



Free maternity care and its impact on gender equality in financial protection in public hospitals in Kinshasa in 2024

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ABSTRACT

In 2019, the Democratic Republic of the Congo adopted the *National Strategic Plan for Universal Health Coverage 2020–*

2030, aiming to ensure equitable access to healthcare with financial protection. However, persistent gender disparities limit women's access to health services, due to structural economic and occupational inequalities. This study analyses

the impact of free maternity care on gender-equitable financial protection in public hospitals in Kinshasa.

A comparative study was conducted in four public hospitals in Kinshasa (University Clinics, Ngaliema Clinic, Lemba General Referral Hospital and Ngaba Hospital Centre). Two independent samples were analysed: 2,329 patients in debt in 2021 (before the introduction of free maternity care) and 5,376 in 2024 (after its implementation). The Z-test for proportions was used to compare gender differences in hospital debt.

In 2021, the proportion of women with catastrophic hospital debt was significantly higher than that of men ($p < 0.05$). In 2024, following the introduction of free maternity care (September 2023), the proportions of debt between men and women had statistically equalised.

These results suggest that free maternity care has reduced gender inequalities relating to financial protection in public hospitals in Kinshasa. The programme thus contributes to one of the key objectives of Universal Health Coverage: equitable access to healthcare for all.

Keywords: Free maternity care, financial protection, gender, equity, Kinshasa, 2024.

1. Introduction

The principle of ‘financial protection’ lies at the heart of Universal Health Coverage (UHC): according to the World Health Organisation (WHO), this means that out-of-pocket payments for health services must not expose individuals to financial hardship or threaten their standard of living. (WHO, 2025)

UHC, defined as access for all to necessary health services of sufficient quality, without the use of these services leading to financial catastrophe, is a major objective of the United Nations and many states. (WHO, 2024)

These overarching definitions provide the analytical framework for assessing policies on free maternity care and their impact on gender equality in access to financial protection.

The WHO emphasises the three pillars of UHC: equity of access, quality of services and protection against financial risk. (WHO Africa, 2025)

In this sense, policies providing free care for targeted interventions (such as maternity care) are seen as a means of progressing towards UHC by removing the barrier posed by out-of-pocket payments. (WHO, 2025)

However, simply providing free services does not automatically ensure equality – a gender analysis (men/women) must be incorporated to verify that all groups do indeed benefit from financial protection.

In Europe, despite well-developed health systems, studies show that persistent out-of-pocket payments can still lead to ‘catastrophic expenditure’ for some households, particularly among the most vulnerable. (WHO Europe, 2023) This European reality illustrates that free healthcare or broad coverage is not sufficient to guarantee the absence of financial risk: the gender dimension may also come into play (for example, if women have less access to well-paid jobs or employment-related insurance schemes).

Consequently, it is conceivable that, even in a context where healthcare is free, women could remain at a disadvantage in terms of financial protection compared with men.

In sub-Saharan Africa, reliance on out-of-pocket payments remains high, which constitutes a major obstacle to achieving Universal Health Coverage (UHC). (WHO Africa, 2025) Access to essential services for pregnant women is often still limited by hidden costs (transport, medicines, additional tests) even when some services are free of charge. (Turkson & Ahiabor, 2020)

Furthermore, the integration of gender equality into health policies remains insufficient: women may still be excluded from full financial protection, particularly if they are less likely to be in formal employment or hold lower-paid positions.

Thus, in Africa, free maternity care may present an opportunity, but it does not automatically guarantee equal financial protection between the sexes – hence the importance of a targeted analysis.

Since 2015, the DRC has been implementing a Universal Health Coverage (UHC) programme aimed at providing widespread access for the population to high-quality healthcare services, with financial protection — the criterion of universality meaning that no group of people should be excluded.

In September 2023, the DRC launched a policy providing free maternity and neonatal care, initially in Kinshasa and then gradually in other provinces. (Fatshimétrie, 2023)

This initiative aims to eliminate hospital admission costs for pregnant women, representing a significant step towards financial protection. However, challenges such as late

reimbursement to hospitals or the persistence of indirect costs have been reported. (Fatshimétrie, 2024)

Against this national backdrop, it is essential to analyse the impact of free healthcare on equal financial protection for men and women, particularly in the capital's public hospitals.

In the city of Kinshasa, the capital of the DRC, free maternity care has benefited more than 85,000 women since the programme was launched. (Fatshimétrie, 2024)

However, investigative reports have highlighted that implementation remains uneven: some facilities have not yet received the expected reimbursements, certain procedures are not fully covered, and the infrastructure remains overburdened. (Fatshimétrie, 2023)

Furthermore, in this urban and hospital setting, an analysis by gender of the workforce or of beneficiaries referred for care (via referral forms) reveals that there are fewer women than men, which may result in lower levels of financial protection for women.

The observation that 'the number of women referred by employers for healthcare via referral forms is low compared to that of men' suggests a de facto inequality in insurance cover or employer-provided healthcare.

Given that men predominantly hold well-paid roles and formal jobs, they are more likely to benefit from employment-related financial protection schemes, which may place women at a relative disadvantage, even within the context of free maternity care.

It is therefore essential to analyse, in each public hospital in Kinshasa: *(the number of men versus women employed in roles providing healthcare; the number of women versus men benefiting from free maternity care or referred by their employer for treatment; the indirect costs still borne by female patients (transport, medicines, tests); and, finally, the overall impact of free maternity care on gender-equitable financial protection).*

A study carried out in the Binza-Météo health zone in Kinshasa shows that free maternity care has improved women's access to care and satisfaction, but that indirect costs persist. (Orapuh Journal, 2024)

This analysis, specific to public hospitals in Kinshasa, should therefore shed light on the gender dimension of free maternity care and financial protection.

The overarching question of this research is whether the programme contributes significantly to combating gender-based inequalities by curbing — to the same extent for both women and men — the phenomenon of catastrophic expenditure, debt and bills in Kinshasa's public hospitals.

To address the concerns raised in this study, the analysis centres on a key question aimed at assessing the impact of the free maternity care programme on gender inequalities in financial protection in the context of healthcare. Thus, the research question posed is as follows: *does free maternity care have positive effects in the fight against gender-based inequalities?* Given that this programme has only been in place in Kinshasa for one year, the hypothesis put forward is that free maternity care has not yet had a significant positive effect on reducing gender-based inequalities in financial protection. This initial hypothesis will guide the analysis towards verifying whether or not there has been a tangible improvement in equity of access to healthcare and in the economic burden borne by women compared with men.

2. Materials and Methods

2.1. Target population and study population

According to UNESCO, the target population is the totality of statistical units covered by the survey. In our case, the target population consists of the people who attend the four hospitals under review. By contrast, the study population, according to R. Mucchielli, is a subgroup considered for a study or statistical analysis. It is the set of individuals to whom the study applies. It is the entire group of people concerned by the survey's objectives. In this particular case, the study population comprises approximately 4,123 and 9,614 annual admissions to the Internal Medicine, Maternity and Surgery departments, respectively, in 2021 and 2024.

2.2. Data sources

There are primary and secondary sources of data. Primary sources are information specifically collected to study a particular phenomenon. This is new information, collected and organised directly by the researcher. It is, therefore, data that the researcher 'generates' themselves for the purposes of and in the course of their study. Secondary data, on the other hand, consists of public or pre-existing information that has been collected and organised by a third party. This is information that has already been collected for a purpose other than the study and is made available to the public for secondary use. In our research, both types of source were utilised. For primary sources, we used records from debt collection agencies, statistical offices, hospital admission

records, annual reports from public hospitals, and reports from the National Health Information System (SNIS). For secondary sources, we drew on recent data from the following national and international organisations: reports from the Ministry of Public Health, the 2020 edition of the National Institute of Statistics yearbook, WHO reports and the 2024 edition of the World Bank report.

2.3. Sampling

To carry out the analyses, we opted for probabilistic sampling, in which each unit in the population has a known probability of being selected and included in the sample. The following steps were followed:

- a) Data collection from the records of the relevant hospitals, specifically from the inpatient wards of Internal Medicine, Obstetrics and Gynaecology, and Surgery.
- b) We recorded the data in an Excel file, omitting patients' names in accordance with the confidentiality clause contained in the research protocol.
- c) We determined the sample size after consulting the 'calculated table of randomised samples for a given population of 10 to 100,000 with a 95 per cent confidence level' (Krej 1970: 607). For 4,123 statistical units, this table specifies a reduced minimum sample size of 354 units. With a sampling interval of 1/10, we set our sample size at 412 units, which is larger than the size specified by the table.
- d) We randomly select a number between 1 and 4 using the 'urne' technique; in our case, we drew 3. This number represents the first patient in our sample and serves as our starting point.
- e) Using this sampling step of 1/10, we select the other elements of the sample: [3], $3+10= [13]$, $13+10= [23]$, and so on, until we reach the target sample size for a department.
- f) Simple random sampling using proportional stratified sampling.
- g) The measure used in inferential statistics mainly comprises the 'Z-test for proportions', a variant of Student's 't-test'.

2.4. Significance level

Fisher's rule based on the probability level p_2 (two-tailed test):

- a) If $p_2 \neq 0.05$: the difference observed between the actual situation and the hypothesis is due to chance. The difference is said to be non-significant (N.S.).
- b) If $p_2 > 0.05$: the difference observed between the actual data and the hypothesis is not due to chance. The difference is said to be significant (S).
- c) If $p_2 > 0.01$: the difference observed between the actual data and the hypothesis is not due to chance. The difference is said to be highly significant (H.S.).

2.5. Analytical tools

The analyses in this study were carried out both manually and using computer software. We collected the data using Excel. Descriptive statistical analyses were performed using SPSS 21. Inferential statistical analyses were carried out manually. The normality test is one of two prerequisites for applying the Z-test for proportions, alongside the conditions of independence between the two samples and the test for homogeneity of variances. We met all these conditions.

3. Results

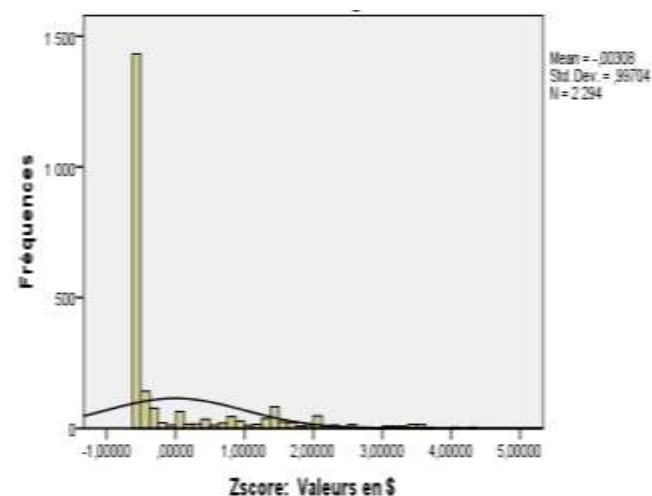


Figure 1: Laplace-Gaussian curve of debts in 2021

The test for normality of distribution of the data relating to debt values in US dollars proved positive. The curve plotted by the computer shows a 'bell-shaped' probability curve. Hence, we can conclude that the first condition is met. The second condition, concerning the equality or inequality of

variances, involves a formula that varies depending on the circumstances. Two variances are said to be ‘equal’ if, when compared with their relative probabilities, both variances are either greater than or less than the statistical significance thresholds for probabilities of 1 per cent and 5 per cent.

Table 1: Catastrophic hospital debts by gender in 2021

Frequency	Percentages		Cumulative percentages
Male	281	12.1	12.1
Female	634	27.2	39.3
Graduates with no debt	1,406	60.4	99.7
Missing data	8	.3	100.0
Total	2,329	100.0	

Source: Collections and Statistics Department of the four hospitals, 2025.

Comments:

In 2021, women were significantly more likely to face catastrophic hospital debts than men [(27.2 per cent > 12.1 per cent; $p < 0.01$)]. In 2024, following the introduction of free maternity care, there was a balance in access to healthcare with financial protection, with a non-significant difference between the two proportions (18.7% > 13.9%); $p > 0.05$. See the table below:

Table 2: Catastrophic hospital debts by gender in 2024

	Frequencies	Percentages	Cumulative percentages
Male	1,006	18.7	18.7
Female	748	13.9	32.6
Graduated debt-free	3,610	67.2	99.8

Missing values	12	.2	100.0
Total	5,376	100.0	

Source: Collections and Statistics Department of the four hospitals, 2025.

4. Discussions

Free antenatal care and equitable financial protection are topics of analysis that are increasingly addressed in the literature. A systematic review has shown that, whilst policies on free antenatal care may reduce the financial burden on households, they do not necessarily guarantee equality between genders or socio-economic groups, due to indirect costs (transport, informal medicines, etc.) and challenges relating to the quality of service (Oyugi, Kendall & Peckham, 2021).

This study focused primarily on addressing a single research question, namely: Has free maternity care had a positive effect on gender-based inequalities? Upon analysis, the study found that the proportions of patients of both sexes who incurred catastrophic hospital debts and bills in 2021 showed a highly significant difference [(Men: 27.2% > Women: 12.1%; $p < 0.01$): DS]. However, following the launch of the free maternity care programme, this gap was reduced to the extent that the two proportions are now equivalent. (Men: 18.7 per cent > Women: 13.9 per cent; $p < 0.01$: DNS)

In the case of your study in Kinshasa, it is relevant to put your finding (the gender gap in ‘catastrophic debt and bills’) into the context of this broader trend, where free healthcare improves access but remains subject to other factors.

For example, a study conducted in Zambia on the abolition of user fees showed that, in the medium term (2–5 years after the reform), births in healthcare facilities increased by 25–35 per cent in areas where care had become free of charge (Lagarde, Lépine & Chansa, 2022). However, this study notes that the effect was not uniform for women with low levels of education or in areas with poor-quality care (Lagarde et al., 2022). This observation suggests that even in a context where care is free, persistent inequalities may remain depending on women’s profiles – a useful point for interpreting your result, where the initial gender gap was significant.

Other studies have examined the issue of equity between socio-economic groups rather than by gender alone. For example, in five West African countries, the removal of fees

for antenatal care reduced, but did not eliminate, the disparities in utilisation between poor and wealthy economic groups: *'the poorest women remain unable to surmount other barriers that prevent them from using subsidised facility-based childbirth care'* (Kruk et al. in Ouédraogo et al., 2020) (Kruk et al., 2020). This serves as a reminder that the 'gender' dimension can interact with other characteristics (employment, income, informal status): women may be less well covered if they are in precarious jobs without employer-provided cover.

A recent study in Burkina Faso on the 'free' maternal health services policy found that, once the direct financial barrier had been removed, geographical barriers (distance, transport) continued to play a dominant role in access — and therefore in equality. (Dabiré Dembélé et al., 2024) This finding suggests that in the DRC, even after the introduction of free services, it is important to examine indirect costs and gender disparities in people's ability to bear them (e.g. transport, support, working conditions).

With regard to gender equality specifically, several public policy reports highlight that social protection and health systems are often 'gender-blind' (UN Women, 2022) and that women are less likely to be in formal employment that guarantees coverage by the employer (UN Women, 2022). This reinforces the argument that men may be over-represented in situations where costs are covered by the employer — and therefore that your initial observation (the gender gap) forms part of a broader pattern linking employment, coverage and gender.

In summary, broadening the discussion shows that:

- Free maternity care can help reduce financial burdens and improve access.
- However, the impact on gender equality is **not automatic**: it depends on the profile of beneficiaries (employment, income, education), the quality of the service, indirect costs, and formal coverage, which differs by gender.
- In your study in Kinshasa, the observation that the gender gap narrowed following the introduction of free care is therefore plausible and fits within this dynamic, but warrants further analysis taking into account employment contexts and status by gender within hospitals.
- It would also be necessary to examine whether women have genuinely benefited from free

healthcare without remaining exposed to residual costs (transport, uncovered medicines), or whether they are less likely to hold formal jobs with health cover, which could limit their financial protection even in a context of free healthcare.

5. Conclusion

The 'National Strategic Plan for Universal Health Coverage 2020–2030', drawn up in 2019 by the government of the Democratic Republic of the Congo, has had a positive impact by.

with regard to 'gender'. It has succeeded in significantly reducing the gap between men and women in terms of access to high-quality healthcare with financial protection. Currently, across the four hospitals studied as a whole, the proportion of women and men at risk of catastrophic expenditure, bills and debt — that is, risks that could plunge them into poverty — is equivalent. Thus, the initial hypothesis is refuted.

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Declaration of conflicts of interest

The authors declare that they have no conflicts of interest relating to the design, conduct or publication of this study.

None of the authors has received any remuneration, funding or benefit that might influence the results or their interpretation.

Ethical considerations

The study was conducted in strict accordance with the ethical principles of public health research, in accordance with the Declaration of Helsinki (World Medical Association, 2013).

Official research authorisation was obtained from the Public Health Ethics Committee of the University of Kinshasa and from the management of the hospitals concerned.

Prior to data collection, all participants were informed of the study's objectives, the confidentiality of the information collected and their right to withdraw at any time.

Their free, informed and voluntary consent was obtained orally or in writing, as appropriate.

The data were anonymised to ensure the protection of participants' privacy.

Authors' contributions

- Lead author: design and development of the research protocol, data collection and analysis, drafting of the manuscript.
- First co-author: contribution to the methodology, interpretation of results and drafting of the discussion.
- Second co-author: critical review, support with structuring the text and scientific validation of the content.
- All authors have read, revised and approved the final version of the article prior to its submission for publication.

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Bibliographical References

- Bura P. (2017); *Course on Descriptive and Inferential Statistics; for second-year Bachelor's students in Health Institution Management at ISTM/Kinshasa*, unpublished, Kinshasa, p. 68
- Dabiré Dembélé, E., et al. (2024). Has the 'Gratuité' policy reduced inequities in geographical access to antenatal care in Burkina Faso? Evidence from facility-based data from 2014 to 2022. *Frontiers in Global Women's Health*.
- Fatshimétrie. (9 September 2023). *The Democratic Republic of Congo launches an ambitious free maternity programme to reduce maternal mortality*. Fatshimétrie.
- Fatshimétrie. (10 February 2024). *Free childbirth and neonatal care in the DRC: strong measures for universal access to healthcare*. Fatshimétrie.
- I.N.S. (2020); *DRC Statistical Yearbook 2020*; Published by I.N.S., Kinshasa
- KREJ (1970); *Table of randomised sample sizes for a given population of 10 to 100,000 with a 95 per cent confidence level*
- Kruk, M., et al. (2020). Inequalities in reproductive healthcare use in five West African countries: A decomposition analysis of wealth-based gaps. *International Journal for Equity in Health*.
- Lagarde, M., Lépine, A., & Chansa, C. (2022). The long-term effects of free care on birth outcomes: Evidence from a national policy reform in Zambia. *SSM-Population Health*, 17, 101051.
- Mangalu, M. (2019); *A Guide to Data Analysis in the Social Sciences and Humanities*, Harmattan, Condé-sur-Noireau

- Ministry of Planning (2019); *National Strategic Development Plan 2019–2023*, Kinshasa,
- OECD (2005); *OECD; in Economic Surveys* No. 765, published by the OECD, Brussels
- WHO (2006); *World Health Report*, published by WHO, Geneva
- WHO (2010); *World Health Report: Financing Health Systems – The Path to Universal Health Coverage*, Geneva, published by WHO, Geneva
- Orapuh Journal. (2024). Effects of free maternity care on beneficiary satisfaction: A multicentre study conducted in the Binza Météo Health Zone, Kinshasa. Additional sources as cited.
- World Health Organisation – African Region. (2025). *Universal health coverage – overview*.
- World Health Organisation. (2024). *Universal health coverage fact sheet* (UHC).
- World Health Organisation. (2025). *Financial protection – health topic overview*.
- World Health Organisation. (2025). *Monitoring financial protection in health service use*.
- Oyugi, B., Kendall, S., & Peckham, S. (2021). Effects of free maternal care policies on the quality and cost of care and outcomes: an integrative review. *Primary Health Care Research & Development*, 22, e43.
- Turkson, D., & Ahiabor, J. K. (2020). *Implications of antenatal care and maternity leave on child morbidity: Evidence from Ghana*. arXiv.
- UN Women. (2022). *Feminist priorities for social protection in Africa*.
- What Works for Gender. (2021). *Evidence summary series #4: Health*. Co-Impact.