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Original Research Article

Assessment of the influence of healthcare financing strategies on universal health coverage: a case of Garissa County, Kenya

Aden Mohamed Dahiye*, Suleiman Mbaruk, Joseph Juma Nyamai

School of Public Health, Mount Kenya University, Thika, Kenya

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***Correspondence:**
Dr. Aden Mohamed Dahiye,
E-mail: adeshmoha2009@gmail.com

ABSTRACT

Background: Universal health coverage aims to ensure that all people can use the promotive, preventive, and curative health services they need, while also ensuring that the use of these services does not expose the user to financial hardship. This study aimed to assess the influence of healthcare financing strategies on universal health coverage in Garissa County, Kenya.
Methods: The research design for this study was an analytical cross-section study. The study used a mixed research methodology approach where both qualitative and quantitative data were obtained for triangulation purposes. Purposive, systematic, and simple random sampling techniques were employed to recruit study participants in this study.
Results: The findings indicated that UHC coverage in Garissa County had been achieved only to a moderate extent. The results indicated that public healthcare financing had a positive and significant influence on UHC coverage in Garissa County (β=0.459; $p<0.05$). The results indicated that healthcare financing through aid had a positive and significant influence on UHC coverage in Garissa County (β=0.249; $p<0.05$). The results indicated that private healthcare financing had a negative and not significant influence on UHC coverage in Garissa County (β=-0.092; $p>0.05$).
Conclusions: The results led to the conclusion that public and healthcare aid financing were the most appropriate financing approaches to achieve a notable improvement in UHC coverage in the county. The study also concluded that private health financing had a negative impact on the attainment of UHC.

Keywords: Healthcare financing, Healthcare financing strategy, Universal health care

INTRODUCTION

A sustained economic and social development is highly dependent on the existence of a healthy population that has access to basic health services.[1] Consequently, universal health coverage (UHC) has received a renewed form of attention in both developed and developing countries as can be demonstrated by its inclusion in the sustainable development goals.[2,3] The pursuit of UHC is also motivated by its ability to bring about equity in access to quality and affordable healthcare as well as reduced financial risk.[4,5] This is given the World Health Organization (2020) statistics that at least half of the people in the world currently don't receive the health services they need, over 930 million people spend at least 10% of their household income on health care of which about 100 million people are pushed into extreme poverty each year because of out-of-pocket spending on health.[6]

However, providing affordable healthcare to the population of low and middle-income countries is a persistent development issue with varying country-specific experiences.[7] In sub-Saharan Africa for instance, some country-specific challenges such as the high burden of diseases, different economic situations, and political factors continue to hamper its full implementation.[8]

Even so, challenges continue to bite in efforts to achieve UHC in Africa. Ghana, for instance, faces constraints such as geographical challenges in accessibility due to expansive coverage and inconsistencies in the levels of health institutions to provide the same quality and quantity in healthcare continue to bite while Tanzania faces challenges related to low public awareness, poor stakeholder involvement and financing issues in implementing UHC programs.[3,8]

In Kenya, the government has since independence shown progress in the adoption of universal health coverage through policy recommendations and reforms such as the Kenya Health Policy Framework (KHPF) (1994-2010), Vision 2030, the Constitution 2010, collaborative Health Insurance Subsidy Program (HISP) launched by the Kenyan government in April 2014 and supported by the World Bank Group (WBG)'s International Finance Corporation (IFC) and International Development Association (IDA) and other development partners including UKAid and the Gates Foundation-funded African Health Markets for Equity program and also the Health Bill of 2015.[9]

Despite all these efforts, access to quality, affordable, and accessible healthcare remains a mirage among the majority of Kenyans.[10] In the rural areas, access to quality health care is placed at 13% against 29% of the urbanities in Kenya. Even with public health insurance available since 1966, only 20% of Kenyans have access to some sort of medical coverage.[11] With the population at over 44 million and rising, it means that as many as 35 million Kenyans are excluded from quality healthcare coverage. In addition, a quarter of total spending on healthcare comes from out-of-pocket expenses in Kenya, which places the citizens at a higher risk of falling into poverty.[11] Given the challenges faced by UHC in Kenya, the main objective of the study was to assess the effect of healthcare financing strategies on universal health coverage in Garissa County in Kenya.

METHODS

Study design

The research design for this study was an analytical cross-section study. This design was been deemed necessary, particularly when an in-depth examination of concepts was required to determine cause-and-influence relationships across a wide range of units observed at the same time.[12] The study used a mixed research methodology approach where both qualitative and quantitative data were obtained for triangulation purposes.

Sampling technique

Garissa County referral hospital was purposefully selected for this study as the health facility serves a diverse category group of people both from low and middle-income classes. The study respondents, that is the patients, were selected through systematic and simple random sampling approaches to ensure that each had an equal chance of selection. Additionally, a purposive sampling approach was adopted to sample four key informants for interviews consisting of the hospital management team (HMT) and county health management team (CHMT). The study was conducted between November 2023 to March 2024.

Sample size calculation

Slovin formula was employed to determine the sample size of this research, where 372 study partakers were recruited to partake in this research.

Data collection procedures

The study adopted a structured questionnaire instrument to collect quantitative data while qualitative data was obtained using a key informant guide.

Inclusion criteria

The respondents (patients as well as the key informants) who consented to participate in the study. Healthcare consumers (patients) who were residents of Garissa County and seeking healthcare services at Garissa County Referral Hospital.

Exclusion criteria

The study excluded respondents who did not consent to participate. Respondents who were not critically ill and mentally impaired were excluded from the study.

Data analysis

The quantitative data was entered into Excel, cleaned by verifying for logical consistency and removing any extraneous information, coded, and then imported to Statistical Package for Social Sciences (SPSS v24) for analysis. The quantitative data was evaluated using descriptive statistics (percentages, frequency, mean, and standard deviation) as well as inferential statistics (regression analysis). Qualitative data which was obtained from key informant interviews was analyzed through thematic (content) analysis. The responses were categorized into main themes and analyzed through thematic methods. The findings from this analysis were presented in a narrative format.

Ethical considerations

This study followed proper research protocols and all sources of data were acknowledged to the extent possible. Before starting the data collection process, ethical clearance was obtained from the MKU institution of ethics and review committee. The researcher also obtained a research permit from the National Commission

for Science, Technology, and Innovation (NACOSTI) as well as an introduction letter from the health department in the county before conducting the study. These were used for introduction purposes to the management of the hospital before permission for data collection was given. The respondents' consent was sought and granted before the questionnaire was administered. Respondents were notified of their right to decline participation in the survey. The respondents' identities were kept private to ensure anonymity and confidentiality. The participants were also assured that the information they gave would not be used for other purposes or for commercial or selfish personal benefit, but solely for academic purposes.

RESULTS

Respondent's demographic characteristics

The results in Table 1 indicate that the majority of the patients visiting Garissa County referral hospital that is, 172 (59%) were female. This implies that those seeking healthcare services from the facility were mostly female. It was also shown that the majority of them, 111 (38%) were aged between 36 to 45 years followed by those above 45 years. Generally, the findings imply that even though patients of diversified age benefit from the hospital, the majority of the beneficiaries were aged above 36 years of age. The study results further showed that up to 126 (43%) of the patients had no formal level of education. This implies a low literacy level among the patients visiting the facility implying a need for the adoption of effective financing strategies to enhance UHC given the high rate of illiteracy.

Table 1: Respondent's demographic characteristics.

Demographic factors	Category	Frequency (%)
Sex	Male	121 (41)
	Female	172 (59)
Respondent's age (years)	Below 25	41 (14)
	25 to 35	53 (18)
	36 to 45	111 (38)
	Above 45	88 (30)
Highest academic qualification	No formal education	126 (43)
	Certificate	67 (23)
	College	56 (19)
	University	44 (15)

Universal health coverage in Garissa County

The first objective of the study was to determine the coverage of universal health coverage in Garissa County, Kenya. As a result, the researcher asked respondents to rate 5 Likert scale questions (1 = very low extent, 2 = low extent, 3 = moderate extent, 4 = high extent, 5 = very high extent) to determine the coverage and the results are presented in Table 2.

Table 2: Universal health coverage in Garissa County.

Statement	1 (%)	2 (%)	3 (%)	4 (%)	Mean	SD
There is an improvement in affordability of quality healthcare	35.50%	27.30%	37.20%	0.00%	2.02	0.85
There has been an improvement in availability of quality healthcare	0.00%	32.10%	35.20%	32.80%	3.01	0.81
The county has attained quality of care especially at the primary care level	0.00%	32.10%	32.80%	35.20%	3.03	0.82
There has been an improvement in accessible quality healthcare	0.00%	29.40%	37.50%	33.10%	3.04	0.79
Average					2.77	0.82

The majority of the respondents, 62.8%, felt that the improvement in the affordability of quality healthcare has been to a low extent. However, 68% indicated that the improvement in the availability of quality healthcare has been to a high extent, the county has attained the quality of care, especially at the primary care level to a high extent and 70.6% felt that There has been an improvement in accessible quality healthcare to a high extent. However, overall, the findings indicated that UHC coverage in Garissa County had been achieved only to a moderate extent (mean =2.77). This implies a need for more diversified financing to improve coverage.

The findings were consistent with the findings from the KIIs where the majority of the informants noted that:

"*The county government has not done much to ensure there is access to affordable healthcare. The economy is not doing well and the cost of everything including healthcare has increased, most patients are not able to afford treatment…*"

Regarding accessibility, there was a general agreement that there has been an improvement in accessibility compared to before devolution. One of the key informants noted that

"*Even though there has been an increase in the number of hospitals in the devolution period, very few exist in the rural areas…"*

Influence of public funding on universal healthcare coverage

To determine the influence of public funding on universal healthcare coverage, a regression model was established, and the results are presented in Table 3. Public healthcare financing was found to have a positive correlation with UHC coverage (R=0.465). This shows that an increase in public healthcare financing is associated with an increase in UHC coverage. Additionally, it was established that up to 21.6 percent of the variation in UHC coverage in Garissa County is attributed to pubic healthcare financing (R^2=0.216). This signifies the importance of this means of financing to the achievement of UHC. The results indicated that public healthcare financing had a positive and significant influence on UHC coverage in Garissa County (β=0.459; p<0.05).

Table 3: Regression model results on the influence of public funding on UHC.

Model summary					
R	**R square**	**Adjusted R square**	**Std. error of the estimate**		
0.465a	0.216	0.213	0.3616		
ANOVA					
	Sum of squares	**df**	**Mean square**	**F**	**Sig.**
Regression	10.481	1	10.481	80.156	0.000
Residual	38.051	291	0.131		
Total	48.532	292			
Coefficients					
	Unstandardized coefficients		**Standardized coefficients**	**t**	**Sig.**
	B	**Std. error**	**Beta**		
(Constant)	1.733	0.118		14.681	0.000
Public funding	0.459	0.051	0.465	8.953	0.000
a Predictors: (constant), public funding					

Table 4: Regression model results on the influence of healthcare aid funding on UHC.

Model summary					
R	**R square**	**Adjusted R square**	**Std. error of the estimate**		
0.298a	0.089	0.086	0.3898		
ANOVA					
	Sum of squares	**df**	**Mean square**	**F**	**Sig.**
Regression	4.314	1	4.314	28.393	0.000
Residual	44.218	291	0.152		
Total	48.532	292			
Coefficients					
	Unstandardized coefficients		**Standardized coefficients**	**t**	**Sig.**
	B	**Std. error**	**Beta**		
(Constant)	2.129	0.123		17.308	0.000
Healthcare aid	0.249	0.047	0.298	5.328	0.000
Predictors: (constant), healthcare aid					

Influence of healthcare aid funding on universal healthcare coverage

To determine the influence of healthcare aid funding on universal healthcare coverage, a regression model was established and the results of the model summary are presented in Table 4. The results indicate that healthcare financing through aid has a positive correlation with UHC coverage (R=0.298), though not as strong as public financing. This shows that an increase in healthcare financing through aid is associated with an increase in UHC coverage. Additionally, it was established that up to 8.9 percent of the variation in UHC coverage in Garissa County is attributed to pubic healthcare financing (R^2=0.089). Even though this is lower than the contribution of public healthcare financing, it signifies the importance of this means of financing to the achievement of UHC. The results indicated that healthcare financing through aid had a positive and significant influence on UHC coverage in Garissa County (β=0.249; p<0.05).

Influence of private financing on universal healthcare coverage

To determine the influence of private financing on universal healthcare coverage, a regression model was established, and the results of the model summary are presented in Table 5. From this study, private healthcare financing had a negative correlation with UHC coverage (R=0.100), contrary to both aid and public healthcare financing. This shows that an increase in the use of private healthcare financing is associated with a decrease in UHC coverage. Additionally, it was established that that only up to 1 percent of the variation in UHC coverage in Garissa County is attributed to private healthcare financing (R^2=0.01), this is the smallest compared to both aid and public healthcare financing. This signifies that the use of private healthcare financing is not the most preferred approach to achieving UHC in the county. The results indicated that private healthcare financing had a negative and not significant influence on UHC coverage in Garissa County (β=-0.092; p>0.05).

Table 5: Regression model results on the influence of private financing on UHC.

Model summary					
R	**R square**	**Adjusted R square**	**Std. error of the estimate**		
0.100	0.01	0.007	0.4063		
ANOVA					
	Sum of squares	**df**	**Mean square**	**F**	**Sig.**
Regression	0.489	1	0.489	2.963	0.086
Residual	48.043	291	0.165		
Total	48.532	292			
Coefficients					
	Unstandardized coefficients		**Standardized coefficients**	**t**	**Sig.**
	B	**Std. error**	**Beta**		
(Constant)	2.581	0.114		22.568	0.000
Private financing	-0.092	0.053	0.10	-1.721	0.086
Predictors: (constant), private financing					

DISCUSSION

There has been an improvement in accessible quality healthcare to a high extent. However, from this study, findings indicated that UHC coverage in Garissa County had been achieved only to a moderate extent. This implies a need for more diversified financing in order to improve coverage. These findings were similar to another study in Kenya.[13] These findings were contrary to those of a study carried out in Japan which documented a higher coverage of UHC coverage.[14] Concerning the influence of public funding on universal healthcare coverage, The results indicated that public healthcare financing had a positive and significant influence on UHC coverage in Garissa County. This implies that increased use of public healthcare financing can enhance UHC coverage significantly in the county. These findings were consistent with those of a study in Tanzania and Kenya where they reported that the use of public health care financing through social insurance provided stability and enhanced UHC coverage.[10,15] However, this was contrary to another study done in Ethiopia where public healthcare financing didn't influence UHC coverage.[16]

Concerning the influence of healthcare aid funding on universal healthcare coverage, the results indicated that healthcare financing through aid had a positive and significant influence on UHC coverage in Garissa County. This implies that increased healthcare financing through aid can enhance UHC coverage significantly in the county. Similarly, a study carried out in Nigeria established that it was sustainable to adopt a mix of financing mechanisms by also adopting healthcare aid so as to have UHC coverage.[17] This was also concurrent with another study looking into healthcare financing from a worldwide country-level perspective.[18] Concerning the influence of private financing on universal healthcare coverage, the results indicated that private healthcare financing had a negative and not significant influence on UHC coverage in Garissa County. This implies that increased private healthcare financing can lead to a reduction in the achievement of UHC coverage in the county. These findings are consistent with those of a study carried out in Ghana which stated that private healthcare financing was catastrophic and didn't play a positive role in UHC coverage.[19] These findings were contrary to those of a systematic review carried out in sub-Saharan Africa where private healthcare financing had a positive influence on the achievement of UHC coverage.[20]

CONCLUSION

The findings led to the conclusion that to achieve a significant improvement in UHC coverage in the county, public and healthcare aid financing were the most suitable financing approaches. Additionally, the study concludes

that private health financing had a deteriorating effect on the achievement of UHC. Normally, the use of private financing was not sustainable. Lastly, it was also concluded that the most significant financing approach to achieve UHC was public followed by healthcare aid.

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