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Healthcare Providers' Perceptions of Universal Health Coverage in Lubero and Butembo, DR-Congo

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Abstract

The target of this investigation is to contribute to the implementation of universal health coverage in the Democratic Republic of Congo. As a descriptive, cross-sectional, comparative, and correlational study, it was conducted from March to August 2025. Data collection consisted of a survey questionnaire administered to 920 healthcare providers in both the Lubero Territory and Butembo City. Regarding increased frequency and use of services, expectations on UHC are positive (M=3.75[3.68; 3.81] ± 0.05), increasing rate of income recovery (M=3.39[3.31; 3.46] ± 1.15) and protecting of household finances (M=3.38[3.32; 3.45] ± 1.07). Healthcare providers fear delays in patient bill payments (M=2.42 [2.35; 2.50] ± 1.13) and disruption of input stocks (M=2.55 [2.47; 2.63] ± 1.23). Expectations of healthcare providers vary by residence (t = 7.06; p = 0.000), whereas fears do not (t = 0.00; p = 0.999). Expectations of healthcare providers vary depending on each one's main job (F = 3.536; p = 0.001). The same is observed for fears (F=3.390; p=0.001). Perceptions vary by marital status (F=2.832; p=0.037) but not by gender (F=-0.074; p=0.918). Expectations of healthcare providers of UHC are influenced by the level of education (r=0.094; p=0.004) and depend on household income (r=-0.079; p=0.016).

Keywords: *Expectation, Fear, Healthcare providers, Perception, Universal Health Coverage (UHC).*

Introduction

Universal health coverage, also known as universal healthcare, is defined by the World Health Organisation (WHO) as a situation in which everyone receives quality health services that meet their needs without experiencing financial hardship [16]. UHC is a situation that facilitates access for all to the health services they need without facing unnecessary financial hardship [25]. Every person, wherever they are, has access to the complete range of quality health services they need, when they need them, without facing financial lack. It encompasses the full range of essential health services throughout life, including health promotion, prevention, treatment, rehabilitation and palliative care [8, 10, 13]. UHC is characterised by three dimensions: population coverage, service coverage and financial protection [13, 24].

Th] andctives of universal health coverage can be summarized in four points: ensuring access to quality healthcare and services for the population by promoting the achievement of desired health outcomes [9, 13, 15, 23, 19] protecting the population from the financial risk associated with the use of health services and from impoverishment due to illness [9, 13, 15, 18] improve and promote equity, i.e. the absence of discrimination against certain individuals or groups of individuals [15, 16,

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23], and contribute to development and facilitate economic growth [16].

Most countries in sub-Saharan Africa face a high burden of disease and insufficient financial resources to fund the provision of quality health services [12]. The WHO [18] reports that basic healthcare is not accessible to one billion people worldwide and nearly two billion people worldwide face health expenses that lead to their impoverishment. The Global Fund [26] indicates that one of three families must borrow money or sell assets to access essential care in developing countries in Africa and Asia. According to Care et al. [3], six million women and children could be saved if they had access to essential, affordable medicines, medical supplies and simple medical devices. The proportion of the population facing direct catastrophic health expenditures continues to rise, from 9,6% in 2000 to 13,5% in 2019, representing more than one billion people [17].

Several countries have demonstrated that UHC can be achieved even with limited resources. This is the case in countries such as Cambodia, Chile, China, Colombia, Ghana, Indonesia, Mexico, the Philippines, Rwanda, Thailand and Vietnam [16]. Hence, inaccessibility to quality healthcare and lack of disease prevention mean that millions of people die every year around the world [26].

UNAIDS [19] reports that in 2017, less than half of the world's population was covered by essential health services and estimates that only 60% will have universal health coverage by 2030. According to Save the Children (2015), UHC guarantees the population access to essential, quality health services without financial hardship. It promotes the realization of the universal right to health.

In the Democratic Republic of the Congo (DRC), an estimated 60% of the population lacks access to the health system (National Strategic Plan, 2020). "The Democratic Republic of Congo has been committed to the process of universal health coverage since the adoption of the National Health System Development Plan (PNDS) in 2015" [2].

A main research question has guided this study: Does the present level of perception of healthcare providers in both Lubero Territory and Butembo City, regarding universal health coverage, reflect growth towards its implementation in the Democratic Republic of Congo? From this main question arise the following specific questions:

1. What is the level of perception of universal health coverage among healthcare providers in Lubero and Butembo, as far as expectations and concerns are concerned?
2. Does perception of UHC significantly vary between the two entities (rural area of Lubero and urban area of Butembo)?
3. Do socio-demographic characteristics such as age, education level, gender, household size, marital status, main job, and household income significantly influence healthcare providers' perceptions of universal health coverage?

The study is based on the assumptions that:
The study evolves on the assumptions that:

1. Perceptions of UHC would vary significantly between the two entities (rural area of Lubero Territory and urban area of Butembo) and between healthcare applicants and providers.
2. Socio-demographic characteristics of respondents such as age, education level, gender, household size, marital status, primary job, and household income, would significantly impact healthcare providers' perceptions of universal health coverage.

This study targets to contribute to the implementation of universal health coverage in the Democratic Republic of Congo and to assess the implementation of UHC through perceptions of healthcare providers in both Lubero territory and Butembo city.

Specific objectives:

3. To determine the level of perception of healthcare providers in both Lubero and Butembo concerning universal health coverage in terms of both expectations and concerns.
4. To assess the difference in perceptions of UHC between the rural areas of Lubero and the urban areas of Butembo.
5. To verify the statistical relationship between socio-demographic characteristics and perceptions of UHC by healthcare providers.

Materials and Methods

This is a descriptive, cross-sectional, comparative, and correlational study using quantitative approach. It was conducted from March to August 2025 in two areas: a rural setting, the Territory of Lubero, and an urban setting, the City of Butembo. Both areas are located in the North Kivu Province of the Democratic Republic of Congo (DRC), in Central Africa.

The study population consisted of healthcare providers located in nine Health Zones (HZs) which are: the Urban HZs of Katwa and Butembo in the city of Butembo, the Rural HZs of Masereka, Kayna, Alimbongo, Lubero, Musinene, Biena and Manguredjipa in the Territory of Lubero. The main professions of the healthcare providers considered were physicians, Health Management Administrators, accountants of health institutions, cashiers, nurses, midwives, pharmacists, physiotherapists, medical imagists, laboratory technicians, anesthesiologists, dentists and other administrative, technical staff whose number is 5,302, including 3,814 in Lubero Territory and 1,488 in Butembo. Inclusion criteria have been being a member of the healthcare staff in one of the health institutions in either Lubero Territory or Butembo City and being available to fill in our questionnaire.

The study has been conducted with a sample of 920 healthcare providers, including 460 in rural areas and 460 in urban areas. It has used non-random, casual sampling. Data have been collected using a survey questionnaire. The data collection tool has been validated by seven experts. Prior to data collection, a pilot study to assess the instrument's reliability was conducted with 58 participants. The results of the pilot study have been tested using Cronbach's alpha. The study retained the variable when Cronbach's alpha was greater than or equal to 0.70 and less than 0.9.

The data collection tool was developed and validated by the ethics committee prior to a preliminary study. To test the validity of our data collection tools, we have used content validity analysis. The test/retest method has been used to test the reliability of the collection tools. The questionnaire has been administered twice to the same sample and the results obtained have been compared and interpreted by Crobach's alpha coefficient.

Data analysis was conducted using SPSS version 20. OpenEpi software has been used to determine confidence intervals for proportions at the 5% significance level using Fleiss's Exact Quadratic method. The study has used frequencies and percentages to analyze socio-demographic characteristics. Means and standard deviations have been used to interpret the level of perception.

We have used the Student's t-test to test for a difference between the means of two groups. The one-way ANOVA test for independent samples has allowed us to test differences in the means of more than two groups. The Scheffe and Tukey post hoc tests were used to determine the mean differences in understanding and/or perception. The Bravais Pearson **r** correlation test has helped us test the relationship between other variables.

Results

Respondent Characteristics

The results in Table 1 show that out of 920 respondents, 460 (50.0%) have been from Lubero (rural area), compared to 460 (50.0%) from Butembo (urban area). 408 (44.3%) have been under 30 years of age, and 117 (12.7%) have been aged 51 and over. The average age of healthcare providers has been 34.7 years. 496 (53.9%) have been male, and 424 (46.1%) have been female.

The results in Table 1 show that out of a total of 920 respondents, married people dominate with 488 or 53.0% and widowers are in the minority with a number of 22 or 2.4%. Regarding the level of education, the results indicate that those with the first-cycle level (Nurse Level A1/G3) are in the majority, at 324 (35.2%). Those having the primary school certificate, that is to say those who do not have a school qualification, have been the minority (71 or 7.7%). As for the main profession, nurses have dominated with 328 or 35.7% and healthcare institution administrators have the minority (47 or 5.1%). Regarding household size, 320, or 34.8%, belong to households of 5 to 6 people. Those who have belonged to households of 1 to 2 people have been 202, or 22.3%. Finally, according to the estimation of daily income, the results have shown that those with an income less than $2.14 per person per day are 92 or 10.0% and those who have estimated that the income is greater than or equal to $2.14 per person per day are 828 or 90.0%. The average household income is $137.8. Details are in the following table.

Table 1. Distribution of Healthcare Providers by Residence (n=920)

Residence	**Numbers (%)**
Lubero Territory	460(50.0)
City of Butembo	460(50.0)
Total	**920(100.0)**
Age groups	**Numbers (%)**
Under 30	408(44.3)
30-40	246(26.7)
41-50	149(16.2)
51 and over	117(12.7)
Total	**920(100.0)**
Gender	**Numbers (%)**
Feminine	424(46.1)
Masculine	496(53.9)
Total	**920(100.0)**
Marital status	**Numbers (%)**
Single	376(40.9)
Married	488(53.0)
Divorced/Separated	34(3.7)
Widowed	22(2.4)
Total	**920(100.0)**
Level of education	**Numbers (%)**
Primary School Certificate	71(7.7)
Level A3	110(12.0)
Level A2 and State Diploma	250(27.2)

Level A1 and undergraduate	324(35.2)
Level A0 and graduate	165(17.2)
Total	**920(100.0)**
Main profession	**Numbers (%)**
Pharmacist and Pharmacy Attendant	27(2.9)
Nurse	328(35.7)
Midwife	101(11.0)
Other Paramedical Staff	176(19.1)
Physician	60(6.5)
Healthcare institution administrator	47(5.1)
Accountant/Cashier	78(8.5)
Other workers	103(11.2)
Total	**920(100.0)**
Household size	**Numbers (%)**
1-2 people	189(20.5)
3-4 people	205(22.3)
5-6 people	320(34.8)
7 or more people	206(22.4)
Total	**920(100.0)**
Monthly household income	**Numbers (%)**
Income less than $2.14/person per day	828(90.0)
Income greater than or equal to $2.14/person per day	92(10.0)
Total	**920(100.0)**

Perception of Universal Health Coverage

The level of healthcare seekers' perception of UHC was measured using their expectations and fears.

Health Care Providers' Expectations Regarding UHC

Considering the seven components of perception of health care based on expectations regarding UHC, health care providers in Lubero Territory have demonstrated greater expectations regarding increased use and attendance of services (A = 3.76 ± 0.98). However, those from Butembo City have demonstrated greater expectations regarding the protection of household finances (A = 3.27 ± 1.09). Healthcare providers in Lubero Territory have lower expectations regarding the provision of reception services, waiting time, compliance with the order of arrival, explanation of treatment and respect of the patient privacy during consultations, which are effective (A=3.32 ± 1.07). While those in Butembo City have had a negative perception of the increase in healthcare staff remuneration (A=2.86 ± 1.09). Overall, the perception of healthcare providers according to expectations in Lubero Territory (A=3.49±0.75), as in Butembo city (A=3.15±0.71), has been considered positive. The combined perception of two entities (A=3.32 [3.27; 3.37] ± 1.11) has also been considered positive as shown in Table 2.

Table 2. Healthcare Providers' Perception of UHC Expectations (n=920)

Expectations of healthcare seekers	**Lubero**			**Butembo**			**Total**		
	A	**SD**	**VI**	**A**	**SD**	**VI**	**A [CI]**	**SD**	**VI**
Conviction to increase attendance and utilization of services	3,76	0,98	PP	3,73	1,11	PP	3,75[3,68; 3,81]	1,05	PP
Conviction to motivate healthcare providers	3,48	1,05	PP	3,05	1,07	PP	3,27[3,20; 3,34]	1,08	PP
Conviction to increase revenue collection rates	3,60	1,09	PP	3,18	1,18	PP	3,39[3,31; 3,46]	1,15	PP
Conviction to increase healthcare staff compensation	3,41	1,17	PP	2,86	1,09	NP	3,14[3,06; 3,21]	1,16	PP
Conviction to protect household finances	3,50	1,04	PP	3,27	1,08	PP	3,38[3,32; 3,45]	1,07	PP
Conviction to cover care for the entire population	3,38	1,09	PP	3,06	1,07	PP	3,22[3,15; 3,29]	1,09	PP
Conviction to improve the quality of services	3,32	1,07	PP	2,91	1,22	NP	3,12[3,04; 3,20]	1,16	PP
Overall average	**3,49**	**0,75**	**PP**	**3,15**	**0,71**	**PP**	**3,32[3,27; 3,37]**	**1,11**	PP

Note: PP = Positive perception if the average is > 3, I = Indifference if the average is equal to 3, NP = Negative perception if the average is < 3, VI = Verbal interpretation, P = Perception, A = Average, SD = Standard deviation; CI = Confidence interval.

Healthcare Providers' Fears about UHC

Based on nine selected components, healthcare providers surveyed in Lubero Territory (M=2.90 ±1.23) and those in the city of Butembo (M=2.77±1.21) have demonstrated a fear about protecting the population against financial risks (catastrophic expenditure). The same fear has also been reflected in the combination of the two entities (M=2.83 [2.76; 2.91] ± 1.22). In summary, the perception of healthcare providers regarding fears has been the same in Lubero Territory (M=2.61 ± 0.83) as in Butembo town (2.61 ± 0.76), and for both entities (M=2.61 [2.57; 2.66] ± 0.80), which suggests a negative perception, as detailed in Table 3.

Healthcare Providers' Fears about UHC

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Table 3. Healthcare Providers' Perception of Concerns about UHC (n=920)

Fears of healthcare seekers	Lubero			Butembo			Total		
	A	SD	VI	A	SD	IV	A [CI]	SD	IV
Believing that the government will not honor its commitments to finance UHC	2,57	1,25	NP	2,56	1,11	PP	2,57 [2,49; 2,64]	1,18	NP
Accusing late payment of patient bills	2,44	1,17	NP	2,40	1,09	NP	2,42 [2,35; 2,50]	1,13	NP
Overwork of healthcare personnel	2,60	1,25	NP	2,51	1,20	NP	2,55 [2,47; 2,63]	1,23	NP
Stock shortages of supplies in healthcare structures	2,45	1,25	NP	2,56	1,05	NP	2,51 [2,44; 2,58]	1,16	NP
Risk of overprescribing medications (prescribing will not be rational)	2,80	1,25	NP	2,72	1,12	NP	2,76 [2,69; 2,83]	1,19	NP
Some funds allocated to healthcare structures will be misappropriated by governments	2,52	1,13	NP	2,64	1,20	NP	2,58 [2,50; 2,65]	1,17	NP
Believing that with UHC, access to care will be equal based on individuals' socioeconomic status	2,61	1,13	NP	2,78	1,20	NP	2,80 [2,62; 2,78]	1,17	NP
Failing to protect the population against financial risks (catastrophic spending)	2,90	1,23	NP	2,77	1,21	NP	2,83 [2,76; 2,91]	1,22	NP
The DRC will not achieve UHC by 2030	2,65	1,21	NP	2,56	1,16	NP	2,60 [2,53; 2,68]	1,18	NP
Overall average	**2,61**	**0,83**	**NP**	**2,61**	**0,76**	**NP**	**2,61 [2,57; 2,66]**	**0,80**	**NP**

Note: PP = Positive perception if the average is > 3, I = Indifference if the average is equal to 3, NP = Negative perception if the average is < 3, VI = Verbal interpretation, P = Perception, A = Average, SD = Standard deviation; CI = Confidence interval.

Summary of Perceptions of Healthcare Providers

By combining the two components of perception on the UHC, healthcare providers in the Lubero territory have come out on top (A=3.05 ± 0.59) with a perception has been positive against those in the city of Butembo (A=2.88 ± 0.48) with a perception has been negative. The synopsis of respondents from two entities (A=2.97 [2.93; 3.00] ± 0.54) shows that healthcare providers had a negative perception on the UHC as indicated in Table 4.

Table 4. Summary of Healthcare Providers' Perceptions (n=920)

Perception	Lubero			Butembo			Total		
	A	SD	IV	A	SD	IV	A [IC]	SD	IV
Healthcare Provider Expectations	3,49	0,75	PP	3,15	0,71	PP	3,32 [3,27; 3,37]	0,75	PP

Healthcare Provider Fears	2,61	0,83	NP	2,61	0,76	NP	2,61 [2,56; 2,67]	0,80	NP
Overall average	**3,05**	**0,59**	**PP**	**2,88**	**0,48**	**PN**	**2,97 [2,93; 3,00]**	**0,54**	**NP**

Note: PP = Positive perception if the average is > 3, I = Indifference if the average is equal to 3, NP = Negative perception if the average is < 3, IV = Verbal interpretation, P = Perception, A = Average, SD = Standard deviation; CI = Confidence interval.

Difference in Perceptions of Healthcare Providers in the Two Entities

For expectations, comparing the mean scores between healthcare providers in Lubero (M = 3.49 ± 0.85) and those in the city of Butembo (M = 3.15 ± 0.71) yielded a t-value of 7.06 (p = 0.000). Regarding fears, comparing healthcare providers in Lubero (M = 2.61 ± 0.83) with those in Butembo (M = 2.61 ± 0.76) yielded a t-value of 0.00 (p = 0.999). This result indicates a highly significant difference in expectations between providers across the two entities, whereas the difference in fears is non-significant, as shown in Table 5.

Table 5. Difference in Perceptions of Healthcare Providers in the Two Entities

Entity	**n**	**Average**	**SD**	**ddl**	***t***	***p***	***IV***
Healthcare providers' expectations regarding UHC							
Lubero Territory	460	3.49	0.75	918	7.06	0.000	S
Butembo City	460	3.15	0.71				
Healthcare providers' concerns regarding UHC							
Lubero Territory	460	2.61	0.83	918	0.00	0.999	NS
Butembo City	460	2.61	0.76				

Note: n=sample size; df=degrees of freedom; t=Student's t-test difference value; p=significance threshold; SD=Standard Deviation; IV=verbal interpretation; NS=Not Significant if p ≥ 0.05; S=Significant if p< 0.05.

Perceptions of UHC and Socio-demographic Characteristics

Differences in Healthcare Providers' Perceptions by Main Occupation

The overall mean of healthcare providers' expectations regarding UHC was 3.3227 ± 0.74962, and the mean of concerns has been 2.6130 ± 0.79703. The results have shown that the mean of healthcare providers' expectations differed by main occupation (F = 3.536; p = 0.001). The same has been true for the mean of concerns, which has also differed by main occupation (F = 3.390; p = 0.001). Details are provided in Table 6.

Table 6. Differences in Healthcare Providers' Perceptions by Primary Profession

Perception	**Occupation**	**Average**	**Standard deviation**	**df**	***F***	***p***	***IV***
Perception of expectations	Pharmacist and Pharmacy Assistant	3.1005	0.65563				
	Nurse	3.3236	0.78540				
	Midwife	3.1796	0.56194				
	Other Healthcare Professionals	3.4464	0.78315				
	Physician	3.3048	0.42530	7	3.536	0.001	S

	Healthcare institution administrator	3.5289	0.89755				
	Accountant/Cashier	3.4560	0.65891				
	Other Administrative, Technical, and Labor Staff	3.1221	0.82731				
	Total	**3.3227**	**0.74962**				
Perception of fears	Pharmacist and Pharmacy Assistant	2.5062	0.55925				
	Nurse	2.5830	0.75297				
	Midwife	2.9329	0.85924				
	Other Healthcare Professionals	2.5574	0.85544	7	3.390	0.001	S
	Physician	2.4870	0.64468				
	Healthcare institution administrator	2.6903	0.98973				
	Accountant/Cashier	2.4630	0.74362				
	Other Administrative, Technical, and Labor Staff	2.6699	0.77598				
	Total	**2.6130**	**0.79703**				

Note: n=sample size; df=degrees of freedom; t=Student's t-test difference value; p=significance threshold; IV=verbal interpretation; NS=Not Significant if p ≥ 0.05; S=Significant if p< 0.05.

The application of the Tukey test has presented a difference in the means of perception of expectations of healthcare providers which proved to be statistically significant between the average of other Administrative, Technical, and Labor Staff and professions such as the profession of Administrator Manager of Health Institutions (p=0.040) and Other health professionals (p=0.011).

The application of the Scheffé test has presented a difference in the means of fears of healthcare providers which have been found statistically significant between the average of midwives and professions such as nursing (p=0.035), Other health professionals (p=0.044) and accountants/cashiers (p=0.030).

Differences in Care Providers' Perceptions by Gender

The overall mean of care providers' perceptions of UHC was 2.9664 ± 0.55054 for female care seekers and 2.9691 ± 0.53331 for male care seekers. The results showed that the means of care providers' perceptions did not differ by gender (F = -0.074; p = 0.918). Details are provided in Table 7.

Table 7. Differences in Healthcare Providers' Perceptions by Gender

Gender	**Average**	**Standard deviation**	**df**	***t***	***p***	***IV***
Female	2.9664	0.55054	918	-0,074	0,918	NS
Male	2.9691	0.53331				

Note: N=sample size; df=degrees of freedom; t=Student's t-test difference value; p=significance threshold; IV=verbal interpretation; NS=Not significant if p ≥ 0.05; S=Significant if p< 0.05.

Differences in Care Providers' Perceptions by Marital Status

The mean score for healthcare providers' overall perception of UHC has been 2.97 ± 0.54 in both entities. The results has indicated that care providers' average perceptions have differed in respect to marital status (F = 2.832; p = 0.037), as shown in Table 8.

Table 8. Differences in Healthcare Providers' Perceptions by Marital Status

Marital status	Moyenne	Ecart-type	ddl	*F*	*p*	*IV*
Single	3.01	0.55				
Married	2.95	0.55				
Divorced/Separated	2.77	0.36	3	2.832	0.037	S
Widowed	2.86	0.40				
Total	**2.97**	**0.54**				

Note: df= degrees of freedom, F= Snedescor file or value of the difference in variances, p= significance, IV= verbal interpretation, NS= Not significant if p≥ 0.05, S= Significant if p< 0.05.

The application of the Tuckey test has presented a difference in perception means that has proved statistically significant between the marital status of single people and divorced ones (p=0.046).

Socio-demographic Characteristics and Expectations Regarding UHC

A statistically significant relationship has been observed between healthcare providers' expectations and their characteristics, such as education level (*r*=0.094; *p*=0.004) and household income (*r*=-0.079; *p*=0.016), indicating that expectations increase with higher education level and household income. The relationship between expectations and other characteristics, such as respondent age and household size, has insignificant, as shown in Table 9.

Table 9. Socio-demographic Characteristics and Expectations of Healthcare Providers

	Healthcare providers' expectations regarding UHC		
Independent variables	***r***	***p***	***IV***
Respondent's age	-0,004	0,903	NS
Education Level	0,094	0,004	S
Household Size	0,021	0,520	NS
Monthly Household Income	0,079	0,016	S

Note: r=Pearson coefficient, p=significance threshold, IV=verbal interpretation, NS=non-significant if p≥ 0.05, S=significant if p< 0.05.

Socio-demographic Characteristics and Concerns about UHC

The results have revealed a statistically significant positive relationship between healthcare providers' concerns about UHC and household income (*r*=0.105; *p*=0.001), meaning that healthcare providers' concerns become increasingly positive as household income increases. The relationship between concerns and characteristics such as respondent age, education level, and household size of healthcare providers has not been statistically significant, as shown in Table 10.

Table 10. Socio-demographic Characteristics and Concerns of Healthcare Providers

	Healthcare providers' fears about UHC		
Independent variables	***r***	***p***	***IV***
Respondent's Age	0,064	0,052	NS
Education Level	0,003	0,939	NS
Household Size	0,035	0,287	NS
Household Income	0,105	0,001	S

Note: r=Pearson coefficient, p=significance threshold, IV=verbal interpretation, NS=non-significant if p≥ 0.05, S=significant if p< 0.05.

Discussion

This section presents a discussion of the results in respect to the three research questions. These questions address the level of healthcare providers' perception of UHC, the difference in perception, and the influence of socio-demographic characteristics on perception.

Perception of Universal Health Coverage

This subsection includes the perceptions of both healthcare seekers and providers. The discussion has been based on the results from the two combined entities and the overall results in Lubero Territory compared to those in Butembo City.

Healthcare Providers and their Perceptions of UHC

The variables that have considered to measure healthcare providers' perceptions of UHC are: expectations and fears about UHC.

Healthcare Providers' Expectations of UHC

The results in Table 2 have shown overall that the expectations of healthcare providers on the UHC are judged to be positively perceived on the increase in attendance and use of services (M=3.75[3.68; 3.81] ± 1.05), on the increase in the revenue collection rate due to the UHC (M=3.39[3.31; 3.46] ± 1.15), on the protection of household finances by the UHC (M=3.38[3.32; 3.45] ± 1.07), the motivation of healthcare providers thanks to the UHC (M=3.27[3.20; 3.34] ± 1.08), the coverage of healthcare for the entire population (M=3.22[3.15; 3.29] ± 1.09), the increase in the remuneration of the nursing staff (M=3.14[3.06; 3.21] ± 1.16) and improvement in the quality of services (M=3.12[3.04; 3.20] ± 1.16). Although the perception of healthcare providers according to expectations is considered positive, it should be noted that in rural Butembo, this perception is considered negative regarding the increase in the remuneration of healthcare staff (M=32.86 ± 1.09) and the improvement in the quality of services (M=2.91 ± 1.22). The overall perception of healthcare providers according to expectations in the territory of Lubero (3.49±0.75) as in the city of Butembo (M=3.15 ± 0.71) is considered positive. The combined perception of two entities (M=3.32 [3.27; 3.37] ± 1.11) is also considered positive.

A study conducted in Togo on 2,400 households showed that 7% (at the 40% threshold) of households had incurred catastrophic expenses despite the application of health insurance to public employees for five years. At-risk Togolese households allocate 60% of their total monthly expenses to healthcare [20].

Faye [5] showed in his doctoral thesis on Universal Health Coverage in Senegal that, despite the low enrollment rate, municipal mutual insurance companies had a positive impact on the use of healthcare services and the likelihood of paying for healthcare. The study conducted by Alkodaymi et al. [1] also showed that 79.1% of respondents believe that

mandatory cooperative health insurance is a good method for achieving universal health coverage in Saudi Arabia.

These findings are consistent with a research conducted in 2020 in OECD countries. This study concluded that the overall level of satisfaction with the availability of quality health services was 71% in 37 countries. However, in some countries, such as Poland (26%), Greece (38%), and Chile (39%), were less satisfied [14].

Healthcare Providers' Fears about UHC

The results in Table 3 have indicated that healthcare providers in general have a negative perception of the protection of the population against financial risks (catastrophic expenditure) by the UHC (M=2.83 [2.76; 2.91] ± 1.22), they do not believe that with the UHC, access to care will be equal depending on the socio-economic situation of people (M=2.80 [2.62; 2.78] ± 1.17), they believe that there is a risk of overprescribing medicines, i.e., non-rational prescribing (M=2.76 [2.69; 2.83] ± 1.19), they are convinced that the DRC will not achieve UHC by 2030 (M=2.60 [2.53; 2.68] ± 1.18), some funds allocated to health structures will be diverted by the government (M=2.58 [2.50; 2.65] ± 1.17), they are of the opinion that the government will not respect its commitments to finance the UHC (M=2.57 [2.49; 2.64] ± 1.18), health personnel will be overloaded because of the SCU (M=2.55 [2.47; 2.63] ± 1.23), with the UHC, there is a risk of stock shortages of inputs in health structures (M=2.51 [2.44; 2.58] ± 1.16) and in order, the UHC will experience delays in paying patients' bills (M=2.42 [2.35; 2.50] ± 1.13). In short, the perception of health providers according to fears is the same in the territory of Lubero (M=2.61 ± 0.83) as in the city of Butembo (2.61 ± 0.76) and for both entities (M=2.61 [2.57; 2.66] ± 0.80), which suggests a negative perception.

Combining both expectations and fears about UHC, the results in Table 4 indicate that healthcare providers in Lubero Territory have a positive perception (M=3.05 ± 0.59), compared to those in the city of Butembo (M=2.88 ± 0.48), who have a negative perception. The summation of respondents from both entities (M=2.97 [2.93; 3.00] ± 0.54) have shown that healthcare providers have a negative perception of UHC.

These results confirm what healthcare providers working in the free healthcare system of the Sésame plan in Senegal had stated. They said that the workload had increased and that they had less time for patient consultations. This demonstrates a decline in the quality of care [22]. The study conducted by Mbeva and colleagues [11] on the issues and challenges of universal health coverage in the Democratic Republic of Congo showed that more than 85% of health district managers in North Kivu Province positively perceived the support and guidance from the intermediate level (the Provincial Health Division) in terms of the availability of supervisors and the frequency of support visits. This reflects good governance.

The results of the study by Alkodaymi et al. [1] are consistent with this study, showing that out of 464 respondents, only 42.7% expected Saudi Arabia's healthcare system to protect its entire population (nationals and residents) from the financial burden of medical expenses.

The study conducted on the perceived challenges to achieving universal health coverage in Beijing, Ningbo, Harbin, and Chongqing, China, showed that 44.7% of respondents expressed concern about the management of the health insurance system. According to them, this could compromise the achievement of UHC [21].

The study conducted in Uganda on the awareness and perception of health workers on UHC shows that health care providers had raised the obstacles to UHC such as limited quality health infrastructure, staff overload, insufficient public funding for health, poor management of funds, stockouts of medicines and the use of substandard medicines [6]. As for

Senegal, health care providers complained about delays in government reimbursement, which led to the withdrawal of certain services. But also the workload had increased because of free care due to the Sesame plan [22].

Difference in Perceptions of Healthcare Providers in the Two Entities

The results in Table 5 show that regarding expectations, comparing the mean scores between healthcare providers in Lubero (M = 3.49 ± 0.85) and those in Butembo City of (M = 3.15 ± 0.71) yields a t-value of 7.06 (p = 0.000). Regarding fears, comparing healthcare providers in Lubero (M = 2.61 ± 0.83) with those in Butembo (M = 2.61 ± 0.76) yields a t-value of 0.00 (p = 0.999). This result suggests a highly significant difference in the expectations of healthcare providers between these two entities, whereas the difference in fears is non-significant.

These results provide 25% confirmation of the firster research hypothesis. Indeed, healthcare providers in rural areas have more positive expectations of UHC because it can improve working conditions, while in urban areas, healthcare providers are better equipped with resources. They perceive the implementation of UHC as a constraint.

Socio-demographic Characteristics and UHC

Differences in Healthcare Provider Perceptions by Main Occupation

The results in Table 6 show that healthcare providers' expectations differ by main occupation (F=3.536; p=0.001). The same is true for their fears, which also differ by main function (F=3.390; p=0.001). Applying the Tukey test reveals a statistically significant difference in the average perceptions of healthcare providers' expectations between other administrative, technical, and labor staff and professions such as Healthcare institution administrators (p=0.040) and other healthcare professionals (p=0.011). As for fears, the application of the Scheffé test shows a difference in the fears of healthcare providers which is statistically significant between midwives and professions such as nurses (p=0.035), other healthcare professionals (p=0.044) and accountants/cashiers (p=0.030).

These results partially confirm the second research hypothesis. The results of Ismail's study [7] on the economic evaluation of the health insurance reform in Tunisia show that there is no disparity in access to consumption across sectors. However, the results of Julie Etcheberry's doctoral thesis [4] on students' knowledge and representations in Île-de-France regarding complementary universal health coverage showed that satisfaction levels varied depending on the studies followed.

Regarding perception based on expectations, the expectations of other administrative, technical, and labor staff such as sentinels, receptionists and hygienists regarding the UHC differ significantly from those of Healthcare institution administrator and other health personnel, due to their often precarious professional situation and are sometimes faced with difficulties in accessing care, but also they are less informed than healthcare institution administrators and other health personnel. Regarding perception based on fears, the midwifery profession shows less fear regarding the UHC than other categories such as nurses, accountants and other health personnel due to their recognition as an autonomous profession in the DRC. This encourages them for the management of future programs. The relationship that midwives uphold with parturients makes them more sensitive to the issues of the UHC and are therefore more confident in its usefulness and functioning. In comparison, nurses are more confronted with more unstable working conditions or work overload. Thus, they may fear a possible deterioration in the quality of care.

Difference in Perceptions of Healthcare Providers by Gender

The results in Table 7 show that the perception of healthcare providers does not differ with gender (F = -0.074; p = 0.918). These results partially undermine the second research hypothesis. The fact that the perception of UHC by healthcare providers does not differ with gender can be explained by the fact that men and women in the healthcare sector share the same work environment. These results do not support those found in a study conducted in Togo which showed that households controlled by men were less exposed to catastrophic expenditures. On the other hand, households ruled by women were more exposed to catastrophic expenditures [20].

Differences in Healthcare Providers' Perceptions by Marital Status

The results in Table 8 indicate that healthcare providers' perceptions differ by marital status (F=2.832; p=0.037). Applying the Tuckey test reveals a statistically significant difference in perception means between the marital status of single and divorced individuals (p=0.046).

These results partially confirm the second research hypothesis. This difference in perception of the UHC between single people, who have a positive perception, and divorced people, who have a negative perception, can be explained by the fact that their past lives are different. Since single people are often younger and childless, they may have a positive view of the role of the state. As for divorced people, their negative past experiences may negatively influence their perception.

Socio-demographic Characteristics and Expectations of Healthcare Providers on UHC

The results in Table 9 indicate a statistically significant relationship between the expectations of healthcare providers and their characteristics such as education level (r=0.094; p=0.004) and household income (r=-0.079; p=0.016), i.e., the expectations of healthcare providers increase with increasing education level and household income. The relationship between expectations and other characteristics such as respondent age and household size is not significant. These results partially confirm the second research hypothesis.

The results of Ismail's [7] study on the economic evaluation of health insurance reform in Tunisia show that conditional consumption is not strongly influenced by household standard of living. But age also had an impact on healthcare utilization. When you are wealthy, you favor the private sector more in order to benefit from a better quality of care. In his doctoral thesis on Universal Health Coverage in Senegal: Impact Assessment and Analysis of Health Financing Policies, Faye [5] shows that household size and the age of members negatively correlate with expectations regarding UHC.

Expectations of UHC increase with healthcare providers' education level, as higher education provides a better understanding of the challenges facing the healthcare system. They are better able to identify limitations of UHC and analyze its potential dysfunctions. Expectations of UHC generally increase when healthcare providers' income decreases, and vice versa, because low-income professionals are more dependent on the public healthcare system. They have fewer means to finance care and hope that UHC will guarantee them equitable and quality access to healthcare.

Socio-demographic Characteristics and Healthcare Providers' Fears about UHC

The results in Table 10 show that there is a statistically significant positive relationship between healthcare providers' fears about UHC and household income (r=0.105; p=0.001), i.e., healthcare providers' fears become increasingly positive as household income increases. The relationship between fears and

characteristics such as respondent's age, education level, and household size of healthcare providers is not statistically significant.

These results partially confirm the second research hypothesis. Fears about UHC may increase with the income of the healthcare provider, as the best-paid staff often fear changes that could affect their working conditions. They may also anticipate an overload of the system, a decline in the quality of care, thus stimulating feelings of anxiety about the generalization of UHC.

Conclusion

The implementation of universal health coverage in the Democratic Republic of Congo is a necessity for the population. Healthcare providers have a major role to play. This study, conducted in Lubero Territory and Butembo City, has showed that healthcare providers have a positive perception of UHC expectations. Regarding concerns, healthcare providers have a negative perception regarding the government's compliance with its commitments to fund UHC, delays in paying patients' bills, overworked healthcare staff, and embezzlement. Therefore, decision-makers should consider these concerns and consider how to address them in implementing this program.

Conflict of Interest

The declaration of the author is that there's no conflict with interest.

Data Availability

Data will be available when needed.

Approval and Consent to Participate

This study was approved by the Research Ethical Committee of the Adventist University of Lukanga in its N° SGR001/CER/04/CR2025. The agreement was obtained from the participants to the study.

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Author Contributions

Both Paluku Kahuko and Katembo Kambere, authors, dealt with all phases of the study, from the formulation of the research protocol to the gathering of data and the analysis of results.

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