

## **Availability of Health Services through Health Insurance Schemes in Tanzania**

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### **ABSTRACT**

### **Article info**

*This article presents citizens' perceptions of the availability of health services through community-based health insurance schemes in Tanzania as of 2015. A descriptive cross-sectional design involving qualitative and quantitative methods was adopted to collect data from 433 individuals in six districts of Tanzania's mainland. Data collected through questionnaires, in-depth interviews, focus group discussions, and documentary reviews were analysed descriptively and thematically. The results indicated that the unavailability of health services is still a challenge for insured poor households in Tanzania. This is due to inadequate health facilities, frequent drug stock out, shortage of health workers and equipment, long distance to health facilities, especially in rural areas, and long waits for consultations. This bears on the inadequate availability of health services for poor households in the study areas. Therefore, scaling up the availability of health services through health insurance, efforts to make health facilities available and closer to people, sufficient supply of drugs, health workers, and equipment, and short waits for health services are important.*

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## 1. INTRODUCTION

Access to health services, defined as a possibility for people to use health care when needed (Guilford *et al.*, 2001), remains a big challenge as millions of people lack access to it. Evidence shows that an estimated 1.3 billion people are deprived of health services due to out-of-pocket (OOP) payments made at the point of receiving services (Oxfam International, 2008). Most people who lack access to health services live in low and middle-income countries (LMICs) (REPOA 2006; Escobar *et al.*, 2010), where there is a wide disparity between disease burden and expenditure on health (Mathers *et al.*, 2006). Although the LMICs account for 84% of the global population and 90% of the global disease, they account for only 12% of the global health spending (Mathers *et al.*, 2006; Adebayo, 2014). Conversely, higher-income countries account for 9.7% of the global disease but account for 88% of the global health spending (Adebayo, 2014). For example, Sub-Saharan Africa carries 24% of the global disease but spends less than 1% of the world's financial resources on health (WHO, 2006).

Recognising the devastating effects of the OOP, policymakers in the LMICs have developed an interest in community-based health insurance (Oxfam International, 2008). Health insurance protects people from the cost of care, which can become a barrier to seeking and obtaining health care (Yellaiah, 2012). In addition, it increases health-seeking behaviour due to reduced OOP expenditures for medical treatment (Dekker & Wilms, 2010) and enables health workers to concentrate on the treatment of patients rather than thinking about the patient's ability to pay.

Health insurance has been in operation in Tanzania since 1993, following the introduction of a cost-sharing policy that led to the establishment of prepayment mechanisms (MOH, 2003). The mechanisms include Community Health Fund (CHF) for rural areas in 2001 and *Tiba Kwa Kadi* (TIKA) for urban areas in 2009. Others are a mutual health insurance for the informal sector in 1995 namely, *Umoja wa Matibabu Sekta Isiyo Rasmi* Dar es Salaam (UMASIDA) and *Vikundi vya wenye Biashara Ndogondogo* (VIBINDO) as a 'petty traders association' (Mtei *et al.*, 2007). The community managed health insurance schemes for the poor in Dar es Salaam namely, "Mfuko wa Bima ya Afya wa Atiman – Yombo (MBAKAYO) in 1998 (MBAKAYO, 2015) and *Mfuko wa Afya, Atman-Manzese*' (MAAMZ) in 2005 (Debaig, 1999). Despite all these schemes, it is not yet clear whether the health insurance program expands access to healthcare for poor people. Several studies comment that although coverage is central to increasing access to healthcare, people still face barriers (Jutting, 2003; Sarkar, 2007; Wagstaff *et al.*, 2007). Effective access includes healthcare availability, affordability, and acceptability (ILO, 1014).

This article presents perceptions on the availability of health services for the poor through health insurance.

## 2. CONCEPTUAL FRAMEWORK OF THE STUDY

The framework presents the theory guiding the study, the definition of health insurance and availability of health services, and measures of availability of health services. This study was guided by Gilson and Schneider's Dynamic Interaction Framework (2007), which views access to healthcare as a "degree of fit" between the health system and those it serves, involving availability, affordability, and acceptability of services, shaped by both supply and demand side factors (Gilson and Schneider, 2007). *Health insurance* is a sickness fund where people pay an annual premium while guaranteeing them the right to health services (Carrin *et al.*, 2005). *Availability of health services* entails the relationship between the volume and type of services provided and clients' needs (Penchansky & Thomas 1981), reachability of the care that meets a minimum standard (Obrist *et al.*, 2001), and having appropriate health services in the right place and at the right time (Gilson & Schneider 2007).

Health insurance literature has consistently pointed out indicators of availability of health services as the presence of health facilities (ILO 2014); availability of drugs (Kamuzora *et al.*, 2007; Vialle-Valentin *et al.*, 2008; USAID 2010; TWaweza 2013), availability of equipment (Wiesmann & Jutting, 2000), and number health workers (Schneider *et al.*, 2006; Sikika, 2010). Other indicators are distance to the nearest health facility (Rogers-Witte *et al.*, 2009), time taken to reach the health facility (Chen *et al.*, 2012), health facility opening and closing hours, waiting and consultation times (Guilford *et al.*, 2001; Ensor and Cooper, 2004), and actual use of services (Donabedian, 1972; Aday & Andersen, 1974).

### 2.1 Empirical Literature Review

The review on the effect of health insurance on the availability of health services is mixed. While literature shows an association between health insurance status and a pattern of access to health services, health insurance increased the following services. For example, healthcare utilisation among the poor in Colombia (Hassan *et al.*, 2013) and in Australia (Sparrow *et al.*, 2013); inpatient and outpatient care, except among the poor in China (Wagstaff *et al.*, 2007); use of care but with increased OOP payments in Vietnam (Wagstaff and Pradhan, 2006); visits to health facilities in Burkina Faso (Gnawalia *et al.*, 2009); and Saudi Arabia (Al-Hanawi *et al.*, 2020).

All these resulted in higher health care use among insured non-poor households than insured poor households in Rwanda did (Shimile, 2010).

On the other hand, it is reportedly facing challenges affecting its efficiency. For example, it is reported that Gabon's health insurance did not improve health care due to health workers' rudeness and shortage of drugs (Sanogo *et al.*, 2020). Similarly, the Chinese health insurance policy on anti-cancer was affected by frequent drug stock-out (Fang *et al.*, 2021), while it was affected by long waiting and consultation time for people with health insurance as opposed to short time for those without it in Brazil (Golvao *et al.*, 2020). Further, the literature indicates that health insurance for the poor had minimal impact on care utilisation in Nicaragua (Hatt *et al.*, 2009); health facilities experienced inappropriate opening and closing hours in Vietnam (Thanh, 2015); and were insufficient in Senegal (Chankoval *et al.*, 2008) and Ghana (Asomani 2014).

Few studies report that health insurance facilitates access to health care (Tungu *et al.*, 2020; Amani *et al.*, 2021) in Tanzania. However, some report that despite the status of health insurance, it is challenged by the unavailability of care due to physical distance (Rogers-Witter *et al.*, 2009), poor health workers' attitudes, limited referrals (Borghi *et al.*, 2013), long waiting times and delays in administrative processes (Groccia *et al.*, 2013). Thus, based on the empirical review, it can be concluded that having health insurance does not necessarily mean that access to care is achieved.

### **3. METHODS**

#### **3.1 Study Design and Setting**

The study adopted a descriptive cross-sectional design to examine the availability of health services through health insurance schemes (Kothari, 2004). It employed both quantitative and qualitative approaches to enhance the validity of the results (Creswell & Clark, 2007). Data were gathered in six districts of Tanzania's mainland, namely Igunga, Iramba, Iringa urban, Moshi urban, Kinondoni, and Ilala, as they had schemes targeting the poor and reliable data on the use of care.

#### **3.2 Sample Size and Sampling Procedures**

The study involved 433 respondents who were drawn from both rural and urban communities. These were 384 heads of poor households as the target population and 49 key informants. 20 health workers as suppliers of health services; 10 health facility governing committee

chairpersons as community representatives; 10 health facility managers responsible for managing the health facilities; 6 district health insurance coordinators accountable for the performance of the schemes in the districts; and three national health insurance managers responsible for regulating and supervising health insurance. These were considered to possess information about the study, thus ensuring the credibility of the findings (Rubin & Rubin, 2005).

Since there was no prior information on the number of poor households in the study sites, a statistical procedure for estimating sample size by Cochran (1977) was adopted for quantitative study: Equation (1)

$$n = \frac{(Z\alpha)^2 \times pq}{d^2}$$

Where  $n$  is the minimum required sample,  $Z\alpha$  is the value for the selected alpha level of 1.961.96 or 0.025 in each tail representing the normal standard deviation at a 95% confidence level;  $p$  is the proportion of respondents indicating their involvement in a previous study;  $q$  as  $1 - p$ ; and  $d$  as a level of precision or acceptable margin of error for proportion being estimated = 0.05. Thus, the minimum sample size was 384 respondents. To get the 384 respondents 'a multistage sampling technique was adopted. Firstly, purposively, five administrative regions of Tanzania's mainland in which health insurance schemes targeting the poor operate were selected. Secondly, through a simple stratified sampling technique, six districts were selected. Thirdly, two villages/streets were selected through simple stratified sampling to fill in questionnaires in each district. Finally, the calculated sample was shared equally across the districts. Likewise, to get respondents for a qualitative study, a purposive sampling technique was adopted. Respondents were identified in a step-wise process. Firstly, the District Health Insurance Coordinator was selected for an interview. Secondly, two health facilities providing health services to insured people were selected. Thirdly, in each health facility, the facility manager, the chairperson of the health facility governing committee, and two health workers were selected for interviews. Fourthly, 5 to 8 participants were chosen for Focus group Discussions (FGDs).

### 3.3 Methods of Data Collection

A methodological triangulation approach was adopted to collect data from different subjects. Quantitative data were collected through pre-tested questionnaires administered to 384 heads of poor households. Qualitative data were collected through in-depth interviews administered to 49 key informants, twelve (12) FGDs with some respondents who had also participated in the household survey and articulated issues on availability of care, and documentary reviews that included published and unpublished documents related to the study. Both in-depth interviews

and FGDs were undertaken in Swahili, transcribed in English, recorded, and supplemented with field notes. In-depth interviews lasted 30-40 minutes, whereas FGDs lasted between 40-60 minutes. In addition, data on population, the number of poor households, enrolment rates over ten years, and lists of enrollees who visited health facilities were collected through document review.

### **3.4 Analysis of Data**

Quantitative data was collected through SPSS, Version 20, and Microsoft Excel. The process started by entering data into the SPSS program to generate frequencies and percentages and presenting them in a descriptive form, such as tables and graphs. Qualitative data was analysed through 'Thematic Content Analysis' involving data reduction, display, conclusions, and verifications (Miles & Huberman, 1994). Responses from different sources were compared to enhance trustworthiness. Finally, data were summarised and synthesised to make key expressions of the respondents as illustrative cases.

### **3.5 Validity and Reliability**

The study employed a representative sample for both quantitative and qualitative data, screened the research tool drafts, and pre-tested them to avoid irrelevant information and minimise errors. Further, data collected from different sources were compared.

### **3.6 Ethical Considerations**

The University of Dar es Salaam granted research clearance on behalf of the Tanzania Commission for Science and Technology. The clearance letter was presented to the national, regional, and district authorities for approval in their administrative areas. Verbal consent was sought, and respondents were told they had the right to withdraw from the study at any time. Confidentiality of information was maintained, and funds allocated for the study were used according to the budget guidelines.

## **4. RESULTS**

Availability of health services was studied through 11 measures, namely presence of health facilities, prompt use of services, distance to the nearest health facility, mode of transport used, time is taken to reach a health facility; availability of drugs, equipment, and health workers; opening and closing hours of health facilities; waiting times; and sufficiency of consultation times

#### 4.1 Presence of Health Facilities

Health facilities contracted to provide health services for insured people were not sufficient. The findings presented in Table 1 show that 4 out of 6 districts contracted less than 25% of all the health facilities available in the district. For example, Kinondoni, with 204 health facilities, provided care to MAAMz members in only one (0.5%) health facility.

**Table 1: Number of Health Facilities that Provided Services to the Insured**

S N	Districts	Scheme	Number of health facilities						Facilities Contracted	
			Health Facilities Available				Total		f	%
			Dispensaries	Health Centres	Hospital	Total				
1	Kinondoni	MAAMz	184	09	11	<b>204</b>	<b>1</b>	<b>0.5</b>		
2	Ilala	MBAKAYO	123	14	08	<b>145</b>	<b>1</b>	<b>0.7</b>		
3	Iringa	TIKA	24	04	03	<b>31</b>	<b>10</b>	<b>32.3</b>		
4	Moshi	TIKA	47	08	06	<b>61</b>	<b>14</b>	<b>23.0</b>		
5	Iramba	CHF	37	03	01	<b>41</b>	<b>35</b>	<b>85.4</b>		
6	Igunga	CHF	56	05	02	<b>63</b>	<b>54</b>	<b>85.7</b>		

**Source:** Data (2015)

#### 4.2 Prompt Use of Services

The respondents were asked to indicate the number of times they had visited health facilities for treatment during the last 12 months to understand the actual use of health services. As illustrated in Table 2, the majority (60.4%) visited health facilities between 2 and 5 times in the last twelve months. Others 6.8% did not visit any health facility; 13.3% visited once, 15.6% visited between 6 and 10 times, and 3.9% visited more than 10 times.

**Table 2: Visits Respondents made to Health Facilities for Treatment within 12 months**

Visits to facilities	Responses by Districts												Total	
	Iringa		Iramba		Igunga		Moshi		Ilala		Kinondoni		f	%
	f	%	f	%	f	%	f	%	f	%	f	%		
None	10	15.6	2	3.1	4	6.3	9	14.1	1	1.6	0	0.0	<b>26</b>	<b>6.8</b>
only once	14	21.9	4	6.3	4	6.3	16	25.0	2	3.1	11	17.2	<b>51</b>	<b>13.3</b>
2-5 times	34	53.1	38	59.4	33	51.6	27	42.2	48	75.0	52	81.3	<b>232</b>	<b>60.4</b>
6-10 times	6	9.4	15	23.4	14	21.9	11	17.2	13	20.3	1	1.6	<b>60</b>	<b>15.6</b>
>10 times	0	0.0	5	7.8	9	14.1	1	1.6	0	0.0	0	0.0	<b>15</b>	<b>3.9</b>
<b>Total</b>	<b>64</b>	<b>100.0</b>	<b>64</b>	<b>100.0</b>	<b>64</b>	<b>100.0</b>	<b>64</b>	<b>100.0</b>	<b>64</b>	<b>100.0</b>	<b>64</b>	<b>100.0</b>	<b>384</b>	<b>100.0</b>

**Source:** Data (2015)

However, the documentary review on the number of visits made to health facilities for treatment before 2013 revealed that some facilities did not have a system to track the visits. In 2013, the government introduced District Health Information System 2 (DHIS2), which all local government authorities were supposed to use. Still, the system did not indicate the difference

between insured and uninsured health facility visitors. Table 3 shows the number of visits to health facilities in the study sites.

**Table 3: Visits to Health Facilities by Clients, 2006-2015**

	Iringa	Iramba	Igunga	Moshi	Ilala	Kinondoni
2006	-	7,238	4,128	-	146	122
2007	-	2,576	5,931	-	69	164
2008	-	3,761	5,744	-	54	197
2009	-	5,410	6,202	-	24	188
2010	-	4,734	6,045	-	149	207
2011	-	8,517	7,856	-	-	235
2012	-	13,752	3,920	-	-	196
2013	1,096	11,336	5,125	13,764	-	98
2014	2,938	10,467	7,123	11,863	-	80
2015	3,213	11,408	5,368	13,757	-	81

Source: Data (2015)

#### 4.3 Distance of the Household from the Nearest Health Facility

According to Tanzania's Ministry of Health and Social Welfare (MOHSW) standards (2014), households should be located 5 km from the nearest health facility. Table 4 results indicate that only a few (16.4%) respondents lived more than 5km from health facilities. Thus, the majority (83.6%) of respondents lived within 5 km. However, households in urban areas tended to live more closely to the health facilities than their counterparts in rural areas.

**Table 4: The Nearest Health Facility from Respondent's House**

Distances	Responses by Districts												Total	
	Iringa		Iramba		Igunga		Moshi		Ilala		Kinondoni		f	%
	f	%	f	%	f	%	f	%	f	%	f	%		
0 - 1 km	20	31.3	8	12.5	11	17.2	32	50.0	19	29.7	34	53.1	124	32.3
2 - 3 km	28	43.8	15	23.4	16	25.0	22	34.4	18	28.1	22	34.4	121	31.5
4 - 5 km	9	14.0	17	26.6	19	29.7	4	6.3	19	29.7	8	12.5	76	19.8
>5km	7	10.9	24	37.5	18	28.1	6	9.4	8	12.5	0	0.0	63	16.4
<b>Total</b>	<b>64</b>	<b>100.0</b>	<b>64</b>	<b>100.0</b>	<b>64</b>	<b>100.0</b>	<b>64</b>	<b>100.0</b>	<b>64</b>	<b>100.0</b>	<b>64</b>	<b>100.0</b>	<b>384</b>	<b>100.0</b>

Source: Data (2015)

#### 4.4 Mode of Transport to the Health Facility

Regarding transport means and distance covered to the health facility, the respondents were asked to indicate the mode of transport they used to reach the health facilities. Results in Table 5 show that less than a quarter (9.7%) of the respondents used private cars, public or taxis to the health facility. Instead, most (48.4%) respondents reported walking as the major means of transport to the health facilities.

**Table 5: Mode of Transport to Health Facility**

Means of Transport	Responses by Districts												Total	
	Iringa		Iramba		Igunga		Moshi		Ilala		Kinondoni		f	%
	f	%	f	%	f	%	f	%	f	%	f	%		
Personal vehicle	5	7.8	0	0.0	0	0.0	0	0.0	0	0.0	1	1.6	6	1.6
Bus (Public)	13	20.3	0	0.0	2	3.1	3	4.7	2	3.1	4	6.3	24	6.3
Taxi	5	7.8	0	0.0	1	1.6	1	1.6	0	0.0	0	0.0	7	1.8
Motorcycle	8	12.5	17	26.6	12	18.8	11	17.2	35	54.7	15	23.4	98	25.5
Bicycle	8	12.5	20	31.3	27	42.1	6	9.4	2	3.2	0	0.0	63	16.4
Walked	25	30.1	27	42.1	22	34.4	43	67.2	25	30.1	44	68.8	186	48.4
<b>Total</b>	<b>64</b>	<b>100.0</b>	<b>64</b>	<b>100.0</b>	<b>64</b>	<b>100.0</b>	<b>64</b>	<b>100.0</b>	<b>64</b>	<b>100.0</b>	<b>64</b>	<b>100.0</b>	<b>384</b>	<b>100.0</b>

Source: Data, (2015)

#### 4.5 Time Taken to Reach the Health Facility (Travel time)

The time taken to reach health facilities was studied with the assumption that people living within 30 minutes walk would be closer to health services. The findings in Table 6 indicate more than one-third (41.2%) of the respondents, mainly living in rural areas, walk more than half an hour to health facilities.

**Table 6: Time Taken by Respondents to Reach Health Facilities**

Travel time	Responses by Districts												Total	
	Iringa		Iramba		Igunga		Moshi		Ilala		Kinondoni		f	%
	f	%	f	%	f	%	f	%	f	%	f	%		
< 15 minutes	11	17.2	10	15.6	10	15.6	30	46.9	4	6.3	20	31.3	85	22.1
15-30 minutes	32	50.0	10	15.6	15	23.4	23	35.9	39	60.9	21	32.8	140	36.5
31-45 minutes	15	23.4	11	17.2	15	23.4	5	7.8	11	17.2	11	17.2	68	17.7
46-60 minutes	6	9.4	22	34.4	18	28.1	6	9.4	10	15.6	9	14.0	71	18.5
> 1hour	0	0.0	11	17.2	6	9.4	0	0.0	0	0.0	3	4.7	20	5.2
<b>Total</b>	<b>64</b>	<b>100.0</b>	<b>64</b>	<b>100.0</b>	<b>64</b>	<b>100.0</b>	<b>64</b>	<b>100.0</b>	<b>64</b>	<b>100.0</b>	<b>64</b>	<b>100.0</b>	<b>384</b>	<b>100.0</b>

Source: Data (2015)

#### 4.6 Availability of Health Workers

When asked to rate the availability of health workers in the health facilities, 2.1% ranked it 'very good, 64.8% rated it 'good,' 13.3% were 'undecided,' 19.5% rated it 'bad,' and 0.3% rated it 'very bad.' However, while the majority (64.8%) indicated the availability of health workers in the health facilities as good, the proportion of the urban areas was higher than that of rural areas.

**Table 7: Respondents' Perception of Availability of Health Workers**

Status of Health Workers	Responses by Districts												Total	
	Iringa		Iramba		Igunga		Moshi		Ilala		Kinondoni		f	%
	f	%	f	%	f	%	f	%	F	%	f	%		
Very good	3	4.7	2	3.1	1	1.6	2	3.1	0	0.0	0	0.0	8	2.1
Good	43	67.2	29	45.3	29	45.3	44	68.8	57	89.1	47	73.4	249	64.8
Undecided	8	12.5	10	15.6	12	18.8	3	4.7	4	6.3	14	21.9	51	13.3
Bad	10	15.6	22	34.4	22	34.4	15	23.3	3	4.7	3	4.7	75	19.5
Very Bad	0	0.0	1	1.6	0	0.0	0	0.0	0	0.0	0	0.0	1	0.3
<b>Total</b>	<b>64</b>	<b>100.0</b>	<b>64</b>	<b>100.0</b>	<b>64</b>	<b>100.0</b>	<b>64</b>	<b>100.0</b>	<b>64</b>	<b>100.0</b>	<b>64</b>	<b>100.0</b>	<b>384</b>	<b>100.0</b>

**Source:** Data (2015)

According to the MOHSW (2014), the number of health workers for dispensaries is 15 to 20; 39 to 52 for health centres; 200 to 312 for district hospitals; 468 to 680 for Regional Referral Hospitals, and at least 5,701 for National and Specialized Referrals. However, documentary reviews from 60% of the visited health facilities (Table 8) and FGD indicate a shortage of health workers. For example, during FGDs, one of the participants echoed,

*Although this facility provides services to people from more than four villages, there are only two health workers. We do not know when this situation will change (FGD6.Participant N46).*

**Table 8: Number of Health Workers in Health Facilities Visited**

SN	District	Health Facility	Minimum No. required	Available		Shortage (-) /Excess (+)	
				F	%	f	%
1	Kinondoni	TipTop Dispensary	15	10	66.7	-05	-33.3
2	Ilala	St.Camillus Dispensary	15	15	100	00	0.0
3	Iramba	Kisiriri Dispensary	15	02	13.3	-13	-86.7
		Bomani Dispensary	15	07	46.7	-08	-53.3
4	Igunga	Nanga Health Centre	39	17	43.6	-22	-56.4
		Ziba Dispensary	15	07	46.7	-08	-53.3
5	Moshi	Majengo Health Centre	39	65	166.7	+26	+66.7
		Pasua Health Centre	39	56	143.6	+17	+43.6
6	Iringa	Ipogolo Health centre	39	61	156.4	+22	+56.4
		Frelimo Hospital	200	115	57.5	-85	-42.5

**Source:** Data (2015)

#### 4.7 Availability of drugs

The respondents were asked to rate the availability of drugs in the health facilities they visited for treatment. The results in Table 9 show that the shortage of drugs is the main challenge, as the majority (65.4%) of the respondents ranked it badly. Similarly, during FGD, one participant said,

*Availability of drugs is a big problem, and we don't know why" (FGD10.P78). Another participant said, "Generally, service provision in our health facility is not good. We do not get the prescribed drugs. (FGD17. Participant N133).*

**Table 9: Perception of Availability of Drugs in the Health Facilities**

Drugs availability	Responses by Districts												Total	
	Iringa		Iramba		Igunga		Moshi		Ilala		Kinondoni		f	%
	f	%	f	%	f	%	f	%	f	%	f	%		
Very good	1	1.6	2	3.1	0	0.0	0	0.0	0	0.0	0	0.0	3	0.8
Good	24	37.5	5	7.8	13	20.3	22	34.4	0	0.0	1	1.6	65	16.9
Undecided	6	9.4	14	21.9	2	3.1	1	1.6	7	10.9	21	32.8	51	13.3
Bad	28	43.8	41	64.1	47	73.4	40	62.5	53	82.8	42	65.6	251	65.4
Very Bad	5	7.8	2	3.1	2	3.1	1	1.6	4	6.3	0	0.0	14	3.6
<b>Total</b>	<b>64</b>	<b>100.0</b>	<b>64</b>	<b>100.0</b>	<b>64</b>	<b>100.0</b>	<b>64</b>	<b>100.0</b>	<b>64</b>	<b>100.0</b>	<b>64</b>	<b>100.0</b>	<b>384</b>	<b>100.0</b>

Source: Data (2015)

#### 4.8 Availability of Equipment

Regarding equipment, the respondents were asked to rate the status of the availability of equipment, whether it was (i) very good, (ii) good; (iii) undecided, (iv) bad, and (v) very bad. Results in Table 10 indicate that less than a quarter (21.3%) of the respondents note equipment availability is sufficient. Thus, most respondents were either not in a position to judge or ranked the availability of equipment as bad

**Table 10: Perception of Availability of Equipment in the Health Facilities**

Equipment availability	Responses by District of Respondents												Total	
	Iringa		Iramba		Igunga		Moshi		Ilala		Kinondoni		f	%
	f	%	f	%	f	%	f	%	f	%	f	%		
Very good	0	0.0	2	3.1	2	3.1	0	0.0	0	0.0	0	0.0	4	1.0
Good	17	26.6	11	17.2	18	28.1	26	40.6	0	0.0	6	9.4	78	20.3
Undecided	32	50.0	25	39.1	17	26.6	9	14.0	17	26.6	17	26.6	117	30.5
Bad	13	20.3	21	32.8	27	42.2	22	34.4	38	59.4	41	64.1	162	42.2
Very Bad	2	3.1	5	7.8	0	0.0	7	10.9	9	14.1	0	0.0	23	6.0
<b>Total</b>	<b>64</b>	<b>100.0</b>	<b>64</b>	<b>100.0</b>	<b>64</b>	<b>100.0</b>	<b>64</b>	<b>100.0</b>	<b>64</b>	<b>100.0</b>	<b>64</b>	<b>100.0</b>	<b>384</b>	<b>100.0</b>

Source: Data (2015)

#### 4.9 Opening and Closing Hours of Health Facilities

The respondents were asked to state whether the opening and closing hours of the health facilities they often visited for treatment were convenient. Regarding the opening hours, as presented in Table 11, the majority (83.6%) of the respondents said they were convenient. The closing hours were also convenient to the majority (64.1%) of the respondents.

**Table 11: Perceptions on Opening and Closing Hours of the Health Facilities**

Operating time	Response	Responses by Districts												Total	
		Iringa		Iramba		Igunga		Moshi		Ilala		Kinondoni		f	%
		f	%	f	%	f	%	f	%	f	%	f	%		
Opening Hours	Yes	48	75.0	48	75.0	55	85.9	52	81.3	61	95.3	49	76.6	<b>321</b>	<b>83.6</b>
	No	14	21.9	14	21.9	8	12.5	11	17.2	3	4.7	11	17.2	<b>53</b>	<b>13.8</b>
Convenient	Don't Know	2	3.1	2	3.1	1	1.6	1	1.6	0	0.0	4	6.3	<b>10</b>	<b>2.6</b>
	<b>Total</b>	<b>64</b>	<b>100</b>	<b>64</b>	<b>100</b>	<b>64</b>	<b>100</b>	<b>64</b>	<b>100</b>	<b>64</b>	<b>100</b>	<b>64</b>	<b>100</b>	<b>384</b>	<b>100</b>
Closing Hours	Yes	47	73.4	44	68.8	48	75.0	44	68.8	38	59.4	25	39.1	<b>246</b>	<b>64.1</b>
	No	15	23.4	14	21.9	11	17.2	12	18.8	13	20.3	13	20.3	<b>78</b>	<b>20.3</b>
Convenient	Don't Know	2	3.1	6	9.4	5	7.8	8	12.5	13	20.3	26	40.6	<b>60</b>	<b>15.6</b>
	<b>Total</b>	<b>64</b>	<b>100.0</b>	<b>64</b>	<b>100.0</b>	<b>64</b>	<b>100.0</b>	<b>64</b>	<b>100.0</b>	<b>64</b>	<b>100.0</b>	<b>64</b>	<b>100.0</b>	<b>384</b>	<b>100.0</b>

Source: Data (2015)

#### 4.10 Waiting Time for Consultations

The respondents were asked whether the waiting time before seeing the doctor was long or short. Findings in Table 12 show that almost two-thirds (66.7%) of them said the waiting time was long. Long waits for health services were partly due to the shortage and negligence of health workers and lengthy procedures to get services. This was also complemented with FGD information as three FGD participants said,

*As I said, we have only two health workers at our health facility, and the dispensary serves people from more than five villages. (FGD5. Participant N39)'. 'During the night, it is very difficult to get them (doctors) to attend to our patients. When you reach the health facility, you can knock on the door for so long, and the door is not opened until you get tired' (FGD6. Participant N48). 'I expected that since I had already paid for the services, the procedures to access the services would be short. Indeed, the process of seeing the doctors is long in the facilities. (FGD11. Participant N81).*

**Table 12: Status of Waiting Time before Seeing the Doctor**

Responses	Responses by Districts												Total	
	Iringa		Iramba		Igunga		Moshi		Ilala		Kinondoni		f	%
	f	%	f	%	f	%	f	%	f	%	f	%		
Long waiting time	48	75.0	45	70.3	44	68.8	40	62.5	42	65.6	37	57.8	<b>256</b>	<b>66.7</b>
Short waiting time	16	25.0	19	29.7	20	31.3	24	37.5	22	34.4	27	42.2	<b>128</b>	<b>33.3</b>
<b>Total</b>	<b>64</b>	<b>100.0</b>	<b>64</b>	<b>100</b>	<b>64</b>	<b>100.0</b>	<b>64</b>	<b>100.0</b>	<b>64</b>	<b>100.0</b>	<b>64</b>	<b>100.0</b>	<b>384</b>	<b>100.0</b>

Source: Data (2015)

#### 4.11 Time for Consultation

Literature shows that when patients have enough time to express themselves, they feel that health facilities pay attention to them. However, when asked whether doctors took sufficient time to listen to patients during consultations, almost half (45.8%) of the respondents reported that the consultation time was inadequate. Data by study sites stated the same as shown in Table 13.

**Table 13: Respondents' Perception of Sufficiency of Time for Consultations**

Responses on consultation time	Responses by District												Total	
	Iringa		Iramba		Igunga		Moshi		Ilala		Kinondoni		f	%
	F	%	f	%	f	%	f	%	f	%	f	%		
Sufficient	32	50	46	71.9	42	65.6	41	64.1	18	28.1	29	45.3	<b>208</b>	<b>54.2</b>
Not Sufficient	32	50	18	28.1	22	34.4	23	35.9	46	71.9	35	54.7	<b>176</b>	<b>45.8</b>
<b>Total</b>	<b>64</b>	<b>100.0</b>	<b>64</b>	<b>100.0</b>	<b>64</b>	<b>100.0</b>	<b>64</b>	<b>100.0</b>	<b>64</b>	<b>100.0</b>	<b>64</b>	<b>100.0</b>	<b>384</b>	<b>100.0</b>

Source: Data (2015)

## 5. DISCUSSION OF RESULTS

From the findings, contracted health facilities to provide health services for the insured people were insufficient, as 4 out of 6 districts each had contracted less than 25% of all the health facilities available in the district. While some members received the services in public health facilities alone, others were limited to a single provider. Sometimes people were forced to walk long to health facilities, leaving others found nearer to their residences. This result is in line with Chankova et al., (2008) in Senegal and Asomani's (2014) in Ghana, thus suggesting the unavailability of health services. Likewise, the findings showed that a higher proportion (60.4%) of the respondents visited health facilities between 2 and 5 times, suggesting that most household members visited health facilities for treatment when needed. This finding resembles the study results by Gnawalia et al., (2009) in Burkina Faso and Al-Hanawi *et al.*, (2020) in the Kingdom of Saudi Arabia, which established that introduction of health insurance increased visits to health facilities among the insured people.

The study found that although most (83.6%) of the respondents live within 5 kilometres of health facilities, rural dwellers still face difficulties using health services. It was revealed that urban households lived more closely, 15 and 30 minutes walk to health facilities, which made them either satisfied or very satisfied. Similarly, it was noted that most rural households lived far from health facilities, used between 31 and 60 minutes walk and were either dissatisfied or very dissatisfied. This result resembles study results by Rogers-Witte *et al.*, (2009) in Tanzania. Rural people are not truly covered if they face long distances to reach health service providers (Wang & Pielemeier, 2012). This calls for the need for more health facilities in rural areas.

The study also found a frequent shortage of drugs, as 65.4% of the respondents rated the availability of medicines in the health facilities as 'bad.' This forced some people to spend more money to buy medicine elsewhere or go without medication. This result is consistent with previous studies by Sanogo *et al.*, (2020) in Gabon and Frang *et al.*, (2021) in China, who noted

the unavailability of drugs as a barrier to access to health services for the poor. According to Vialle-Valentin *et al.*, (2008), despite the introduction of health insurance, medicines are the largest reported component of OOP payment for health care in these countries. Moreover, the majority (48.2%) of the respondents reported equipment in the health facilities as 'bad'. Shortage of equipment in health facilities is consistent with study results by Wiesmann and Jutting (2000).

Further, the study found a shortage of health workers in health facilities, especially in rural areas. Findings showed that 66% of the visited health facilities in urban areas had at least the minimum number of health workers. In contrast, all health facilities in rural areas had less than the minimum number. This led to long waits for services and overloads to health workers that, in turn, reduced the quality of services they provided. This finding is consistent with study results by Schneider *et al.*, (2006) and Sikika (2010) in Tanzania.

However, the study documented that most respondents were contented with the opening (83.6%) and closing (64.1%) hours of the health facilities. These findings resemble Thahn's (2015) in Vietnam. Further, the waiting time before seeing the doctor for consultation was sufficient. This finding corresponds to the World Bank's (2007) and Groccia *et al.*, (2013) study results in Tanzania.

## **6. CONCLUSIONS AND RECOMMENDATIONS**

It is difficult to argue that health services were available to poor households in the study areas. This is due to poor quality of services exhibited by problems of inadequate health facilities, long distance of families from the nearest health facility, especially in rural areas, shortage of health workers, frequent drug stock-out, shortage of equipment, and long waits for consulting the doctors. However, the study documented convenient opening and closing hours of health facilities for rural and urban areas, insurance status, and sufficient time for consultation with doctors. Therefore, addressing the identified issues is vital to make health services available to poor households through health insurance.

## **7. STUDY LIMITATIONS AND AREAS FOR FURTHER RESEARCH**

Both methodological and non-methodological limitations were faced while conducting the study. Methodological limitations ranged from a selection of the study respondents and setting measures of availability of health services, while non-methodological limitations ranged from financial constraints, time factors as well as scheme differences. All the limitations were addressed to make the study a success.

The study results suggest poor health services available for the poor households in the study areas as of 2015. Therefore, it is recommended that further studies be conducted to explore the sustainability of community-based health insurance in expanding health services accessible to poor people in Tanzania to date. In addition, an investigation can be done into why there is frequent unavailability of prescribed drugs in the health facilities contracted to provide health services to health insurance scheme beneficiaries.

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### **REFERENCES**

- Aday, L.A & Andersen, R. (1974). “*A framework for the study of access to medical care*”.
- Adebayo, E. (2014). "Factors that affect the uptake of community – based health insurance in low and middle-income countries: a systematic review", *Masters Dissertation*, University of Cape Town.
- Al-Hanawi, M. K., Mwale, M.L & Kamninga, T.M. (2020). The effects of health insurance on health-seeking behaviour: evidence from the Kingdom of Saudi Arabia. *Dove Press Journal: Risk Management and Healthcare Policy*, 2020:13,595-607.<https://www.dovepress.com/>
- Amani, P.J., Hurtig, A., Frumence, G., Kiwara, A.D., Goicolea, I & Sebastian, M.S. (2021). Health insurance and health system (UN) responsiveness: a qualitative study with elderly in rural Tanzania. *BMC Health Services Research*, (2021) 21:1140. <https://doi.org/10.1186/s12913-021-07144-2>
- Asomani, F. (2014), “Understanding non-enrolment in Ghana’s national health insurance. A review from beneath”, *Master Thesis*, University of Oslo.
- Borghi, J., Maluka, S., Kuwawenaruwa, A., Makawia, S., Tantau, J., Mtei, G., Ally, M & Macha, J. (2013). Promoting universal financial protection: a case study of new management of community health insurance in Tanzania. *Health Research Policy Systems*, **11**, 21 (2013). <https://doi.org/10.1186/1478-4505-11-21>

- Carrin, G., Waelkens, M & Criel, B. (2005). "Community-based health insurance in developing countries: a study of its contribution to the performance of the health financing system", *Journal of Tropical Medicine & International Health*, 10(8), 799- 811.
- Chankova, Sulzbach, S, & Diop, F. (2008). The impact of mutual organizations evidence from West Africa, *Journal of Health Policy Plan*, 23, 264 – 76.
- Chen, M., Chen, W & Zhao, Y. (2012). "New evidence on financing equity in China's health care reform: a case study on Gansu Province, China," *BMC Health Services Research*. 12, 466-479.
- Debaig, G. (1999). Report on "community-based health insurance regional conference" at *Kampala*, Uganda on 9<sup>th</sup> – 13<sup>th</sup> November 1998.
- Dekker, M & Wilms, A. (2010). Health insurance and other risk coping strategies in Uganda: the case of micro-care insurance ltd. *World Development*, 38(3), 369- 378.
- Donabedian, A. (1972), "Models for Organising the Delivery of Personal Health Care Services and Criteria for Evaluating them", *Milbank Memorial Fund Quarterly* 50(4), 103- 154.
- Ensor, T & Cooper, S. (2004). "Overcoming barriers to health services access influencing the demand side", *Journal of Health Policy and Planning*, 19, 69-79.
- Escobar, M., Griffin C.C & Shaw, R.P. (2010). "*The Impact of Health Insurance in Low and Middle Income Countries.*" Washington DC. Brookings Institutions.
- Galvão, T.F., Tiguman, G.M.B & Filho, D.B.D.A., Silva, M.T. (2020). Waiting time and medical consultation length in the Manaus metropolitan region, Brazil: a cross-sectional, population-based study, 2015\*. *Epidemiol. Serv. Saude, Brasília*, 29(4): e2020026, 2020. doi: 10.5123/S1679-49742020000400014.
- Gilson, L & Schneider, H. (2007). "Understanding health service access: concepts and experience", *Global Forum Update on Research. Vol. 4.027. London, Pro-Brook Limited*.
- Gnawalia, D.P., Pokhrel, S., & Sié, A. (2008). The effect of community-based health insurance on the utilization of modern health care services: evidence from Burkina Faso. *Health Policy*, 2009; 90:214–222. DOI: 10.1016/j.healthpol.2008.09.015.
- Groccia, A., Mselle, G., Rugakingira, A., Sangmo, L., Somboi, H., & Ngure, F.M. (2016), "Patient waiting time: a case study of the medical outpatient department of Kilimanjaro Christian Medical Center," *Southern African. Journal of Policy and Development: 2(2)*, 7.

- Hassan, A.R., Jiménez, J.C & Monto, R.C. (2013). *The impact of subsidized health insurance on the poor in Colombia: evaluating the case of Medellín. Economía Aplicada*, 17(4), 543-556.
- Hatt, L., Thornton, R., Magnoni, B & Islam, M. (2009). “Extending social insurance to informal sector workers in Nicaragua via microfinance institutions: results from a randomized evaluation”. Bethesda, MD: Private Sector Partnerships-One Project (Abt Associates Inc.) and Global Development Network.
- ILO. (2014). “Universal health protection: progress to date and the way forward”. *Social protection policy papers. Paper no. 10*. Geneva. ILO, Social Protection Department. *Journal of Health Services Research*, 3, 208- 220.
- Jutting, J.P. (2003). “Do Community-based Health Insurance Schemes Improve Poor People’s Access to Health Care? Evidence from Rural Senegal” *Journal of World Development* 32(2), 273–288.
- Kamuzora, P. & Gilson, L. (2007). “Factors influencing the implementation of the community based -health insurance”. *Journal of Health Policy and Planning*, 22,130 – 150.
- Kothari, C. R. (2004), “Research methodology, method, and techniques. *New age international (P) Ltd; 4835/24, Ansari road, Daryangaj, New Delhi-110002*.
- Mathers, C. D., Lopez, A. D. & Murray, C. J. L. (2006). “The burden of disease and mortality by condition: data, methods, and results for the year 2001”. In A.D. Lopez, C. D. Mathers, M. Ezzati, D. T. Jamison, and C. J. L. Murray, eds., *Global Burden of Disease and Risk Factors*. Washington, DC: the World Bank.
- MOH. (2003). “National health policy” Dar es Salaam: Ministry of Health.
- MOHSW. (2014). “Ministry of Health and Social Welfare Human Resource for Health and Social Welfare Strategic Plan 2014-2019”, Dar es Salaam, MOHSW.
- Mtei, G & Mulligan, J. (2007). “Community health funds in Tanzania: A literature review”. Ifakara health research and development centre/ a consortium for research on equitable health systems (crehs), London.
- Obrist, B., Iteba, N., Lengeler, C., Makemba, A., Mshana, C., Nathan, R., Alba, S., Dillip, A., Hetzel, M.W., Mayumana, I., Schulze, A., and Mshinda, H. (2007). “Access to health care in contexts of livelihood insecurity: a framework for analysis and action”, *Journal of PLoS Medicine*, 4 (10). <https://doi.org/10.1371/journal.pmed.0040308>.

- Oxfam International. (2008). “*Health insurance in low-income countries. Where is the evidence that it works?*” a joint briefing paper, May 2008. Oxfam International, Action for Global Health, Save Children, Global Health advocates and ACT UP Paris Plan.
- Penchansky, R., & Thomas, J. W. (1981). “The concept of access, definitions, and relationship to consumer satisfaction”, *Journal of Medical Care*, 19 (2), 127-140.
- REPOA. (2006). “Delivery of social services on Mainland Tanzania: Are people satisfied?” *Afro-Barometer Briefing Paper NO. 34 April 2006*.
- Rogers-Witte, B., Guedenet, C., Stellini, C & Marienau, S. (2009). “Improving access to healthcare for vulnerable children in Tanzania: an evaluation of a pact’s community health fund insurance card implementation”. CHF card evaluation, GWU/Pact, Tanzania.
- Sarkar, S. (2007). “Health insurance for the poor in the informal sector”. *Industrial Journal of Management and Social Sciences*, 1(2), 26-129.
- Schneider, H., Blaauw, D., Gilson, L., Chabikuli, N., Goudge, J. (2006). “Health system and access to antiretroviral drugs for HIV in Southern Africa. Service delivery human resources challenges”, *Journal of Reproductive Health Matters*, 14(27), 12-23.
- Shimele, A. (2010). Community-based health insurance schemes in Africa: the case of Rwanda In *Working Papers Series No 120*. African Development Bank, Tunis, Tunisia.
- Sikika. (2010). “Human resource for health in Tanzania development tracking survey report”, Dar es Salaam. Sikika.
- Sparrow, R., Suryahadi, A., & Widyanti, W. (2013). *Social health insurance for the poor: Targeting and impact of Indonesia’s Askeskin programme*. Soc Sci Med. 2013;96:264–71. <https://doi.org/10.1016/j.socscimed.2012.09.043>.
- Sanogo, ND., Fantaye, A.W & Yaya, S, (2022). Study exploring the perceived impact of Gabon’s health insurance plan on access to and quality of prenatal care. *Health Services Research* 2020; 20:1–6.
- Thahn, N.D. (2015). “The impact of health insurance program on the near-poor in Vietnam” *PhD Thesis*. The Greenland University of Technology.
- Tungu, M., Amani, P.J., Hurtig, A., Kiwara, A.D., Mwangi, M., Lindholm, L & Sebastian, M. S. (2020). Does health insurance contribute to improved utilization of health care services for the elderly in rural Tanzania? A cross-sectional study. *Global Health Action*, 13:1, 1841962, DOI: 10.1080/16549716.2020.1841962
- TWAVEZA. (2013). “Stock-out or Stock? Access to Medicine in Tanzania. Sauti za Wananchi”, *Brief Report No.5, September, 2013*.

- USAID. (2010). "Understand Barriers to Access Among the Poor" *Health Policy Initiative*, Washington, DC.
- Vialle-Valentin, C.E., Ross-Degnan, D., Ntaganira, J & Wagner, A.K . (2008). Medicines coverage and community-based health insurance in low-income countries. *Health Research Policy and Systems*, 6, (11), 2008
- Wagstaff, A & Yu, S. (2007). "Do health sector reforms have their intended impacts? The World Bank's Health VIII Project in Gansu Province, China." *Journal of Health Economics* 26(3), 505–35.
- Wang, H & Pilemmer, N. (2012). Community-based health insurance: an evolutionary approach to achieving universal coverage in low-income countries. *Journal of Life Science, March 2012, pp.320-329*.
- WHO. (2006). "What is the impact of social health protection on access to health care, health expenditure and impoverishment? A comparative analysis of three countries", *Discussion Paper No. 2- 2006*. Geneva, WHO.
- Wiesmann, D & Jutting, J. (2000). The emerging community-based health insurance in Sub-Saharan Africa: experiences and lessons learned. *Journal of Africa's Spectrum* 35(2).
- Yellaiah, J. (2012). "Awareness of health insurance in Andhra Pradesh", *International Journal of Scientific and Research Publications*, 2(6) 2012 1 ISSN 2250-3153.