

*Full Length Research Paper*

# **Community health financing and healthcare demand solvability of workers in the informal sector in Cameroon**

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**One of the big challenges facing the Government of Cameroon is how to finance and provide healthcare access to more than 79% workers in agriculture and the informal sector. This study intends to analyze the contribution of community health financing to the demand solvability of the worker's healthcare in the informal sector in Cameroon. Using the logistic regression model of use of health care services, which is based on descriptive statistics and survey data (EUDN-ILO, 2010) in certain regions of the country in particular the Centre, North-West and Far-North regions, findings reveal that community healthcare financing is an important tool for the solvability of workers in the informal sector, as concerns their demand for healthcare. In addition, the determinants that have proven to be significant regarding the participation of workers in the informal sector in community health financing are marital status (monogamy), level of education, religious affiliation and distance.**

**Key words:** Community health financing, informal sector, healthcare demand.

## **INTRODUCTION**

Cameroon's health system has undergone several reforms following the Alma Ata conference in 1978, with the ratification of the health development charter which makes primary health care a priority in Cameroon in order to achieve the objective of "health for all in the year 2000".

However, the economic crisis of the 1980s led to the liberalization of the health sector and the recovery of costs. User payment for care should be a response to the financial crisis facing social actors in many low-income countries. Ten years later, that is to say in the 1990s, the limits of these policies emerge such that almost all patients can only pay in health centres for basic care. Community health financing constitutes an interesting

alternative to face the problems of financing the care of populations (Criel, 2002).

Community health financing as health care insurance constitutes an alternative against contemporaneous health expenditure shocks and future in Developing Countries (DCs). According to Atal et al. (2020), community health care financing achieves substantial welfare gains compared to a series of risk-rated short-term contracts. Community healthcare financing is a true alternative for funding health services for the poor (Platteau, 1997; Jakab and Krishnan., 2001).

The authors used this term to refer to systems of solidarity in which users who must henceforth prepay for their health care, participate in the decision-making and

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joint management of these systems.

The emergence of the community health financing increased in West and Central Africa during the 1990s and in Cameroon in particular, as a result of the economic crisis under the term “local community health insurance scheme (Chankova et al., 2008; Criel, 2002; Dumoulin, 2001).

In Cameroon, it appeared that, the pricing of health services associated with the decline in living conditions of households had a negative impact on the use of public health services. The rate of use of health services was as low as 15% of the population (Ahawo and Stadler, 2004; Kamgnia, 2003). This low rate of use of public health services is due on the one hand to the fact that the populations used to benefit from free care and on the other hand to the unavailability of financial resources when they are sick.

Indeed, the decline in the living conditions of households and the pricing of medical services put the major part of the populations out of healthcare coverage, notably those belonging to the informal sector.

The National Social Insurance Fund (NSIF), which covers the populations of the public and private formal sector, does not guarantee minimum social protection for workers in the informal sector. While the informal sector contributed more than 57.6% of Gross Domestic Product (GDP) with an estimated employed labour force of more than 79% in the agricultural and non-agricultural sector.

Characterizing informal workers shows that employees in the non-agricultural informal sector account for 14.2% while 19.2% are self-employed people operating in the non-agricultural informal sector and 67.9% are in the informal agricultural sector. In the same vein, the aforementioned findings show that poverty affects more workers in the informal agricultural sector where more than 60.5% are poor. For example, the fact that a worker belongs to the informal sector puts him or her more at risk of poverty than a worker in the formal sector.

Workers in the informal sector excluded from the minimum social protection floor as mentioned, therefore realized that they could only rely on community health care financing systems to have social protection that best met their needs.

Nshakira-Rukundo et al. (2019) reveal that each year a household was enrolled in the community health care financing and they were more likely to attend more free antenatal and postnatal care visits and report fewer illnesses and reported less health expenditures. That is why many studies show that health insurance as community health care financing can play a key role by covering the millions of low-income families and by reducing the incidence of catastrophic healthcare spending (Lavers, 2016; Woldemichael, 2020).

Duku et al. (2018) evaluate the impact of a community engagement intervention implemented in Ghana with the aim of improving clients' perceptions on service quality and subsequently improving healthcare utilization and

health insurance enrolment. The authors concluded that community engagement has the potential to motivate service providers to improve quality of care and increased healthcare utilization in the short term.

Many studies carried out show that, community healthcare financing improves the solvency of care demand in the low-income informal sector (Abdel-smith, 1986; Letourmy, 2000; Lognon, 2013).

Finally, the state of the empirical debate made it possible to identify, on one hand, the negative influence of health services pricing on health care demand and on the other hand, the effect of community healthcare financing on the solvency of health care demand. This study aims at determining whether community healthcare financing really targets the working poor in the informal sector, since the Government of Cameroon is committed to cover at least 40% of the population through the system of community healthcare funding. Therefore, the aim of this study was to analyze the contribution of community health care financing to the demand solvability of the worker's healthcare in the informal sector in Cameroon.

## MATERIALS AND METHODS

### Model

The logistic regression model of the utilization of healthcare services is used in this study. Based on a set of individual data to be analyzed, we assume that a variable  $u^*$  is defined by the following regression relationship:

$$U^* = \beta_0 + \beta_{ij} \quad (1)$$

whereby  $\beta_{ij}$  represents the coefficients ( $i$ ) affected to the various explanatory variables ( $j$ ) that refer respectively to the morbidity, age, income, healthcare provision, community pre-financing, gender, the distance between home and the nearest hospital and religion.

The observation made is the dichotomous variable  $u$  which results from

$$u = \begin{cases} 1 & \text{si } u^* > 0 \\ 0 & \text{si } \text{non} \end{cases} \quad (2)$$

If the latter ( $\mathcal{E}$ ) constitutes a logistic probability density, this will give us the logistic model and the probability of using health services will be determined as follows:

$$\begin{aligned} \pi &= \Pr(\mathcal{E} \leq \beta_0 + \beta_{ij}) \\ &= \frac{e^{U^*}}{1+e^{U^*}} \end{aligned} \quad (3)$$

From this model, it is possible to assess the contribution of the different interrelationships on the probability of use of health facilities. For example, the marginal effect of the community pre-

**Table 1.** Number of households and individuals estimated by locality.

Region	Locality	Number of clusters	Number of households	Estimated number of Individuals to be interviewed
Centre	Sa'a	7	140	560
North-West	Bamenda	7	140	616
Far-North	Mokolo (Mokong)	7	140	756
Total		21	420	1932

Source: Author

funding variable on the probability of use of health services would be determined from the following assessment:

$$\frac{\delta\pi}{\delta p_c} = \beta_5 \left( \frac{e^{U^*}}{1+e^{U^*}} \right) \quad (4)$$

Equation 4 shows that the numerator and denominator in the second term at the right hand are positive, and therefore the sign of the marginal effect of community participation on the probability of using a health facility would be the same as that of the coefficient  $\beta_5$ .

#### Data sources

Data used in this research come from a survey funded by the "Microinsurance-EUDN" Programme of the International Labour Office (ILO), carried out in Cameroon in 2010 in collaboration with experts from the National Institute of Statistics (NIS). The survey involved a sample of 420 households covering 1,823 individuals. The 420 optimal sample size obtained through the formula is as follows:

$$n \geq n_0 = (U_{1-\mu/2})^2 p(1-p) D / \mu^2$$

where  $n$  is the sample size required to ensure the reliability of the results with a confidence level of  $1-\mu$ ;  $n_0$  is the minimum size necessary to obtain such results;  $\mu$  is the allowed margin of error;  $U_{1-\mu/2}$  is the  $1-\mu/2$  order fractile of the reduced centered normal distribution ( $N(0,1)$ );  $p$  is the estimated percentage of the population exhibiting the characteristic or phenomenon studied in the target population (this proportion is equal to 50% when we have no knowledge of it); and  $D$  is the sampling effect (generally equal to 2).

The size of the sample of households to be surveyed depends on the number of people that should be reached.

According to statistical criteria (confidence level: 95%; desired precision:  $\pm 5\%$ ; cluster factors: 2), in each survey locality, at least 7 clusters, each having 20 households, make it possible to obtain estimates with enough accuracy. Indeed, according to the above formula, a size of 140 households is determined, for each survey locality, with a margin of error of 5% to be assessed on whether or not they belong to a mutual benefit organization.

The clusters are drawn at random and the number of households per cluster is 20. Taking into account the number of households to be surveyed by locality, approximately 1932 people will be interviewed in all the localities covered by the study. Table 1 gives the distribution of the number of households and an estimate of the number of people to be surveyed.

## RESULTS

Analyzing the findings leads us to give preference to two

complementary approaches; one which is statistical and the other, micro-econometric.

### Statistical analysis

A statistical analysis of certain variables of the model reveals findings that must be analyzed. So, it should be noted that on average, 48% of the sample of those who join the community healthcare financing are male and predominantly singles. Also, it appears that 56% of the informal workers who have subscribed to community healthcare financing have less than CFA F23,500, which is considered as the guaranteed minimum wage, while 27% have an income ranging between CFA F23,500 and CFA F50,000.

As regards the distance variable, 59% of workers who have subscribed to the community healthcare financing live less than 5 km away from the nearest health facility. Moreover, the dominant socio-economic activity is agriculture with 51% of the sample population being farmers.

Moreover, slightly over 50% suffered from malaria and fever morbidity. As a matter of fact, from one region to another, the number of visits to public health care facilities differs, 47% in the Centre Region, 8.43% in the Far North and 45% in the North-West Region. As a result, their participation in the community healthcare financing made it possible for them to visit other facilities, private health facilities for instance, around 16.5% in the Centre Region, 78% in the Far North and 5.8% in the North-West Region.

However, it is worth mentioning the impact of community healthcare financing on the use of health facilities by workers in the informal sector. We recorded 36% in the Centre Region, 64% in the Far-North and 0% in the North-West Region. However, it seems to be a more rural phenomenon. The high percentage recorded in the Far-North region is due to the fact that it is the region in which health infrastructure is highly unequally distributed.

In addition, the request for informal health facilities recorded in the nooks and crannies of the areas studied shows how embedded the culture is, and how tradition dominates in the populations' way of living, especially those in the rural areas.

**Table 2.** Model's selected variables.

Variable	Meaning
Morbidity	Morbid character captured by the reason which led to the consultation of the health facilities and coded as follows: 1 =Malaria; 2=Fever/Headache; 3=Flu/Cough; 4=Diarrhea; 5= Oral healthcare; 6=Family Planning; 7= Prenatal Care; 8= Postnatal Care; 9=Vaccination; 10=HIV Test; 11=Tests and other clinical tests; 12= Bone fractures or deformities; 13=Road accident; 14=Others (to be specified).
Gender	Gender of people surveyed: 1=men 0=women
Socio-professional Category	The selected categories are: 1=Public Manager/Employer; 2=Other Public Employee; 3=Formal Private Manager/Employer; 4= Other Formal Private Employee; 5= Informal Non-Agricultural Employer; 6=Farmer; 7=Non-Agricultural self-employed; 8=Informal Non-Agricultural Employee; 9=Unemployed; 10=Student; 11=Retired; 12=Disabled; 13= Other inactive people.
Healthcare provision distance	Distance between the place of residence of the interviewee and the nearest health facility: 1=Less than 5 km; 2= [5 - 10 km ]; 3= 10 km or more
Religion	It is the respondent's religious affiliation. It can be: 1=catholic; 2=protestant; 3=other Christians; 4=Muslim; 5=animist; 6=other religions (to be specified); 7=no religion
Education	This is the level of education attained by the interviewee at the time of the survey; it is defined by: 1= No level of education, 2= primary, 3= secondary school, 4 = High School, 5=Higher Education; 6=Others (to be specified)...
Community pre-funding	It is the interviewee's health insurance membership or non-membership. It is defined by: 1=yes 2=no
Region	Respondent's place of residence. It has the following values: 1= Centre (Rural), 2=Far-North (Rural) and 3=North-West (Urban)
Marital Status	This refers to the marital status of respondents. It corresponds to the following values 1= Single, 2=Monogamous, 3=Polygamous, 4=Widow (er), 5=Divorced, 6=Free union

Source: Author

Based on the aforementioned statistical findings, let us focus on the econometric analysis.

### **Micro-econometric analysis**

This analysis was preceded by a review of the correlation between the variables of the model and the results show that the age variable is strongly correlated with marital status. Indeed, this correlation stands at close to 71.38%, which caused the withdrawal of this model variable to the detriment of that relating to the marital status of respondents. The latter then offers maximum probability.

Also, analyzing the coefficients of the variables contained in Table 2 gives a qualitative assessment of the observed phenomena which must be analyzed.

First of all, it emerges from Table 2 that the model is globally significant at 1% threshold because  $\text{Prob} > \text{Chi}^2 = 0.000$ .

Thus, taking as a reference individuals who participate in community health financing, females, singles, people with no level of education and less than CFA F23,500

and who live in the Centre Region, coefficients of the model can be interpreted as the contribution of each variable on the likelihood of using health facilities. For example, the constant term value 18.89 in the regression indicates that when all variables in the model are equal to 0, individuals participating in the reference community healthcare financing are about 19 times more likely to use formal health facilities rather than traditional health facilities. However, the coefficients of the other variables indicate how this probability changes with the individual characteristics of these individuals.

In fact, the variables selected are of two types: some are continuous, and the others, discrete. However, considering the strong correlation between the continuous variable "age" and that linked to the marital status of community health care financing participant "mutualists" a discrete variable, the latter has therefore replaced age; which made us consider only binary or discrete variables in regression; and the tools commonly used to interpret the impact of variation in the use of health facilities are marginal effects as represented in the Tables 3 and 4.

**Table 3.** Logistic regression of the model of utilization of health services (Coefficient).

		Number of obs = 607				
		Wald Chi <sup>2</sup> (46) =				
		Prob > Chi <sup>2</sup> =				
Log pseudo likelihood		Pseudo R <sup>2</sup> = 0.2137				
<b>Robust</b>						
<b>Variable</b>	<b>Coefficients</b>	<b>Std. Err.</b>	<b>z</b>	<b>P&gt; z </b>	<b>[95%</b>	<b>Conf. Interval]</b>
Far-North	0.7956346	0.3206125	2.48	0.013	0.1672456	1.424024
North-West	-1.574203	0.4729911	-3.33	0.001	-2.501248	-0.6471571
Males	-0.2328496	0.2141909	-1.09	0.277	-0.652656	0.1869569
Married, mon	0.6281954	0.2365534	2.66	0.008	0.1645592	1.091832
Married, poly	-0.2870115	0.4534036	-0.63	0.527	-1.175666	0.6016432
Widow(er)	0.6055236	0.4906242	1.23	0.217	-0.3560822	1.567129
Free Union	1.502266	0.8560640	1.75	0.079	-0.1755887	3.18012
Primary school	-0.1667689	0.2478115	-0.67	0.501	-0.6524704	0.3189327
Secondary school	0.4292945	0.4031785	1.06	0.287	-0.3609209	1.21951
High School	0.9974196	0.6253122	1.60	0.111	-.2281699	2.223009
Higher Edu	-1.578529	.713652	-2.21	0.027	-2.977261	-0.1797969
Others	-0.4736746	1.548999	-0.31	0.760	-3.509658	2.562308
Protestants	0.0412615	.249628	0.17	0.869	-0.4480003	0.5305233
Other Christ	0.2709533	.5532768	0.49	0.624	-0.8134494	1.355356
Muslims	-0.5627592	.3309639	-1.70	0.089	-1.211437	0.0859182
Animists	-1.126213	.3752125	-3.00	0.003	-1.861616	-0.3908097
Other rel	-1.250315	.7660292	-1.63	0.103	-2.751705	0.2510746
No religion	0.7166514	.8722111	0.82	0.411	-0.992851	2.426154
Formal private	-17.20164	2.826444	-6.09	0.000	-22.74136	-11.66191
Other formal pr	-19.23287	2.976257	-6.46	0.000	-25.06623	-13.39951
Farmers	-19.51591	2.733098	-7.14	0.000	-24.87269	-14.15914
Self-employed	-19.56598	2.728332	-7.17	0.000	-24.91341	-14.21855
Non agricultur	-21.45785	-	-	-	-	-
Unemployed	-18.89103	2.885535	-6.55	0.000	-24.54657	-13.23548
Students	-20.30568	2.942987	-6.90	0.000	-26.07383	-14.53753
Retired worker	-18.98997	2.799893	-6.78	0.000	-24.47766	-13.50228
Disabled peop	-19.26994	2.748708	-7.01	0.000	-24.65731	-13.88257
Other inactive	-19.71316	2.722777	-7.24	0.000	-25.04971	-14.37662
[23500, 50000]	-0.4544518	0.2517399	-1.81	0.071	-0.947853	0.0389493
[50000,100000]	-.4542321	0.4800259	-0.95	0.344	-1.395065	0.4866014
[100000, 200000]	-1.23823	1.741337	-0.71	0.477	-4.651187	2.174728
[200000, +]	1.736382	1.681269	1.03	0.302	-1.558844	5.031608
Fever/Headache	3485368	0.2852787	-1.22	0.222	-0.9076728	0.2105992
Flu/Cough	-0.2137239	0.4259604	-0.50	0.616	-1.048591	0.6211431
Diarrhea	-0.0454697	0.3926407	-0.12	0.908	-0.8150313	0.724092
Oral care	-1.018651	0.5850693	-1.74	0.082	-2.165366	0.1280637
Family planning	0.154827	1.495725	0.10	0.918	-2.77674	3.086394
Prenatal care	0.722687	.6199897	1.17	0.244	-0.4924706	1.937845
Postnatal care	0.4349655	.7124493	0.61	0.542	-0.9614093	1.83134
Vaccination	1.517399	.5004159	3.03	0.002	0.5366023	2.498197
VIH test	1.992227	1.110219	1.79	0.073	-0.1837621	4.168217
Clinical tests	-0.7752715	0.7076408	-1.10	0.273	-2.162222	0.6116789
Deformities	0.5250258	0.9917742	0.53	0.597	-1.418816	2.468868
Road accidents	-1.583313	1.04583	-1.51	0.130	-3.633103	0.4664766

**Table 3.** Contd.

Others	0.4133926	0.4774689	0.87	0.387	-0.5224292	1.349214
[5, 10 km]	1.232558	0.2958352	4.17	0.000	0.6527314	1.812384
[10, +]	0.9996862	0.2842422	3.52	0.000	0.4425817	1.556791
_cons	18.88975	2.77187	6.81	0.000	13.45699	24.32252

Reference modalities are respectively: Females, No level of education, Catholic, Less than 23500, Malaria and Less than 5 km. Ten remarks were censored.

Source: Author, findings obtained from STATA.9.

**Table 4.** Marginal effects of the logistic model of healthcare use.

Y = Pr(consult) (predict)							
.43678302							
Variable	dy/dx	Std. Err.	z	P> z	[95% C.I.]	X	
Far-North*	0.1931668	0.07591	2.54	0.011	0.044394	0.34194	0.507414
North-West*	-0.3314119	0.0751	-4.41	0.000	-0.478609	-0.184215	0.179572
Males*	-0.0571882	0.0524	-1.09	0.275	-0.159891	0.045515	0.481054
Married, mono*	0.1544130	0.0575	2.69	0.007	0.041717	0.267109	0.397035
Married, polygamy*	-0.069102	0.10632	-0.65	0.516	-0.27748	0.139275	0.057661
Widow(er)*	0.1502282	0.11967	1.26	0.209	-0.084323	0.38478	0.057661
Free union*	0.3408905	0.15066	2.26	0.024	0.045599	0.636182	0.00659
Primary school*	-0.0408164	0.0603	-0.68	0.499	-0.159012	0.077379	0.29654
Secondary school*	0.1066973	0.10015	1.07	0.287	-0.089592	0.302987	0.118616
High School*	0.2420633	0.13977	1.73	0.083	-0.031889	0.516016	0.046129
Higher educ*	-0.303788	0.09118	-3.33	0.001	-0.482498	-0.125078	0.024712
Others*	-0.1111691	0.34048	-0.33	0.744	-0.778498	0.556159	0.003295
Protestants*	0.0101584	0.0615	0.17	0.869	-0.110382	0.130699	0.341021
Other Christian*	0.0673177	0.13817	0.49	0.626	-0.203486	0.338121	0.069193
Muslims*	-0.1321613	0.07294	-1.81	0.070	-0.275129	0.010807	0.098847
Animists*	-0.244349	0.06732	-3.63	0.000	-0.376293	-0.112405	0.092257
Other religions*	-0.2568267	0.1167	-2.20	0.028	-0.485554	-0.028099	0.014827
No religion*	0.1768569	0.20716	0.85	0.393	-0.229171	0.582885	0.008237
Formal privat ng*	-0.471896	0.02819	-16.74	0.000	-0.52715	-0.416642	0.008237
Other formal p *	-0.515650	0.03145	-16.40	0.000	-0.577285	-0.454016	0.016474
Farmers*	0.9577778	0.02062	-46.44	0.000	-0.998196	-0.917359	0.172982
Self-employed non*	-0.8471007	0.04114	-20.59	0.000	-0.927726	-0.766476	0.100494
Non-agricultural *	-0.4806409	0.02588	-18.57	0.000	-0.531374	-0.429907	0.008237
Unemployed*	0.4598709	0.02699	-17.04	0.000	-0.512777	-0.406965	0.004942
University Stud*	-0.5200634	0.03077	-16.90	0.000	-0.580378	-0.459749	0.016474
Retired workers*	-0.5146511	0.03087	-16.67	0.000	-0.575147	-0.454156	0.016474
Disabled people*	-0.6817118	0.04319	-15.79	0.000	-0.766353	-0.59707	0.052718
Other inactive*	-0.9997007	0.00028	-3544.67	0.000	-1.00025	-0.999148	0.599671
[23500, 50000]*	-0.109210	0.05855	-1.87	0.062	-0.223973	0.005551	0.2257
[50000,100000]*	-0.107392	0.10759	-1.00	0.318	-0.318265	0.10348	0.049423
[100000, 200000]*	-0.254984	0.26549	-0.96	0.337	-0.775332	0.265364	0.014827
[200000, +]*	0.378657	0.25567	1.48	0.139	-0.122456	0.87977	0.003295
Fever/headache*	-0.084666	0.06816	-1.24	0.214	-0.218256	0.048924	0.294893
Flu/Cough*	-0.0517999	0.1014	-0.51	0.609	-0.250533	0.146933	0.060956
Diarrhea*	-0.0111585	0.0961	-0.12	0.908	-0.199513	0.177196	0.097199
Oral care*	-0.2203791	0.10335	-2.13	0.033	-0.422945	-0.017813	0.031301
Family planning*	0.0383845	0.37296	0.10	0.918	-0.69261	0.769379	0.004942

**Table 4.** Contd.

Prenatal care*	0.1784483	0.14782	1.21	0.227	-0.111275	0.468171	0.036244
Postnatal care*	0.1082649	0.17672	0.61	0.540	-0.238108	0.454637	0.014827
Vaccination*	0.3479851	0.09166	3.80	0.000	0.168325	0.527645	0.049423
VIH test*	0.414427	0.14382	2.88	0.004	0.132543	0.696311	0.003295
Clinical tests*	-0.1748479	0.13956	-1.25	0.210	-.44838	.098685	.031301
Bone deformities*	0.1305078	0.24368	0.54	0.592	-.347097	.608113	.01318
Road accidents*	-0.302419	0.12799	-2.36	0.018	-.553276	-.051563	.014827
Others*	0.1028546	0.11872	0.87	0.386	-.129823	.335532	.05601
[5, 10]*km	0.2969865	0.06494	4.57	0.000	.169712	.424261	.163097
[10, +]*	0.2448444	0.06683	3.66	0.000	.113864	.375824	.248764

Reference modalities are respectively: Regions, Females, Marital status, No level of education, Catholic, less than 23500, Malaria and Less than 5 km. (\*) dy/dx is for discrete change of dummy variable.  
Source: Findings obtained from STATA.9.

Two elements will help us delineate the scope of marginal effects of regression on one hand, signs of coefficients of the model, therefore reflecting the qualitative effects of the variables, and on the other hand, the size of the variables used to assess the quantitative effects. Conversely, those living in Bamenda have a negative effect on the probability of resorting to health facilities; this represents less than 0.3314, as compared to those in the reference locality.

Indeed, the results show that localities in the Far North region offer informal workers a greater opportunity to attend formal health facilities, as compared to the reference locality. This probability, however, is greatly reduced for the locality of Bamenda.

Considering the "marital status" approach, it appears that marriage under the monogamy regime has a positive effect on the probability of using formal health facilities, which rise by 15% the attendance of modern health services, as compared to bachelorhood. This finding therefore helps us understand the role of marital status in using modern healthcare services. In this case, it turns out that women sought formal health facilities more than men; this complies with the theory of health capital where the biological factor is given increasing importance in the use of healthcare.

With regard to the level of education, it appears that a higher education level attained by a household head has a negative effect on the probability of use of health facilities as compared to uneducated people; this effect represent less than 30%. This result shows that the uneducated, by participating to the Community Healthcare Financing, have the probability of using health facilities more than 70% of people with a higher level of education.

As concerns the religious affiliation, it appears that Animist members of the Community Healthcare Financing use the modern healthcare facilities less than the Catholics members; the probability is 24%. This result indicates the positive effect of the religious affiliation to

the utilization of modern healthcare facilities in the society.

Unemployed people account for 46% of the probability of the modern healthcare utilization than those who are employed. This mean that those participating in the Community Healthcare Financing and carrying out professional activities have more probability to use modern healthcare facilities. In addition, the results show that, retired workers and disabled people account, respectively for less than 51 and 68% of use of modern healthcare facilities.

With regard to distance, findings reveal that, those members who participate in the Community Healthcare Financing and live between 5 and 10 km represent approximately 65% of probability to access to modern healthcare facilities.

## DISCUSSION

This study is about the impact of Community Healthcare Financing on the use of health facilities by workers in the informal sector. We recorded 36% in the Centre Region, 64% in the Far-North and 0% in the North-West Region. However, it seems to be a more rural phenomenon. The high percentage recorded in the Far-North Region is due to the fact that it is the region in which health infrastructure is highly unequally distributed. This result is inline with Lognon (2013) who show that the community healthcare financing give a minimum social protection to the informal sector workers. The same finding has been revealed by Tabscott (2013) and Emgba (2017); the authors show that the Bamako Initiative has made it very difficult for rural populations to access health care. That is why the Community Healthcare Financing is a key solution to solve the accessibility of healthcare services.

It appears that participation in the community healthcare financing increases the probability of using formal health facilities and therefore, provides a positive

expected change in the access by informal sector workers to modern health facilities, as compared to traditional and informal facilities. This is what Woldemichael (2020) found out about millions of people in Rwanda who see their healthcare demand granted through the community healthcare financing.

Even though the result is not significant, it appears at least that the male sex has a negative effect on the probability of using formal health facilities, which reduces by 0.33 the attendance of modern health services, as compared to the female sex. This finding therefore helps us understand the role of gender in the use of healthcare. In this case, it turns out that women sought formal health facilities more than men; this complies with the theory of health capital where the biological factor is given increasing importance in the use of healthcare. Thus, the role of "gender" differs in all societies and influences physical health (Majnoni, 2001).

In the African context where polygamy make couples have many children and considering the negative impact of that on healthcare utilization services, findings reveal that, those who are married under monogamy have a more than 15% the advantage to use formal healthcare facilities. Dubois (2002) also underlines that, among those who participate to the Community Healthcare Financing, the proportions of monogamous and polygamous households are relatively similar and close to national statistics. Nevertheless, Dong et al. (2003) indicate that married men's willingness to pay for mutual health insurance is higher than that of unmarried men.

Based on a study carried out by Jütting (2005) in Senegal, the higher level of education and people who can read and write are more likely to join a Community Healthcare Financing that can improve their accessibility to the modern healthcare facilities. However, our findings show that those who are not educated are more represented in the Community Healthcare Financing than those with higher level of education. One of the reason is because the site of the study covers a large rural area.

According to the religious affiliation, it appears that the promotion of adherence to community health financing was more intense in the zone where the Catholic Church was present. Thus, if Animists seem to have less access than other Catholic Christians, it is also less well informed. Different levels of awareness could therefore ultimately also explain these very different rates of access to health care.

From the findings of the study, those members who participate in the Community Healthcare Financing and live between 5 and 10 km from a healthcare facility have approximately 65% of probability to access modern healthcare facilities. Indeed, results of the surveys on the impact of distance to be covered to reach approved health centers differ. Others indicate that the distance separating mutualists from the health facility does not constitute an obstacle for mutual health organizations (De Allegri et al., 2006a). Research in a community insurance system in Burkina Faso even indicates that uptake is

higher in communities furthest from the health center (De Allegri et al., 2006b).

## Conclusion

The main purpose of this study was to evaluate the contribution of community healthcare funding to the solvency of workers of the informal sector as concerns their demand for healthcare in Cameroon. Using a logistic model of healthcare demand based on survey data, the research led to the following findings.

Community healthcare financing effectively contributes to the solvency of workers of the informal sector, as concerns their demand for healthcare. Indeed, we found that there was a high rate of attendance by workers of the informal sector, of formal health training facilities, as compared to the use of informal traditional healthcare settings. This fact reflects the contribution of such a system to the solvency of workers in the informal sector, as concerns their demand for healthcare services.

In addition, we found out that household size, educational attainment and health status positively influence the likelihood that workers in the informal sector would participate in the community funding for healthcare services.

Beyond the contribution of community funding to access to healthcare by the working poor in the informal sector, it appears that many people are excluded from such a system because of their constrained capacity.

From this point of view, the analysis of the contributory capacity of those excluded from the community funding would offer them the possibility of accessing the services and by extension, ensuring high health coverage to a greater number of them.

## RECOMMENDATIONS

In view of the contribution of community health financing to the access of workers in the informal sector to modern health services, the public authorities must participate more in the promotion and popularization of such a mechanism among the population in general and the rural population in particular. Particular emphasis must be placed on the ability of households to pay in order to enroll a large number of members.

## CONFLICT OF INTERESTS

The author has not declared any conflict of interests.

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