





# Factors favoring household adherence to selfsponsored health insurance in the Democratic Republic of the Congo

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# Factors favoring household adherence to selfsponsored health insurance in the Democratic Republic of the Congo

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A Master's Thesis

Submitted to the Department of Global Health Policy and Financing, Division of Global Health Policy and Financing Program and the Graduate School Public Health of Yonsei University in partial fulfillment of the requirements for the degree of Master of Public Health

> Didier Kamori Mutwale December 2022



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Graduate School of Public Health Yonsei University December 2022



# ACKNOWLEDGMENTS

This work is the culmination of a Master's degree in Public Health at Yonsei University. The chance to have attended this prestigious university was only made possible by the efforts of many people whom I have the honor to thank here.

First, let me thank South Korea and its wonderful people for their sense of international solidarity implemented through Koica.

Secondly, I thank the entire scientific and administrative community of the Graduate School of Public Health of Yonsei University for their dedication, and especially Professor Min Jin Ha, who has accepted to supervise this work with kindness and rigor.

Finally, I thank my close family (my wife and our two daughters) for the sacrifice they made: 18 months out of sight, but close to the heart, in the search for the common good. I dedicate this work to them.



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# **ABBREVIATIONS**

- CBHI : Community-based health insurance
- CDF : Congolese franc
- CI : Confidence interval
- DRC : Democratic Republic of the Congo
- HH : Head of household
- HI : Health insurance
- OR : Odds ratio
- SD : Standard deviation
- UHC : Universal Health Coverage
- UN : United Nations Organization
- USD : United States dollar
- WHO : World Health Organization
- WTP : Willingness to pay



# ABSTRACT

### Introduction

Located in Central Africa, the Democratic Republic of the Congo is the second largest country in Africa with an area of 2,345,000 km<sup>2</sup> and a population of nearly 100 million. Although rich in raw materials, it is unfortunately one of the poorest countries in the world. Its modest budget does not allow for significant investments in the social sector. Thus, there is no effective national health insurance system. Nevertheless, a mechanism that will lead to universal health coverage in the long term is being implemented in this country, and it will have to rely on the few community-based health insurance programs that have been successful in this country, where more than 85% of the workers are in the informal sector. For this reason, the ultimate goal of this study is to identify the factors associated with household affiliation to self-sponsored health insurance mechanisms, to contribute to the current debate on the construction of an adapted system that will lead the Congolese to universal health coverage.

### Methodology

To do this, this study used the database that resulted from the Sustainable Development Goals Indicator Cluster Survey, conducted throughout the Democratic Republic of the Congo in 2020 by the Congolese Sustainable Development Observatory and the National Institute of Statistics. This survey provides data for 9,216 households, and this study used data for only 8,859 after excluding households with missing data for relevant variables.

The dependent variable was whether or not the household was affiliated with a selfsponsored health insurance program. Jamovi software was used for statistical analysis of the data using chi-square and t-test for descriptive analyses, and binomial logistic regression to test the degree of association between the selected independent variables and the dependent variable. Results were considered significant for a P-value less than 0.05 and/or a 95% confidence interval.

#### Results

First, the study found that 84% of the heads of households are active, of which 15.2% are in the formal sector. Only 4.2% of these are covered by employer-sponsored health insurance. The rate of coverage of self-sponsored health insurance is 2% in the



population, and households with a working head in the formal sector are almost as affiliated as those with a working head in the informal sector. The use of self-sponsored health insurance by workers in the formal sector indicates the low level of employersponsored health insurance in both quantitative and qualitative terms.

Second, concerning the general characteristics that differentiate households that are members of self-sponsored health insurance from non-members, certain parameters showed statistical sensitivity, including age (the older the head of household, the more he enrolls his household in self-sponsored health insurance), sex of the head of household (men bring their households to it more than women), area of residence (households living in urban areas are more members of self-sponsored health insurance than those living in rural areas), the level of education of the head of household (those with access to higher education enroll their households more than others), and finally, subjective well-being (those who feel rich enroll their households more than those who feel less rich or poor). However, only the latter parameter remains sensitive when households with employer-sponsored health insurance are removed from the analysis.

Finally, the factors associated with household enrollment in self-sponsored health insurance are the sex of the head of the household (men enroll their households 1.5 times more than women), the household's area of residence (urban households are twice as likely as rural households), the education level of the head of the household (households with a university graduate in charge are twice as likely to be enrolled as others), and finally, subjective well-being (those who see themselves as rich are 10 times more likely to enroll their households than those who define themselves as poor). However, when households with employer-sponsored health insurance are pruned, only the "subjective well-being" parameter remains associated with household enrollment in self-sponsored health insurance.

## Conclusion

Self-sponsored health insurance mechanisms—including community-based health insurance—will be the obvious entry point for the majority of the population into the national health insurance system to come in the DRC. The government will then have to consolidate the factors that facilitate this entry and correct the factors that do not facilitate it.



**Keywords**: universal health coverage, self-sponsored health insurance, communitybased health insurance



# Chapter 1. INTRODUCTION

# 1.1. Background

The Democratic Republic of the Congo (DRC) is located in Central Africa, straddling the Equator with an area of 2,345,409 km<sup>2</sup>. Recent projections by the Congolese National Institute of Statistics put the Congolese population for the year 2019 at 98,370,000 inhabitants with a density of 42 inhabitants per km<sup>2</sup>. In the context of uncontrolled fertility, this population will reach more than 120 million inhabitants in 2030 and will be composed of more than 45% of young people under 15 years old for only 3% of people 65 years old and more.<sup>1</sup> According to World Bank data,<sup>2</sup> life expectancy at birth was 61 years in the DRC in 2020.

In this very poor country, basic social needs are difficult to meet by the public authorities, mainly because of a very low budget. Access to healthcare is very limited due to the financial poverty that affects more than 70% of households.<sup>3</sup> This is a way of pointing out that universal health coverage remains a pious hope, a project that is not yet close to bearing its first fruits. In the DRC, data from the National Health Accounts conducted for the year 2019<sup>4</sup> show that households are the primary source of health financing (42%), followed by donors (40%). The government is only the third-largest source of funding, far behind, with only 14% of total health spending (central and provincial levels combined).

In this gloomy picture, scattered, moderately coordinated mechanisms, unevenly distributed throughout the country, are nevertheless in place to relieve the population of the financial risk of access to healthcare. Indeed, the legislation in place obliges employers (formal sector) to take responsibility for their workers' healthcare. Thus, this category of the population (formal sector workers and their dependents) is theoretically covered. However, this is not obvious either, because the government itself does not

<sup>&</sup>lt;sup>1</sup> DRC Statistical Yearbook 2020 (https://www.undp.org/fr/drcongo/publications/annuaire-statistique-rdc-2020)

<sup>&</sup>lt;sup>2</sup> https://data.worldbank.org/indicator/SP.DYN.LE00.IN?locations=CD

<sup>&</sup>lt;sup>3</sup> https://www.worldbank.org/en/country/drc/overview

<sup>&</sup>lt;sup>4</sup> Eloko G., Health financing in the DRC from 2015–2019 according to the results of the National Health Accounts, Unpublished, 2021



manage to cover healthcare for its average civil servant. Meanwhile, more than 86% of the working population works in the informal sector.<sup>5</sup> They have no choice but to pay directly for consultations in health facilities, or to join community health insurance programs, as private insurance companies are unaffordable for this category of the population.

It is in this context that the process of setting up the universal health coverage program in the country was born, by the political will of the head of state, who has been in power since January 2019. This process, which is still in the installation phase of its institutional architecture, relies on community health mutuals to collect premiums from most of the population and channel them to the health solidarity fund—the equivalent of a national health insurance fund.

However, few people are members of community health mutuals, although these are increasingly numerous throughout the country. This system of voluntary mutual insurance has existed since the 1980s, but its development remains embryonic. Indeed, the inventory made in 2020 by the National Program for the Promotion of Mutual Health Insurance, a structure of the Ministry of Health, counts 109 mutuals covering only 1,089,265 people.<sup>6</sup> One of the reasons for this state of affairs is surely the fact that the law on mutual insurance does not make membership in mutual health insurance compulsory for workers in the informal sector—though this is not the only reason for this low rate of affiliation.

#### **1.2. Objectives**

The main objective of this study is to contribute to the ongoing debate in the Democratic Republic of the Congo on the implementation of universal health coverage. More specifically, this study has several aims: to determine the impact of the formal employment of the head of household on his or her household's membership in a health insurance mechanism, and thus assess the application of the relevant norms in this area; to identify the share of households that use health insurance mechanisms in the

<sup>&</sup>lt;sup>5</sup> DRC Statistical Yearbook 2020.

<sup>&</sup>lt;sup>6</sup> Mole A., Health insurance: Which ways in the Democratic Republic of the Congo? Unpublished, 2020.



Congolese population, as well as their different characteristics; to identify the different demographic, socioeconomic, and cultural characteristics that are correlated with household affiliation to health insurance mechanisms; and finally, to propose some innovative approaches that can significantly increase the number of households that are members of different health insurance mechanisms, especially community health insurance.

#### **1.3. Research question**

Given the context described above, the research question for this study is, "What demographic, economic, or cultural factors are correlated with household enrollment in different health insurance mechanisms?"

#### 1.4. Hypotheses

The first hypothesis for this work is related to the head of household's formal work: although the country's laws on medical care for workers by their employers are not scrupulously respected, those who work in the formal sector see their households benefit more from health coverage sponsored by their employer than those who work in the informal sector. Similarly, those in the informal sector engage in much more selfsupported health insurance than do households of formal sector workers or those with inactive heads of household.

The second group of hypotheses concerns the characteristics of households that pay for their health insurance (mainly community health insurance), as well as the factors that contribute to this. For example, households living in urban areas should be more likely to enroll in community-based health insurance programs than those living in rural areas, and a more educated head of household should enroll his or her household in a health insurance service because he or she is expected to be more aware of the usefulness of such coverage than an uneducated person. In the same vein, one would expect that more financially well-off households (subjective or objective wealth) would be more likely to enroll in a community-based health insurance program than poorer households. Finally, the age of the head of the household, in a positive sense, could also be expected



to be a factor in the likelihood of his or her family joining a health insurance organization.

# **1.5. Health insurance overview**

### **1.5.1. Introduction**

In the mid-1900s, after the two world wars, almost all the countries of the world joined the United Nations Organization (UN), resulting in the signing of several treaties, conventions, and agreements. One of the most important and early resolutions of the General Assembly of this Organization was the Universal Declaration of Human Rights, adopted in Paris on December 10, 1948. Among the most fundamental human rights, the right to integral health for all was noted.<sup>7</sup> This fact led all countries to incorporate this right, among other fundamental rights, into their constitutions, and since then, all countries have been organizing themselves to ensure quality health services for all their population. Although some countries did not wait for the Universal Declaration of Human Rights to begin this process, it must be recognized that the UN's inclusion of health as a human right, and the inclusion of (good) health for all as a major goal on all global agendas, has caused all countries to take action to advance this cause.

Despite this international political commitment, global statistics on health coverage are not uniform in all regions of the world or all countries. According to the World Health Organization (WHO), at least half of the world's population does not currently have the health services they need. Very low rates are observed especially in low-income countries.<sup>8</sup> The Declaration of Astana<sup>9</sup> bridges the gap between the commitments of the Alma-Ata Declaration (on primary healthcare) and the imperative to move towards universal health coverage and the achievement of all health-related targets among the Sustainable Development Goals.

Even today, therefore, the issue of universal health coverage remains an objective in its own right in many countries of the world, particularly in Africa. It is not surprising that

<sup>&</sup>lt;sup>7</sup> https://www.ohchr.org/sites/default/files/UDHR/Documents/UDHR\_Translations/eng.pdf

<sup>&</sup>lt;sup>8</sup> https://www.who.int/health-topics/universal-health-coverage#tab=tab\_1

<sup>&</sup>lt;sup>9</sup> WHO and UNICEF, Global Conference on Primary Healthcare: From Alma-Ata towards universal health coverage and the Sustainable Development Goals (Declaration of Astana), 2018.



the Global Agenda for 2030 includes universal health coverage as one of its 17 sustainable development goals.

#### 1.5.2. Definition of universal health coverage

WHO defines universal health coverage (UHC) as a situation in which all individuals and communities have access to the health services they need without financial hardship. UHC encompasses the full range of essential quality health services, including health promotion, prevention, treatment, rehabilitation, and palliative care.<sup>10</sup>

To achieve this, countries must continually improve their healthcare financing systems. Because it is often the poor who are exposed because they cannot afford healthcare in systems where people essentially must pay for healthcare out of their own pockets. Thus, there is a need for a health insurance system everywhere that shares the financial risk of financing healthcare for the entire population.

### How do we get there?

Existing health insurance systems, like other social protection systems, are the result of the evolution of one of two models: the Bismarckian model (based on the first social insurance programs implemented by Chancellor Otto von Bismarck in the German Empire) and the Beveridgian model (based on the ideas of British economist William Beveridge); or a mixture of the two models. The first model refers to modes of care that favor the insurance logic (benefits are paid to individuals who are insured), and the second to an assistance logic (benefits are paid to individuals who need them).

To put it plainly, the Bismarckian model is compulsory protection based on the financial participation of workers and employers in the form of social contributions, which are not proportional to the risks—as in the pure insurance logic—but to wages. This is known as the "socialization of risk." In contrast, the Beveridgian model is a universality of social protection because it covers the entire population. Here there is a uniformity of benefits based on the needs of individuals, and a unity of government

<sup>&</sup>lt;sup>10</sup> https://www.who.int/news-room/fact-sheets/detail/universal-health-coverage-(uhc)



management, through national insurance financed by taxes.<sup>11</sup> Several countries have set up mixed systems in which they borrow elements of both of the above models.

In addition to these two major models that make it possible to set up a national health insurance system, we can add two other means that either complement the national (public) systems, or supplement these systems in regions where they do not exist. These are private insurance and community-based insurance (community health insurance programs). While the former generally complements national and legal coverage for civil servants and private sector employees, the latter (community-based insurance) concerns more and more poor countries, tending to be based on local and decentralized membership networks and seeking to compensate for the lack of coverage of vulnerable rural or urban populations.

### 1.5.3. Health coverage in the Democratic Republic of the Congo

In the DRC, the legal arsenal concerning the health coverage of the population is more or less provided, but the completeness of its extension can be questioned. First, the constitution<sup>12</sup> reaffirms the sanctity of health as a fundamental right of all Congolese. Second, the various laws protect Congolese according to their activity status. Thus, the law governing the status of civil servants<sup>13</sup> clearly states that the government–employer must pay for the medical care of all civil servants and their dependents. This is a grant system, not a contributory one. For workers in the private, humanitarian, and parapublic sectors, etc.—i.e., other workers in the formal sector but not civil servants—they are governed by the Labor Code.<sup>14</sup> Every employer must either organize his medical service within the company or establishment, use a service common to several companies, or

<sup>&</sup>lt;sup>11</sup> Merouani W. et al., "Le système algérien de protection sociale: Entre bismarckien et beveridgien" (The Algerian social protection system: Between Bismarckian and Beveridgian), Les cahiers du cread n°107–108, 2014.

<sup>&</sup>lt;sup>12</sup> Constitution of the Democratic Republic of the Congo of February 18, 2006 as amended by Act No. 11/002 of January 20, 2011 revising some of its articles

<sup>&</sup>lt;sup>13</sup> Act No. 16/013 of July 15, 2016 on the status of career agents of the government's public services

 $<sup>^{14}</sup>$  Act No. 015-2002 of October 16, 2002 on the Labor Code as amended and supplemented by Act No. 16/010 of July 15, 2016



use a structure outside the company or establishment, to take care of the healthcare of his workers and their dependents.

However, in a country where more than 80% of the active population works in the informal sector, the two laws mentioned above, even if they were applied perfectly, which is another debate, would solve only the problem of access to healthcare for a minority of the population.

Thus, the law on mutuality<sup>15</sup> completes this legal arsenal in an attempt to reach workers in the informal sector and their families, but also the unemployed. It specifies, in Article 70, that mutual health insurance is conceived and developed as national health insurance offering the population the possibility of access to quality healthcare at decent prices. In this respect, this law provides for (1) compulsory health insurance for all persons who can deduct contributions at source; and (2) optional health insurance for categories of persons who cannot deduct contributions at source. This is the case, in particular, for people working in the informal sector.

This provision, which needs to be harmonized with the contents of the law on the status of civil servants and the Labor Code, still leaves some people out in the cold because it provides for optional membership in the community health insurance programs for all workers for whom there is no possibility of deducting their contributions at the source, especially for all who work in the informal sector. This explains why households are still the largest contributors to the financing of healthcare in the DRC (nearly 50%) through direct payment.

However, since 2019, the country has resolved to launch the reflection on the process of universal health coverage. In late 2021, the Strategic Plan for Universal Health Coverage  $2021-2030^{16}$  was launched. This strategic plan has the general objectives of improving Congolese life expectancy by 30%, reducing the maternal mortality ratio in the DRC by 50%, and reducing the infant and child mortality rate in the DRC by 50%— all by 2030. Specifically, it aims to increase the coverage of essential health services

<sup>&</sup>lt;sup>15</sup> Organic Act No. 17/002 of February 8, 2017, determining the fundamental principles relating to mutuality

<sup>&</sup>lt;sup>16</sup> National Council For Universal Health Coverage, National strategic plan for universal health coverage coverage 2021–2030, Unpublished, 2021.



from 41.5% to 60% (essential health services coverage index), and to reduce catastrophic household expenditures related to healthcare by 40%.

The institutional architecture of the UHC in the DRC has already been designed and adopted, and the planned institutions have already been created by the decree of the prime minister. Similarly, an inclusive financing model (taking into account all socioprofessional strata, including children, the vulnerable, and the unemployed), mixing the Bismarckian and Beveridgian models, and integrating community health insurance, has been designed. The country is therefore waiting for the implementation of this ambitious and life-saving project, which will undoubtedly continue to improve each year if the political will remains intact in this area.



# **Chapter 2. MATERIALS AND METHODS**

## 2.1. Study population

To conduct this study, the database from a national survey will be used: the sustainable Development Goals Indicator Cluster Survey. This survey, which involved 9,216 households scattered throughout the country, was conducted throughout the DRC from May to August 2020 by the Congolese Observatory for Sustainable Development. It combines poverty and sociodemographic indicators through two integrated surveys: the employment survey, and the household consumption survey. As the different databases resulting from this survey have not yet been made public, I had to obtain an official document that allows me to use one of them. This document is included in Appendix 1.

#### 2.2. Variables

The main variable of this study is whether or not a household has self-sponsored health insurance. It is therefore a binary variable (yes or no). Right next to this main variable is a twin variable which is whether or not a household has employer-sponsored health insurance.

The other variables, used to globally check their degree of influence on the main variable, are (a) the employment status of the head of household: active (formal or informal employment), or inactive (unemployment, disability, retirement, etc.), with special attention to the formality of employment; (b) whether the household lives in a rural or urban area; (c) the sex of the head of the household: female or male; (d) the level of education of the head of household: literate or not; (e) the level of household income (objective poverty): here I considered annual household expenditures per member (total expenditures divided by household size); (f) the perception of the level of wealth of the household by the head of the household: from the poorest to the richest (subjective poverty); (g) the age of the head of the household; and (h) the size of the household.

Taking these different variables into account, it was deemed appropriate to remove from the analysis the data from 357 households (3.9% of the initial sample) that had missing



data for any of my relevant variables. This study therefore finally covers a sample of 8,859 households, which incorporate all the variables.

# 2.3. Statistical analysis

Jamovi software,<sup>17</sup> which is a free and open-source statistical software built on the R platform, was used for data processing and analysis.

This study will first use the chi-square test to learn the differences between the different socio-professional strata (formal sector employees, informal sector employees, and the unemployed) and their health insurance affiliation (household or employer-sponsored health insurance).

Second, the study will use the chi-square test for categorical variables and the t-test for continuous variables to assess the difference between households affiliated with self-sponsored health insurance and the non-affiliated considering the different variables selected. Finally, logistic regression will be used to test the influence of the different variables on the main variable.

The same exercise (chi-square or t-test and binomial logistic regression) will be carried out this time on a sample from which households with employer-sponsored health insurance are removed.

The results will be considered significant for a P-value lower than 0.05, and/or the 95% confidence interval.

<sup>&</sup>lt;sup>17</sup> https://www.jamovi.org/





Figure 1. Flowchart describing how the sample was handled in the two statistical models used in the study.



# **Chapter 3. RESULTS**

The objective of Table 1 is to verify the influence of the employment formality of the head of the household on the type of health insurance enjoyed by his or her household. This will not only help to conclude compliance with the relevant normative provisions of this sector, but will also condition further analysis in the sense that one will choose to prune, or not, the data of households that benefit from health insurance sponsored by the employer of their heads of household, in the following.

The first piece of information to be drawn is that of the 8,859 households studied, the head of household was employed (active) in 7,449 of them, i.e., 84%. Of these, only 1,134 (15.2%) worked in the formal sector. The latter are therefore supposed to be covered by their employers for health insurance, according to the legislation in force. However, this is not the case: only 4.2% (48/1,134) of them benefit from employer-sponsored health insurance. This proves that the current legislation is not enforced enough. Nevertheless, concerning this type of health insurance (sponsored by the employer), it workers in the formal sector benefited from it more than in the informal sector: 4.2% (48/1,134) in the formal sector against 2.7% (173/6,315) in the informal sector (P-value = 0.007). The proportion of inactive heads of households with this type of health insurance is also surprisingly higher than that of those working in the informal sector. These inactive heads of household are most likely to be retirees, or their survivors, who continue to receive supplementary social security from their former employers.

Regarding the health insurance sponsored by the household itself, it should be noted that there is no statistically significant difference between households if we consider the sector of activity of their heads (P-value greater than 0.05). This is further evidence, if any were needed, that the law is not enforced by employers, causing workers to seek to protect their households by themselves.

Another interesting category is that of households that have both types of health insurance at the same time: employer-sponsored and self-sponsored. These households, constituting 0.8% of all households (70/8,859) and 18.3% of all households covered by some form of health insurance (70/382), see their proportion greater among those with a head working in the formal sector (1.5%) than among those in the informal sector (0.8%) and the inactive (0.4%) (P-value = 0.005). This shows that beyond the fact that



employer-sponsored health insurance is rare, although required by law, it is still not of satisfactory quality when it exists. This leads some beneficiaries to seek to supplement it with self-sponsored health insurance.

Finally, looking at the overall proportions of households with and without some form of health insurance, we find that in general, 95.7% (8,477/8,859) of households have no health insurance coverage at all. This makes a national coverage of only 4.3% of households. However, small statistically significant differences exist between the proportions of households covered by all types of health insurance combined, according to the sector of activity of their heads. Indeed, households with heads working in the informal sector are much more likely to be uncovered (96.1%) than for households with inactive heads (94.9%), and 94.4% for households with heads working in the formal sector) (P-value = 0.012).

With these results showing the very low rate of health insurance coverage in Congolese households, which nevertheless shows the preponderance of employer-sponsored health insurance, and which also shows that the latter is nonetheless insufficient in both quality and quantity, the rest of the study will focus on household affiliation to self-sponsored health insurance.



# Table 1. Influence of the formal employment of the head of household on the type of health insurance the household has

	The sector of activity of the head of household				
	Total N=8859	Formal N=1134	Informal N=6315	Inactive N=1410	P-value*
Employer- sponsored HI	275 (3.1%)	48 (4.2%)	173 (2.7%)	54 (3.8%)	0.007
Self-sponsored HI	177 (2.0%)	32 (2.8%)	122 (1.9%)	23 (1.6%)	0.080
Both	70 (0.8%)	17 (1.5%)	48 (0.8%)	5 (0.4%)	0.005
None	8477 (95.7%)	1071 (94.4%)	6068 (96.1%)	1338 (94.9%)	0.012

Percentage calculated in the column \*Sensitivity of the difference calculated by Chi-square test HI: health insurance



Table 2 presents the social, economic, and demographic characteristics of the households that constitute the sample for this study. Next, differences are tested between households that subscribe to self-sponsored health insurance and those that do not, taking into account the characteristics present. The chi-square test was used for the characteristics presented as categorical variables, and the t-test was used for the continuous variables.

The age of the head of the household seems to influence whether or not the household is enrolled in self-sponsored health insurance. By classifying the age of the heads of households into four brackets (under 30, between 30 and 45, between 45 and 60, and over 60), the youngest age bracket has proportionally significantly fewer members in self-sponsored health insurance than the next three age brackets. It should be noted that the oldest age group in turn has slightly more members in the same health insurance than the two age groups above it (P-value = 0.046). The tendency is clearly to say that the older the head of household, the more likely it is that his or her household is enrolled in a self-sponsored health insurance plan.

Another statistically significant difference (P-value = 0.034) can be seen in the proportions of households with self-sponsored health insurance mechanisms concerning the sex of their household head. Male-headed households are proportionally more numerous (2.2%) in enrolling in self-sponsored health insurance compared to female-headed households (1.4%). This trend follows the general sex ratio of household heads in our study population where male-headed households are more numerous (75.7%) than female-headed households (24.3%).

Also, it should be noted that there are slightly more households in rural areas than in urban areas. Nevertheless, more urban households have self-sponsored health insurance than rural households. Thus, 2.9% (123/4,289) of urban households are members of this type of health insurance program, compared to only 1.2% (54/4,570) of rural households (P-value < 0.001). We suspect that this is a question of financial resources, innovation on the part of civil society, and also of appropriate health infrastructure.

In the level of education of heads of household, there is a disparity: while only 9.6% of heads of household have reached university, 24.2% of them never attended school, while 66.2% of them went to school but stopped at a level lower than university. However, households headed by university graduates are more proportionally members



of self-sponsored health insurance than households headed by those with lower levels of education. Households headed by university graduates number 4.7% (40/850), while uneducated and non-university graduates are 1.6% (35/2,146) and 1.7% (102/5,863) respectively (P-value < 0.001).

Another area where the difference can be seen is in the perception of wealth (subjective poverty). We can see that households who consider themselves rich are more members of the health insurance programs in question than those that consider themselves less rich, or even poor (P-value < 0.001)

On the other hand, no statistically significant differences were observed between selfsponsored health insurance member households and non-members concerning whether or not the head of the household is employed. Annual household income made a greater difference than did the size of these households.



		Self-spo	Self-sponsored HI		
	Total (N=8859)	Yes (N=177, or 2.0%)	No (N=8682, or 98.0%)		
	N (%) <sup>a</sup>	N (%) <sup>b</sup>	N (%) <sup>b</sup>		
Age of the HH (years)*	:			0.046	
16–30	1597 (18.0%)	18 (1.1%)	1579 (98.9%)		
31–45	3693 (41.7%)	79 (2.1%)	3614 (97.9%)		
46–60	2426 (27.4%)	52 (2.1%)	2374 (97.9%)		
> 60	1143 (13.1%)	28 (2.4%)	1137 (97.6%)		
Sex of the HH*				0.034	
Male	6709 (75.7%)	146 (2.2%)	6563 (97.8%)		
Female	2150 (24.3%)	31 (1.4%)	2119 (98.6%)		
Place of residence*				<0,001	
Urban	4289 (48.4%)	123 (2.9%)	4166 (97.1%)		
Rural	4570 (51.6%)	54 (1.2%)	4516 (98.8%)		
Level of education of the	he HH*			<0,001	
University	850 (9.6%)	40 (4.7%)	810 (95.3%)		
Beyond the elementary school	5863 (66.2%)	102 (1.7%)	5761 (98.3%)		
Non-literate	2146 (24.2%)	35 (1.6%)	2111 (98.4%)		
Size of household**				0.066	
Mean (SD)	5.81 (2.96)	6.22 (3.37)	5.81 (2.95)		
Employment status of	the HH*			0.283	
Active	7449 (84.1%)	154 (2.1%)	7295 (97.9%)		
Inactive	1410 (15.9%)	23 (1.6%)	1387 (98.4%)		
Perception of the wealt	th*			<0,001	
Rich	41 (0.5%)	7 (17.1%)	34 (82.9%)		
Neither poor nor rich	2279 (25.7%)	64 (2.8%)	2215 (97.2%)		
Poor	4432 (50.0%)	78 (1.8%)	4354 (98.2%)		
Very poor	2107 (23.3%)	28 (1.3%)	2079 (98.7%)		
The annual income of a	a household (CDF)**	÷		0.583	
Mean (SD)	648374 (2.34e+6)	545538 (831556)	643122 (2.36e+6)		

# Table 2. Socioeconomic and demographic characteristics of households and their enrollment in self-sponsored health insurance

<sup>a</sup> Percentage calculated in the column

<sup>b</sup> Percentage calculated in the line

\* Sensitivity of the difference calculated by the Chi-scare test \*\* Sensitivity of the difference calculated by the T-test

HI: health insurance

HH: head of the household

CDF: Congolese francs (national currency of the DRC: USD1=CDF2000)



In an attempt to assess the influence of employer-sponsored insurance, a table similar to the previous one was made, this time subtracting from the total sample all households who have heads with employer-sponsored health insurance. Also included in this subtraction are households that receive self-sponsored health insurance at the same time as employer-sponsored health insurance. Instead of a total of 8,859, the new sample thus becomes 8,584.

The difference is directly noticeable in the results. While all the variables for which the difference between the proportions of households with and without self-sponsored health insurance remains with this new analysis, many others are added.

For instance, only the variable on "self-perceived household wealth" shows a difference in this new analysis. Here again, the proportion of those who perceive themselves as rich is much higher than the others in the group of households with self-pay health insurance (P-value less than 0.001).

For all other variables used, there is no statistically significant difference between the two groups of households (with and without self-sponsored health insurance).

		Self-spor	P-value	
	Total (N=8,584)	Yes (N=107, or 1.2%)	No (N=8,477, or 98.8%)	
	N (%) <sup>a</sup>	N (%) <sup>b</sup>	N (%) <sup>b</sup>	
Age of the HH (years)*				0.677
16-30	1576 (18.4%)	15 (1.0%)	1561 (99.0%)	
31-45	3569 (41.6%)	45 (1.3%)	3524 (98.7%)	
46-60	2347 (27.3%)	32 (1.4%)	2315 (98.6%)	
> 60	1092 (14.0%)	15 (1.4%)	1077 (98.6%)	
Sex of the HH*				0.065
Male	6486 (75.6%)	89 (1.4%)	6397 (98.6%)	
Female	2098 (24.4%)	18 (0.9%)	2080 (99.1%)	
Place of residence*				0.148
Urban	4058 (47.3%)	58 (1.4%)	4000 (98.6%)	
Rural	4526 (52.7%)	49 (1.1%)	4477 (98.9%)	
Level of education of the	HH*			0.124
University	735 (8.6%)	15 (2.0%)	810 (98.0%)	
Beyond the elementary school	5724 (66.7%)	66 (1.2%)	5761 (98.8%)	
Non-literate	2125 (24.8%)	26 (1.2%)	2111 (98.8%)	
Size of household**				0.143
Mean (SD)	5.82 (2.96)	6.23 (3.23)	5.81 (2.96)	
Employment status of th	e HH*			0.770
Active	7228 (84.2%)	89 (1.2%)	7139 (98.8%)	
Inactive	1356 (15.8%)	18 (1.3%)	1338 (98.7%)	
Perception of the wealth	*			<0,001
Rich	33 (0.4%)	2 (6.1%)	31 (93.9%)	
Neither poor nor rich	2137 (24.9%)	40 (1.9%)	2097 (98.1%)	
Poor	4343 (50.6%)	54 (1.2%)	4289 (98.8%)	
Very poor	2071 (24.1%)	11 (0.5%)	2060 (99.5%)	
The annual income of a l	household (CDF)**			0.319
Mean (SD)	609757 (2.38e+6)	380341 (292857)	612663 (2.39e+6)	

Table 2bis. Socioeconomic and demographic characteristics of households and their enrollment in self-sponsored health insurance (without households with employer-sponsored health insurance)

<sup>a</sup> Percentage calculated in the column

<sup>b</sup> Percentage calculated in the line

\* Sensitivity of the difference calculated by the Chi-scare test

\*\* Sensitivity of the difference calculated by the T-test

HI: health insurance

HH: head of the household

*CDF*: *Congolese Francs* (*national currency of the DRC: USD1=CDF2000*)



Table 3, the most important table for this study, answers our research question, making sure to eliminate the biases that the confounding factors could bring. To achieve this, I used logistic regression as a statistical tool, because the main variable is binomial. In the table, I use the adjusted odds ratio to show the degree of influence instead of the P-value; I preferred to illustrate the significance by mentioning the extreme values of the 95% confidence interval. Thus, if the value "1" is included in the interval, the influence expressed by the adjusted odds ratio will not be retained because it is not statistically significant.

As for the results, it should be noted that in the end four variables were found to truly influence households to join self-sponsored health insurance.

The first is *the sex of the head of the household*. It is found that male-headed households are 1.5 times more likely to be members of self-sponsored health insurance than female-headed households (OR = 0.647, 95% CI: 0.430–0.974).

The second element is *the place of residence*. This study shows us that households living in urban areas are twice as likely to be enrolled in self-sponsored health insurance as those living in rural areas (OR = 0.498, 95% CI: 0.346—0.718).

The third factor is *the level of education of the head of the household*. Taking as a reference households with heads of households who went to school but did not reach university level (two-thirds of households), Table 3 shows that households headed by a university graduate are twice more likely to be affiliated with self-sponsored health insurance (OR = 1.931, 95% CI: 1.285—2.902). Households with illiterate heads, on the other hand, have almost the same odds as those taken as the reference here.

Finally, the last variable is *the self-perception of the household's wealth*. This aspect, although subjective, proves to be decisive in households' adherence to self-sponsored health insurance. It is observed that compared to households that define themselves as "poor" (this category represents half of the study population), those who define themselves as "rich" are almost 10 times more likely to enroll in self-sponsored health insurance (OR = 9.546, 95% CI: 3.944—23.108). The "very poor" and the "neither rich nor poor," however, have almost the same chance as the "poor." The same logic is not observed, on the contrary, when we question real income (in an objective way): it does not influence whether or not one joins the health insurance program in question. The psychological aspect is therefore of primary importance.



The next chapter will attempt to explain these results and compare them to the results found in similar studies, if possible.



		95% Confidence Interval	
Predictor	Adjusted odds ratio	Lower	Upper
Age of the HH			
31–45	1.000		
16–30	0.636	0.376	1.073
46-60	1.041	0.726	1.492
> 60	1.259	0.806	1.968
Sex of the HH			
Male	1.000		
Female	0.647	0.430	0.974
Place of residence			
Urban	1.000		
Rural	0.498	0.346	0.718
Level of education of the	HH		
Beyond elementary school	1.000		
University	1.931	1.285	2.902
Non-literate	1.291	0.851	1.958
Size of the household	1.041	0.912	1.095
Employment status of the	e HH		
Active	1.000		
Inactive	0.752	0.480	1.177
Perception of wealth			
Poor	1.000		
Rich	9.546	3.944	23.108
Neither poor nor rich	1.241	0.872	1.768
Very poor	0.843	0.538	1.321
The annual income	1.000	1.0000	1.000

# Table 3. Factors favoring the enrollment of households in self-sponsoring health insurance(N=8,859)

HH: head of household



As in the previous section, Table 3bis deals with the sample from which all households with employer-sponsored health insurance of their heads were subtracted.

Logistic regression was again used with all variables included in the analysis in order to determine adjusted odds ratios for each of them. The results yield only one factor that is associated with households' enrollment in self-sponsored health insurance: that is, households' perceived level of wealth. Indeed, taking those who consider themselves "poor" (half of the sample: 50.6%) as a reference, it is worth noting that those self-perceived as "rich" are almost six times more likely to be members of self-sponsored health insurance (OR = 5.806, 95% CI: 1.324—25.455), while those who consider themselves "very poor" are more than 2.5 times less likely to join these self-sponsored health insurances than the "poor" (OR = 0.387, 95% CI: 0.195—0.766). In short, the better off a household thinks it is financially, the more likely it is to enroll in self-sponsored health insurance.

Thus, for this one variable, the results are broadly consistent with the full sample, but the list of variables associated with household membership in self-sponsored health insurance loses all of its other elements from the previous analysis (with the full sample).



		95% Confidence Interval	
Predictor	Adjusted odds ratio	Lower	Upper
Age of the HH			
31–45	1.000		
16–30	0.825	0.454	1.499
46–60	1.155	0.727	1.835
> 60	1.263	0.693	2.301
Sex of the HH			
Male	1.000		
Female	0.611	0.360	1.038
Place of residence			
Urban	1.000		
Rural	0.912	0.591	1.407
Level of education of the	e HH		
Beyond elementary school	1.000		
University	1.483	0.811	2.710
Non-literate	1.374	0.842	2.240
Size of the household	1.007	0.940	1.078
Employment status of th	ne HH		
Active	1.000		
Inactive	1.118	0.669	1.870
Perception of wealth			
Poor	1.000		
Rich	5.806	1.324	25.455
Neither poor nor rich	1.502	0.974	2.315
Very poor	0.387	0.195	0.766
The annual income	1.000	1.000	1.000

# Table 3bis. Factors favoring the enrollment of households in self-sponsoring<br/>health insurance (without households with employer-sponsored health<br/>insurance) (N=8584)

HH: head of household



# **Chapter 4. DISCUSSION**

#### 4.1. Summary of results

At the end of the analysis of the dataset, the results found were in terms of (1) the influence of the formal employment of the head of the household on the enrollment of his or her household in a self-sponsored health insurance program, (2) the general sociodemographic characteristics of the households affiliated with this type of health insurance, and finally, (3) the factors associated with the enrollment, or not, of households in self-sponsored health insurance.

First, it was found that 84% of the heads of households are active, of which 15.2% are in the formal sector. Only 4.2% of these are covered by employer-sponsored health insurance. The rate of coverage of self-sponsored health insurance is 2% in the population, and households with a working head in the formal sector are almost as affiliated as those with a working head in the informal sector. The use of self-sponsored health insurance by workers in the formal sector indicates the low level of employersponsored health insurance in both quantitative and qualitative terms.

Second, for the general characteristics that differentiate households that are members of self-sponsored health insurance from non-members, certain parameters showed statistical sensitivity, including age (the older the head of household, the more he enrolls his household in self-sponsored health insurance), sex of the head of household (men bring their households to it more than women), area of residence (households living in urban areas are more members of self-sponsored health insurance than those living in rural areas), the level of education of the head of household (those with access to higher education enroll their households more than others), and finally, subjective well-being (those who feel rich enroll their households more than those who feel less rich or poor). However, only the latter parameter remains sensitive when households with employersponsored health insurance are removed from the analysis.

Finally, the factors associated with household enrollment in self-sponsored health insurance are the sex of the head of the household (men enroll their households 1.5 times more frequently than women), the household's area of residence (urban households are twice as likely as rural households), the education level of the head of the household (households with a university graduate in charge are twice as likely to be



enrolled as others), and finally subjective well-being (those who feel as if they are financially comfortable are 10 times more likely to enroll their households than those who define themselves as poor). However, when households with employer-sponsored health insurance are pruned, only the "subjective well-being" parameter remains associated with household enrollment in self-sponsored health insurance.

## 4.2. Subjective poverty

The fight against poverty is the central point of all international development agendas that have followed one another, and remains the leitmotiv of the actions of several governments of developing countries, including the Democratic Republic of the Congo. This implies, above all, agreeing on the definition and measurement of poverty. In this regard, it should be noted that there are different definitions and approaches to measuring poverty, as this phenomenon is multidimensional and difficult to quantify. Thus, there are mainly two main approaches when talking about poverty:<sup>18</sup> the monetary approach supported by the Utilitarians or Welfarists, and the non-monetary approach. According to the monetary approach, poverty results from insufficient monetary resources that lead to insufficient consumption; this approach is based either on income or consumption translated into monetary value. Non-monetary approaches, on the other hand, in contrast to utilitarians, are based on the definition of well-being from a social point of view, insisting on the fact that well-being is not translated in terms of monetary resources, but in terms of freedom and accomplishments.

The multidimensionality of poverty is now fully acknowledged. Many studies show a weak correlation between the monetary approach to poverty and a household's subjective perception of well-being. Recent studies in developed countries demonstrate that well-being is not only based on monetary income or consumption, but also on other factors such as employment and health.<sup>19</sup>

<sup>&</sup>lt;sup>18</sup> Guerrero, G. (2014). Définition et approches de la pauvreté (Definition and approaches to poverty). BSI Economics. (http://www.bsi-economics.org/416-definitions-approches-

pauvrete#:~:text=La%20pauvret%C3%A9%20subjective%20%3AConsiste%20%C3%A0,questions%20re latives%20%C3%A0%20leur%20situation).

<sup>&</sup>lt;sup>19</sup> Herrera, J., Razafindrakoto, M., & Roubaud, F. (2008). The Determinants of Subjective Poverty: A Comparative Analysis in Madagascar and Peru. In S. Klasen & F. Nowak-Lehmann (Eds.), *Poverty, Inequality and Migration in Latin Amerika* (NED-New edition, pp. 181–220). Peter Lang AG.



Among the non-monetary approaches, we find subjective poverty, which consists of evaluating the perceptions of households that have been subjected to surveys and that answer questions about their situation.<sup>20</sup> For example, whether they can save, whether they must use their reserves, or whether they have the minimum amount of money needed to "make ends meet." This approach provides information on what households consider necessary and what they consider to be a sign of poverty. It is an approach that has drawbacks because the questions asked must be contextually appropriate.

Three aspects of subjective well-being can be distinguished: evaluative well-being (or life satisfaction), hedonic well-being (feelings of happiness, sadness, anger, stress, and pain), and eudemonic well-being (sense of purpose and meaning in life).<sup>21</sup>

Indeed, in our study, subjective poverty proved to be the main variable that remained sensitive to all possible manipulations. Thus, it emerges as a factor intimately associated with whether or not a household has self-sponsored health insurance. Previous studies show this correlation between health and subjective well-being globally. The evidence suggests that poor health, separation, unemployment, and lack of social contact are all strongly negatively associated with subjective well-being.<sup>22</sup>

Given all this empirical evidence highlighted by past systematic reviews, it is therefore clear that the strong association found between subjective well-being and membership of self-sponsored health insurance in this study exists in the sense that good health positively influences subjective well-being. It is therefore appropriate to think that membership in the health insurance program provides certain appeasement concerning the management of this social risk by households, and thus participates, along with other ingredients, in the construction of a feeling of well-being. This is all the more true since there is no statistically significant association between household income and membership in self-sponsored health insurance.

<sup>&</sup>lt;sup>20</sup> Guerrero, G. (2014). Définition et approches de la pauvreté (Definition and approaches to poverty). BSI Economics.

<sup>&</sup>lt;sup>21</sup>Steptoe, A., Deaton, A., & Stone, A. A. (2015). Subjective wellbeing, health, and ageing. *The Lancet*, *385* (9968), 640–648.

<sup>&</sup>lt;sup>22</sup> Dolan, P., Peasgood, T., & White, M. (2008). Do we really know what makes us happy? A review of the economic literature on the factors associated with subjective well-being. *Journal of Economic Psychology*, 29(1), 94-122.



# 4.3. Views on previous similar studies

The results found in the present study were broadly in agreement with the results found in similar studies conducted under comparable conditions. Some of them (four in total), given their relevance, will be discussed here.

First, results from a study of factors associated with women's health insurance coverage in 24 sub-Saharan African countries<sup>23</sup> yielded results broadly similar to those in this study. First, a low coverage rate (8.5%) was found, with variations between countries, depending on the health insurance management at the national level. Second, individual factors significantly associated with health insurance coverage were age, place of residence, level of formal education, and frequency of newspaper/magazine and television reading. Economic status and place of residence were the contextual factors significantly associated with health insurance coverage. Indeed, women with no formal education were 78% less likely to be covered by health insurance, compared with those with higher education. This is consistent with our study concerning the level of education of the head of the household. Also, women living in urban areas were more likely to be covered by health insurance than those living in rural areas.

Secondly, a systematic review of factors associated with willingness to pay (WTP) for several social protection services, including health insurance, in low- and middle-income countries <sup>24</sup> was conducted on 1,790 articles written from 1987 to 2017. The results showed that income and trust were associated with WTP for health insurance. Also, family size, age, education, and living area were associated factors. Finally, experience with illness, the attitude and presence of physicians, and distance from the healthcare facility all played a role in determining WTP. This is consistent with the results of the present study for age, education, and area of residence. For the rest, either the variables in question were not taken into account in the present study, or the results did not go in the same direction (income and household size).

<sup>&</sup>lt;sup>23</sup> Amu, H., Seidu, A., Agbaglo, E., Dowou, R. K., Ameyaw, E. K., Ahinkorah, B. O., & Kissah-Korsah, K. (2021). Mixed effects analysis of factors associated with health insurance coverage among women in sub-Saharan Africa. PLOS ONE, 16(3), e0248411.

<sup>&</sup>lt;sup>24</sup> Miti, J.J., Perkio, M., Metteri, A. and Atkins, S. (2021), "Factors associated with willingness to pay for health insurance and pension program among informal economy workers in low- and middle-income countries: a systematic review", *International Journal of Social Economics*, Vol. 48 No. 1, pp. 17-37.



Third, for community-based health insurance (CBHI), the most dominant of the selfsponsored health insurance mechanisms in the DRC, a systematic review of factors associated with household enrollment in this type of health insurance in low- and middle-income countries<sup>25</sup> was consulted. The results from the review of both quantitative and qualitative studies showed that low-income levels and lack of financial resources were the main factors affecting enrollment. Similarly, poor quality of healthcare (including drug and medical supply shortages, poor attitudes of healthcare staff, and long waiting times) was associated with low CBHI coverage. Confidence in the CBHI system and healthcare providers also affected enrollment. Education (less educated are willing to pay less than more educated), sex (men are willing to pay more than women), age (younger people are willing to pay more than older people), and household size (larger households are willing to pay more than smaller households) also influenced CBHI enrollment. These results are similar to those in this study concerning the education level and sex of household heads. The results differ, however, concerning the age of the household head and household size.

Fourth, not far from the DRC, a quasi-similar study was conducted in Cameroon, in the Bamenda Health District.<sup>26</sup> The results indicate that the CBHI enrollment rate there was 2.4%, a low rate similar to that of the present study. Employed persons were 2.7 times more likely to enroll in CBHI than self-employed persons. Low educational attainment was also significantly associated with non-enrollment in CBHI. The latter two parameters showed similar results in the present study. Unawareness of CBHI, low-income level, and age under 40 were also found to be significantly associated with non-enrollment.

<sup>&</sup>lt;sup>25</sup> Adebayo, E.F., Uthman, O.A., Wiysonge, C.S. et al. A systematic review of factors that affect uptake of community-based health insurance in low-income and middle-income countries. BMC Health Serv Res 15, 543 (2015).

<sup>&</sup>lt;sup>26</sup> Jude AC, Atanga SN, Falang DC, Nso EH (2018). Factors associated with Non Enrollment into Community Based Health Insurance Programs in the Bamenda Health District, Cameroon. International Journal of Public Health and Epidemiology Research, 4(2): 060–070.



## 4.4. Attempt to explain some of the results

First, it is important to note the low rate of formalization of employment according to our study: 15.2%. This is in line with the official statistics already mentioned and is justified by the fact that the DRC is an extractive economy, where the bulk of economic activity is carried out by the extractive mining industries, which export all their raw materials. This sector is not known for creating jobs. In short, economic growth is not inclusive. Second, the low rate of employer-sponsored health insurance among formal sector workers (4.2%), which indicates non-compliance with the relevant legislation, is due to the overall impunity that reigns in the country, as well as endemic corruption, coupled with the inefficiency of an under-populated, under-equipped and under-trained Labor Inspectorate, which merits urgent reform (which is already under discussion). Because of this situation, everyone (formal sector workers, informal sector workers, and even inactive people) is busy looking for solutions to their health problems as best they can.

Next, it was found that male-headed households were 1.5 times more likely to be members of self-sponsored health insurance than female-headed households. This could be explained by the fact that Congolese family law (Family Code) recognizes the man as the head of the family. Therefore, all households with both parents living, including single-parent households with only the man as a parent, are registered with a man as the head of household. Female-headed households are either divorced, single, or widowed. In any case, they are poorer than male-headed households due to the income imbalance between men and women in almost all sectors, especially due to women's difficult access to certain jobs, and the fact that all female-headed households are de facto single-parent households. This latter evidence explains their financial hardship in the sense that they have few income-producing arms, and thus little room for maneuvering concerning financing their healthcare in particular.

In addition, the results by place of residence supported our hypothesis in this respect: households living in cities are twice as likely to be enrolled in self-sponsored health insurance as those living in rural areas. The explanation for this fact has already been given above.

Regarding the level of education of the household head, it was found that university graduates were twice as likely to enroll their households in self-sponsored health



insurance as those with a lower level of education. This is probably because these more educated heads of households are more responsive to the awareness that shows the value of being a member of a health insurance program where it remains voluntary.

Finally, I think it is worth mentioning the results contrary to the other studies found here regarding the correlation between household income and enrollment in selfsponsored health insurance programs. Indeed, the present study finds no correlation, while all the studies consulted have affirmed this correlation with a clear tendency for wealthier households to be more likely to enroll in health insurance than poorer households. Our study captured household income by estimating general household expenditures in the year immediately preceding the survey. Perhaps it is this aspect of advocating for an overall random estimate that justifies this situation, because in contrast to this measure of income poverty, subjective poverty (or well-being) has been very significantly associated with household enrollment in self-sponsored health insurance. The explanations for this have been largely given above.

### 4.5. Limitations of the study

The limitations of this study are generally inherent to the fact that the data used to answer the research question and test the hypotheses were raised at the outset. Using secondary data from a multisectoral study, which was not specifically designed for this health financing issue, limited some possible tests, but also conditioned some explanations. The limitations can thus be summarized in two types: the absence of some important variables used in previous relevant studies, and the lack of control over the content of some composite variables.

As for the "missing" variables, it would have been interesting to test variables such as: whether or not one knew of the existence of a self-sponsored health insurance program organized in one's jurisdiction, confidence in the health system, recent experience of illness in the household, the distance between the household and the nearest health facility (in contract with the health insurance program in question), etc. Testing these health-related factors, both objective and subjective, could be more interesting, especially to make some more specific recommendations.



Furthermore, the study would benefit greatly from controlling the content of certain composite variables, especially those related to the measurement of poverty. It would have been interesting to focus on the questions that led to the classification of households into different categories in the measurement of their subjective well-being, the variable that was the most consistent in this study.

Finally, it would have been interesting to disaggregate the self-sponsored health insurance variable to the members of commercial insurance companies (although too few) from the members of community-based mutual health insurance (the overwhelming majority). The lessons learned from such disaggregation could also influence the recommendations.



# **Chapter 5. CONCLUSION**

In a country like the Democratic Republic of the Congo, extremely rich in raw materials, but with one of the poorest populations in the world, policies aimed at developing human capital must be prioritized. Thus, all economic growth should be inclusive, and all wealth should be redistributed through social policies, particularly in the areas of employment, education, and health—in short, in the area of social protection.

As far as health is concerned, the great project aiming at universal health coverage is full of hope. Its success, which already benefits from a presumed political will, will depend on the establishment of good governance with the redistribution of the country's wealth, and also on the quality of the governance of the said project concerning the skills of its leaders and their respect for the strategy defined upstream following the rules at the heart of the matter.

The role that community-based health insurance will play needs to be refined in the operational mechanism for raising awareness among the population, collecting their contributions, and managing their complaints. Given that more than 80% of the active population works in the informal sector, it will be necessary to capitalize on the experience of existing community-based health insurance groups to extend their influence and build on the achievements they have already made—hence the interest in negotiating with their corporations to see what place to offer them. These corporations must keep in mind that, despite their relative success, the model they have proposed is not the most optimal one for moving towards universal health coverage in DR Congo, firstly because the contribution in these community-based mutual health insurance plans is often "equal" instead of "equitable." This disadvantages the poorest and excludes the most vulnerable who cannot pay; at the same time, the measures for applying the law on mutuality, which could have brought community-based mutual health insurance to national coverage, are still dragging their feet.

The results of this study have provided important information on some of the bottlenecks in the march toward universal health coverage. The strategy to achieve this must take into account certain recommendations that logically follow from our results. First, there is an urgent need to harmonize the content of the various legal and regulatory texts that deal with the organization of healthcare for workers. After having harmonized



this content, it will be necessary to ensure the scrupulous application of these relevant sectoral normative measures. Hence there is an urgent need to reform the Labor Inspectorate and raise the awareness of the various workers' unions. For workers in the informal sector and the vulnerable, it will be necessary to facilitate access to community-based mutual health insurance (self-sponsored health insurance for workers and government subsidies for the vulnerable) by drawing up a national register of the vulnerable (including poor widows' households), by extending mutual health insurance to rural areas, and by intensifying awareness-raising by all means to convince everyone, whatever their level of education, to join the health insurance program. Finally, it will be unavoidable to make affiliation to health insurance compulsory for everyone, even if it means supporting the contribution of the vulnerable.

There is still hope.



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# Appendix 1. Authorization to Use the Database