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Availability of Lifesaving Maternal and Child Health Commodities in Kinshasa Health Facilities Offering Free Maternity Care

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ABSTRACT

Introduction

In the Democratic Republic of the Congo, maternal and infant mortality remains a major public health challenge. To ensure safe childbirth for women and provide newborns with optimal conditions for growth, the government has implemented a free maternity care program. The success of this initiative depends heavily on the consistent availability of thirteen priority lifesaving maternal and child health (MCH) commodities.

Purpose

To assess the availability of thirteen lifesaving MCH commodities in Kinshasa health facilities enrolled in the free maternity program.

Methods

An analytical cross-sectional study was conducted from March to November 2024 across 28 health facilities within four health zones of the Mont Amba district in Kinshasa. Medicine availability was evaluated based on the physical presence of the thirteen targeted commodities on the day of the visit and over the preceding three months. Descriptive statistics were used to summarize variables. Availability was classified as satisfactory when at least ten of the thirteen medicines were present. Associated factors were analyzed using Fisher's exact test, with statistical significance set at $p < 0.05$.

Results

Among the 28 included facilities (10 public, 9 confessional, and 9 private), satisfactory availability of lifesaving MCH commodities was observed in only 35.7% of facilities (four public, five private, and one confessional). Knowledge of stock management was statistically associated with satisfactory commodity availability (OR = 31.50, 95% CI [3.02, 328.94], p = 0.001).

Conclusion

The availability of priority lifesaving MCH commodities was unsatisfactory in the majority of facilities participating in the free maternity program. Training healthcare personnel in stock management practices is vital to ensure continuous, high-quality care.

INTRODUCTION

The availability of essential medicines is critical for improving childbirth safety and reducing maternal and infant mortality (Program for Appropriate Technology in Health [PATH], 2015). In many developing countries, childbirth continues to expose women to severe morbidity, suffering, and mortality (Calenda, 2020; World Health Organization [WHO], 2025).

In the Democratic Republic of the Congo (DRC), maternal and infant mortality remains a severe public health crisis (Ntangu et al., 2025; WHO, 2023). Although incremental progress has been made, the country continues to record some of the highest mortality rates globally (Ministry of Planning [MP], 2024; WHO, 2023). Neonatal mortality is largely driven by preventable conditions; more than 80% of neonatal deaths stem from prematurity complications, birth asphyxia, and infections such as sepsis and pneumonia (Oyewale, 2018). Maternal mortality is equally alarming, with thousands of women dying annually from pregnancy- and childbirth-related complications, including severe postpartum hemorrhage, eclampsia, and puerperal sepsis (WHO, 2023). In 2020, the national maternal mortality ratio was estimated at 547 deaths per 100,000 live births (WHO, 2023).

Averting these preventable deaths requires strengthening health facility environments, securing uninterrupted supplies of necessary medications, and ensuring affordable access to quality care (Antoine, 2020; Ousmane, 2021; Pacagnella et al., 2014). Evidence demonstrates that dedicated maternal and child health (MCH) commodities directly mitigate obstetric risks (Damtew et al., 2019; Nsabagasani et al., 2015). To combat these high rates, the Congolese government committed to increasing the availability of priority essential medicines, specifically targeting thirteen lifesaving MCH commodities (amoxicillin dispersible tablets, chlorhexidine digluconate, oxytocin, magnesium sulfate, among others), with a national target of raising availability from 20% to 80% (Ministry of Public Health [MSP], 2016). Furthermore, to guarantee safe motherhood and reduce financial barriers, the government launched a national free maternity care program (Shamwol, 2023).

The success of this program relies heavily on the uninterrupted stock of essential commodities. During initial rollouts, systematic stock monitoring is essential to calculate accurate consumption estimates, prevent shortages, and guarantee true financial protection for patients. Unmitigated stockouts force patients to purchase medications out-of-pocket, negating the objectives of the free care policy. This study evaluates the availability of thirteen lifesaving MCH commodities in Kinshasa health facilities enrolled in the free maternity program.

METHODS

Study Site

The study was conducted in Kinshasa, the capital city of the DRC, which is administratively divided into four districts (Funa, Lukunga, Mont Amba, and Tshangu), 24 communes, and 35 health zones representing the operational tier of the national health system (Altare et al., 2023). Data collection targeted four health zones within the Mont Amba district: Lemba, Limete, Matete, and Ngaba.

Study Design and Period

An analytical cross-sectional study was conducted from March 1 to November 30, 2024.

Study Population and Eligibility Criteria

The study population comprised health facilities within the four selected health zones participating in the free maternity care program, alongside healthcare professionals managing pharmaceutical commodities.

Inclusion criteria: Facilities providing MCH services, located within the four targeted health zones, and officially enrolled in the free maternity program.

Exclusion criteria: Facilities where the designated pharmaceutical manager was unavailable during the survey period.

Sampling Procedure

A two-stage sampling method was utilized. First, four health zones in the Mont Amba district were selected using purposive non-probability sampling. Second, health facilities within each zone were stratified by legal affiliation (public, private, or confessional) and selected via simple random sampling, yielding a final sample of 28 health facilities across the four zones.

Data Collection Procedures

Data were collected using a standardized questionnaire administered via interviews with the designated commodity managers. The instrument assessed the physical presence of the thirteen priority lifesaving MCH commodities on the day of the visit and over the preceding three months. Verbal informed consent was secured from facility heads prior to data collection.

Operational Definitions and Variables

- **Priority lifesaving MCH commodities:** Thirteen designated products comprising amoxicillin dispersible tablets, chlorhexidine digluconate, dexamethasone injection, emergency contraceptives, female condoms, injectable implants, injectable antibiotics (ampicillin and gentamicin), magnesium sulfate, misoprostol, neonatal resuscitation devices, oxytocin, and zinc dispersible tablets.
- **Dependent variable:** Availability of priority lifesaving MCH commodities, categorized as *Satisfactory* (≥10/13 or ≥75% present) or *Unsatisfactory* (< 10/13 present).
- **Independent variables:** Facility affiliation, supply source, staff qualification, management training, stock management knowledge, physical inventory frequency, storage capacity, supplier skills, and utilization of stock management tools.

Ethical considerations

Informed consent was obtained from the managers of the healthcare facilities after the objectives and the conduct of the study had been explained. The confidentiality of the information collected was strictly maintained. An ethical no objection approval was granted by the Ethics committee of the Kinshasa School of Public Health Ethics Committee (Ref. No.: ESP/CE/120 B/2026).

Data Processing and Analysis

Data were analyzed using Microsoft Excel and Epi Info (version 7.6.2.0). Descriptive statistics were summarized as frequencies and percentages. Fisher's exact test evaluated associations between independent variables and commodity availability, with significance set at $p < 0.05$.

RESULTS

Profile of Selected Facilities and Supply Sources

The study evaluated 28 health facilities providing free maternity care: 10 public (35.7%), 9 confessional (32.1%), and 9 private (32.1%). Among surveyed managers, 54.0% were familiar with the concept of the thirteen priority lifesaving MCH commodities, while 46.0% were unaware. The Central Health Zone Office (CHZO) served as the primary supplier for 57.1% of facilities, whereas private pharmaceutical companies supplied 42.9%. Public facilities (80.0%) and confessional facilities (66.7%) predominantly sourced from the CHZO. Conversely, 77.8% of private facilities relied on private commercial distributors **(Table 1)**. Regarding supplier reliability, 42.9% of facilities rated the CHZO as reliable, 17.9% as less reliable, and 3.6% as experiencing frequent shortages; private suppliers were rated reliable by 25.0% and less reliable by 7.1%.

Table 1:
Supply Sources for Essential Medicines by Health Facility Affiliation

Health Facility Affiliation	Central Health Zone Office (n, %)	Private Companies via Health Promotion Fund (n, %)	Total (n, %)
Public (n = 10)	8 (80.0%)	2 (20.0%)	10 (35.7%)
Confessional (n = 9)	6 (66.7%)	3 (33.3%)	9 (32.1%)
Private (n = 9)	2 (22.2%)	7 (77.8%)	9 (32.1%)
Total (N = 28)	**16 (57.1%)**	**12 (42.9%)**	**28 (100.0%)**

Commodity Management Characteristics

Twenty-five facilities (89.3%) maintained an in-house pharmacy and storage warehouse. Medication management was overseen by various professionals: 12 pharmacists (42.9%), 7 registered nurses (25.0%), 4 administrative managers (14.3%), 1 medical doctor (3.6%), and 4 other personnel (14.3%). Only 46.4% of managers had received formal training in essential medicine management.

While all facilities with a pharmacy utilized stock cards, other logistical tools were utilized less consistently: inventory sheets in 52.0%, purchase orders in 48.0%, receiving reports in 48.0%, and movement logs in 44.0%. Overall, 52.0% (13/25) utilized at least three management tools. Physical inventories were conducted monthly in 67.9% of facilities, quarterly in 7.1%, and irregularly or without a schedule in 25.0%.

Availability of Priority Lifesaving MCH Commodities

Satisfactory availability (≥75% or ≥10/13 commodities present) was observed in only **35.7%** (10/28) of facilities. Unsatisfactory availability (50% - 74% or 7 - 9 commodities) occurred in 53.6% (15/28) of facilities, and severely low availability (< 50% or < 7 commodities) was found in 10.7% (3/28) **(Table 2)**.

Table 2:
Distribution of Health Facilities According to Commodity Availability Levels

Health Zone	Affiliation	Satisfactory (≥75%, ≥10 meds)	Unsatisfactory (50%–74%, 7–9 meds)	Low (<50%, <7 meds)	Total (n)
Lemba	Confessional	0 (0.0%)	3 (100.0%)	0 (0.0%)	3
	Public	1 (50.0%)	1 (50.0%)	0 (0.0%)	2
	Private	1 (50.0%)	1 (50.0%)	0 (0.0%)	2
Limete	Confessional	1 (33.3%)	2 (66.7%)	0 (0.0%)	3
	Private	2 (50.0%)	2 (50.0%)	0 (0.0%)	4
Matete	Confessional	0 (0.0%)	1 (33.3%)	2 (66.7%)	3
	Public	2 (66.7%)	1 (33.3%)	0 (0.0%)	3
	Private	1 (100.0%)	0 (0.0%)	0 (0.0%)	1
Ngaba	Public	1 (20.0%)	3 (60.0%)	1 (20.0%)	5
	Private	1 (50.0%)	1 (50.0%)	0 (0.0%)	2
Total	**All Categories**	**10 (35.7%)**	**15 (53.6%)**	**3 (10.7%)**	**28 (100.0%)**

Individual drug analysis revealed that amoxicillin, injectable antibiotics, misoprostol, and oxytocin were universally available across all 28 facilities (100.0%). Conversely, emergency contraceptives (28.6%) and female condoms (25.0%) exhibited the lowest overall availability **(Table 3)**.

Table 3:
Availability of Specific Lifesaving Commodities Across Facility Types

Commodity	Confessional (n=9)	Public (n=10)	Private (n=9)	Total Availability (N=28, %)
Amoxicillin dispersible tablets	9 (100.0%)	10 (100.0%)	9 (100.0%)	28 (100.0%)
Injectable antibiotics (Ampicillin/Gentamicin)	9 (100.0%)	10 (100.0%)	9 (100.0%)	28 (100.0%)
Misoprostol	9 (100.0%)	10 (100.0%)	9 (100.0%)	28 (100.0%)
Oxytocin	9 (100.0%)	10 (100.0%)	9 (100.0%)	28 (100.0%)
Oral rehydration salts (ORS)	7 (77.8%)	9 (90.0%)	9 (100.0%)	25 (89.3%)
Zinc dispersible tablets	7 (77.8%)	10 (100.0%)	9 (100.0%)	26 (92.9%)
Magnesium sulfate	7 (77.8%)	6 (60.0%)	9 (100.0%)	22 (78.6%)
Prenatal corticosteroids (Dexamethasone)	7 (77.8%)	7 (70.0%)	8 (88.9%)	22 (78.6%)
Neonatal resuscitation devices	4 (44.4%)	7 (70.0%)	6 (66.7%)	17 (60.7%)
Injectable implants (Implanon)	2 (22.2%)	6 (60.0%)	5 (55.6%)	13 (46.4%)
Chlorhexidine digluconate (7.1%)	5 (55.6%)	4 (40.0%)	9 (100.0%)	18 (64.3%)
Emergency contraceptives	3 (33.3%)	5 (50.0%)	0 (0.0%)	8 (28.6%)
Female condoms	2 (22.2%)	5 (50.0%)	0 (0.0%)	7 (25.0%)

Factors Associated with Commodity Availability

Bivariate analysis using Fisher's exact test demonstrated that **knowledge of stock management** was statistically associated with satisfactory commodity availability (OR = 31.50, 95% CI [3.02, 328.94], p = 0.001). Neither public facility affiliation nor the routine use of at least three management tools showed statistically significant associations with availability (p > 0.05) **(Table 4)**.

Table 4:
Bivariate Analysis of Predictors Associated with Satisfactory Commodity Availability

Independent Variable	Satisfactory Availability (n=10)	Unsatisfactory Availability (n=18)	Odds Ratio [95% CI]	p-value
Public Affiliation				
Yes (n = 10)	4 (40.0%)	6 (33.3%)	1.33 [0.27, 6.61]	1.000
No (n = 18)	6 (60.0%)	12 (66.7%)	Ref	
Stock Management Knowledge				
Yes (n = 13)	9 (90.0%)	4 (22.2%)	31.50 [3.02, 328.94]*	**0.001**
No (n = 15)	1 (10.0%)	14 (77.8%)	Ref	
Use of ≥3 Management Tools				
Yes (n = 13)	4 (40.0%)	9 (50.0%)	0.66 [0.14, 3.19]	0.705
No (n = 15)	6 (60.0%)	9 (50.0%)	Ref	

**Note: The wide confidence interval is attributable to the small sample size (N = 28).*

DISCUSSION

This study evaluated the availability of thirteen priority lifesaving MCH commodities across 28 health facilities participating in the free maternity program in Kinshasa. Satisfactory availability was observed in only 35.7% of facilities, falling far short of national targets (MSP, 2016) and trailing findings from other developing contexts such as Ethiopia (74.3%; Damtew et al., 2019). This performance gap underscores systemic bottlenecks in supply chain execution during program scale-up.

Supply Chain Dynamics and Procurement Channels

Over 57% of facilities relied on the CHZO for essential medicines. Public purchasing agencies provide standardized, quality-assured products and mitigate counterfeit risks (Optimix, 2024; Tortorella, 2025). However, bureaucratic delays, transit bottlenecks, and periodic central stockouts frequently disrupt peripheral service delivery. In contrast, 77.8% of private facilities procured supplies through private distributors, whose responsive supply chains allow for rapid replenishment and greater adaptability to local demand (Mahombisa & Cizungu, 2023).

Stock Management and Personnel Competency

Effective pharmaceutical management requires dedicated infrastructure and trained personnel (Médecins Sans Frontières [MSF], 2026; WHO, 2025). While 89.3% of facilities maintained storage spaces, only 46.4% of managers had formal training in stock management. Knowledge gaps directly impair consumption forecasting, stock rotation, and order accuracy (Okoye et al., 2022). Furthermore, although basic tools such as stock cards were ubiquitous, secondary tracking tools (inventory sheets, receiving logs) were inconsistently maintained, eroding inventory traceability (Ashalanabio et al., 2025).

Predictors of Availability

Bivariate analysis identified stock management knowledge as the primary determinant of satisfactory commodity availability (OR = 31.50, p = 0.001), reinforcing previous regional findings (Manano, 2019; Okoye et al., 2022). Interestingly, neither public affiliation nor tool multiplicity showed significant associations with availability. Private facilities achieved high availability despite leaner tool utilization, primarily due to immediate liquidity, flexible local procurement, and freedom from bureaucratic centralization (Mahombisa & Cizungu, 2023).

Limitations

The study's sample size (N = 28) restricted statistical power and generated wide confidence intervals, precluding broad generalizability across all national facilities. Furthermore, the cross-sectional design evaluated physical stock availability without tracking longitudinal consumption rates or patient-level stockout experiences.

CONCLUSION

Satisfactory availability of the thirteen priority lifesaving MCH commodities was documented in fewer than 40% of health facilities participating in the free maternity care program. Stock management knowledge emerged as a critical predictor of commodity availability. Targeted training programs for healthcare personnel, streamlined replenishment pathways, and regular inventory audits are essential to ensure uninterrupted, high-quality care for mothers and newborns.

Recommendations

- **For the Government:** Establish a dedicated, protected budgetary line for maternal and child health commodities to insulate supply chains from financial disbursement delays.
- **For Central Health Zone Offices (CHZO):** Expand public-private partnerships with certified private distributors to improve delivery turnaround times and reduce transit bottlenecks in peripheral facilities (Mahombisa & Cizungu, 2023).
- **For Health Facility Managers:** Implement mandatory training modules focused on accurate consumption forecasting, safety stock calculation, and regular physical inventory audits.

Use of Artificial Intelligence (AI) Declaration: The authors declare that no artificial intelligence tools were used in the generation or interpretation of the findings of this study.

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Authors' Contributions:

E.M.M.: Conceptualization, Data curation, Formal analysis, Methodology, Software, Visualization, Writing – original draft. **C.B.M.:** Validation, Writing – review & editing. **F.N.M.:** Conceptualization, Methodology, Project administration, Supervision, Writing – review & editing. All authors have read and approved the final manuscript.

Data Availability Statement: The data analyzed during the current study are available from the corresponding author upon reasonable request.

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Informed Consent and Anonymity: Informed consent was obtained from all individual participants included in the study after the objectives and the conduct of the study had been explained. Participation was voluntary, free from any form of coercion, and based on informed consent. The confidentiality of the information collected was strictly maintained.

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REFERENCES

Altare, C., Matadi Basadia, L., Kostandova, N., Nsio Mbeta, J., Bruneau, S., Antoine, C., & Petry, M. (2023). The implementation of infection prevention and control measures and health care utilisation in ACF-supported health facilities during the COVID-19 pandemic in Kinshasa, Democratic Republic of the Congo, 2020. *Global Health Action*, 16(1), 2258711. https://doi.org/10.1080/16549716.2023.2258711

Antoine, E. (2020). *L'accessibilité aux soins de santé en République démocratique du Congo : Analyse de l'impact de la gouvernance sur le système d'approvisionnement public en médicaments essentiels et de qualité de la province du Nord-Kivu* [Master's thesis, École de Santé Publique, Université libre de Bruxelles]. https://ucoopia.org/app/uploads/2020/08/laccessibilite_aux_soins_de_sante_en_rdc.pdf

Ashalanabio, J. K., Aide-Stéphane, A. I., Lukamba, A. T., Kaumb, G. K., Mbula, J. P. B. I., & Ilundu, O. N. (2025). Évaluation de l'impact des systèmes de gestion des stocks sur la disponibilité des médicaments essentiels en milieu hospitalier, cas de l'hôpital général de référence de Ndjili. Tshangu. *Revue Congolaise des Sciences et Technologies*, 4(4), 792–800.

Barasa, N., Oluchina, S., & Cholo, W. (2018). Influence of inventory management practices on availability of medicines in public health facilities in Bungoma County, Kenya. *International Journal of Academic Research and Development*, 3(6), 53–60.

Calenda. (2020). Maternal, neonatal and infantile health in Africa: Analysis of the situation and perspectives [Call for contributions]. *Calenda*. https://doi.org/10.58079/156p

Damtew, D., Worku, F., Tesfaye, Y., & Jemal, A. (2019). Availability of lifesaving maternal and child health commodities and associated factors in public and private health facilities of Addis Ababa, Ethiopia. *Health Services Research and Managerial Epidemiology*, 6, 1–9. https://doi.org/10.1177/2333392819892350

Mahombisa, M., & Cizungu, P. (2023). *Integrating Private Pharmaceutical Distributors in Public Health Supply Chains: Lessons from the DRC*. VillageReach. https://www.villagereach.org/2023/01/06/integrating-private-pharmaceutical-distributors-in-public-health-supply-chains-lessons-from-the-drc/

Manano, U. B. (2019). *Etude de la disponibilité des médicaments essentiels vitaux prioritaires dans les formations sanitaires de ville de Kinshasa (cas des zones de santé de Masina II, Kikimi et Kisenso)* [Master's thesis, École de Santé Publique de Kinshasa].

Ministry of Planning [MP]. (2024). RDC: La mortalité infantile réduite de 97 à 80 cas pour 1000 naissances en 5 ans. *Radio Okapi*. https://www.radiookapi.net/2024/12/19/actualite/sante/rdc-la-mortalite-infantile-reduite-de-97-80-cas-pour-1000-naissances-en-5

Ministry of Public Health [MSP]. (2016). *RDC - Plan national de développement sanitaire 2016–2020: Vers la couverture sanitaire universelle*. Ministère de la Santé Publique.

Musuamba, M. G. (2023). *Réduire les hémorragies du post-partum en République démocratique du Congo*. FIGO [International Federation of Gynecology and Obstetrics]. https://www.figo.org/fr/news/reduire-les-hemorragies-du-post-partum-en-republique-democratique-du-congo

Nsabagasani, X., Ogwal-Okeng, J., Mbonye, A., Ssengooba, F., Muhumuza, S., & Hansen, E. H. (2015). Availability and utilization of the WHO recommended priority lifesaving medicines for under five-year old children in public health facilities in Uganda: A cross-sectional survey. *Journal of Pharmaceutical Policy and Practice*, 8(1), 18. https://doi.org/10.1186/s40545-015-0038-2

Ntangu, E. W., Wedi, J. O., Kunzi, B. N., & Luzolo, E. K. (2025). Déterminants de la mortalité maternelle dans la zone de santé de Kikongo, province de Kwilu, RD Congo. *Revue des Sciences de la Santé*, 4(1), 89–97.

Okoye, B. I., Ndugba, C., Okonkwo, I., Udemba, C., Okafor, E., Orji, U., Odibo, O., & Okposo, M. (2022). Evaluation of essential medicines management in public health facilities in Ekiti State, Nigeria.

International Journal of Science Academic Research, 3(9), 4359–4365.

OptimiX. (2024). *La gestion des approvisionnements dans la santé*. OptimiX Solutions. https://optimix-software.com/fr/blog/sante-pharmacie/gestion-des-approvisionnements-dans-la-sante/

Ousmane, O. (2021). *Evaluation de la disponibilité des médicaments essentiels de panier dans les centres de santé communautaire de la commune VI du district de Bamako* [Doctoral dissertation, Faculté de Pharmacie, Université des Sciences, des Techniques et des Technologies de Bamako]. https://www.bibliosante.ml/handle/123456789/4598

Oyewale, T. (2018). *Pour chaque enfant, une chance de survivre*. UNICEF. https://www.unicef.org/drcongo/communiqués-de-presse/pour-chaque-enfant-une-chance-de-survivre

Pacagnella, R. C., Cecatti, J. G., Parpinelli, M. A., Sousa, M. H., Haddad, S. M., Costa, M. L., Souza, J. P., Pattinson, R. C., & Brazilian Network for the Surveillance of Severe Maternal Morbidity Study Group. (2014). Delays in receiving obstetric care and poor maternal outcomes: Results from a national multicentre cross-sectional study. *BMC Pregnancy and Childbirth*, 14, 159. https://doi.org/10.1186/1471-2393-14-159

Program for Appropriate Technology in Health [PATH]. (2015). *Scaling up life-saving commodities for women, children, and newborns: An advocacy toolkit*. PATH.

Médecins Sans Frontières [MSF]. (2026). *Médicaments essentiels. Organisation et gestion d'une pharmacie*. MSF Medical Guidelines. https://medicalguidelines.msf.org/fr/viewport/EssDr/francais/organisation-et-gestion-d-une-pharmacie-16689290.html

Shamwol, P. (2023). *Lancement de la gratuité des accouchements en RDC*. UNFPA. https://drc.unfpa.org/fr/news/lancement-de-la-gratuité-des-accouchements-en-rdc

Tortorella. (2025). *Optimisation des achats en défense: Rôle et impact des centrales d'achat*. Tortorella & Partners. https://tortorellapartners.com/actualites/optimisation-achats-defense-centrale/

World Health Organization [WHO]. (2023). *Lancement de la Semaine de la mère et du nouveau-né pour aborder la santé maternelle et néonatale en République démocratique du Congo*. WHO Regional Office for Africa. https://www.afro.who.int/fr/countries/democratic-republic-of-congo/news/lancement-de-la-semaine-de-la-mere-et-du-nouveau-ne-pour-aborder-la-sante-maternelle-et-neonatale-en

World Health Organization [WHO]. (2025). *Maternal mortality fact sheet*. WHO. https://www.who.int/fr/news-room/fact-sheets/detail/maternal-mortality