


# Unmet Needs of Healthcare Services and Associated Factors among a Cohort of Ghanaian Adults: A Nationally Stratified Cross-Sectional Study Design

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## Abstract

We estimated the prevalence of unmet needs of healthcare services (UNHS) and its associated factors among a cohort of older Ghanaian adults. World Health Organization (WHO) Study on Global AGEing and Adult Health for Ghana was used with a total of 4735 participants. Logistics regression analysis was performed using Stata 16 to assess associated factors. The overall UNHS was 3.7% (95% CI=2.7-4.8) and the prevalence was significantly high amongst older adults aged 60 to 69 years (5.9%). Could not afford the healthcare (56.4%) was the main contender for UNHS. UNHS was influenced by; those aged 60 to 69 years [OR (95% CI) = 1.86 (1.19-2.91)]; no formal educational [aOR (95% CI) = 4.71 (1.27-17.38)], and no NHIS [OR (95% CI) = 1.78 (1.03-3.09)]. Participants needed care for joint pain (25.4%), and communicable diseases (19.1%). The inability to access healthcare was relatively higher for older adults more advanced in age, with low education, and for those without health insurance. Health system strengthening including financial protection by expanding the National Health Insurance Scheme to all Ghanaians in line with Ghana's Universal Health Coverage Roadmap would reduce the unmet healthcare needs of older adults.

## Keywords

unmet needs, healthcare service, adults, AGEing, Universal Health Coverage, cross-sectional, Ghana

### What do we already know about this topic?

Met needs of health care are highly relevant, particularly for older persons who live with comorbidities and other health needs.

### How does your research contribute to the field?

The study identified the reasons for unmet needs of healthcare services and key associated factors involving National Health Insurance (NHIS) coverage. This will contribute to the universal coverage of NHIS and health system strengthening which is in line with Ghana's Universal Health Coverage Roadmap to reduce the unmet needs of healthcare services for adults.

### What are your research's implications toward theory, practice, or policy?

As part of the implementation of the National Ageing Policy, this study identifies the healthcare needs of older adults in Ghana, which will help amass the healthcare needs of older adults.

## Introduction

As people age, they are more likely to demand frequent healthcare services due to comorbidities like hypertension, diabetes, cancers, kidney disease, physical impairments, mental health conditions, and respiratory diseases.<sup>1-3</sup> Older people that live in rural areas are also twice at odds of getting chronic diseases than those in urban areas.<sup>4</sup> This often resorts

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to them seeking unorthodox medical practices due to poor access to health services.<sup>5</sup> This type of practice has been observed in a study in the Democratic Republic of Congo where more than half of the respondents consulted private facilities and traditional healers (55.6%) as compared to 3.3% who consulted public health facilities when ill. The authors concluded that even though there were public health facilities, individuals had built a type of resilience mechanism that had helped them to cope with their health needs because the public health facilities available offered very little support.<sup>6</sup>

The health care delivery systems in Ghana consist of 4 main categories, which are public, private-for-profit, private-not-for-profit, and traditional system.<sup>7</sup> There is a network of facilities for rendering health services and these include health centers, district hospitals, Community-Based Health Planning Services (CHPS) which all provide primary healthcare services. Regional hospitals provide secondary healthcare whilst teaching hospitals offer tertiary healthcare with opportunities for training of physicians and other health professionals as well as research.<sup>8</sup> The Ghana Health Service and the teaching hospitals run the public sector.<sup>6</sup> Whilst the private sector consists of faith-based and private-for-profit health institutions. The District hospitals in partnership with the District Health Administration and local government plan, supervise, monitor, and coordinate service delivery. Whilst, the health Centers are responsible for planning, monitoring, and evaluating community-based service delivery, at the community level, CHPS (the most basic health facility in Ghana) provides promotive, preventive, and basic curative care and home-based care.<sup>3,9</sup>

Generally, older people have different health care needs compared to younger populations and may face multiple barriers when accessing quality healthcare, which can affect their self-rated health (SRH) and quality of life.<sup>10</sup> People in rural areas face challenges in accessing health facilities, particularly where there are poor transport systems they have to travel long distances to get to health facilities, which are often inadequate. Coupled with limited mobility often adds to the burden of seeking quality healthcare. Most older adults are also unable to afford the needed healthcare services and the presence of inadequate healthcare personnel results in patients having to queue for long hours.<sup>11</sup> Older persons may face delay in early diagnosis and treatment of certain diseases like dementia, which has a stigma attached to it as an old person's disease.<sup>12</sup> Inadequate or lack of knowledge in the care of the elderly may contribute to lack of quality healthcare for older persons.<sup>13</sup> In addition, District hospitals are the first point of call for most older persons however, these hospitals tend not to be age friendly with few geriatric experts.<sup>14</sup> According to Aboh & Druye (2020), many older persons reach retirement age in poverty and deprivation and as such have poor access to healthcare,<sup>8</sup> all these factors contribute to negative health outcomes for older persons.<sup>15</sup>

Living in rural areas can also increase the risk of poor health outcomes due to poor portable water, housing, and sanitation conditions.<sup>3</sup>

Studies have shown that in developing countries, there is poor access to healthcare and health systems responsiveness and that most health systems fail to meet the needs of older people.<sup>16-18</sup> This disparity in access to healthcare in older populations has been well documented with some of the reasons being socio-demographic factors, type of insurance coverage, physical, and psychological barriers.<sup>19</sup> In Ghana, a variety of factors come into play when accessing health and these include age, sex, marital status, level of education, type of occupation, ethnicity, family size, employment, religion, and health insurance.<sup>20</sup> Majority of Ghanaians depend on public health systems to meet their healthcare needs and how well health care responds to the needs of patients may contribute to improved health outcomes.<sup>1</sup>

The overall experience of the health system's responsiveness is based on factors that are associated with both the system and the individuals.<sup>21,22</sup> The health care system whether private or public has shown to have poor responsiveness to individuals with low socioeconomic.<sup>23</sup> In Ghana, most elderly people have little or no formal education causing a disparity in health due to financial insecurity. This implies that those with low earnings or poor savings may not be able to take care of their health needs as compared to those with better financial security. Thus, the poor have limited access to health services resulting in poor health outcomes.<sup>24</sup>

In 2019, Ghana in its quest to achieve the SDGs in health developed a roadmap to guide implementation of the Universal Health Coverage (UHC). This seeks to reduce financial barriers to health care, improve health care financing, and strengthen the health care system for equitable access by the citizenry.<sup>25</sup> The National Health Insurance Scheme is the first step towards UHC and its membership is open to all citizens and persons resident in Ghana. There is also an annual premium for those who are not contributing to the Social Security and National Insurance Trust (SSNIT) while their members are registered without payment of annual premiums.<sup>26</sup> The poorest and those above 70 years are exempted from paying fees. However, those aged under 70 years still have to pay premiums. Included in the NHIS package are outpatient and inpatient services, oral care, eye care, maternity care, and emergencies.<sup>27</sup> This package does not fully benefit older people because apart from cervical and breast cancer treatment, care within the homes, dentures, hearing aids, and other cancer treatments are excluded. The NHIS system is not responding enough to the care needs of the elderly.<sup>28</sup>

In Ghana, 80% of the adult population tends to suffer from higher levels of poverty due to an irregular source of income, and to compound matters, a higher proportion live in the rural areas which are poorly served by healthcare systems.<sup>29,30</sup> Understanding how well healthcare systems

respond to the needs of patients based on information, that is provided by the patient can help to improve healthcare delivery.<sup>21</sup> This study was conducted among older Ghanaian adults to assess the prevalence of unmet needs of healthcare services (UNHS) and by adopting the Logistic regression analysis model, we further assessed the associated factors.

## Analytical Framework

The study employed the Gelberg-Anderson behavioral model for vulnerable populations to predict health service utilization. The model posits that there are certain pre-disposing, enabling, and need factors that can influence a person's use of healthcare services and a person's need for care. The predisposing factors are socio-demographic factors like sex, age, ethnicity, marital status, and enabling factors like education, living conditions, income, and lifestyle practices. In Ghana, such sociodemographic characteristics influence health service utilization.<sup>5</sup> The study considered having National Health Scheme valid card as an enabling factor and the need factors include both the patient's perception in life (both life satisfaction and quality of life) and provider's evaluation of health needs to include health status and diagnosis (our study assessed comorbid conditions). All factors are determinants of health care needs and analysis involving initial screening for associated factors were adopted univariately and those significant were finally adjusted as multivariate analysis to assess associated factors of UNHS among participants.

## Methods

Data for this study was obtained from the study on global AGEing and adult health (SAGE) Wave 2 study in 5 countries that included Ghana, China, India, Mexico, Russia, and South Africa conducted between 2014/2015. It is a longitudinal study using a multi-stage sampling strategy to collect data on a range of health indications including socio-demographic conditions, health care utilization relating to inpatient and outpatient hospital care, risk factors and preventive health behaviors, household characteristics, work history, and benefits, subjective well-being, and anthropometric measurements. Details about the methodology of the study have been described elsewhere.<sup>31</sup>

## Study Population

Participants for the SAGE Wave 2 study in Ghana were used for this study. In contrast to SAGE Wave 1, which included more than half of participants aged 60 and above, the SAGE Wave 2 sampling strategy was planned to account for anticipated attrition due to urbanization and unavoidable incidents (death). For Wave 2 data collection, all Wave 1 households (HH) were visited, and substitutes for sample attrition were randomly selected using EA aerial photographic maps on

which dwellings are visible, beginning at a random point on the periphery of the EA. SAGE Wave 1 follow-up households with one or more members aged 50 years or older targeted for selection, new households with one or more members aged 50 years or older were involved. SAGE Wave 1 follow-up households with residents aged 18 to 49 targeted for selection, and new households with residents aged 18 years were involved. Participants for the SAGE Wave 2 involved individuals aged 50 years and above and a smaller comparative sample of persons aged 18 to 49 years and above. In all, 4735 participants were interviewed and all were included in this analysis.

## Outcome Variable

The primary outcome variable for this analysis was the unmet needs of healthcare services. To find out the proportion of participants who did not get care, the question was asked, "*The last time you needed health care, did you get health care?*" The response was categorized as "Yes" and "No." "No" indicated the participant not being able to get the care (UNHS) due to predisposing, enabling, and need factors as explained in our analytical framework.

To determine why they needed care, the participant was asked the question "What was the main reason you needed care, even if you did not get care?" Only one main response was required from a list of health conditions, occupation/work related condition/injury, sleep problems, surgery, generalized pains (stomach, muscle, or nonspecific pain, problems with breathing, and problems with the mouth, teeth, and swallowing). It was also possible to find out the reasons why they did not get the care by asking the question "*which reason(s) best explains why you did not get health care?*"

## Predisposing, Enabling, and Need Factors

According to the Andersen behavioral model, the utilization of health services is associated with predisposing, enabling, and need factors.<sup>32</sup> Pre-disposal factors were categorized as: age (18-49, 50-59, 60-69, and 70+); sex (male or female); marital status (never married, married, separated/divorced, widowed); religion (none, Christian, Islam, primal indigenous); Enabling factors: educational level (none, primary, SHS, tertiary). National health insurance (NHIS) (yes or no); region (Ashanti, Brong Ahafo, Central, Eastern, Greater Accra, Northern, Upper East, Upper West, Volta, Western); place of residence (urban or rural); currently working (yes or no); Need factors: self-reported health (good, moderate, bad); quality of life (good, moderate, bad); life satisfaction (satisfied, neutral, dissatisfied); comorbidity (none, 1 NCD, 2+NCD). These variables were considered to influence UNHS, that is, the reasons why an individual may not get the care, that is, needed.

## Statistical Analysis

The demographic characteristics were weighted and presented as percentage (%) met and unmet needs. The Rao-Scott  $\chi^2$  test statistic test was adopted to estimate the individual variables with the outcome variables. Logistics regression was used to test associations between predisposing, enabling, and need factors and UNHS. All the survey samples were weighted and statistical significance was set at  $P < .05$ ,  $P < .01$ , and  $P < .001$  with the latter indicating a higher significance. Odds ratio with a 95% confidence interval (CI) was reported for predisposing, enabling, and need factors.

## Results

The prevalence of UNHS among the 4735 older adults was 3.7% [95% CI=2.7-4.8]. The Rao-Scott chi-square test of independence showed that UNHS was significantly associated with; age group, NHIS, marital status, region, SRH, and life satisfaction ( $P < .05$ ) (Table 1).

Concerning the age groups, the highest proportion of UNHS occurred among participants aged 60 to 69 years (5.9%). Participants with no NHIS were observed to have the highest prevalence of UNHS compared with their counterparts who have NHIS (5.7% versus 3.3%). Also, separated/divorced participants and those staying in the Ashanti region experienced a high proportion of UNHS (11.7% and 5.4% respectively). Surprisingly, participants with bad SRH and dissatisfied with life have a high proportion of UNHS in the respective category (11.5% and 19.3%) (Table 1).

Logistic regression as evident in Table 2 indicates from multivariate data analysis that, educational level, marital status, region, and life satisfaction were significantly associated with UNHS. The analysis depicted that, the prevalence of UNHS was approximately 5-folds and 4-folds respectively for participants with none and SHS educational level compared with tertiary participants [aOR (95% CI)=4.71 (1.27-17.38) and 3.97 (1.27-14.41) respectively]. Also, the odds of UNHS among never, separated/divorced, and widowed was less compared with married participants [aOR (95% CI)=0.31 (0.12-0.77), 0.27 (0.12-0.58), and 0.21 (0.10-0.42) respectively]. The odds of UNHS was over 6-folds and 4-folds respectively among Ashanti and the 3 Northern dwellers as compared to Greater Accra dwellers [aOR (95% CI)=6.05 (2.21-15.55) and 4.87 (1.22-19.42) respectively]. Interestingly, life satisfaction highly influences UNHS where analysis showed that, as satisfaction decreases so does the odds of experiencing UNHS increases.

Also, from univariate analysis, age group, NHIS status, SRH, and QoL were significantly associated with UNHS. The analysis showed that the likelihood of UNHS was higher among participants aged 60-69 and 70+ years were 86% and 52% respectively compared with participants aged 18-49 years [OR (95% CI)=1.86 (1.19-2.91) and 1.52 (1.02-2.27) respectively]. Participants with no NHIS were 78%

likely to experience UNHS compared with their counterparts [OR (95% CI)=1.78 (1.03-3.09)]. Interestingly, as SRH, QoL, and Life satisfaction decrease, so does the likelihood of UNHS significantly increases (Table 2).

Tables 3 and 4 reports why they needed care and reasons for not receiving it respectively. It can be noted that, a higher proportion of individuals needed care for joint pain (25.4%), communicable diseases (19.1%), generalized pain (9.5%), acute condition (9.2%), injury (8.2%), problems with the mouth (3.6%), and high blood pressure (3.2%) respectively. With the least complaints being surgery (0.3%) and nutrition (0.2%). Of the 2333 participants who did not get the care that they needed, the key reasons were: 56.4% could not afford the healthcare; 16.0% were not sick enough; 7.7% of health facilities had inadequate HCP drugs/equipment; 5.5% could not take time off work; 4.4% tried, but were denied care; 3.1% visited health personnel with inadequate skills, and 2.7% did not know where to go (2.7%). A much lower proportion complained of not being able to afford transport to their chosen health care facility (Tables 3 and 4).

## Key Findings

The prevalence of UNHS as established in this current study was 3.7% (ranging from 2.7 to 4.8) and factors significantly associated include; educational level, marital status, region, and life satisfaction. Participants needed care for joint pain, communicable diseases, generalized pain, acute condition, injury, problems with the mouth, and high blood pressure. Key reasons for UNHS include; could not afford the healthcare; health facilities had inadequate HCP drugs/equipment, could not take time off work; tried, but were denied care; visited health personnel with inadequate skills.

## Discussion

Met needs of healthcare service are highly relevant, particularly for individuals who live with comorbidities and other health needs. However, there might be barriers or structures that can disrupt that needed care, giving rise to low met or unmet needs.<sup>33</sup>

### *Predisposing Factors Associated with Umet Needs of Health Service*

Various studies have identified that the need for healthcare and other related services is highly influenced by socio-demographic factors like age, sex, income, ethnicity, education, religion, marital status, living standard, and uptake of NHIS.<sup>34-37</sup> Thus, socio-demographic characteristics create barriers that compromise the uptake of health services resulting in unmet needs as demonstrated by our analysis.

According to a World Health Organization (WHO)<sup>36</sup> 2020 report, aging is associated with an increase in the occurrence of non-communicable diseases and other health issues giving

**Table 1.** Prevalence and Demographic Characteristics of Unmet Needs of Healthcare Services among Ghanaian Adults, SAGE Wave 2 from 2014 to 2015.

Demographic characteristics	Unmet needs of healthcare services			Designed-based Chi-square
	Total n	No	Yes	
		96.3 (95.2-97.2) Weighted %	3.7 (2.7-4.8) Weighted %	
Sex				0.76
°Male	1948	96.7	3.3	
°Female	2787	96.0	4.0	
Age group				3.41*
°18-49	1160	96.7	3.3	
°50-59	1295	95.6	4.4	
°60-69	1105	94.1	5.9	
°70+	1175	95.1	4.9	
Educational level				1.59
°None	1996	95.1	4.9	
°Primary	1354	96.6	3.4	
°SHS	1231	96.6	3.4	
°Tertiary	154	99.1	0.9	
Have NHIS				4.37*
No	677	94.3	5.7	
Yes	4058	96.7	3.3	
Marital status				10.86***
Never married	502	97.2	2.8	
Married	2628	97.2	2.8	
Separated/Divorced	532	88.3	11.7	
Widowed	1073	96.1	3.9	
Religion				1.31
None	131	92.8	7.2	
Christian	3455	96.2	3.8	
Islam	885	97.5	2.5	
Primal indigenous	251	96.6	3.4	
Region				2.17*
Ashanti	818	94.6	5.4	
Brong Ahafo	521	97.0	3.0	
Central	592	94.8	5.2	
Eastern	365	97.0	3.0	
Greater Accra	492	99.2	0.8	
Northern	471	95.2	4.8	
Upper East	248	99.5	0.5	
Upper West	223	99.7	0.3	
Volta	412	95.7	4.3	
Western	593	94.7	5.3	
Place of residence				2.23
Urban	1965	97.0	3.0	
Rural	2770	95.6	4.4	
Currently working				0.08
No	1612	96.5	3.5	
Yes	3123	96.2	3.7	
SRH				14.83***
Good	3192	97.1	2.9	
Moderate	1114	93.6	6.3	
Bad	390	88.5	11.5	
QoL				
Good	2244	97.4	2.6	
Moderate	2013	96.8	3.2	
Bad	478	85.8	14.2	
Life satisfaction				43.77***
Satisfied	3594	98.2	1.8	
Neutral	827	91.0	9.0	
Dissatisfied	314	80.7	19.3	
Comorbidity				0.76
None	3968	96.4	3.6	
1 NCD	566	95.5	4.5	
2+NCD	201	98.0	2.0	

Note. Descriptive percentages were performed in a row format. The design-based chi-square adopted the Rao-Scott chi-square test for a complex survey. NHIS=National Health Insurance Scheme; SRH=Self-rated Health; QoL=Quality of Life; NCD=Non-Communicable Disease. P-value notation: \* $P < .05$ . \*\* $P < .01$ . \*\*\* $P < .001$ .

**Table 2.** Logistic Regression Showing Crude and Adjusted Odds Ratio of Significant Factors Associated with Unmet Needs of Healthcare services among Ghanaian Adults, SAGE Wave 2 from 2014 to 2015.

Demographic characteristics	cOR [95% CI]	aOR [95% CI]
<b>Sex</b>		
Male	Ref	
Female	1.23 [0.77-1.94]	
<b>Age group</b>		
18-49	Ref	Ref
50-59	1.34 [0.80-2.25]	1.02 [0.60-1.74]
60-69	1.86 [1.19-2.91]**	1.43 [0.87-2.34]
70+	1.52 [1.02-2.27]*	0.71 [0.39-1.31]
<b>Educational level</b>		
Tertiary	Ref	Ref
None	5.47 [1.92-15.64]**	4.71 [1.27-17.38]*
Primary	3.77 [1.33-10.67]**	3.00 [0.89-10.07]
SHS	3.80 [1.48-9.75]**	3.97 [1.27-14.41]**
<b>Have NHIS</b>		
Yes	Ref	Ref
No	1.78 [1.03-3.09]*	1.56 [0.85-2.85]
<b>Marital status</b>		
Married	Ref	Ref
Never married	1.03 [0.51-2.07]	0.31 [0.12-0.77]*
Separated/Divorced	4.64 [2.10-10.26]***	0.27 [0.12-0.58]***
Widowed	1.45 [0.65-3.21]	0.21 [0.10-0.42]***
<b>Religion</b>		
Christian	Ref	
None	1.95 [0.75-5.07]	
Islam	0.65 [0.27-1.55]	
Primal indigenous	0.87 [0.45-1.64]	
<b>Region</b>		
GT. Accra	Ref	Ref
Ashanti	7.11 [2.59-19.46]***	6.05 [2.21-15.55]***
Three Northern	3.76 [1.03-13.75]*	4.87 [1.22-19.42]*
Other	5.38 [2.21-13.13]***	6.10 [2.39-15.62]
<b>Place of residence</b>		
Urban	Ref	
Rural	1.52 [0.87-2.65]	
<b>Currently working</b>		
No	Ref	
Yes	1.08 [0.63-1.87]	
<b>SRH</b>		
Good	Ref	Ref
Moderate	2.25 [1.32-3.84]***	1.40 [0.77-2.54]
Bad	4.31 [2.24-7.96]***	1.41 [0.70-2.84]
<b>QoL</b>		
Good	Ref	Ref
Moderate	1.26 [0.75-2.12]	0.70 [0.37-1.34]
Bad	6.24 [3.11-12.52]***	1.42 [0.45-4.48]
<b>Life satisfaction</b>		
Satisfied	Ref	Ref
Neutral	5.30 [2.86-9.81]***	5.11 [2.20-11.85]***
Dissatisfied	12.83 [6.36-25.84]***	9.90 [3.16-31.03]***
<b>Comorbidity</b>		
None	Ref	
1 NCD	1.24 [0.65-2.36]	
2+NCD	0.55 [0.24-1.25]	

NHIS: National Health Insurance Scheme; SRH: Self-rated Health; QoL: Quality of Life; NCD: Non-Communicable Disease. Ref denote the reference category used for inferences. P-value notation: \* $P < .05$ , \*\* $P < .01$ , \*\*\* $P < .001$ .

**Table 3.** Reasons for Needed Health care among Ghanaian Adults, SAGE Wave 2 from 2014 to 2015.

Reason needed healthcare	Frequency	Weighted %
Communicable	21	19.1
Maternal	4	5.9
Nutrition	1	0.2
Acute condition	19	9.2
Injury	12	8.2
Surgery	2	0.3
Sleep problems	2	1.8
Occupational	2	0.7
Pain in joints	79	25.4
Diabetes	4	0.7
Problems with heart	4	0.6
Problems with mouth	15	3.6
Problems with breathing	4	1.0
High blood pressure	17	3.3
Stroke	3	0.5
Generalized pain	22	9.5

Note. Weighted percentage was adopted.

rise to the needed health care among older adults. In our study age was significantly associated with UNHS particularly among the 60 to 69 year old group as compared to the younger age groups. Our study also showed that the none religious group had a higher UNHS compared to the religious group.

Regarding gender, older women have greater healthcare needs perhaps for reproductive health services, and relative higher life expectancies with higher risk time for co-morbidities and disabilities.<sup>38</sup> Our findings showed no significant association between UNHS and gender, which may perhaps need further investigations into gender disparities in the uptake of services since the healthcare setting in the local context, generally tend to plan and tailor reproductive health services toward women and children.<sup>39</sup>

Concerning education, this analysis has indicated that a lack of formal education and a low level of education is significantly associated with UNHS compared to those with tertiary education. This finding is in sharp contrast to a study by Geldsetzer et al, who carried out a cross-sectional study looking at healthcare unmet needs amongst older adults in China, Ghana, Russia, India, Mexico, and South Africa. They noted that in Ghana, education was not associated with differences in healthcare met needs.<sup>40</sup> Our findings bear credence to the observation made by Amani et al, that perceived healthcare met needs was associated with higher educational attainment. A probable reason could be that older adults with higher educational attainment, have a greater knowledge of the health services, and can relate well with their health service providers.<sup>41</sup> This, assertion is in line with the Sofaer model which posits that someone with a higher level of education might have a higher level of literacy and confidence in communicating with healthcare providers whereas there will

be literacy challenges for those with lower levels of education in the absence of system's support for the individual.<sup>42,43</sup> Therefore, policies that are put in place to allow early educational experiences and completed education can allow future occupational opportunities and earning potential in later life for health acquisition. Also social support may help deal with literacy issues which may facilitate treatment plans.

Marital status was significantly associated with UNHS particularly amongst the separated and divorced. Our study is comparable with a study from Serbia which showed that divorced had the greatest unmet needs even though they had more contact with health services because of their social and emotional problems.<sup>44</sup>

Generally, older people with poorer socioeconomic status have been found to have poor access to healthcare particularly those in rural areas of a country.<sup>45</sup> A study in China also indicated that the utilization of healthcare services increased among people living in rural areas.<sup>46</sup> However, other studies have shown that there is no significant association between urban and rural residents and healthcare utilization.<sup>2,47</sup> Nevertheless, this analysis indicated that compared to those living in urban areas, healthcare was less accessible to those in rural areas. We draw to the attention of the reader the Anderson et al (2002) concept of health care environment that refers to a set of categories that constitutes potential healthcare access within a geographic area.<sup>48</sup> For example, the demand for health services in a given geographical area may be disproportionate particularly in an area with low-income families and those below the poverty line. Therefore, to improve equitable access to healthcare services that will serve the needs of all particularly the poorer adults; there should be a change in policies that include greater mobilization of outreach services for the older adults in rural areas in Ghana.<sup>21</sup> Furthermore, there were regional variations in UNHS with the highest noted amongst the Ashanti and Central regions compared to the Upper East and Upper West Regions. Our findings reflect a study by Radcliffe et al, who reported that healthcare met needs varied across the different regions of Ghana and that since unmet needs in care across regions was due to economic and cultural difference, improvement strategies for improving met needs of healthcare, should be tailored to local setting across regions.<sup>49</sup>

### *Enabling Factors Associated with Umet Needs of Health Service*

The most striking reason for UNHS was the participants' inability to afford the needed care. In Ghana, older people particularly the poor have multiple sources of financing to help pay for their health care. Funds can be sourced from family and friends, personal income, Livelihood Empowerment Against Poverty (LEAP), and the NHIS subscription. Financial support from family and friends can provide funding for transport and healthcare delivery as well as medications. The government LEAP grants to targeted individuals can be supplementary

**Table 4.** Prevalence (%) of Reasons of Health Care Unmet Needs among Ghanaian Adults, SAGE Wave 2 from 2014 to 2015.

Reasons did not get healthcare	No	Yes	Total
	Weighted %	Weighted %	
Could not afford	43.6	56.4	233
No transport	98.7	1.3	233
Could not afford transport	98.3	1.7	233
Previously badly treated	98.8	1.2	233
Could not take time off work	94.5	5.5	233
HCP drugs/Equipment inadequate	92.3	7.7	233
Skills inadequate	96.9	3.1	233
Did not know where to go	97.3	2.7	233
Tried, denied care	95.6	4.4	233
Not sick enough	84.0	16.0	233

Note. Weighted percentage was adopted.

while the NHIS allows older persons to utilize healthcare at little or no cost.<sup>1</sup> Unfortunately, from the analysis financial barriers to accessing health care were key. A good proportion of participants (5.7%) did not have the NHIS, which is the main mode of access to health care in Ghana. There are policy inequities in the pro-poor and protection of the poor older adult by the NHIS.<sup>41</sup> Such analyses were, however, out of the scope of the current analysis.

Another area to note is geographical access and unavailability of transport for some of the participants. Generally, transport infrastructure in many low-resource settings is underdeveloped and older people have to rely on public or shared transport, which limits their access to health services.<sup>50</sup> Other studies have also shown that where there are poor transport systems or lack of it, older persons particularly in rural areas of Ghana and those with disabilities find it difficult to access the needed healthcare.<sup>1,3,50</sup> Considering the concept of health environment, there is a relationship between the built environment (which include transport facilities) and the health of older adults.<sup>51,52</sup> The model proposes that in dense urban settings, although distances to healthcare providers may be relatively short, there may be travel-related challenges. However, in rural areas, distances and travel time to health facilities may affect access to healthcare. Furthermore, according to Ryvicker<sup>53</sup> individuals with functional limitations without adequate support to help with transportation may face transportation challenges impinging on their health outcomes. Thus comprehensive research on navigation through the built environment and its relationship with access and health outcomes could address the disparities among urban and rural settings. The national policy on improving access through the Community-based Health Planning and Services (CHPS) strategy is key to improving access.

The inability to acquire adequate drugs, as also observed in a previous study by de-Graft & Koram was a barrier. Not all drugs needed for managing chronic conditions among older adults are covered by the NHIS and these are expensive

in the open private market.<sup>54</sup> Also, the skill of the health provider was called into question. This observation is in tandem with Kelly et al, who reported that in general, healthcare workers lack adequate training and experience on how to deal with geriatric issues and the management of chronic illness.<sup>23</sup> A qualitative study by Adatara and colleagues exploring the experiences of older people's use of outpatient services in a teaching hospital in Ghana indicated that lack of specialist care in hospitals is a major challenge for geriatric patients which results in patients moving from one hospital to another in search of care. The older adult patient thus feels the healthcare system is non-responsive to their needs and are dissatisfied.<sup>55</sup>

Having access to adequate healthcare services has the potential to enhance well-being which in turn minimizes the possibility of acute and long-term hospital stay.<sup>56</sup> When Muir et al, studied service provision for older mental health patients in Australia they indicated that one of the barriers to healthcare was the lack of knowledge of the availability of services and how to access them.<sup>57</sup>

### *Need Factors Associated with Unmet Needs of Health Service*

Not surprisingly, the prevalence of chronic conditions particularly joint pains was found to be higher in the majority of the participants needing care. In Ghana, chronic diseases like arthritis, cancers, respiratory diseases, cardiovascular diseases as well as other health challenges like chronic malnutrition, anemia, osteoporosis, and sight and hearing problems are known to affect the SRH of older adult persons.<sup>58</sup> Our analysis also shows that SRH was significantly associated with UNHS.

Poorer health status has also been found to be positively associated with the perceived need for care which in turn demands a greater need for health care services.<sup>59</sup> This assertion is par with the study's analysis, where 11.5% of participants reported bad SRH, 14.2% bad quality of life

(QoL) and 19.3% were dissatisfied with their life. Poorer SRH thus increases the demand for healthcare services particularly in older adults with co-morbidities.<sup>60</sup> A better patient-centered experience can lead to a better SRH which in turn will reduce the need for healthcare services.<sup>61</sup> According to Larson et al<sup>62</sup> measurement of patient-centeredness is fundamental for ensuring quality of services because everyone has the right to a dignify and respectful care, that is, responsive to their needs. In measuring patient-centeredness, the authors proposed patient experience of care and patient satisfaction which is an outcome measure of how well the care provided meets patient needs and expectations. These 2 categories are important for improving quality of care and user expectations.

Another reason for UNHS was that, for those who were not sick enough (16%) it could be that they had a low perceived need to seek health care because they may have thought that their symptoms were not severe enough to warrant a visit to a health facility. In all 16% of the older adults indicated they were not sick enough to seek care, an assumption verified by Taber et al, who postulated that, some people may evaluate their symptoms and hope that the disease will go away with time or heal on their own, thus the need for low perceived healthcare. In addition, the authors indicated that a person may perceive a lack of resources, and view medical care as unfavorable or have a personality trait for not seeking healthcare.<sup>63</sup> Public education on the importance of seeking preventive health care for early detection and treatment of diseases needs strengthening.

Some older adults could not spare time to access care. A previous study has revealed that employees without paid sick leave are 3 times more likely to forgo medical care for themselves than their counterparts who have paid sick leave benefits.<sup>64</sup>

## Limitation

Our outcome variable may be underestimated due to the longevity of recall for the healthcare visit. Overall, the WHO SAGE used vignettes and other measures to improve responses and health-seeking behaviors and to limit recall bias. In addition, the nature of the data and the modeling approach did not allow for assigning causation effects.

## Findings Implications for Policy and Practice

Met needs of health care service is key to strengthen the health system of a country more especially for older persons who live with comorbidities and other health needs. This current study identified factors including increasing age, low or no educational level, and no health insurance scheme as key determinant of UNHS. Participants needed care for joint pain and communicable disease health service. As part of the implementation of the National Ageing Policy, this study

identified the healthcare needs of older adults in Ghana, which will help amass the healthcare needs.

## Conclusion

In general, the inability to access healthcare was relatively higher for the older adults more advanced in age, in rural settings with low education, with poor SRH and dissatisfied with life, and for those without valid National Health Insurance (NHIS) cards. Older adults needed care mainly for joint pain, communicable diseases, acute conditions and injuries, and high blood pressure. Universal coverage of NHIS and health system strengthening including financial protection by expanding the National Health Insurance Scheme to all Ghanaians in line with Ghana's Universal Health Coverage Roadmap would reduce the unmet healthcare needs of the older adults.

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The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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## Ethical Requirements

SAGE Wave 2 study was approved by the World Health Organization's Ethical Review Board with reference number RPC149, and also, the Ethical and Protocol Review Committee, College of Health Sciences, University of Ghana, Accra, Ghana. Written informed consents were obtained from all study participants

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## Data Availability

The dataset used to support the findings of this study is available upon request through WHO website: <https://apps.who.int/health-info/systems/surveydata/index.php/catalog/sage/about>.

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