and reflections vital to the research objectives and the study's analytical interest. In addition, it allowed the researchers to connect critical remarks by the respondents to the theoretical and conceptual propositions of the study. The data were then categorised based on relationships, differences and similarities based. Themes were then assigned to the categories in line with the analytical and conceptual goals of the study. The study findings based on the qualitative data were presented and supported with verbatim quotations from the respondents.

3. Results and Discussion

3.1 Demographic Characteristics of Respondents

The findings of demographic characteristics are presented in Table 2. The Table shows that most respondents (35.7%) were between 26 and 33 years old. Also, 25.7% were between 18 and 25 years, 24.1% were between the ages of 34 and 41, 11.2% were

between 42 and 49, and the remaining 3.3% were 50 years and above. Table 2 further shows that apart from 10.4% of the respondents with no formal education, most respondents (89.6%) had some level of education. Of this, 35.7% had primary or basic level education from kindergarten to junior high, 28.2% had attained secondary level or senior high-level education, 15.8% had tertiary level education, whilst 9.9% had attained post-graduate level education. The respondents with no formal education were all mothers with children U5, while those with post-graduate education were other respondents from mothers of children U5.

Table 2: Demographic characteristics of respondents

Demographics	Response	Frequency (N=241)	Percent (%)
Age	18– 25years	62	25.7
	26 – 33years	86	35.7
	34 – 41 years	58	24.1
	42 – 49 years	27	11.2
	50 years and above	8	3.3
Highest Educational Level	No formal education	25	10.4
	Primary/Basic level	86	35.7
	Secondary level	68	28.2
	Tertiary level	38	15.8
	Post-graduate level	24	9.9
Marital Status	Single (Never Married)	14	5.8
	Married	215	89.2
	Divorced/Separated	8	3.3
	Widowed	4	1.7
Length of years in district (Mothers)	1 – 4 years	24	12
	5 – 9 years	47	23.5
	10 -14 years	68	34
	15 years and above	61	30.5

Source: Field data, 2022

Most of the participants, 89.2%, were married, 5.8% were single and never married, 3.3% were divorced or separated, and 1.7% were widowed. Also, 34% of the mothers who participated in the study have resided in their districts for between 10 and 14 years, 30.5% have been in their districts for 15 years and above, and 23.5% have lived in the district between 5 and 9 years, whilst 12% have resided in their districts between 1 and 4 years (Table 2).

3.2 Malaria Health Policies Toward Eradication of Malaria among U5

The national strategic health vision provides the direction for formulating and developing specific health policies and plans to improve health care delivery and the overall health of citizens and other residents in the country. Interviews with the respondents revealed that Ghana has a clear national vision of health, as stipulated in the 1992 constitution of the country (Awine et al., 2017). The member of parliament stated that:
"The country's strategic vision is indicated in Article 36(10) of the constitution. This suggests that by law, every government is expected to formulate policies and undertake activities in line with this provision. So ,

I can say it is the fundamental right of every citizen to enjoy quality health care in the country. I believe this provides the national vision as far as safeguarding the health of the citizens is concerned including children U5"[Member, Health Committee of Parliament]

However, most participants disagreed that a single national health vision exists for the country. Responses from the interviews demonstrate that political transitions have made it difficult to establish one specific national strategic health vision and plan that every government must seek to achieve. Arguably, there is a lack of continuity of government policy implementation from one regime to the other. Whatever the Ministry seeks to achieve in its vision translates into the national vision for health.

"As a country, one of our challenges is the absence of a national strategic vision that every government is expected to achieve. Every government has a vision for each sector based on its political aspirations. Because of this, I don't believe the country has an overall national strategic vision for health devoid of political intricacies" [Chief Medical Officer, Obuasi]

An official from the GHS interviewed also responded:

"In Ghana, the Ministry of Health provides the strategic direction as far as policy-making and implementation are concerned so their vision can be deemed to represent the national vision for the country. It represents the vision and policy direction of the President. The vision of Ghana Health Service is derived from that of the Ministry to ensure that whatever we are doing does not deviate from what the Ministry wants to achieve"[Official, Ghana Health Service]

These policies are targeted at malaria prevention and treatment. Interviews with study participants revealed that the main health policies aimed at reducing malaria prevalence among children U5 in the study areas were the NHIS to provide free health care financing for citizens and children U5. The distribution of Insecticide Treated Bed-Nets (ITNs) to pregnant women, households and school children; indoor residual spraying, and the use of Artemisinin-based Combination Therapies (ACTs) are all under the National Malaria Control Programme (NMCP), which has been one of the major national interventions to reduce malaria prevalence in the country. The programme has largely been supported by international partners such as the USAID, Global Fund and Against Malaria Foundation (AMF). Key informants at the GHS and NMCP interviewed commented:

"When it comes to fighting malaria in the country, some programs have been formulated and implemented, with the current program being the National Malaria Control Program which has been supported by various international partners and governments such as US PMI, Global Fund. The strategy has mostly been the distribution of treated insecticide nets, indoor spraying rooms with chemicals, and using ACTs" [Programme Manager, NMCP)

"Ghana has never lacked national health policies and, to be specific, child health policies. The MDGs alone led to some policies and programs being developed to achieve child health targets, and now there are the SDGs that the MoH and GHS are doing their best through various programs to achieve. Policies such as the U5 child health policy and even the Ghana National New-born Health Strategy are specific examples, to mention a few. Donors and other international partners mostly support these policies because national funding tends to be inadequate" [Official, GHS]

3.3 The NHIS and Malaria Eradication among Children U5

Since its introduction in 2003, the NHIS remains a significant health policy that has enabled access to health care delivery (Alhassan et al., 2016). Respondents admitted that the NHIS had promoted child and maternal health outcomes since, to a more

considerable extent, it has increased access to health services to a large section of the populace by removing the financial burden that used to serve as a major barrier to getting access to health care.

"One main policy that anyone in the country can admit its significance is the NHIS which has created opportunities for every citizen, especially the poor, to access health care. Before the policy was introduced, many people, especially those in the rural areas, could not pay for health care which affected their access to quality health care. But currently, at least things are better than before" [District Health Director, Mpohor]

Health officials interviewed also revealed that many mothers with U5 who visit their facilities were beneficiaries of the NHIS and can gain access to health care without any challenge. Among the mothers who participated in the study across the four districts, 93% were beneficiaries of the NHIS, whilst 7% were not beneficiaries of the scheme. 89% indicated benefitting from the scheme in seeking malaria treatment for their children, whilst 11% indicated otherwise (Table 3). This implies that mothers in the four districts are likely to seek malaria treatment from health facilities for themselves and their children due to the absence of financial barriers due to the NHIS.

Table 3: Access to NHIS

Statement	Response	Frequency (N=200)	Percent (%)
Are you a beneficiary of NHIS?	*Yes*	186	93
	No	14	7
Have you benefited from the NHIS in seeking malaria treatment for your children?	*Yes*	178	89
	No	22	11

Source: Field data, 2022

However, although the NHIS grants free access to health care in public health facilities for malaria treatment, it was revealed to the study participants that clients, in most cases, make payments for drugs when accessing health care. 94.4% of the mothers with U5 indicated paying for drugs despite being beneficiaries of NHIS. Of this, 53.3% spent between GH¢11 - GH¢20 on drugs, 39.3% spent between GH¢5 and GH¢10, 4.8% spent above GH¢30 and 3% spent between GH¢21 and GH¢30 on drugs. This suggests that mothers are most likely to spend GH¢20 on drugs, which in most rural settings would be deemed expensive. Most mothers (78%) indicated paying for drugs even though their children are beneficiaries of NHIS indicated that they could afford the medicines they were told to buy from the pharmacies, while 22% disagreed (Table 4). Health personnel admitted to this phenomenon of clients being requested to buy drugs even though they are beneficiaries of the NHIS. They indicated that the main reasons for the out-of-pocket drug payments are some drugs not being covered by the NHIS and the unavailability of specific medicines that clients are asked to buy from nearby licensed pharmacies or drug stores.

"A key observation and interactions with some mothers revealed that some of them come to the hospital knowing the NHIS would cater for them but only for them to be told to pay for drugs or go and buy them from pharmacies. Some of them get frustrated because they do not come with any money and regret coming to the hospital if they had to buy medicines from the pharmacy" [Matron of Nurses, Mpohor]

"Since some medicines are unavailable, mothers are told to buy them at the nearest licensed drug store or pharmacy. In other instances, people pay for medicines at the hospital because the NHIS does not cover those medicines. Usually, it is something most mothers and clients are unhappy about because they know that with the NHIS, they don't have to pay for anything" [Nurse, Kassena-Nankana]
"There are some drugs that NHIS do not cover, so clients are asked to either pay for them or go to the pharmacy to buy them. Sometimes, we will run out of stock medicines, so we will write the name of medicines for a client to go and buy them" [Nurse, Ada West]

Table 4: Payment for drugs under NHIS

Statement	Response	Frequency	Percent (%)
Did you have to pay for drugs even with NHIS when seeking malaria treatment for your children?	*Yes*	168	94.4
	No	10	5.6
If yes, how much did you spend?	*GH¢5 - GH¢10*	66	39.3
	GH¢11 - GH¢20	89	53
	GH¢21 - GH¢30	5	3
	Above GH¢30	8	4.8
I was able to afford the drugs I was asked to buy even with NHIS	*Strongly disagree*	4	2.4
	Disagree	33	19.6
	Agree	103	61.3
	Strongly agree	28	16.7

Source: Field data, 2022

The initial findings reveal an apparent discrepancy between policy intention and actual practice. The NHIS policy ensures that beneficiaries receive malaria treatment without payment. However, the study's evidence suggests this has not been the case.

3.4 Distribution of Insecticide Treated Nets (ITNs) Towards Malaria Prevention

Since the introduction of the Roll Back Malaria Partnership initiative in 1998 by the joint effort of WHO, UNICEF, UNDP and World Bank, the distribution of ITNs has been one of the significant interventions to prevent malaria (Nabarro, 1999), especially among pregnant women and children U5. Other participants also recounted situations where these nets were distributed to school children.
"One main intervention to fight malaria in this district is the distribution of mosquito nets to pregnant women when they visit the hospital during antenatal sessions. Distribution is done at least every four months…At times distribution is also done at designated centres in the communities after the public announcement to community members, especially mothers" [Matron of Nurses, Mpohor]
A respondent from Ada West also recounted:
"In this district, the only malaria intervention I have known over the years is the distribution of the mosquito nets to pregnant women and, in some instances, community members"[Matron of Nurse, Kassena-Nankana]
Mothers corroborated this with children U5 in their response to how they prevent them from malaria at home. Most mothers indicated using mosquito nets they received during antenatal sessions as a preventive measure against malaria. Out of the total 200 participants, 198, representing 99% of the respondents that, use ITNs to prevent malaria at home, while only two indicated otherwise. All 200 participants (100%) agreed that they

had benefited from the distribution of mosquito nets by the government without paying for them (Table 5). However, a number of them raised issues concerning the uncomfortability of using the nets due to the heat that accompanies sleeping in them and other side effects such as itching the skin. As a result, it was discovered that some mothers occasionally use it and resort to other methods like mosquito sprays and coils to prevent malaria at home.

"Some mothers reported some side effects their children experience due to the heat and chemicals when they sleep in the mosquito nets, so some of them said they stop using the nets, but as of now, the same nets are being distributed. If an avenue was created that enabled the local people to voice out their grievances to the officials of the district health directorates, I think that would make policies meet the needs of the people"[Matron of Nurse, Mpohor]

Table 5: Utilisation of ITNs

Variables	Response	Frequency (N=200)	%	Mean	Std
I use insecticide-treated nets to prevent malaria at home	Yes	198	99	1.01	0.10
	No	2	1		
I have benefited from the distribution of mosquito nets by the government	*Strongly disagree*	-	-	4.11	0.314
	Disagree	-	-		
	Neutral	-	-		
	Agree	178	89		
	Strongly agree	22	11		
I did not pay for the mosquito nets I received from the government	*Strongly disagree*	-	-	4.24	0.43
	Disagree	-	-		
	Neutral	-	-		
	Agree	152	76		
	Strongly agree	48	24		

Source: Field data, 2022

The study further sought to understand the availability of ITNs in the study areas if people were to procure them. In the Mpohor district, 84% indicated that mosquito nets were not easily available in the area whenever they needed a new one. However, 8% said otherwise as they agreed to the availability of mosquito nets when they needed a new one, while 8% were uncertain as they could neither agree nor disagree. In the Ada West district, 82% of the participants disagreed with the availability of mosquito nets in the area. However, 16% agreed, whilst 2% remained neutral. In the same manner, 72% of responses from the Obuasi district disagreed that mosquito nets were easily available in the area. 18.0% agreed that mosquito nets are readily available when a new one is needed, while 10% responded neutrally (Table 6).

Lastly, in the Kassena-Nankana district, a majority of 78% were of the view that mosquito nets are not easily available in the area whenever the need arises. About 14%, on the other hand, agreed that mosquito nets are easily available, whilst the remaining 8% neither agreed nor disagreed (Table 6). Commenting on this issue, a manager of a private pharmaceutical shop interviewed revealed that most pharmacy shops and clinics do not sell mosquito nets because people hardly buy them since they prefer to receive them free from the

government. As a result, he mentioned that he had stopped selling the mosquito nets for a long time.

"Sometime ago, we used to sell mosquito nets, but since the government started distributing them for free, we have stopped selling them and not only me but several pharmacy shops I know. So you will hardly find them being sold. People prefer getting it free than buying it considering the price."[Pharmacy Shop Attendant, Mpohor]

Table 6: District mosquito nets are easily available in my area when I need to get a new one

District		Mosquito nets are easily available in my area			Total
		Disagree	Neutral	Agree	
Mpohor	Count	42	4	4	50
	% within Area	84%	8%	8%	100%
	% of Total	21%	2%	2%	25%
Ada West	Count	41	1	8	50
	% within Area	82%	2%	16%	100%
	% of Total	20.5%	0.5%	4%	25%
Obuasi	Count	36	5	9	50
	% within Area	72%	10%	18%	100%
	% of Total	18%	2.5%	4.5%	25%
Kassena-Nankana	Count	39	4	7	50
	% within Area	78%	8%	14%	100%
	% of Total	19.5%	2%	3.5%	25%

Source: Field data, 2022

The foregoing suggests that apart from the periodic mass distribution of mosquito nets by the government, they are not readily available to procure, and even if available, they are relatively expensive. This implies that many people rely significantly on the ITNs distribution intervention by the government.

3.5 Malaria Treatment

Accessibility to Health facilities

Table 7 presents the accessibility of healthcare facilities in the various districts in Ghana. This implied the existence of health care facilities where mothers under U5 can seek health care for their children. About 88.5% of the respondents agreed that health facilities are easily accessible in their areas. In Mpohor district, 74% agreed they could easily access health facilities, while 26% disagreed. For the Ada West district and Obuasi districts, all the participants (100%) affirmed that healthcare facilities are easily accessible in their area. In the Kassena-Nankana East district, 80% of the participants indicated that healthcare facilities are easily accessible, but the remaining 20% responded otherwise.

Table 7: Are health care facilities easily accessible in your area?

District	Are health care facilities easily accessible in your area?			Total
		Yes	No	
Mpohor	Count	37	13	50
	% within Area	74.0%	26.0%	100%
	% of Total	18.5%	6.5%	25%
Ada West	Count	50	0	50
	% within Area	100%	0.0%	100%
	% of Total	25%	0.0%	25%
Obuasi	Count	50	0	50
	% within Area	100%	0.0%	100%
	% of Total	25%	0.0%	25%
Kassena-Nankana East	Count	40	10	50
	% within Area	80%	20%	100%
	% of Total	20%	5%	25%

Source: Field data, 2021

Figure 1 shows the proximity of healthcare facilities to participants in each district. Overall, most respondents (56.5%) confirmed that healthcare facilities are close to where they live, whilst 43.5% of participants indicated otherwise. District level results show that in Kassena-Nankana East, 52% of the participants responded that healthcare facilities are not close to where they stay whilst 48% answered that they remain close to health care facilities. In Obuasi, whilst 68% responded 'yes' that health care facilities are close to their residence, 32% responded 'No'. In Ada West district though all participants indicated that healthcare facilities are easily accessible, the majority (56%) answered that they are not close to where they stay, whilst 44% stated otherwise. Finally, in the Mpohor district, 66% of the participants revealed that healthcare facilities are close to where they stay, whilst 34% responded that they do not stay close to healthcare facilities.

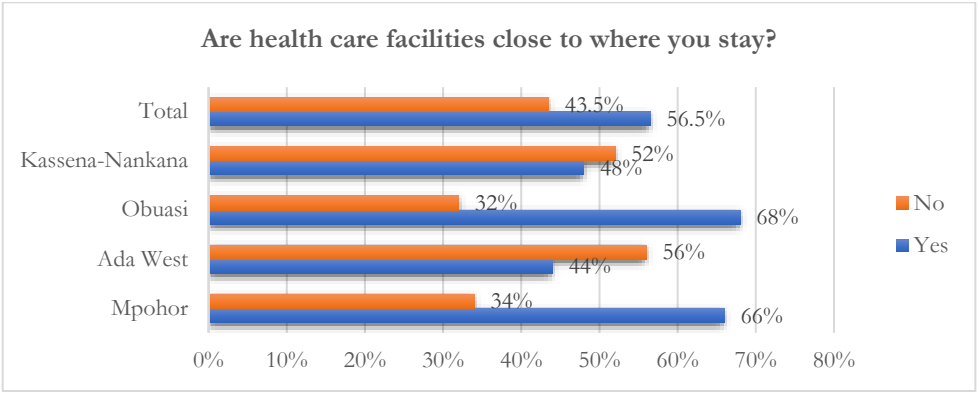

Figure 1: Proximity of health facilities to residence
Source: Field Data, 2022

Table 8 shows that 52% spend more than 10 minutes to get to the nearest health care facility. Of this, 33% spend between 11 and 20 minutes, 17.5% commute between 21 and

30 minutes, and 1.5% spend more than 30 minutes to get to the nearest health facility. However, 48% pay no more than 10 minutes to get to the closest health facility. The minimum time spent is 5 minutes, whilst the maximum time spent is 35 minutes. The mean time spent to get to a health facility is 14.92 minutes (Table 8).

Table 8: Time and amount spent to get to the nearest health facility

Variables	Response	Frequency (N=200)	Min	Max	Mean	Std
How long (in minutes) does it take for you to get to the closest health facility?	1 – 10	96(48%)	5	35	14.92	8.17
	11 – 20	66(33%)				
	21 – 30	35(17.5%)				
	Above 30	3(1.5%)				
How much do you spend to get to the closest health facility? (In cedis)	*0*	46(23%)	0	20	6.10	4.82
	1 – 5	61(30.5%)				
	6 - 10	63(31.5%)				
	11 - 15	23(11.5%)				
	Above 15	7(3.5%)				

Source: Field data, 2022

Concerning the amount spent by participants to get to the closest health facility, most of the respondents (53.5%) at the time of the study spent no more than ¢5 on transportation to the nearest health facility. 46.5% of the participants spend more than ¢5 to get to the closest health facility. The minimum amount was 0 as some respondents indicated not spending any money since they can walk to the nearest health facility. The highest amount spent was ¢20, while the mean amount was ¢6.10.

Affordability of Malaria Drugs

Opinions of the mothers of children U5 were sought on the affordability of these malaria drugs across the various districts. The results show that, most respondents (70%) deemed the drugs unaffordable and relatively expensive, whilst 30% deemed the drugs affordable in Mpohor district (Figure 2).

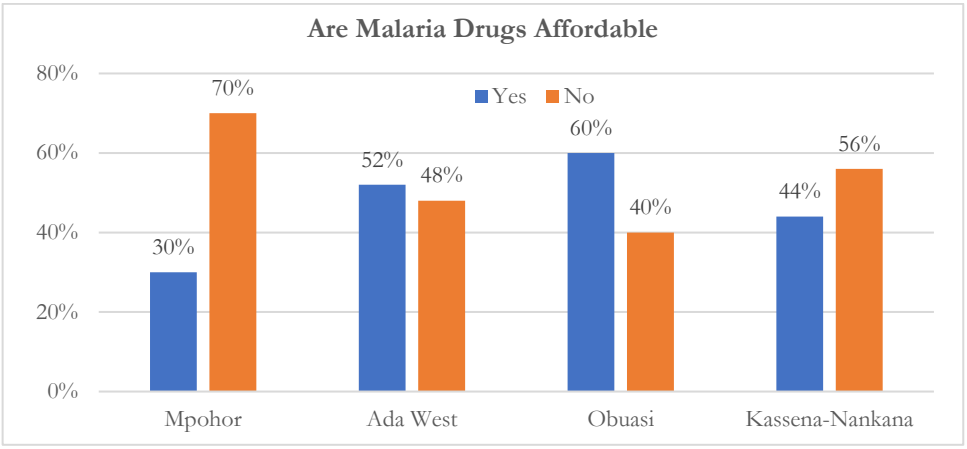

Figure 2: Affordability of malaria drugs, Source: Field data, 2022

In Ada West, 52% responded that the malaria drugs are affordable, whilst 48% indicated otherwise. In Obuasi, whilst 60% regarded malaria drugs as affordable, 40% thought the drugs were not reasonable and thereby expensive. Conversely, in Kassena-Nankana East, 56% responded that malaria drugs are not cheap, while 44% deemed them affordable. The preceding suggests that relatively participants in Mpohor and Kassena-Nankana East consider malaria drugs expensive compared to Obuasi and Ada West (Figure 2).

Availability of Health care Personnel and Facilities for Malaria Treatment

Concerning the availability of health care personnel in the health facilities, 84% of respondents 84% disagreed that health centres in their area have adequate skilled health personnel. Only 12% of the respondents admitted that there are adequate qualified health personnel in health facilities in their area. 4% of the respondents were, however, indifferent. The mean of 2.02 implies that respondents largely disagreed that health centres in their area have adequate skilled health personnel (Table 9).

Table 9: Availability of adequate health care personnel and facilities for malaria treatment

Variables	Response	Frequency (N=200)	%	Mean	Std
Health center in my area has adequate skilled health personnel	*Strongly disagree*	53	26.5	2.02	0.888
	Disagree	115	57.5		
	Neutral	8	4		
	Agree	24	12		
	Strongly agree	-	-		
Health center in my area has adequate facilities and equipment	*Strongly disagree*	67	33.5	1.72	0.553
	Disagree	123	61.5		
	Neutral	10	5		
	Agree	-	-		
	Strongly agree	-	-		

Source: Field data, 2022

On the availability of adequate facilities and equipment in health centres, 95% of the participants responded that health care centres in their area do not have adequate facilities and equipment. The remaining 5% were indifferent.

Quality of Malaria Treatment

Another vital principle of functioning health system governance is the extent to which health systems are responsive to the health needs of the society and community satisfaction with health delivery. To determine the extent to which health delivery meets the local needs with specific reference to eradication of malaria among U5, study participants were asked to express their opinion on their satisfaction with the quality of malaria treatment they receive for their children. On the efficacy of malaria drugs, 90% of the respondents identified the effective antimalarial drugs given for treating their children. 10% responded that the drugs are ineffective in treating malaria in their children. The study further revealed that most mothers (58%) indicated satisfaction malaria treatment in the four districts, whilst 43% indicated otherwise. In Obuasi, 80% indicated their satisfaction with malaria treatment for their children in health facilities whilst 20% responded

otherwise (Figure 3). This suggests that health delivery meets the needs of the Obuasi municipality's local people to a greater extent than the other three districts.

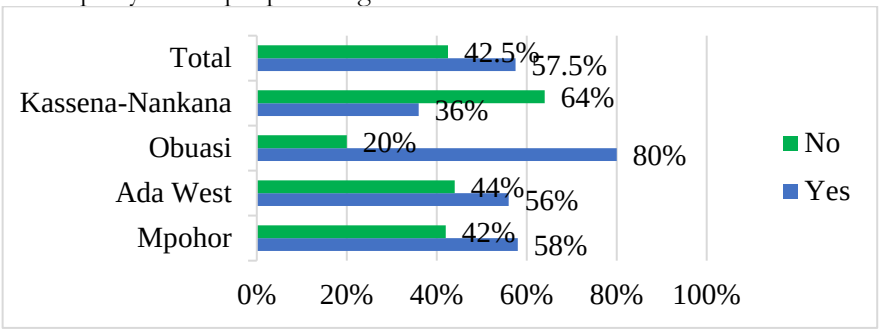

Figure 3: Satisfaction with malaria treatment for children U5
Source: Field data, 2022

In the Mpohor district, 58% of the mothers responded that they were satisfied with malaria treatment for their children, while 42% indicated not being satisfied. For Ada West district, 56% were satisfied, while 44% indicated otherwise. the Kassena-Nankana East district showed that mothers with U5 are largely not satisfied with malaria treatment, with 64% responding not being satisfied as against 36% who indicated being satisfied (Figure 3).

3.6 Actors and Their Roles in the Health policy formulation and Implementation to Eradicate Malaria among U5

Primary Health Care Actors

The primary health care system in Ghana plays a major role in health delivery for the people of Ghana, especially in the rural areas. Primary health care mainly involves curative, preventive, promotive and rehabilitative health services. The primary health care system in Ghana is organised along with a three-tier system: district level (district hospitals), sub-district level (health centres) community level (Armah & Kicha, 2020). The community level of the primary health care system comprises community-based health planning and services (CHPS). The establishment of the CHPS is to bring health care closer to people to ensure easy access to health care and reduce inequalities in health care delivery. Across the four districts, it was found that the various primary health care facilities at the district, sub-district and community levels provide malaria treatment for children U5. However, interviews with the health care personnel indicated that health facilities in their quest to provide quality health treatment, are challenged in several ways. The participants indicated that those assigned to health facilities are often not competent due to insufficient health training.

"As a facility, we are challenged regarding the number of personnel we need to operate effectively. The number of personnel we have currently is not enough to make us meet the needs of our clients. When it comes to postings, we do not have any say. There is no consultation to enable us to indicate the number and kind of personnel we need. Our requests are not met even in situations where communication to the Ghana Health Service national directorate through the regional directorates"[Medical Officer, Kassena-Nankana]

"We have a shortage of staff here, especially general nurses because some refuse postings to this facility and other facilities in the district. After seeing the working environment within which they operate coupled with

the accommodation challenges, unstable electricity and water challenges, they are reluctant to work here and can change their postings to health facilities in the urban districts. The staff shortage has brought undue pressure and workload on us considering the demands of our clients" [Matron of Nurse, Mpohor]
"Across the country, you will find that most public health care facilities do not have adequate staff. Health care workers in this facility are not enough, but the irony of the situation is that several trained personnel are just sitting home waiting to be posted. [Nurse, Ada West]
Secondly, the study gathered participant observation and responses that primary health care facilities lack adequate logistic and medical supplies to ensure quality health delivery. According to the respondents' additional ambulances are needed to meet the many emergency cases in the districts, especially those involving children.
"Over here, as you can see, we lack much equipment and medical supplies. I believe you have seen where records are kept and our work environment. It is not never acceptable as a health facility. We hope completing the ongoing construction to convert this health centre to a polyclinic would improve conditions here" [Matron of Nurse, Mpohor]
"Though we are doing our best to provide quality health care for the people in the district, a major problem we face is the lack of adequate medical supplies. There is always a delay in the distribution of medical supplies, which affects the prompt delivery of service. There are instances where we run out of malaria medicines and as a result, clients are told to buy them which they are most unhappy because they believe that they should get these drugs free because of the national health insurance scheme". [Nurse, Kassena-Nankana East]
"A major challenge we face in this facility is power supply. We do not have a standby generator, and considering the frequent power cuts, our operations are seriously affected, and people's lives are always at stake. This is something we have been crying for support for some time. We hope our pleas are granted to ensure we can provide quality health care delivery to people, which is their right" [Medical Doctor, Obuasi]

Private Health Care Providers

Private health care providers are also key in health care delivery across the four districts. They complement public health facilities in the provision of primary health care. The private health care facilities were private hospitals, clinics, pharmacies, or drug stores. The study discovered that Ada West had no private hospital among the four districts. However, several private pharmacies and chemical stores were cut across the districts. It was revealed that some people preferred local herbal medication to treat malaria. Apart from selling medicines, some pharmacy attendants indicated providing education and sensitisation to their customers, especially in adopting malaria prevention practices to protect themselves and their children.
"…I can say that malaria drugs are generally purchased rapidly, largely due to the rate at which people contract the sickness. This, I believe, is not a rare phenomenon in our part of the world." [Pharmacy Shop Attendant, Kassena-Nankana East]
"For malaria, we usually prescribe drugs such as Lufart, and Lonart, which are Arthemether tablets for adults and Artibase suspension for children under five. In addition, we have herbal medicines such as Taabea Herbal mixture and Time herbal mixture that some people prefer to treat malaria" [Pharmacy Shop Attendant, Mpohor]
"The malaria drugs are effective but concerning why malaria persists, I think the issue should be tackled from the 'prevention' point of view and not the administering of drugs. In this community, people are given

mosquito nets to prevent malaria. However, they lack understanding of the whole situation and should be more educated. I, for instance, try to educate my patients/clients to adopt two specific methods in addition to using the nets. Firstly, they should spray their rooms with mosquito insecticides before sleeping in the nets and avoid sitting out for long, especially in the evening, since they can be bitten before sleeping in these nets. Despite these, only a few accept and practice these methods with the majority adamant about changing" [Pharmacy Manager, Ada West]

International Partners and Donor Agencies

Several international organisations and partners have supported Ghana tackling child health sicknesses and diseases. However, two critical international agencies that have contributed significantly to malaria prevention and treatment are PMI and Global Fund. These agencies have provided technical and financial assistance to the NCMP in formulating and implementing interventions to eradicate malaria in the country (PMI, 2022).

"Over the years, we have received much support from international partners and agencies to support us in the fight against malaria in the country. Though there are several supporting agencies, I think in the fight against malaria, US PMI and Global Fund have been beneficial and instrumental in terms of financial support and technical assistance. Particularly in the mass and continuous distribution of ITNs across the country, the IRS programs, provision of RDTs, malaria drugs and other activities in the prevention and treatment of malaria." [Programme Manager, NCMP]

Role of Mothers

Mothers are vital in implementing malaria policies and have a significant role in preventing and treating malaria for children U5. Mothers' responsibility is to seek health care for their children. Therefore, health-seeking behaviour among the participants was examined. As shown in Table 10, the study results revealed that 72% of the mothers indicated always seeking health care for their children at the hospital whenever they are sick, while 28% responded otherwise.

Table 10: Mothers' utilisation of health care for their children U5

Statement	Response	Frequency (N=200)	Percent (%)
Do you always seek health care from the hospital when your children are sick?	Yes	144	72
	No	56	28
Did you seek malaria treatment from a health facility?	Yes	200	100
	No	-	-
If yes where did you seek health care?	District hospital	32	16
	Health center	86	43
	Polyclinic	26	13
	Private Hospital/Clinic	12	6
	Drug store	44	22

Source: Field data, 2022

However, concerning malaria treatment, all the mothers responded that they sought treatment from a health facility for their children. The study results showed that participants resorted to different health facilities for malaria treatment for their children.

43% sought health care from a health centre, 22% from a drug store, 16% from a district hospital, 13% from a polyclinic, and 6% from a private hospital or clinic.

3.7 Actors' Participation and Consensus Orientation in Policy Formulation and Implementation

The study found that the hierarchical structure that characterised the health sector was highly influenced by dispositional power exercised between national, regional, and levels. Some respondents from the district level across the four districts admitted that due to the existing hierarchical structure, district-level decision-making power resides in the Minister of Health at the national level instead of the district-level health directorates. The Minister of Health also highly influences the decisions of the GHS. In a nutshell, policy formulation and implementation at the district level are highly influenced by higher authorities in the health governance structure.

"Ideally, looking at the form of decentralisation we are implementing, the district health directorates should have the autonomy and power to initiate their policies and interventions, but that has not been the case. Everything comes from above, from the Ministry to the GHS and Regional Health Directorates. So the district directorates just accept anything that is pushed from the top. We are told what to do and cannot do anything without directions and approval from the top" [DHD, Ada West]

Some study participants described the hierarchical structure that determines power relations between the MoH, GHS, Regional Health and District Health Directorates to be rigid and do not lend to some flexibility. They indicated that though the structure provides a channel of reporting, it stifles local initiatives to the extent that programs of Regional Health Directorates supersede that of the district level.

"I think our structure is very rigid and does not give room for some discretion. You see how you needed a letter of approval from the Regional Health Directorate before I could grant you this interview. That is the same thing that applies to policy formulation…If the Regional Health Directorate needs you to attend a program and at the same time you have an equally important program in your district, you need to forego yours and attend that of the Regional Directorate" [DHD, Obuasi]

A consequence of this hierarchical power has been the limited decision space at the disposal of DHDs. The district health directorates have become mere implementers of policies without the power to alter or modify national policies to meet local conditions. In most cases, national policies do not include inputs from the districts. The consequence is that policies may fail because they do not consider local context and conditions.

"A number of the policies are made at the national level and therefore fail to meet the conditions and needs of the districts because planning is done for the districts instead of with the districts. The top-down nature of decision making is a challenge to the success of the health policies". [MCD, Obuasi]

Dispositional power was also found to be at play across the national, regional and district levels based on the allocation of resources. There is a stronger link between district directorates and the upper levels compared to the collaboration with the district assemblies. This reinforces the dispositional power the upper levels have over the district directorates. The district directorates do not generate revenue and depend heavily on inflows, upper-level budget allocations, and donor support. Study participants further admitted that the heavy reliance on funding and other resources tends to affect the successful implementation of health programs and interventions when there is a delay in releasing funds and other resources.

"Regarding funding and other resources, we depend largely on the regional and national level...This contributes to the control of they have on our operations. As a result, when there is a delay in the release of funds, it affects our operations" [DHD, Kassena-Nankana]

The district assemblies provided minimal support to the district health directorates. This support does not give the assemblies power over the directorates. Ideally, the district assembly, the highest political and administrative body should have overall authority over decentralised units, but that tends not to be the case. The district health directorates mainly report directly to the regional and national levels. The district assembly mainly collaborates with district health directorates to provide financial and other assistance, such as building CHPS facilities. According to officials of the district assemblies interviewed, the assembly is not mandated to provide financial and other support to the directorates. However, the assembly deems it prudent, as the district's highest political and administrative body, to make some budgetary for health services.

"Per the arrangement, the district assemblies are not directly responsible for providing resources to the district health directorates. However, being responsible for the overall development of the district is only fit to support the health directorate in its activities. So we make some allocations for them when preparing our budget. For instance, the assembly is building some CHPS in the municipality." [MCD, Obuasi]

"Health-related issues in the assembly are channelled to the health directorate. Notwithstanding, the assembly supports them occasionally, and I continually recommend that they should and do it more often."[Chief, Mpohor]

Relational Power and Political Dynamics

The relational power tendencies between the health directorates at the district, regional and national levels and political actors. Responses from study participants revealed that the relationship between political and administrative actors is complicated due to these actors' diverging interests. Political actors are mainly focused on votes and how to please their voters and are only interested in the effect of policy decisions on their party remaining in power. However, the health administrators are mainly interested in how policies can be implemented to improve health outcomes of the people. Some respondents also identified that district-level politicians could influence health policy implementation in a situation where they perceive positive consequences to be used to their advantage during political campaigns. They are eager and willing to provide the necessary support to ensure the success of such policies.

"We all know how politicians in this country behave. They are only interested in getting votes and winning elections and so are ready to support any intervention that will make them gain popularity and votes from the people to keep them in power" [DHD, Mpohor]

Conversely, they are not eager to support health-related activities of other political parties because such actions may undermine their political campaigns and programmes. As a result, the health policies and projects initiated by the previous political party in government are discontinued by a new party that assumes power. They indicated this is visible across the country with several abandoned health projects, just as witnessed in other sectors.

"This is an issue I am utterly concerned about, and I get heartbroken whenever I see or hear of these. Indeed, it is happening. A change in government should not be the end of policies and projects. After being

enstooled as a chief, I have made sure to continue and upgrade all relevant projects my predecessors began, and this can be done at all levels, else we risk retrogressing" [Chief, Mophor]

The study further found that health administrators across the national, regional and district levels need to ensure that health policies are clearly in line with the interests and priorities of political actors or lose support from politicians who can largely impede the successful implementation of these health policies.

"Politicians at the national level have significant influence in the allocations of funding and so are ready to commit the needed funding to the implementation of health policies that are clearly in line with their priorities. So health decision-makers are always forced to formulate policies that are aligned with the political interests and also support health policies that are politically initiated" [DHD, Kassena-Nankana]

Another participant also recounted:

"The political issue should always be the starting point before any policy is formulated. That is the need to make sure that it is in sync with the manifesto or agenda of the ruling government; otherwise, it will never see the light of day" [Official, GHS]

Involvement of Non-State Actors in Policy Formulation and Implementation

The study examined the extent to which non-state actors such as traditional leaders, religious leaders and private health care providers participate and are involved in health policy formulation and implementation across the districts. The traditional leaders from the four districts interviewed indicated non-involvement in the policy formulation, especially in eradicating malaria among U5 children. The inputs of these leaders are not considered during policy formulation, which mainly occurs at the national level, known as the top-bottom approach.

"I have never been invited to any district, regional or national meeting to participate in health policy formulation for my district. It has never happened since I became chief. Maybe some other chiefs are invited but not me" [Chief, Obuasi].

Another participant also commented:

"I am unaware of any health policy formulation exercise I participated in. I know when the district health directorate wants to implement or undertake an exercise such as vaccination or immunisation. They usually contact to me encourage my community members to avail themselves for that exercise" [Chief, Ada West]

However, they indicated playing some role in implementing policies to eradicate malaria in their districts. According to them, they only get to know the intentions and programs of district health directorates regarding implementation. Their influence is required to cause behavioural change among community members.

"The district (directorate on health) had put together a committee to which I was invited, we had two meetings, and currently, I cannot tell if we are still active. Our focus was not only on malaria but other diseases as well. I have also served on other committees, such as the regional committee on AIDS. I am only looking at getting the intended results that can help the community." [Chief, Mpohor]

Another traditional leader also had this to say:

"I remember I was contacted to inform my people about a vaccination programme for children that the district health directorate was about the undertaking, and I was expected to encourage the people to avail themselves and not to fear any consequences of the exercise to their children."[Chief, Kassena-Nankana]

Another Chief also commented:

"The district health director contacted me to help distribute mosquito nets to the people. So they brought some of the nets to my house to keep them before the day of distribution, and I helped announce and organise the women to receive the mosquito nets" [Chief, Ada West]

The traditional leaders interviewed admitted having little to no influence in the formulation and implementation of health policies. Some leaders explained that their lack of knowledge and expertise on health-related issues might account for their non-involvement in policy formulation. They can only provide the necessary support to assist the district health directorates in implementing their activities.

"Policy formulation on health issues may require some level of knowledge and expertise on health which honestly, I do not have, so maybe that is why I am not invited in health decision making. But it is not out of place to involve chiefs in health decision-making irrespective of their level of knowledge on health. That notwithstanding whatever assistance they need, when they come to me, I do my best to assist them in their activities" [Chief, Kassena-Nankana].

Concerning the role played by the traditional leaders in the fight against malaria, the chiefs undertake regular community clean-up exercises to improve the sanitation of their areas. This was deemed necessary because poor sanitation was the major cause of malaria in the districts.

"Formerly, malaria cases in this community were rare, we barely recorded such cases, but with time and the behavioural patterns of people, the cases are increasing. People are throwing rubbish indiscriminately, and these are major breeding places for mosquitoes. They move straight into our homes from their breeding places… In this community, I instituted a committee in charge of organizing communal labour to clean the community periodically. They usually go round from time to time, and when they realize a place is dirty, or an incidence of poor sanitation, they rally the community members and get it cleaned"[Chief, Mpohor]

Concerning the participation of religious leaders in the formulation and implementation of health policies, study participants across the districts responded not being involved in policy formulation and implementation of the health policies. The district assemblies, however, periodically involve and engage religious leaders in their activities. However, it was found that the participation of religious leaders was mainly ceremonial and did not have the voice and power to effect changes to the decisions of the district assemblies.

"With regards to decision making, we are often overlooked. To us, this is a major challenge. We recognize that the district assembly is the political head of this community, but as a major religious body here, we deem it right to be involved holistically in decisions that concern the community"[Chief Imam, Ada West]

"The district health directorate has never involved me in decision-making on any issue. But what I can say is that of the district assembly where we are invited and engaged in some events which is merely a ceremonial role we play, and we do not have a strong voice or influence over the decisions of the assembly" [Catholic Bishop, Mpohor]

The study examined the extent of their involvement and participation in policy formulation and implementation at the district level. The study found that private health care providers spend more time formulating and implementing policy at the district level.

"Yes, we participated in policy decisions and implementation by the district directorate. We have an association, and this facility is a member; we hold meetings regularly. We are also involved in decision-making and policy formulation in the community. Most health workers here are not indigenes/natives of the community and sometimes face a language barrier. Therefore, the involvement of their superiors in decision making becomes one way to make implementing policies easier, specifically with communication of policies and decisions." [Private health care Provider, Mpohor]

"We are largely involved and participate in decision-making by the district health directorates. Because we are one of the biggest private hospitals in the municipality, we play a significant role in health delivery, so the district assembly, as well as the district health directorate, also invites us to partake in decision making and implementation of policies" [Matron St Jude Hospital, Obuasi]

3.8 The Impact of Health Policy Interventions on Malaria Outcome Among U5 Malaria Prevalence

It was imperative to examine malaria prevalence among U5 children of the mothers who participated in the study to measure the impact of policy interventions on malaria outcomes. The findings indicated that malaria remained a significant illness among children U5 across the four districts, as reported by 59.5% of the participants. This is followed by cold (13%), cough (9%), headache (5.5%), fever (4%) and other sicknesses such as measles, pneumonia, and eye problems were identified by 9% of participants. In Mpohor, 76% of the participants mentioned malaria as the sickness that their children U5 have suffered most.

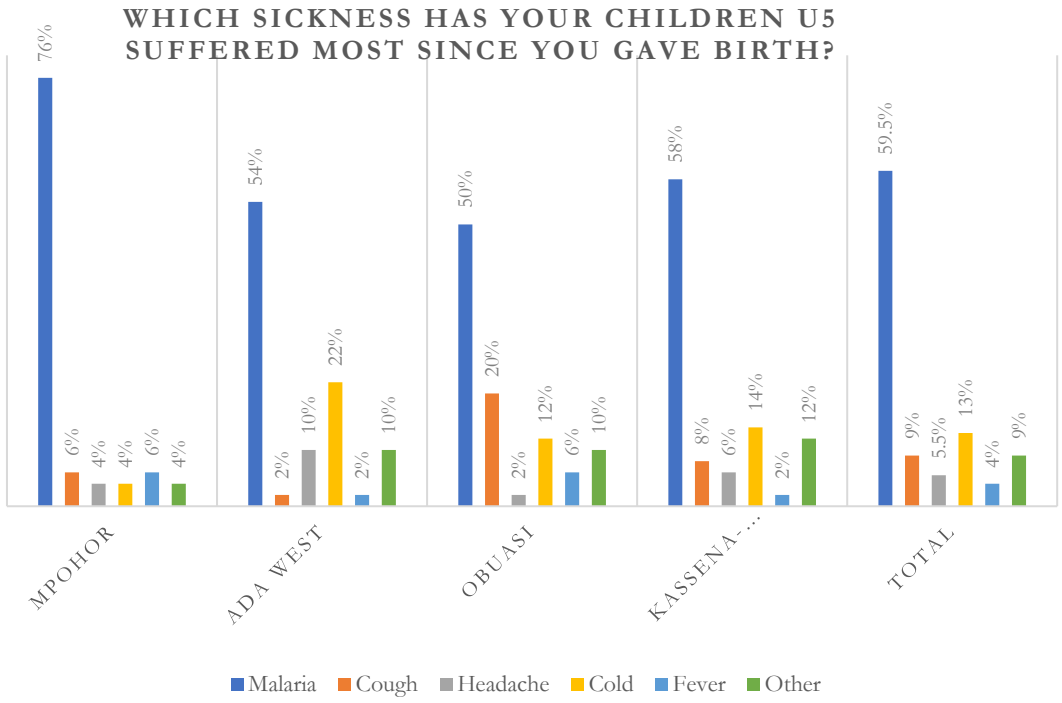

Figure 4: Sickness suffered most by children U5
Source: Field data, 2022

Similarly, the respondents indicated that children U5 had suffered malaria (54%) the most in Ada West, followed by cold (22%), headache (10%), cough (2%), fever (2%), and other sicknesses 10%. In Obuasi, children U5 have suffered mostly from malaria as indicated by 50% of the participants, 20% mentioned cough, 12% identified cold, 6% mentioned fever, and 10% identified other sicknesses. The situation is no different in the Kassena-Nankana East district, where 58% of the mothers identified malaria as the disease suffered most by

their children U5. 14% indicated cold, 8% showed cough, 6% headache, 2% fever and 12% other sicknesses. The initial results imply that children U5 in the four districts surveyed are prone to various diseases, especially malaria.

Table 11: Number of times children U5 have suffered Malaria

Variable	Response	Frequency (N=200)	Min	Max	Mean	Std
How many times have your children U5 suffered from malaria?	1	83(41.5%)	1	3	1.69	0.65
	2	96(48%)				
	3	21(10.5%)				

Source: Field data, 2022

The participants were also asked to share the number of times their children U5 have suffered from malaria. With this, 48% of the participants indicated that their children U5 suffered twice from malaria, 41.5% indicated that their children have suffered from malaria just once, and 10.5% have had their children U5 suffer malaria three times in their lives. A mean of 1.69 implies that a child U5 will likely suffer from malaria at least once across the four districts.

Malaria Deaths

Regarding malaria deaths among children U5 in the study areas, 37 mothers (18.5%) have lost a child from malaria. This comprised 12 (6%) mothers from Mpohor, 7 (3.5%) from Ada west, 5 (2.5%) from Obuasi, and 13 (6.5%) from Kassena-Nankana East. Among the mothers who indicated losing a child U5 to malaria, 35 had lost one child to malaria, whilst 2 had lost two children to malaria (Table 12).

Table 12: Children U5 died from malaria

			Has any of your children under five years died from malaria?		
			Yes	No	**Total**
Area	Mpohor	Count	12	38	50
		% within Area	24%	76%	100%
		% of Total	6%	19%	25%
	Ada West	Count	7	43	50
		% within Area	14%	86%	100%
		% of Total	3.5%	21.5%	25%
	Obuasi	Count	5	45	50
		% within Area	10%	90%	100%
		% of Total	2.5%	22.5%	25%
	Kassena-Nankana East	Count	13	37	50
		% within Area	26%	74%	100%
		% of Total	6.5%	18.5%	25%

Source: Field data, 2022

Table 13: If your children U5 died from malaria, how many?

Indicators			If yes, how many?		Total
			1	2	
Area	Mpohor	Count	12	0	12
		% within Area	100.%	0.0%	100%
		% of Total	32.4%	0.0%	32.4%
	Ada West	Count	7	0	7
		% within Area	100%	0.0%	100%
		% of Total	18.9%	0.0%	19%
	Obuasi	Count	5	0	5
		% within Area	100%	0.0%	100%
		% of Total	13.5%	0.0%	13.5%
	Kassena-Nankana East	Count	11	2	13
		% within Area	84.6%	15.40%	100%
		% of Total	29.7%	5.40%	35.1%

Source: Field data, 2022

Thus, 39 children U5 have died from malaria across the four districts surveyed. Kassena-Nankana East had the highest number of deaths with 15 deaths, followed by Mpohor with 12 deaths, Ada West with 7 fatalities and Obuasi recording the lowest number of deaths with 5 malaria deaths.

3.9 Challenges inhibiting Effective implementation of Health Policies toward the Eradication of Malaria among U5

Political Transitions

Study participants revealed that since 1992, political transitions have led to redeployment and retrenchment of top public officials across the public sector, with the health sector, not an exception. As such, a change in government is accompanied by new appointees across the national, regional and district levels. This phenomenon prevails in the health sector and affects the continuity of the implementation of health policies. The new leadership comes with new vision and policy directions based on political priorities. As a result, it supports previous policies, especially if the previous government initiated them.

"Ghana is a highly political country, and politics cut across almost every aspect of the public sector. Every change of government comes with new appointees, and so existing policies are either suspended or halted if it is not in line with the new government's vision and political priorities" [DHD, Mpohor]

Delay in releasing of Funds

Another challenge curtailing the success of health policies identified by the study participants was the delay in the release of funds to support the implementation of policies at the district level. The district health directorates do not generate their revenue but rely on budgetary allocations and funding from the regional level. As a result, delays in the release of funds have affected the implementation of policies at the district level. The unreliability of the central government's financing curtails health policy implementation.

"In most cases, funding for our operations is delayed, and since we do not generate our revenue but rely heavily on budgetary allocations from the regional level, all our activities are brought to a standstill. Without

adequate funds, we cannot implement policies effectively. If funding is released timely, the story would be different"[DHD, Kassena-Nankana]

Poor Collaboration among Stakeholders

The study's findings reveal that participation and collaboration among state and non-state actors have been abysmal. Chiefs who are the traditional leaders and wield considerable influence on their subjects are mostly sidelined in policy decisions. Similarly, policy beneficiaries are largely not involved in decisions that may directly or indirectly impact their lives. This development curtails their influence and ability to make meaningful contributions to health decisions affecting their lives and children. Lack of awareness and support for these policies by non-state actors may have led to poor implementation of policies.

"I think one main challenge is the lack of collaboration. The district health authorities do not engage the local people, especially opinion leaders, religious leaders and even the Chief, in decision-making. They only seek their support when they need to assemble the community people. This is not the right way to go" [Chief, Mpohor]

"Seeking the views and opinions of local leaders and community members in decision making on health is very important, but you hardly find that in the district. Some time ago, some mothers reported some side effects their children experience when they sleep in the mosquito nets, which made them stop using the nets, but now the same nets are distributed"[Matron of Nurse, Mpohor]

Lack of Education and Sensitisation on Malaria Control Practices

Some study participants revealed that policies to eradicate malaria have failed to achieve desirable results due to the public's lack of education and regular sensitisation on malaria prevention and control practices. Due to ignorance and negligence, it was revealed that some people use mosquito nets for fencing their gardens and farms.

"Lack of education about the situation and poor sanitation. The natives must be educated on sleeping in a treated mosquito net, good sanitation, cutting down the weeds in their environment, and wearing protective clothing. Some also do not complete their treatment course. Some parents stop halfway when they feel the child is getting better, and as such are not completely cured only to come back with the same symptoms or illness in space-time of three weeks."[Matron of Nurses, Mpohor]

A religious leader commenting on the challenges responded:

"*The lack of education is a major challenge. I can also mention negligence because some people are aware of the dangers of the sickness but still ignore taking precautions. In my opinion, an effective way to reduce malaria is for our health workers to schedule meetings with the various churches to educate the natives on some appropriate ways to fight malaria. Those in attendance would share the message with their neighbours when they get home; in essence, the masses are reached."[Catholic Bishop, Ada West]*

Commenting on the challenges, another religious leader had this to say:

"On this issue, I will conclude that it is a behavioural problem, so proper education and public awareness program on malaria is the way to go. The sanitation situation here is also appalling. When you look around, you see stagnant water spread across the community, and as we have been taught, these are breeding places for mosquitoes. There are some days when gutters are desilted but the sand and rubbish are left at the edges of the gutter only for the rains to wash them back in after a few days or hours. Furthermore, some people do not make appropriate use of mosquito nets. They use it for other purposes, such as fencing their garden or farms, rather than sleeping in them due to ignorance. We have people here who hardly visit the

health facility when sick. Others also self-medicate, meaning they may do the same for their children, and that is a problem, some even approach me for recommendations, but I redirect or instruct them to visit the health facility instead" [Matron of Nurse, Kassena-Nankana]

4. Conclusions

Malaria contributes significantly to the increasing mortality rate among children U5 in Africa and Ghana. This study sought to analyze how policies, actors, and institutions play out and interact in Ghana´s public health sector and how they affect the health outcomes of children under-five years in early childhood malaria. There were apparent discrepancies between policy intent and actual implementation, especially concerning the NHIS. Moreover, the study identified that in health care, the wide range of actors in health policy formulation and performance had not been accompanied by adequate involvement in decision making. A functioning health system goverance is critical to achieve desirable results in eradicating malaria among children U5 in the four districts understudied.

References

Alhassan, R. K., Nketiah-Amponsah, E., & Arhinful, D. K. (2016). A Review of the National Health Insurance Scheme in Ghana: What Are the Sustainability Threats and Prospects? *PLOS ONE*, *11*(11), e0165151. https://doi.org/10.1371/journal.pone.0165151

Amek, N. O., Van Eijk, A., Lindblade, K. A., Hamel, M., Bayoh, N., Gimnig, J., Laserson, K. F., Slutsker, L., Smith, T., & Vounatsou, P. (2018). Infant and child mortality in relation to malaria transmission in KEMRI/CDC HDSS, Western Kenya: Validation of verbal autopsy. *Malaria Journal*, *17*(1), 37. https://doi.org/10.1186/s12936-018-2184-x

Armah, P., & Kicha, D. (2020). Primary health care in Ghana: The structure and functions in relation to preventing neglected tropical diseases. *Archiv Euromedica*, *10*(3), 12–17. https://doi.org/10.35630/2199-885X/2020/10/3.2

Awine, T., Malm, K., Bart-Plange, C., & Silal, S. P. (2017). Towards malaria control and elimination in Ghana: Challenges and decision making tools to guide planning. *Global Health Action*, *10*(1), 1381471. https://doi.org/10.1080/16549716.2017.1381471

Bigdeli, M., Rouffy, B., Lane, B. D., Schmets, G., & Soucat, A. (2020). Health systems governance: The missing links. *BMJ Global Health*, *5*(8), e002533. https://doi.org/10.1136/bmjgh-2020-002533

Bryce, J., Boschi-Pinto, C., Shibuya, K., & Black, R. E. (2005). WHO estimates of the causes of death in children. *The Lancet*, *365*(9465), 1147–1152. https://doi.org/10.1016/S0140-6736(05)71877-8

Ghana Statistical Service. (2011). *2010 Population And Housing Census*. Ghana Statistica Service. https://unstats.un.org/unsd/demographic-social/census/documents/Ghana/Provisional_results.pdf

Ghana Statistical Service. (2014). *2010 Population and Housing Census: District Analytical Report- Mpohor District*. Ghana Statistica Service. https://www2.statsghana.gov.gh/docfiles/2010_District_Report/Western/Mpohor.pdf

Ghana Statistical Service. (2017). *Ghana Statistical Year Book 2012-2015*. https://statsghana.gov.gh/gssmain/fileUpload/pressrelease/STATISTICAL%20YEARBOOK2015_Gh2018(1).pdf

Nabarro, D. (1999). Roll Back Malaria. *Parassitologia*, *41*(1–3), 501–504.

Owusu-Ofori, A. K., Betson, M., Parry, C. M., Stothard, J. R., & Bates, I. (2013). Transfusion-Transmitted Malaria in Ghana. *Clinical Infectious Diseases*, *56*(12), 1735–1741. https://doi.org/10.1093/cid/cit130

Pyone, T., Smith, H., & van den Broek, N. (2017). Frameworks to assess health systems governance: A systematic review. *Health Policy and Planning*, *32*(5), 710–722. https://doi.org/10.1093/heapol/czx007

United Nations. (2015). *Resolution adopted by the General Assembly*. United Nations. https://www.un.org/ga/search/view_doc.asp?symbol=A/RES/70/1&Lang=E

World Health Organization. (2021a). *Global patient safety action plan 2021–2030: Towards eliminating avoidable harm in health care*. World Health Organization. https://apps.who.int/iris/handle/10665/343477

World Health Organization. (2021b). *World malaria report 2021*. World Health Organization. https://apps.who.int/iris/handle/10665/350147