


BMJ Open Unmet need for primary healthcare and associated individual and household-level factors in Kenya: results from a national survey

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ABSTRACT

Objective To determine the prevalence of unmet need for primary healthcare and associated individual and household-level factors in Kenya.

Design The data for this study are drawn from the 2016 Kenya Integrated Household Budget Survey (KIHBS). A multistage sampling technique involving a systematic selection of clusters at the national level and final selection of households was used.

Setting This study was conducted in Kenya. The KIHBS is a nationally representative survey on a wide range of indicators to assess the progress made in improving the living standards of the population at the national level.

Participants A total of 9447 households comprising 15 539 household members who reported a sickness or injury over the 4 weeks preceding this survey were included in this study. The study respondents comprised of the household heads.

Primary outcome measure The primary outcome of this study is unmet need for primary healthcare defined as an unexpressed demand for primary healthcare following a reported sickness or injury over the 4 weeks preceding this survey.

Results About one in every five study participants experienced an unexpressed demand for primary care. The odds of having unmet need for primary healthcare were 68% higher among participants without health insurance coverage compared with those with health insurance (adjusted OR 1.68; $p < 0.001$; 95% CI 1.34 to 2.09) and 45% higher among households headed by single or unmarried persons compared with the those who were in a marital union (adjusted OR 1.45; $p < 0.05$; 95% CI 1.06 to 1.98).

Conclusions Our findings show that there is still a considerable unexpressed demand for primary care services despite widespread implementation of Universal Health Coverage (UHC) in Kenya, with households without a health insurance cover bearing the highest burden. Therefore, the design of UHC reforms in Kenya should focus on embedding social health protection to escalate the demand for primary healthcare services.

INTRODUCTION

Universal Health Coverage (UHC) is at the centre of current global efforts to strengthen health systems and improve accessibility and

Strengths and limitations of this study

- Our results provide crucial evidence that complements the assessment of universal healthcare in Kenya.
- This study provides useful insights for the planning and delivery of interventions that improve the demand for primary healthcare services.
- The study sample is representative of the entire population in Kenya hence the findings are generalisable.
- The measurement of unmet need for primary healthcare in this study is subjective and relies on perceived healthcare needs that do not translate into demand hence the possibility of recall bias cannot be overemphasised.
- The study focus on non-use of appropriate primary healthcare services rather than a dynamic perspective including a clinician-validated unmet need and suboptimal use of primary healthcare. However, the results provide essential evidence for more rigorous investigations of unmet for primary healthcare in Kenya and sub-Saharan Africa.

availability of health services to all, without risk of impoverishment or financial hardships.¹ Thus, UHC is best considered in the context of whether the people in need of primary care receive it or not.² The unmet need for healthcare, which is defined as an unexpressed demand for healthcare, accounts for the perceived healthcare needs that do not translate into demand.^{3 4} Until now, most estimates for the unmet need for primary healthcare have been studied in developed countries.^{3 5-9} In particular, the unexpressed demand stems from healthcare gaps related to availability, accessibility and acceptability.^{10 11} These gaps pose potential risks related to delays in seeking appropriate care, increased severity of illness and reduced prognosis.^{9 12}

In Kenya, UHC is an integral part of the government's efforts to attain the sustainable

development goal of ensuring healthy lives and promoting well-being for all at all ages.¹³ Despite the wide implementation of UHC, it is unclear whether the programme has improved access to essential interventions and explicit unified progressive health benefits package. Previous studies have shown that the Kenyan healthcare system is highly inequitable.^{14–17} Furthermore, policies aimed at addressing the healthcare needs of the poor and the most vulnerable groups in Kenya have not been properly evaluated and the success or otherwise of the primary healthcare reforms have been inferred from narrowly focused data or anecdotal accounts.^{18 19}

Information on unmet need for primary care services is critical for the provision of UHC. However, most studies on access to primary healthcare services in Kenya are based on the conventional need-adjusted healthcare utilisation model.^{16 20–22} In this study, we assessed the unmet need for primary healthcare services and associated individual and household-level factors in Kenya.

METHODS

Study design and setting

The data used in this study are drawn from the Kenya Integrated Household Budget Survey (KIHBS) conducted between 2015 and 2016.²³ The KIHBS is a nationally representative survey on a wide range of indicators to assess the progress made in improving the living standards of the population at the national level. A multistage sampling technique involving a systematic selection of 2400 clusters at the national level and a final selection of 24000 households was used. Weighting was done based on the selection probabilities in each domain whereby the design weights were adjusted in accordance with survey response.²³ Details of the design of KIHBS are available online (<https://www.knbs.or.ke>). In this study, a total of 9447 households comprising of 15 539 household members who reported a sickness or injury over the 4 weeks preceding this survey were included.

Data collection

Interviewer-administered structured questionnaires were used to collect information on sociodemographic characteristics such as age, sex, household size, level of education and residence, healthcare utilisation and healthcare-seeking behaviour. Other questions included health insurance coverage and expenditures. The study respondents comprised of the household heads. The participants with missing data on the study variables were excluded.

Measurements

Dependent variable

The primary outcome of this study is unmet need for primary healthcare assessed using the following three key questions: (1) Was (NAME) sick or injured in the last 4 weeks? (2) Did (NAME) consult a health service provider on this sickness /injury in the last 4 weeks? and

(3) What kind of health facility did (NAME) visit? The study participants were coded as having unmet need for primary healthcare if they had an unexpressed demand for primary healthcare, that is, being sick or having an injury in the last 4 weeks and not consulting a health service provider or consulting unqualified healthcare service providers such as shops or kiosks, faith or traditional healers, etc. These set of questions have been previously validated as reliable in estimating the unmet for healthcare.²⁴

Independent variables

We used Andersen's Health Behaviour Model (HBM) to conceptualise potential predictor variables.²⁵ This model demonstrates the determinants of healthcare utilisation from a broad perspective. According to Andersen, the utilisation of healthcare services is influenced by the following three domains: need factors, enabling factors and predisposing factors. The need factors represent an individual's objective or subjective health status. Enabling factors refer to the available resources to facilitate access to healthcare services. Predisposing factors represent socio-demographic predictors of health service utilisation such as age, sex, level of education, ethnicity and religion.²⁴ In this study, we adopted the following two categories of predictor variables based on the HBM: predisposing factors and enabling resources. The predisposing factors comprised age of the household head (ie, <30, 30–44, 45–59 and >60 years), sex (ie, male and female), marital status (ie, married or living with a partner, separated/divorced/widowed or single/never married), household size (1–4 or >5 members) and educational level (ie, no formal education, primary, secondary and tertiary). Health insurance status, place of residence (urban vs rural) and economic activity status of the household head were included as enabling resources.

Data analysis

Frequencies, mean values, SDs and percentages were used to describe the background characteristics of the respondents with respect to the unmet need for healthcare. The Pearson χ^2 test was used to describe the association between independent predictor variables and unmet need for healthcare. The multivariate logistic regression model was used to estimate the association of predictor variables with unmet need for primary healthcare. The strength of association was interpreted using the adjusted OR and 95% CI. The selection of the factors for the multivariable model was based on the variables conceptualised from the Andersen's HBM as more traditional level p values such as 0.05 used to select variables can fail in identifying variables known to be important. Survey design weights were incorporated in the model to improve the precision of survey estimates.²⁶ The robust standard errors were computed based on the observed variability of the unmet need for primary healthcare among clusters hence correcting the CIs and p values for clustering. All

statistical analyses were performed using Stata V.15 (Stata Corp, College Station, TX, USA).

Ethical considerations

The data used in this study were collected by the Kenya National Bureau of Statistics (KNBS), a public institution mandated to conduct surveys on behalf of the Kenyan government.²³ It can be inferred from the study design of KIHBS and the actual data collection process that informed written consents were sought from all the study participants and identifying information were delinked from the analytical datasets. The data collection instrument used by the KNBS to collect the data used in this study has been provided as an online supplemental file 1.

Patient and public involvement

No patient involved.

RESULTS

Background information

Of the total 15 539 household members, females constituted a higher proportion (55%) compared with males (45%). About half were children aged <18 years. Approximately 16% were aged between 30 and 44 years, 15% were aged between 18 and 29 years, 10% were aged between 45 and 59 years and 8% were aged ≥ 60 years. A majority (60%) had completed primary education. Most of the participants (91%) lived in households headed by economically active household heads. Slightly more participants (64%) resided in rural areas compared with urban (36%). A higher proportion of participants (57%) were from households with ≥ 5 members compared with 1–4 members (43%). Only 20% of the participants had a health insurance cover. **Table 1** shows the background characteristics of the study participants.

Unmet need for primary healthcare

Table 2 shows the distribution of household members by the unmet need for primary healthcare. Of the total household members who reported a sickness or injury over the 4 weeks preceding this survey, 20% did not seek appropriate care. The unmet need for healthcare was slightly higher among households headed by females (20%) compared with males (19%) and among individuals living in households headed by individuals who were not economically active (22%) compared with the unemployed (20%). Household members without health insurance coverage had a higher unmet need for healthcare (21%) compared with those with health insurance coverage (13%). About 18% and 21% of the participants who were living in households headed by persons aged ≥ 60 years and those headed by divorced, separated or widowed persons expressed the unmet need for primary care, respectively. Approximately 20% of those living in households with either 1–4 members or ≥ 5 members expressed the unmet need for primary healthcare, respectively.

Table 1 Background information

Characteristics of the household head	Category	Frequency	Percentage
Sex	Male	6977	44.90
	Female	8562	55.10
Age group (years)	<18	7742	49.82
	18–29	2371	15.26
	30–44	2448	15.75
	45–59	1666	10.72
	60+	1312	8.44
Marital status	Married/living together	5216	33.57
	Divorced/separated/widowed	1238	7.97
	Never married	9085	58.47
Highest level of education	No formal	260	1.67
	Primary	9388	60.42
	Secondary	3881	24.98
	Tertiary	2010	12.94
Engagement in an economic activity	No	1350	8.69
	Yes	14 189	91.31
Residence	Rural	9912	63.79
	Urban	5627	36.21
Household size	1–4	6700	43.12
	>5	8839	56.88
Health insurance coverage	Yes	3061	19.70
	No	12 478	80.30
Total		15 539	100.00

Regression of individual and household-level characteristics and unmet need for primary healthcare

Table 3 shows the regression of individual and household-level characteristics. In the unadjusted model, the findings from this study revealed higher odds for unmet need for primary care among the participants living in households headed by divorced, separated or widowed persons compared with married persons (OR 1.29; $p < 0.05$; 95% CI 1.08 to 1.54). Likewise, the likelihood of having an unmet need for healthcare was 37% higher among households headed by single or never married persons compared with those who were married or living together with their partners (OR 1.37; $p < 0.05$; 95% CI 1.00 to 1.86) and 83% higher among those without health insurance coverage (OR 1.83; $p < 0.001$; 95% CI 1.47 to 2.28). In the adjusted model, the odds of having unmet need for primary care were 68% higher among participants without health insurance coverage (adjusted OR 1.68; $p < 0.001$; 95% CI 1.34 to 2.09) and 45% higher among households headed by single or unmarried persons (adjusted OR 1.45; $p < 0.05$; 95% CI 1.06 to 1.98).

Table 2 Distribution of household members by unmet need for primary healthcare

Individual and household characteristics	% Reported unmet need for primary healthcare n=15539	P value
Sex		0.373
Male	19.4	
Female	20.0	
Age group (years)		0.630
<30	18.9	
30–44	19.4	
45–59	20.0	
>60	20.0	
Marital status of household head**		0.001
Married	19.0	
Separated/divorced/widowed	22.3	
Single/never married	20.9	
Highest education level**		0.000
No formal	25.0	
Primary	21.0	
Secondary	17.3	
Tertiary	16.5	
Engagement in an economic activity		0.144
No	21.7	
Yes	19.5	
Household size		0.878
1–4	19.5	
>5	19.6	
Residence		0.478
Rural	19.7	
Urban	19.3	
Health insurance cover**		0.000
Yes	13.2	
No	21.1	
Total	19.6	

*p<0.05; **p<0.001.

DISCUSSIONS

We examined the prevalence of unmet need for primary healthcare and associated factors in Kenya. About 20% of the participants who reported a sickness or injury over the 4 weeks preceding this survey, did not seek appropriate care. This proportion is significantly higher compared with the 12% reported from the 2013 Kenya Household Expenditure Survey²⁷ and almost double the prevalence of unmet need for primary healthcare reported from developed countries.^{28 29} The rise in the unexpressed demand for primary care over the past few

years is unexpectedly high given that the Kenyan government has recently prioritised UHC as one of its agendas for socioeconomic transformation and consequently abolished user fees in public primary care facilities.¹⁵ A possible explanation for these results could be in part the poor integration of demand-driven frameworks through which optimal access to primary healthcare services can be achieved.

The finding of the multivariate analysis shows that odds of having an unmet need for primary healthcare were significantly higher among households headed by single or never married persons compared with those who were married or in a union. Consistent with our findings, substantial literature supports the positive association between marriage and the likelihood of appropriate healthcare utilisation.^{30–33} First being married may confer a strong social relationship that may result in appropriate health-seeking behaviour because spouses function as caretakers providing personal social capital that extends the need for appropriate healthcare.³² Second marriage has also been shown to create a division of labour and share responsibilities within the household resulting in the ability to dedicate one's effort, time and resource for appropriate healthcare-seeking behaviour.³¹

This study also revealed that the odds of having an unmet need for primary care were significantly higher among household members without health insurance coverage. The finding corroborates the results of previous studies which have shown that having a health insurance cover improves access to primary healthcare by offering protection from unexpected out-of-pocket expenditures.^{34 35} Despite the profound role of health insurance coverage in reducing the likelihood of unmet need for primary healthcare as shown in our study, only one in every five study participants had a health insurance cover. Previous studies have also revealed a low prevalence of health insurance in Kenya.^{23 36} In a context where more than three-quarters of the population is currently employed in the informal sector and more than half live below the national poverty line, attaining a high equitable health insurance coverage to bridge the gap on unmet need for primary healthcare may be problematic.

These findings ultimately offer two key lessons to policymakers in Kenya. First, the evidence presented in this study suggests that health insurance coverage is significantly associated with the unmet need for primary healthcare. Therefore, the policy options for bridging the gaps in the unmet need for primary healthcare should be modelled on health insurance coverage, as a form of social protection, to ensure sustainability. Second, the gaps in the demand for primary healthcare highlights the urgent need for policies that encourage better utilisation of primary healthcare services. This has been proposed as a channel of ensuring equilibrium in the demand and supply of healthcare services.

Table 3 Factors associated with unmet need for primary healthcare

Characteristics of the household head		Model			
		Unadjusted		Adjusted	
		OR (95% CI)	P value	OR (95% CI)	P value
Sex	Male (Ref)				
	Female	1.11 (0.96 to 1.29)	0.150	0.95 (0.78 to 1.15)	0.579
Age	<30 (Ref)				
	30–44	0.87 (0.69 to 1.10)	0.245	0.93 (0.75 to 1.16)	0.519
	45–59	0.93 (0.73 to 1.17)	0.515	0.97 (0.77 to 1.22)	0.789
	>60	0.96 (0.75 to 1.23)	0.762	0.92 (0.71 to 1.1)	0.493
Marital status	Married/living together (Ref)				
	Divorced/separated/widowed	1.29* (1.08 to 1.54)	0.006	1.21 (0.97 to 1.5)	0.097
	Single/never married	1.37* (1.00 to 1.86)	0.046	1.45* (1.06 to 1.98)	0.021
Level of education	No formal (Ref)				
	Primary	0.83 (0.44 to 1.55)	0.557	0.88 (0.47 to 1.6)	0.685
	Secondary	0.66 (0.33 to 1.2)	0.196	0.74 (0.39 to 1.4)	0.362
	Tertiary	0.55 (0.29 to 1.07)	0.076	0.72 (0.36 to 1.4)	0.334
Engagement in economic activity	No (Ref)				
	Yes	0.80 (0.59 to 1.0)	0.163	0.86 (0.62 to 1.20)	0.388
Household size	1–4 (small) (Ref)				
	>5 (large)	0.96 (0.83 to 1.11)	0.561	0.96 (0.84 to 1.10)	0.582
Residence	Rural (Ref)				
	Urban	0.85 (0.71 to 1.02)	0.085	0.92 (0.76 to 1.11)	0.374
Health insurance cover	Yes (Ref)				
	No**	1.83** (1.47 to 2.28)	0.000	1.68** (1.34 to 2.09)	0.000

*p<0.05; **p<0.001.

Strengths and limitations

This study provides crucial evidence that complements the assessment of universal health coverage in Kenya and also provides useful insights for the planning and delivery of interventions that improve the demand for primary healthcare services. The study sample is representative of the entire population in Kenya hence the findings are generalisable.

This study has two major limitations. First, the measurement of unmet need for primary healthcare is subjective and relies on perceived healthcare needs that do not translate into demand hence the possibility of recall bias cannot be overemphasised. Second, the study focus on non-use of appropriate primary healthcare services rather than a dynamic perspective including a clinician-validated unmet need and suboptimal use of primary healthcare. Despite these limitations, our results provide essential evidence for more rigorous investigations of unmet for primary healthcare in Kenya and sub-Saharan Africa.

CONCLUSIONS

Despite sustained health policy efforts, our study findings show that Kenya still faces significant gaps in the demand for primary healthcare with one in every five

persons forgoing essential primary healthcare services. Hence, addressing the gaps in the demand for primary care services may be an essential step towards improving healthcare access. Although the recent government efforts to roll-out UHC is timely, households without a health insurance cover still exhibit the highest unmet need for primary healthcare. Therefore, the design of UHC reforms in Kenya, cascading down to counties, should focus on embedding social health protection among the most vulnerable groups to accelerate palpable demand for primary healthcare services.

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Contributors P00: conceptualised the study, reviewed literature and contributed to data analysis. FK, CR and PK: substantive contributions to the conceptualisation of the study, data analysis and reviewed the manuscript. All authors read and approved the final manuscript.

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Competing interests None declared.

Patient consent for publication Not required.

Ethics approval The data used in this study are from Kenya National Bureau of Statistics, a public institution mandated to conduct surveys on behalf of the Kenyan government. Most of the ethical issues that would, therefore, arise from data collected by the researcher do not arise in this case.



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Data availability statement Data are available in a public, open access repository. No additional data are available.

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