

Responsiveness of health care services towards the elderly in Tanzania: Does health insurance make a difference? A cross-sectional study

Paul Joseph Amani (✉ amani.paul@gmail.com)

Mzumbe University <https://orcid.org/0000-0001-5263-3369>

Malale Tungu

Muhimbili University of Health and Allied Sciences

Anna-Karin Hurtig

Umea Universitet Medicinska fakulteten

Angwara Denis Kiwara

Muhimbili University of Health and Allied Sciences

Gasto Frumence

Muhimbili University of Health and Allied Sciences

Miguel San Sebastian

Umea Universitet Medicinska fakulteten

Research

Keywords: Health Insurance, Responsiveness, Elderly, Tanzania

Posted Date: July 21st, 2020

DOI: <https://doi.org/10.21203/rs.3.rs-18102/v2>

License: © ⓘ This work is licensed under a Creative Commons Attribution 4.0 International License.

[Read Full License](#)

Version of Record: A version of this preprint was published on October 12th, 2020. See the published version at <https://doi.org/10.1186/s12939-020-01270-9>.

Abstract

Introduction Responsiveness has become an important health systems performance indicator in evaluating the ability of the health care systems to meet the expectations of the patients. However, its measurement in sub-Saharan Africa remains scarce. This study aimed to assess the responsiveness of the health care services among the insured and non-insured elderly in Tanzania, in order to contribute with relevant knowledge to improve the performance of the health care system among the elderly in the country.

Methods A community-based cross-sectional study was conducted in 2017 where a pre-tested household survey administered to elderly (60 +) living in Igunga and Nzega districts was applied. Participants with and without health insurance who attended outpatient and inpatient health care services in the past three and twelve months were selected. Responsiveness was measured based on the WHO-SAGE questionnaire that included the dimensions of quality of basic amenities, choice, confidentiality, autonomy, communication and prompt attention. Quantile regression was used to assess the specific association of the responsiveness index with health insurance and socio-demographic factors.

Results A total of 1453 and 744 elderly, of whom 50.1% and 63% had health insurance, used the outpatient and inpatient health services respectively. All the different domains were rated relatively high but the uninsured elderly reported better responsiveness in all domains of outpatient and inpatient care. Waiting time was the dimension that performed worst. Possession of health insurance was negatively associated with responsiveness in outpatient (-1; 95% CI: -1.45, -0.45) and inpatient (-2; 95% CI: -2.69, -1.30) care.

Conclusion The uninsured elderly reported better responsiveness than the insured elderly in both outpatient and inpatient care. Special attention should be paid to those dimensions, like waiting time, which ranked low. Further research is necessary to reveal the reasons for the lower responsiveness among insured elderly. A continuous monitoring of the health care system responsiveness is recommended.

Background

In low and middle-income countries (LMIC), health care systems are likely to be challenged by the rapidly increasing numbers of the elderly population.^{1,2} A large proportion of this group will be socioeconomically disadvantaged and will live in rural areas with poor health care infrastructure.^{3,4} Compounding this situation is the increasing need for health care services adapted to non-communicable diseases like diabetes, hypertension, a variety of cancers and deteriorating physical mobility, which predominantly affect the elderly.^{5,6} Many LMICs have initiated reforms to their health care systems with a focus on improving the availability and accessibility of health care services for this vulnerable population group. These reforms are in line with the World Health Organization's (WHO) proclamation for universal health coverage (UHC), which focuses at building an enabling health system that is able to provide

equitable health care access and financial protection to the people, regardless of their capacity to pay.⁷ This milestone requires a political commitment and acceptability, particularly in sub-Saharan countries where health systems are generally weak.⁸

When countries decide to reform their health care systems, monitoring and evaluation become an inescapable strategy for ensuring good performance.⁹ In the year 2000, the WHO emphasised the need to put mechanisms in place to ensure the health system's ability to improve the health of the population, to protect the poor from potential care expenditures and to respond to legitimate expectations of the people, thereby increasing the degree of responsiveness.¹⁰

The concept of responsiveness was therefore introduced to capture patients' experience with the health system based on a common set of non-health domains.¹⁰⁻¹⁴ These include the quality of basic amenities, choice, confidentiality, autonomy, communication and prompt attention. Because they are developed from an extensive array of disciplines, responsiveness domains analyse the function of the health care system from the way patients experience care, the treatment procedures and the environment around the services.¹⁵⁻¹⁷ Although responsiveness has increasingly been promoted as a key goal of any health system, its measurement, particularly in LMICs, is still scarce.^{10,18} The main concerns of many policy makers and researchers in health systems have been to expand access in order to improve health outcomes^{19,20} and mechanisms to finance health care.^{7,21} Studies on responsiveness have been more common in high-income countries^{12,22,23} than in LMICs.^{24,25} In sub-Saharan Africa, studies from Nigeria^{9,13} and South Africa²⁶ have shown the usefulness of responsiveness domains in examining the operationalisation of health systems in the context of health insurance schemes.

Towards the end of the 1980s, Tanzania, like other LMICs, was compelled to improve its health care system through attempts to minimise budgetary constraints.²⁷ These improvements consisted of introduction of health insurance (HI) to the country as part of the primary health care strategy. This culminated in the introduction of two prepaid schemes, the community-based health fund (CHF) and the National Health Insurance Fund (NHIF), as alternative health care financing mechanisms for reducing out-of-pocket (OOP) payments.

CHF was piloted in Igunga district in 1996 and was later introduced in other districts across the country as a voluntary scheme for rural households and their dependents, who agreed to contribute the same amount of premium. Although NHIF was originally introduced in 2001 as a mandatory scheme to cover public servants, currently its coverage has been extended to the informal sector as well. Both schemes strive to improve access and utilisation of basic health care services by the poor and the vulnerable population, including the elderly, with the goal of achieving universal health coverage.²⁸⁻³⁰ Research has shown that HI can contribute to improve the health care system's ability to deliver health services, particularly among low socioeconomic groups.^{9,31} To our knowledge, the responsiveness of the health care system in Tanzania has not previously been examined.

Thus, this study aimed to assess the responsiveness of the health care services among the insured and non-insured elderly in Tanzania, in order to contribute with relevant knowledge to improve the performance of health insurance among the elderly in the country.

Methods

Study Setting

The study was conducted in Nzega and Igunga districts in Tabora region, which is located in western-central Tanzania. According to the 2012 census, the region had 2.3 million inhabitants, of which 901,979 reside in Nzega and Igunga districts.³² The number of people aged 60 and above living in Igunga and Nzega districts is 50,547, approximately 5% of the total population. We chose the two districts for logistical reasons, as the two districts are neighbours, both represent rural and urban population features with a majority of the elderly residing in the rural areas, and Igunga is the first district in the country to experience the CHF. In both districts, primary and secondary health facilities are available and offer health care services to the elderly regardless of their insurance status. While the retired elderly from the public sector who had already joined NHIF are covered until their death, those who were not can voluntarily join the CHF. An insured elderly person is entitled to a broad range of free services, including outpatient consultation, prescriptions, surgical services, inpatient care services, physiotherapy and rehabilitation services, optical and dental health services.^{28,33,34}

Sample Size and Sampling Procedures

This study is part of a broader project assessing the role of health insurance among the rural elderly. A household-based survey of elderly people aged 60 years or more, living in Igunga and Nzega districts, was conducted between July and September 2017. A multistage sampling technique to select the wards and villages in each district was applied. First, through a purposive sampling technique, fourteen wards were selected, seven from each district based on the population size and the location. Second, 58 villages that were geographically reachable from the fourteen wards were randomly selected by lottery. Third, we employed a systematic sampling technique to identify households from each village that included an elderly person. Lastly, one respondent, either male or female, was randomly selected and interviewed from each household. The inclusion criteria for respondents were to be aged 60 years or over, currently living in the selected districts and visiting an outpatient or inpatient service in the last 3 or 12 months. Locating the households was made possible by the help of hamlet leaders who guided the researchers to locate the households for interview. Based on a 40% prevalence of the health outcome (i.e. utilisation of outpatient and inpatient care), a design effect of 2, a 95% confidence interval and power of 80%, 733 participants were determined to form the sample size. The sample was doubled in order to have a representative group of men and women.

Data Collection

A pre-tested household survey, based on the WHO-SAGE responsiveness questions, was applied to understand the perception of the insured and uninsured elderly with regard to outpatient and inpatient health care services received in the past three and 12 months respectively.¹² We employed eight data collectors who were fluent in the Swahili and Sukuma languages and had at least a bachelor's degree in social sciences. Before starting data collection, the research assistants received training and got accustomed with the questions in order to reduce misunderstandings of the domain terms themselves or the respondents.

Defining the Variables

The responsiveness domains were measured by using the five ordered Likert scale options: 1 = very good, 2 = good, 3 = moderate, 4 = bad and 5 = very bad. The general question addressing the six domains was:

For your most recent visit to a health care provider/overnight stay, how would you rate the following: i) cleanliness of the facility inside environment; ii) freedom to choose health care provider; iii) freedom to talk privately to provider; iv) involvement in deciding treatment; v) clarity of explanation by providers, and vi) time waited before being attended.

Health insurance status was determined with a "Yes/ No" question by asking the elderly if they possessed health insurance (public or private). The elderly were requested to show their HI membership cards (all did), as well as to state the date they joined the scheme.

The *socio-demographic factors* included were: i) sex/gender, identified as male or female; ii) age, categorised as between 60–69, 70–79 and > 79 years old; iii) marital status was divided into: married (currently married and cohabiting) and other (widows, separated and never married); iv) education was categorised as no education, low education—those with a primary education or less—and high education, those with a secondary education or higher; and v) income was assessed by asking about the total income of the individual elderly and categorised in less or equal to \$22.50 and above \$22.50. The cut-off is based on the Tanzanian 2011–2012 basic need poverty line estimates, which stood at 236,482Tsh (approximate to \$22.5) per adult per month in 2018.

Ethical Clearance

The Research and Ethics Committee of Muhimbili University of Health Sciences reviewed and approved the study protocol in May 2017(reference number 2017-05-24/AEC/Vol.XII/70). Then, permission to conduct data collection from the District Executive Directors of Igunga and Nzega districts was obtained. During the interviews, voluntary informed consent, both verbal (from those who could neither read nor write) and written (from the rest) was obtained from each respondent after the local guide had introduced the research team and the procedures for research in each household.

Data Analysis

The data were entered into Epi Info and analysed with STATA version 15. First, a descriptive analysis presenting the characteristics of the study sample was carried out. Then the degree of responsiveness by type of care based on the five categories of responses (1 = very good to 5 = very bad) was analysed. To obtain a responsiveness index, the scores for each domain were first reverse coded to 5 = very good and 1 = very bad and then added, resulting in an index ranging from 6, indicating the lowest, to 30, the highest score.² Chi-square tests were applied to compare the health systems' responsiveness domains according to the possession or not of health insurance. Since a non-normal distribution of the index was observed, a median quantile regression (50th percentile) was used to explore the specific association of the responsiveness index with health insurance ownership and socio-demographic factors. Statistically significant variables (p-value < 0.05) in the crude model were included in the adjusted model.

Results

Characteristics of the Respondents

Table 1 portrays the descriptive characteristics of the elderly people who were involved in this study. The final sample included 1453 and 744 elderly people who reported using outpatient and inpatient services in the last three and 12 months, respectively. Similar distribution of respondents between outpatient and inpatient care was observed for the different socio demographic variables. Study participants were mostly younger (60–65 years), not currently married, with no education and low income. Whereas half of the respondents in the outpatient group were insured, the coverage increased to 63% in the inpatient group.

Here: Table 1. Characteristics of the Respondents by Use of Health Care Services

Performance of the Responsiveness Domains by Health Insurance

Through ratings, the experience of the elderly regarding the six responsiveness domains based on their insurance status was explored. In general, good (including very good, good and moderate) responsiveness was reported in all the domains for outpatient care except for waiting time. The uninsured elderly reported better responsiveness than the insured in all the domains of outpatient care: cleanliness of the facility, involvement in treatment decisions and waiting time were statistically significant (Figures 1a and 1b).

Similarly to outpatient care, the uninsured elderly reported better responsiveness than the insured in all domains of the inpatient care. The same dimensions as in outpatient care, cleanliness, making decisions and waiting time performed statistically lower among the insured compared to the uninsured (Figures 2a and 2b).

Regression Analysis

Table 2 shows the results of the crude and adjusted regressions of the median quantile analyses estimating the association between health insurance and both outpatient and inpatient overall responsiveness index, adjusted for socio-demographic variables.

Here: Table 2: Results of Crude and Adjusted Median Quantile Regression Models on Responsiveness to Health Care

Outpatient Care

Results of the crude and adjusted regression models showed a negative statistical association between health insurance and responsiveness regarding outpatient care. The responsiveness for the insured elderly was one unit less (-1; 95% CI: -1.45, -0.45) than that of the uninsured elderly. In addition, a negative statistical association between age, gender and marital status with responsiveness was observed. The increase in age decreased the probability of reporting better responsiveness by one unit (-1; 95% CI: -1.70, -0.29) among the group aged 70 to 79 and two units (-2; 95% CI: -2.85, -1.14) in the group aged 79 or older, as well as among women and married people (-1; 95% CI -1.60, -0.39), whereas high education (+2; 95% CI: 0.78, 3.21) and high income (+1; 95% CI: 0.36, 1.63) were associated with higher responsiveness.

Inpatient Care

The results of the crude models also showed a negative association between health insurance and responsiveness in relation to inpatient care (-2; 95% CI: -2.69, -1.30). No adjusted models were conducted, since none of the socio-demographic variables (age, sex, marital status education and income) showed a significant association with responsiveness to inpatient care in the bivariate regression.

Discussion

To our knowledge, this is the first study analysing the responsiveness of health care services in Tanzania by insurance status. In this section, we first discuss the performance of different domains and then the difference in responsiveness between the insured and the uninsured elderly.

Responsiveness in Outpatient and Inpatient Care

Based on our findings, both the insured and uninsured elderly reported a good responsiveness (very good/good/moderate $\geq 50\%$) in all domains of outpatient and inpatient care. The perceived health care responsiveness was, however, lower among the insured compared to the uninsured elderly in all domains of both types of care. Our results are in line with the findings of similar studies from Sub-Saharan Africa. In a study conducted in South Africa among insured and uninsured older adults (50 years and above), a good health system responsiveness was observed in all domains of outpatient and inpatient care.²⁶ Similar experiences have been reported by insured and uninsured patients in Nigeria, who scored a high responsiveness in outpatient care.⁹

Three domains—access (ease of seeing a health provider), confidentiality (privacy), and autonomy (involvement in decision-making)—performed better among both insured and uninsured elderly in outpatient and inpatient care services. This finding differs from the results of the previous South African study,²⁶ which reported patient dissatisfaction with the access and autonomy domains of the healthcare system. The observed better responsiveness on access shown in our study may be a result of the government's ongoing efforts to improve service delivery, particularly at the primary health care level, which is widely available in rural areas. According to Röttger et al.,³⁵ users of health care services expect a high level of privacy and assurance so whatever personal information they discuss with health care providers is safeguarded. In our study, the confidentiality domain performed satisfactorily, similarly to the South African study²⁶ that reported high responsiveness (74.2%) in that domain. However, in our study setting, many health facilities are small, have limited space for patient-doctor meetings, and use the available space for multiple activities. It could be that elderly patients were comfortable with the level of confidentiality because it has currently improved, and/or they did not have other experience to compare. Nevertheless, there is a need to readjust the facility's space and remind health care providers of the ethics of information privacy. Autonomy describes the rights of a patient to medical information and to make informed choices.⁹ Involving the elderly in making decisions about their health may enhance patient-doctor relationships, which are important in the care process.³⁶ Although information asymmetry is common in health care settings, the findings from our study seem to highlight an existing good relationship between health care providers and patients in the sense that it gives the patient a sense of control and responsibility and hence allows them to be involved in the care activity.³⁷

Our results revealed a concern by the elderly regarding three responsiveness domains: prompt attention (waiting time), quality of basic amenities (cleanliness) and communication (clear explanations). These findings are similar to previous studies on healthcare responsiveness among older adults in South Africa,²⁶ China¹¹ and Nigeria.⁹ Nevertheless, our scores regarding prompt attention were extremely low (18.15% in outpatient and 21.85%, in inpatient care) compared to those of South Africa (58.2% for outpatient and 68.6% for inpatient) and Nigeria (68% for outpatient care). In line with other research, the dissatisfaction of the elderly may be associated with overcrowding, understaffing, limited geriatric skills, delays in reception, unavailability of recommended medicine, attitude of the providers towards the elderly and processing insurance claims.^{13,38,39} Similar to prompt attention, neither insured nor uninsured patients were satisfied with the cleanliness of the facilities. These findings are different from other studies^{38,40} in which this domain was scored highly and deemed important. In our study, cleanliness was perceived low (21.35%) for inpatient care compared to the South African study, which was 71.3%.⁴⁰ There is definitely a need for health care managers to improve the cleanliness of their facilities in order to offer a quality service. In line with the WHO,¹⁰ communication is also very important in improving the delivery and utilisation of health care. However, the dissatisfaction observed with communication in this study may imply that providers do not take enough time to listen to and understand the problems of the elderly patients.⁴¹ This is a not a good practice, as it disempowers the service users, makes them feel uncomfortable with the provider and may lead to decreased trust in the healthcare delivery system.

Factors Associated With Responsiveness

The elderly with health insurance reported worse responsiveness compared to the uninsured, in the adjusted quantile regression models. This finding can appear to be contradictory at first sight. Although research from Ghana has shown similar results⁴² in which the insured patients tended to perceive worse quality of health care, a study from Burkina Faso⁴³ showed no difference in the quality of health care among insured and uninsured patients. Two main reasons could be argued for the difference in our study: difference in procedures when visiting a health facility and unfulfilled expectations. In the Tanzanian health care setting, an insured elderly person has to go through a long process before being seen by the doctor. They start by submitting the insurance card at the reception and then waiting while undergoing verification through the computer system, which may take a long time due to overcrowding. However, the uninsured pay cash and get the services immediately, which is a quicker process with commonly shorter queues than that of the insured patients. Furthermore, due to the fact that patients are given appointments for a particular day, but not time, and that patients might not be seen immediately due to the “first come-first-served” modality, added to the overcrowding of health facilities, particularly in the insured section, can contribute to this finding.³⁸ A similar experience from Ghana showed that the dissatisfaction of the insured was associated with long waiting times, inadequate information regarding services, poor staff attitudes, non-observance of the queuing process and perceived low quality of drugs.⁴² Related to the second explanation, insured patients may expect to be attended by professionals who show concern for and understanding of their health problems, to experience shorter waiting times, and to receive better quality services than the uninsured. If this does not happen, responsiveness can be perceived to be worse.

Among the independent variables, older age, women and married people showed a negative statistically significant association to responsiveness in outpatient care. The result regarding age is, however, opposite to other studies^{6, 26} that have reported more responsiveness by older people. One possible explanation might be that health care services are used more often with age making elderly more negative towards them. Literature offers different findings regarding gender and responsiveness. In the South African study, female inpatients indicated higher health care responsiveness,²⁶ whereas in studies from Ethiopia⁴⁴ and Ghana,⁶ gender differences did not influence the responsiveness perception among older patients. This difference might require further exploration. Higher educational attainment tended to be positively associated with responsiveness to outpatient and inpatient care. This finding is similar to other studies⁴⁵⁻⁴⁷, which showed increased responsiveness with higher education, but it differs from the findings of a study in Ethiopia.⁴⁸ A probable explanation might be that elderly people with higher education have a better knowledge of what services they need, as well as more ability to interact with the providers and navigate within the system.¹⁸

Methodological Consideration

The survey used to explore the responsiveness of health care services was based on the standardised SAGE questionnaire,^{49, 50} that allowed for consistency and comparison with other studies. The response rate was high (above 80%), probably due to the recruitment of research assistants who were fluent in the local language and the culture of the study respondents. The fact that our sample size was relatively high, with both men and women represented, increases the reliability and validity of our findings. Several measures were taken to minimise the possibilities of bias and misinterpretation by both the interviewers and the respondents. In order to reduce interviewer misinterpretation and thus respondent bias, we conducted a pilot test of the instrument, with thorough training for the research assistants. The responsiveness questions related to health care utilisation might have created recall bias. This was partly dealt with by requesting to see HI cards and hospital registration numbers for a randomly selected number of respondents during interviews. Selection bias was taken into consideration because of the randomisation process of the participants' selection.

Conclusion

To our knowledge, this is the first study analysing the responsiveness of the health care services in Tanzania with a focus on insurance status among the elderly. The uninsured elderly reported better responsiveness in all domains than the insured, and a negative association between health insurance and the responsiveness index in outpatient and inpatient care was observed. The results suggest that further attention to the HI procedure is needed in order to further improve the responsiveness of the health care services. For service providers, the results highlight the importance of considering patients' needs, values and preferences, which are likely to influence their experience, perceptions and expectations of the health care responsiveness. Policy-makers would need to take measures in order to improve three main aspects of care—communication between doctors and patients, prompt attention and cleanliness—to meet the expectations of elderly patients. The government of Tanzania is planning to improve in the nearest future access and to ensure universal health coverage to all people. It would be worth to carefully monitor the process of implementation of these strategies from a responsiveness perspective.

Abbreviations

CHF

Community Health Fund, CI:Confidence Interval, HI:Health Insurance,

LMIC

Low and Middle Income Countries, MUHAS:Muhimbili University of Health and Allied Sciences,

NHIF:National Health Insurance Fund, OOP:Out-of-Pocket,

SIDA

Swedish International Development Agency, UHC:Universal Health Coverage, WHO-SAGE:World Health Organization-Study on global Ageing and Adult Health

Declarations

Ethical Approval and Consent to Participate

The Research and Ethics Committee of Muhimbili University of Health Sciences reviewed and approved the study protocol in May 2017(reference number 2017-05-24/AEC/Vol.XII/70). Then, permission to conduct data collection from the District Executive Directors of Igunga and Nzega districts was obtained. During the interviews, voluntary informed consent, both verbal (from those who could neither read nor write) and written (from the rest) was obtained from each respondent after the local guide had introduced the research team and the procedures for research in each household.

Consent to Publish

Not applicable

Availability of Data and Materials

Not available

Competing Interests

The authors declare that they have no competing interest in this study

Funding

This study funded by SIDA through MUHAS-UMEA Universities under the Health System Research Subprogram 2015-2020. Funding was used for training the research team and field data collection. SIDA, as funding agency, did not take part in the design of the study, data collection, analysis, interpretation and writing of the manuscript

Authors' Contributions

PJA conceived the study. PJA and MT participated in its design, collected data, analysed data and drafted the manuscript. ADK participated in the design, was the overall coordinator of the project and helped to draft the manuscript. GF, AKH and MSS participated in the design, analysis and helped to draft the manuscript. All the authors read and approved the manuscript.

Acknowledgements

We are grateful to the financial support from SIDA and the support of the District Executive Directors, Ward Executive Officers, village and hamlet leaders, research assistants the elderly respondents from Nzega and Igunga Disticts in Tanzania.

References

1. Myburgh NG, Solanki GC, Smith MJ, Lalloo R. Patient satisfaction with health care providers in South Africa: the influences of race and socioeconomic status. *International Journal for Quality in Health Care*. 2005; 17(6):473-7. DOI: 10.1093/intqhc/mzi062
2. Saeed BI, Xicang Z, Yawson AE, Nguah SB, Nsawah-Nuamah NN. Impact of socioeconomic status and medical conditions on health and healthcare utilization among aging Ghanaians. *BMC Public Health*. 2015; 15(1):276. DOI: 10.1186/s12889-015-1603-y
3. Hutton D. Older people in emergencies: considerations for action and policy development. World Health Organization; 2008. <https://ebookcentral.proquest.com/lib/umeaub-ebooks/detail.action?docID=349984> Accessed on 27 June 2019
4. Van Der Wielen N, Channon AA, Falkingham J. Does insurance enrolment increase healthcare utilisation among rural-dwelling older adults? Evidence from the National Health Insurance Scheme in Ghana. *BMJ global health*. 2018; 3(1):e000590. DOI: 10.1136/bmjgh-2017-000590
5. World Health Organization. World report on ageing and health. Geneva, Switzerland: World Health Organization. 2015 <https://www.who.int/ageing/publications/world-report-2015/en/> Accessed on 27th June 2019
6. Awoke MA, Negin J, et al. Predictors of public and private healthcare utilization and associated health system responsiveness among older adults in Ghana. *Global health action*. 2017;10(1):1301723. DOI: 10.1080/16549716.2017.1301723
7. World Health Organization (WHO). World Health Report: Health System Financing-The Path to Universal Coverage. Geneva, Switzerland, 2010. Accessed April 2019
8. Harries AD, Jensen PM, Zachariah R, Rusen ID, Enarson DA. How health systems in sub-Saharan Africa can benefit from tuberculosis and other infectious disease programmes [Unresolved issues]. *The International Journal of Tuberculosis and Lung Disease*. 2009;13(10):1194-9. <http://hdl.handle.net/10144/85113>
9. Mohammed S, Bermejo JL, Soares A, Sauerborn R, Dong H. Assessing responsiveness of health care services within a health insurance scheme in Nigeria: users' perspectives. *BMC health services research*. 2013;13(1):502. DOI: 10.1186/1472-6963-13-502
10. World Health Organization. The World Health Report: 2000: Health systems: improving performance. Geneva. WHO. 2000. http://www.who.int/whr/2000/en/whr00_en.pdf. Accessed on 27 June 2019
11. Kowal P, Naidoo N, Williams SR, Chatterji S. Performance of the health system in China and Asia as measured by responsiveness. *Health*. 2011;3(10):638. DOI: 10.4236/health.2011.310108
12. Valentine NB, Bonsel GJ, Murray CJ. Measuring quality of health care from the user's perspective in 41 countries: psychometric properties of WHO's questions on health systems responsiveness. *Quality of Life Research*. 2007;16(7):1107-25. DOI: 10.1007/s11136-007-9189-1
13. Mohammed S, Sambo MN, Dong H. Understanding client satisfaction with a health insurance scheme in Nigeria: factors and enrollees experiences. *Health Research Policy and Systems*. 2011;9(1):20. DOI: 10.1186/1478-4505-9-20

14. Peltzer K, Phaswana-Mafuya N. Patient experiences and health system responsiveness among older adults in South Africa. *Global health action*. 2012;5(1):18545. DOI: 10.3402/gha.v5i0.18545
15. De Silva A, Valentine N. A framework for measuring responsiveness. Geneva: World Health Organization; 2000. <https://apps.who.int/iris/bitstream/handle/10665/67781/a78638.pdf>. Accessed on 25 June 2019
16. Mirzoev T, Kane S. What is health systems responsiveness? Review of existing knowledge and proposed conceptual framework. *BMJ global health*. 2017;2(4):e000486. DOI: 10.1136/bmjgh-2017-000486
17. Coulter A, Jenkinson C. European patients' views on the responsiveness of health systems and healthcare providers. *European journal of public health*. 2005;15(4):355-60. DOI: 10.1093/eurpub/cki004
18. Robone S, Rice N, Smith PC. Health systems' responsiveness and its characteristics: A cross-country comparative analysis. *Health services research*. 2011;46(6pt2):2079-100. DOI: 10.1111/j.1475-6773.2011.01291.x
19. Jamison DT, Breman JG, Measham AR, Alleyne G, Claeson M, Evans DB, Jha P, Mills A, Musgrove P, editors. Disease control priorities in developing countries. The World Bank; 2006 Apr 2.
20. Schroeder SA. We can do better—improving the health of the American people. *New England Journal of Medicine*. 2007 Sep 20;357(12):1221-8. DOI: 10.1056/NEJMsa073350
21. Liaropoulos L, Goranitis I. Health care financing and the sustainability of health systems. *International Journal for Equity in Health*. 2015 Dec;14(1):80. DOI: 10.1186/s12939-015-0208-5
22. Murray CJL, Evans DB, eds. Health Systems Performance Assessment: Debates, Methods and Empiricism. Geneva, Switzerland: World Health Organization; 2003. Accessed on Sept 2019
23. Murray CJ, Frenk J. Ranking 37th—measuring the performance of the US health care system. *New England Journal of Medicine*. 2010;362(2):98-9. DOI: 10.1056/NEJMp0910064
24. Mirzoev T, Kane S. What is health systems responsiveness? Review of existing knowledge and proposed conceptual framework. *BMJ global health*. 2017;2(4):e000486. DOI: 10.1136/bmjgh-2017-000486
25. Rashidian A, Kavosi Z, Majdzadeh R et al. Assessing health system responsiveness: a household survey in 17th district of Tehran. *Iranian Red Crescent Med J*. 2011;13(5):302. <https://www.ncbi.nlm.nih.gov/pubmed/22737485>. Accessed on 15 August 2019
26. Peltzer K, Phaswana-Mafuya N. Patient experiences and health system responsiveness among older adults in South Africa. *Global health action*. 2012;5(1):18545. DOI: 10.3402/gha.v5i0.18545
27. Mujinja PG, Kida TM. Implications of health sector reforms in Tanzania: Policies, indicators and accessibility to health services. Economic and Social Research Foundation; 2014. <http://www.thdr.or.tz/docs/THDR-BP-8.pdf>. Accessed on 15 October 2019
28. Mtei G, Makawia S, Ally M, Kuwawenaruwa A, Meheus F, Borghi J. Who pays and who benefits from health care? An assessment of equity in health care financing and benefit distribution in Tanzania. *Health policy and planning*. 2012;27(suppl_1):i23-34. DOI: 10.1093/heapol/czs018

29. Macha J, Harris B, et al. Factors influencing the burden of health care financing and the distribution of health care benefits in Ghana, Tanzania and South Africa. *Health policy and planning*. 2012;27(suppl_1):i46-54. DOI: 10.1093/heapol/czs024
30. Macha J, Kuwawenaruwa A, Makawia S, Mtei G, Borghi J. Determinants of community health fund membership in Tanzania: a mixed methods analysis. *BMC health services research*. 2014;14(1):538. DOI:10.1186/s12913-014-0538-9
31. Abuosi AA, Domfeh KA, Abor JY, Nketiah-Amponsah E. Health insurance and quality of care: Comparing perceptions of quality between insured and uninsured patients in Ghana's hospitals. *International journal for equity in health*. 2016;15(1):76. DOI: 10.1186/s12939-016-0365-1
32. National Bureau of Statistics. 2012 population and housing census. Population Distribution by Administrative Area. 2013. <http://repository.out.ac.tz/362/>. Accessed on 4 April 2019
33. Kamuzora P, Gilson L. Factors influencing implementation of the Community Health Fund in Tanzania. *Health policy and planning*. 2007;22(2):95-102. DOI: 10.1093/heapol/czm001
34. Amu H, Dickson KS, Kumi-Kyereme A, Darteh EK. Understanding variations in health insurance coverage in Ghana, Kenya, Nigeria, and Tanzania: Evidence from demographic and health surveys. *PloS one*. 2018;13(8):e0201833. DOI: 10.1371/journal.pone.0201833
35. Röttger J, Blümel M, et al. Exploring health system responsiveness in ambulatory care and disease management and its relation to other dimensions of health system performance (RAC)– study design and methodology. *International journal of health policy and management*. 2015; 4(7):431. DOI: 10.15171/ijhpm.2015.97
36. Röttger J, Blümel M, Fuchs S, Busse R. Assessing the responsiveness of chronic disease care-Is the World Health Organization's concept of health system responsiveness applicable? *Social Science & Medicine*. 2014; 113:87-94. DOI: 10.1016/j.socscimed.2014.05.009
37. Tutton EM. Patient participation on a ward for frail older people. *Journal of advanced nursing*. 2005;50(2):143-52. DOI: 10.1111/j.1365-2648.2005.03373.x
38. Adesanya T, Gbolahan O, et al. Exploring the responsiveness of public and private hospitals in Lagos, Nigeria. *Journal of public health research*. 2012; 1(1):2. DOI: 10.4081/jphr.2012.e2
39. Jehu-Appiah C, Aryeetey G, Agyepong I, Spaan E, Baltussen R. Household perceptions and their implications for enrolment in the National Health Insurance Scheme in Ghana. *Health Policy and Planning*. 2011; 27(3):222-33. DOI: 10.1093/heapol/czr032
40. Peltzer K. Patient experiences and health system responsiveness in South Africa. *BMC health services research*. 2009; 9(1):117. DOI: 10.1186/1472-6963-9-117
41. Valentine NB, de Silva A, et al. Health system responsiveness: concepts, domains and operationalization. Health systems performance assessment: debates, methods and empiricism. Geneva: World Health Organization. 2003:573-96.
42. Duku SK, Nketiah-Amponsah E, Janssens W, and Pradhan M. Perceptions of healthcare quality in Ghana: Does health insurance status matter? *PloS one*. 2018; 13(1):e0190911. DOI.org/10.1371/journal.pone.0190911

43. Robyn PJ, et al. Does enrollment status in community-based insurance lead to poorer quality of care?. Evidence from Burkina Faso. *International journal for equity in health*. 2013; 12(1):31. DOI: 10.1186/1475-9276-12-31
44. Woldeyohanes TR, Woldehaimanot TE, Kerie MW, Mengistie MA, Yesuf EA. Perceived patient satisfaction with in-patient services at Jimma University Specialized Hospital, Southwest Ethiopia. *BMC research notes*. 2015;8(1):285. DOI: 10.1186/s13104-015-1179-8
45. Thi PL, Briancon S, Empereur F, Guillemin F. Factors determining inpatient satisfaction with care. *Social science & medicine*. 2002; 54(4):493-504. DOI: 10.1016/S0277-9536(01)00045-4
46. Lee Y, Kasper JD. Assessment of medical care by elderly people: general satisfaction and physician quality. *BMC Health services research*. 1998;32(6):741. <https://www.ncbi.nlm.nih.gov/pubmed/9460484>
47. Kong MC, Camacho FT, Feldman SR, Anderson RT, Balkrishnan R. Correlates of patient satisfaction with physician visit: differences between elderly and non-elderly survey respondents. *Health and Quality of life Outcomes*. 2007;5(1):62. DOI: 10.1016/S1098-3015(10)65337-5
48. Assefa F, Mosse A. Assessment of clients' satisfaction with health service deliveries at Jimma University specialized hospital. *Ethiopian journal of health sciences*. 2011;21(2):101-10. DOI: 10.4314/ejhs.v21i2.69050
49. Peltzer K, Williams JS, Kowal P, et al. Universal health coverage in emerging economies: findings on health care utilization by older adults in China, Ghana, India, Mexico, the Russian Federation, and South Africa. *Glob Health Action*. 2014;7:25314. DOI: 10.3402/gha.v7.25314
50. Minicuci N, Biritwum RB, Mensah G, et al. Sociodemographic and socioeconomic patterns of chronic non-communicable disease among the older adult population in Ghana. *Glob Health Action*. 2014;7:21292. DOI: 10.3402/gha.v7.21292

Tables

Due to technical limitations, Tables 1 & 2 are only available for download from the Supplementary Files section.

Figures

1a. Insured

1b. Uninsured



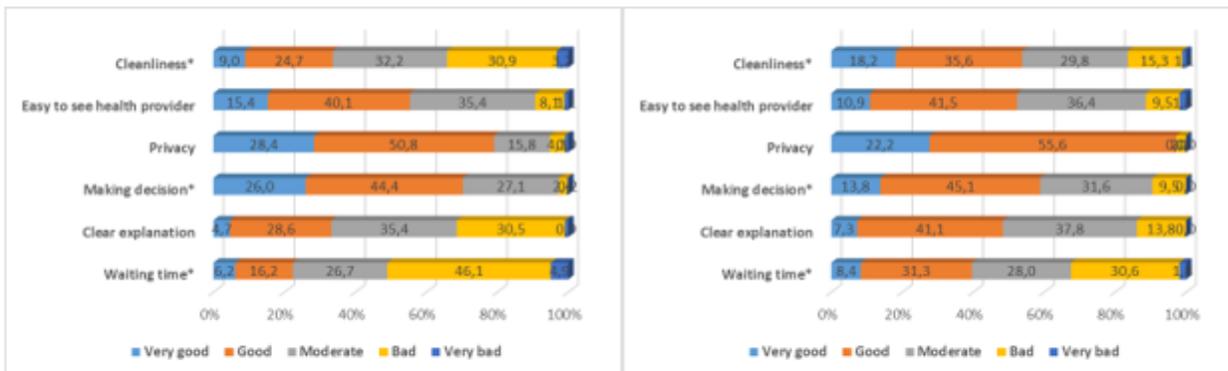
*p-value <0.05

Figure 1

Percentage of Participants Rating the Responsiveness Domains in Outpatient Care by Health Insurance Ownership

2a. Insured

2b. Uninsured



*p-value <0.05

Figure 2

Percentage of Participants Rating the Responsiveness Domains in Inpatient Care by Health Insurance Ownership

Supplementary Files

This is a list of supplementary files associated with this preprint. Click to download.

- [Tables12.docx](#)