

CLINIC-BASED DELIVERY GAP AND PERCEIVED CONTRIBUTORY INDICES AT KOSO PRIMARY HEALTH CENTRE, ATIBA LOCAL GOVERNMENT, OYO, OYO STATE, NIGERIA

BY

¹Isaac Opeyemi Oguntunji, ²Joseph Oluwaseyi Adigun, ³Abel Adeniyi Ojo, ⁴Taoheed Abiola
Olanrewaju, ⁵Faith Yemioladapo Oguntunji & ⁶Abdullahi Aweda Salaudeen

¹Department of Human Kinetics & Health Education, Emmanuel Alayande University of Education, Oyo,
Oyo State.

²Department of Educational Foundation, Federal University of Lafia, Nasarawa, Nasarawa State.

³Primary Health Care Department, Ogbomoso South Local Government Health Authority, Ogbomosho, Oyo
State

⁴Department of Community Health, Lead City University, Ibadan, Oyo State.

⁵Department of Public Health, Atiba University, Oyo, Oyo State.

⁶Department of Public Health (Community Health), Rivers State University, Port Harcourt, Rivers State.

Email: droguntunjiio@gmail.com

Abstract

The study assessed clinic-based delivery gap and perceived contributory indices at Koso primary health centre, Atiba local government, Oyo, Oyo State, Nigeria. A descriptive research design of the survey type was adopted. A multi-stage sampling technique was used to select the sample size of 111. Data were gathered by review of existing clinic data, use of validated focused group discussion guide and key informant interview guide. The consistency of the instruments used was ascertained using inter-rater method. Data generated through the qualitative instruments were analyzed using thematic analysis. Two research questions were answered and presented using percentage. The findings revealed that, there was a clinic-based delivery gap (1129, 92.0%) against the clinic-based delivery (98, 8.0%). Also, spiritual belief in traditional birth attendants (25, 23.0%) and high preference for traditional birth homes (21, 19.0%) were the major perceived contributory indices to clinic-based delivery gap identified at Koso PHC. Based on these findings, it was recommended that health workers at Koso PHC should embark on advocacy among groups in the community on the importance of clinic-based delivery as a strong antidote against maternal-mortality and birth complications. Also, health workers in collaboration with other allied health personnel such as health educators, public health officers should embark on community-wide sensitization to enlighten members on dangers associated with preference for traditional birth attendants/homes.

Keywords: Clinic-based; Delivery; Gap; Contributory indices; Primary health centre

Introduction

Delivery taken by skilled birth attendant(s) in public and private health facilities including primary health centres (PHCs) is conceptualized in this study as a clinic-based delivery. Clinic-based delivery is one of the assured ways of reducing maternal-mortality in Nigeria. It is an important aspect of maternal care because of the presence of skilled birth professionals (Numah et al, 2019) as well as an enabling environment with necessary resources to manage obstetric complications (Morgan et. al, 2014). Developing countries are facing the high burden of both maternal and child mortality with sub-Saharan Africa accounting for about 70%; and Nigeria is among the top five countries mostly affected in the world (Phukan, et al., 2018; Musarandega et al., 2012). In Nigeria, Ugboaja et al (2018) affirmed that around 39% of births were attended to by skilled birth professionals. In PHCs where they are offering 24 hours services, it is expected that skilled birth attendants will be available to attend to delivery cases at anytime of the day. All pregnant women ought to have access to skilled care during pregnancy and delivery in order to ensure healthy pregnancy and improved pregnancy outcome void of complication. Gage et al. (2019) submitted that

increasing the rate of deliveries within health facilities has been the main strategy for reducing maternal and neonatal mortality in many low-and middle-income countries. In all PHCs in Oyo state, both antenatal care and delivery service are free. Also, in Oyo state, some PHCs were selected and supported with Basic Health Care Provision Fund (BHCPF) in which Koso PHC is among. This is to improve the provision of health care services to masses including the pregnant women.

Koso PHC is located in a densely populated community with high patronage of antenatal clients. Many pregnant women were not making use of the existing facility for delivery despite ongoing 24 hours service with skilled health personnel such as Nurses/Midwives, Community Health Officers (CHOs), Community Health Extension Workers (CHEWs), Junior Community Health Extension Workers (JCHEWs) and Community Midwives/Nurses. Cases of underutilization of health facilities for delivery among pregnant women have been widely reported in many places. In Niger, as at 2017, the maternal-mortality ratio (MMR) was 509/100,000 live births, 320/100,000 live births in Burkina Faso and 617/100,000 live births in Cote d' Ivore (World Health Organization (WHO), 2019). In Ghana, a gap exists between the use of antenatal care (ANC) provided in health facilities and deliveries in health facilities with skilled birth attendants. The report of the study of Boah et al. (2018) shows that 98.8% of women in rural Ghana received ANC services at least once during their recent pregnancy; and 67.9% attended ANC at least four times before delivery in health facilities with skilled attendants. However, the high prevalence of ANC usage does not translate to the use of health facility for deliveries. In a study conducted at PHC in Isfahan, from the women's perspective, there was gap in the dimension of quality services (Azarabadie & Aghlmand, 2016). Also, Tabatabael et al. (2015) found a negative gap in all dimensions of the maternity care services provided by delivery facilities in southeast Iran. According to United Nations (2015), the low utilization of maternal health service particularly at delivery undermines the achievement of sustainable development goal 3 towards reducing maternal and newborn mortality to 70 maternal deaths/100,000 live births and 12 newborn deaths/1000 live births by 2030 respectively.

Ethiopia, Mekie and Taklual (2019) reported a low utilization of existing health services due to factors related to poor quality of care and low client satisfaction. Danilack et al. (2015) reiterated that PHC facilities frequently lack providers skilled in caring for patient with obstetric emergencies, and transfusion of blood in case of emergencies. This sometimes makes PHC facilities not well suitable for dealing with complex obstetric emergencies that can arise suddenly. It has been observed that low quality of care at health facilities can out rightly discourage individuals from seeking necessary health services. Women who believe that quality of care is inadequate at a particular facility are likely to avoid accessing health services even when life saving intervention is available (Bhattacharyya et al., 2018; Acharya et al., 2018). Among the reasons for clinic-based delivery gap as outlined by Anastasi et al. (2015); Fekadi and Repassa (2014) include: cost, low maternal education, lack of transport, poor attitude of healthcare providers, number of ANC visit made by women before delivery and distance from place of living to health facility. In Ghana, despite the fact that delivery service is free in public health facilities, indirect cost such as cost of transportation and other materials may hinder rural women from accessing clinic-based delivery (Ganla, et al., 2014). In a study conducted in Zambia, it was revealed that 54.2%, 70.8% and 64.0% of women refuse to use ANC services due to experience of poor service quality, unfriendly staff attitude and unavailability of staff respectively (Enzor, 2014). In a similar view, analysis of Nepal's demographic and health survey indicated that only 38% of antenatal clients were very satisfied with the services provided at health facilities (Acharya et al., 2018).

Older women who are still giving birth many a times refuse to use health facility for their deliveries due to previous experiences. Boah et al. (2018) opined that women with previous birth experiences may decide not to use health facility for delivery perhaps there is no complication with previous childbirth compare to women with first experience of childbirth. Among the compelling reasons for a woman delivering for the first time to consider delivery at the health facility may include: no prior experience with childbirth, lack of self confidence and anticipated unforeseen complications (Boah et al., 2018). Based on the analysis of national health system in five African countries about the quality of basic maternal care, PHC facilities had low quality scores particularly delivery services on the basic maternal care quality index (Kruk et al., 2016). In the report of the study of Oyedele (2023), identified barriers to facility-based delivery include: high cost of facility delivery (8.6%), distance/transport issue (16.6%), lack of trust/poor service (2.6%), absence of female health providers (0.6%) and husband/family did not allow facility delivery (3.6%) and feeling not necessary to have clinic-based delivery (40.5%). Childbirth outside of PHCs is common in low-income settings such as Nigeria, and social support from husbands and relatives, the perceived high cost of healthcare at PHCs, and the unfriendliness of some health workers are the important factors influencing patronage of local birth attendants in those areas (Olasupo, et. al., 2021; Banke-Thomas et. al., 2020). Under-staffed healthcare facilities are less efficient in obstetric care and this has an impact on how often people seek for maternal care services (Udenigwe et. al., 2021).

Moreover, effective utilization of health facility during childbirth has positive correlation with the reduction of poor pregnancy outcome. However, the prevalence of institutional delivery is below the level of expectation as per WHO recommendation and even below the ANC prevalence in Nigeria (Oyedele et al., 2023; National Population Commission, ICF International, 2019). At the Koso PHC, record shows the high uptake of ANC service, but low utilization of health facility at the delivery time. In Oyo state, despite the introduction of Midwives Service Scheme (MSS) being an initiative that provides an emergency stoppage to the shortage of skilled birth attendance in the PHC system, skilled birth delivery is still low in some health facilities including Koso PHC. Again, in Oyo State, despite the implementation of “Tomotiya initiative” in 2020 aiming towards increasing the number of births by skilled birth attendance by 30%, yet, high ANC attendance did not translate to high clinic-based delivery in many PHC facilities. To the best of researchers’ knowledge, there is no known study that assessed clinic-based delivery gap in the locale of this present study. Therefore, it becomes imperative to study and address the clinic-based delivery gap and the perceived contributory indices at Koso PHC, Atiba local government, Oyo, Oyo State, Nigeria.

Objective of the Study

The main objective of this study was to assess the clinic-based delivery gap and the perceived contributory indices at Koso PHC, Atiba local government, Oyo, Oyo State, Nigeria.

The specific objectives of the study were to:

- 1) identify if there is there any gap in clinic-based delivery at Koso PHC, Atiba local government, Oyo, Oyo State, Nigeria; and
- 2) identify the perceived contributory indices to clinic-based delivery gap identified at Koso PHC, Atiba local government, Oyo, Oyo State, Nigeria.

Research Questions

The following questions were answered in this study:

- 1) What is the gap identified in clinic-based delivery at Koso PHC, Atiba local government, Oyo, Oyo State, Nigeria?
- 2) What are the perceived contributory indices to the clinic-based delivery gap identified at Koso PHC, Atiba local government, Oyo, Oyo State, Nigeria?

Methodology

A descriptive research design of the survey type was adopted in this study. This study was both clinic and community-based in nature. The population for the study comprised all registered antenatal clients (new & revisit between January-December, 2024), Koso Ward Development Committee (WDC) members, all Koso PHC staff (permanent, ad-hoc and voluntary) and Community Opinion Leaders (COLs) in Koso community totaling 1255. The study was carried out between January 2024 and January 2025. A sample size of 111 formed the respondents for the study. Multi-stage sampling technique was used to select the sample size. At the stage one, a purposive sampling technique was used to select 3 Koso PHC staff based on their professional skills and higher professional qualifications; 8 WDC members available during the data collection (being community representatives involved in the management of the PHC facilities) and 20 COLs who volunteered to participate in the study. At the stage two, a convenient sampling technique was used to select 80 postnatal clients during the infant welfare clinic days and the family planning clinic inclusive. Mixed instruments were used for qualitative data collection which includes: Focus Group Discussion (FGD) guide, Key Informant Interview (KII) guide and reviewing of existing clinic data. The items in both the FGD and the KII guides focused on perceived contributory indices to the clinic-based delivery gap; while ANC register and delivery report book were assessed to check for the clinic-based delivery gap. Both the FGD and KII guides were validated by 3 experts from the fields of Health Education, Community Health and Public Health. The consistency of the instruments used was ascertained using inter-rater method. Informed verbal consent of each participant was obtained before recruitment into the study and the objectives of the study were clearly explained to all the participants. The facility head of Koso PHC consented and gave the permission to check all the necessary documents needed at the facility for the study. Also, WDC chairman including the chief who is the head of Koso community gave the permission to carry out the study. FGD was conducted among WDC members, COLs and postnatal clients; while KII was conducted among the selected Koso PHC staff. During the FGD and KII sessions, a secretary was chosen as the recorder with another electronic device as a supplementary. Participants per cluster for each FGD session were 10 except that of WDC that was 8. This makes it 11 sessions of FGDs in all. KII conducted was among the 3 principal Koso PHC staff that is, 1 Nurse/Midwife; 1 Community Health Officer (CHO) and 1 Community Health Extension Worker (CHEW). The qualitative data obtained were analyzed using thematic analysis which helped in categorizing words into themes and then counting the number of instances in which they were used or occurred. Numerical values were assigned based on the number of participants' responses. Also, the research questions were answered and presented using percentage.

Results

Research Question One: What is the gap identified in clinic-based delivery at Koso PHC, Atiba local government, Oyo town, Oyo State?

Table 1: Percentage table showing gap identified in the clinic-based delivery at Koso PHC

Variable	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
Registered ANC Clients (New & Revisit)	129	80	110	112	127	92	102	114	93	106	87	75	1227
Total Clinic-based Deliveries	6	7	4	9	14	13	8	10	7	7	7	6	98
% of Clinic-based Deliveries	4.7%	8.8%	3.6%	8.0%	11.0%	14.1%	7.8%	8.8%	7.5%	6.6%	8.0%	8.0%	
Clinic-based Delivery Gap	123	73	106	103	113	79	94	104	86	99	80	69	1129
% of Clinic-based Delivery Gap	95.3%	91.2%	96.4%	92.0%	89.0%	85.9%	92.2%	91.2%	92.5%	93.4%	92.0%	92.0%	

Source: Antenatal Clinic Registers & Delivery Report Book (January to December, 2024)

In the table 1, out of 1,227 registered ANC (new & revisit) attendees at Koso PHC from January to December 2024, only 98 (8.0%) had clinic-based delivery; while 1129 (92.0%) had other modes of delivery which implies that, clinic-based delivery gap exists.

Research Question Two: What are the perceived contributory indices to clinic-based delivery gap identified at Koso PHC, Atiba local government, Oyo town, Oyo state?

Table 2: Percentage table showing perceived contributory indices to clinic-based delivery gap at Koso PHC

S/n	Items	Frequency	Percentage
1	Limited number of staffs	10	9.0
2	Indirect cost (e.g. transport cost, consumables etc)	4	4.0
3	Poor lighting at night	7	6.0
4	High preference for traditional birth homes	21	19.0
5	No security at night	6	5.0
6	Non-aesthetic clinic environment	9	8.0
7	Spiritual belief in traditional birth attendants	25	23.0
8	In-law pressure for traditional birth homes	18	16.0
9	Lack of spousal support	11	10.0
	Total	111	100

Based on the FGD and KII conducted among the postnatal clients, WDC and COLs, their themes were translated into numerical values above; large number of participants made mention of spiritual belief in traditional birth attendants 25 (23.0%), high preference for traditional birth homes 21 (19.0%) and in-

law pressure for traditional birth homes 18 (16.0%) as the major contributory indices to clinic-based delivery gap existing in Koso PHC, Atiba local government.

Discussion

From the table 1, in January, February, March, April, May, June, July, August, September, October, November and December, the clinic-based delivery gap at Koso PHC were as follows: 123 (95.3%); 73 (91.2%); 106 (96.4%); 103 (92.0%); 113 (89.0%); 79 (85.9%); 94 (92.2%); 104 (91.2%); 86 (92.5%); 99 (93.4%); 80 (92.0%) and 69 (92.3%) respectively. By implication, there was clinic-based delivery gap of 1128 (92.0%) out of 1,227 registered ANC (new & revisit) attendees. This finding buttresses the finding of Boah et al. (2018) in rural Ghana whereby at least for once, 98.8% of pregnant women received ANC services before delivery; and at least four times before delivery in facilities with skilled attendants, 67.9% attended ANC which does not translate to the use of health facilities for deliveries. This implies that there was high ANC attendance, but was very low utilization for the clinic delivery. Therefore, there may be some predictors for such an attitude among pregnant women. From the table 2, based on the information gathered from the respondents, the utmost perceived contributory index to clinic-based delivery gap at Koso PHC was spiritual belief in traditional birth attendants 25 (23.0%), followed by high preference for traditional birth homes 21 (19.0%); while the least perceived factor was indirect cost 4 (4%) such as transport fare cost, consumables among others. By implication, larger percentage of pregnant women living in Koso community and its environs heavily relied on traditional birth attendants and traditional birth homes for their deliveries instead of clinic-based type. The findings of this support the assertion of Olasupo, et. al. (2021); Banke-Thomas et. al. (2020) who submitted that, the perceived high cost of healthcare at PHCs and the unfriendliness of some health workers were among the key indices that made pregnant women to be patronizing local birth attendants. Although in this study, indirect cost seems less important, but Ganla et. al (2014) reported indirect cost such as cost of transportation and other materials as hindrances to clinic-based delivery among their respondents.

Conclusion and Recommendations

Based on the findings of the study, it was concluded that a significant gap exists in clinic-based delivery at Koso Primary Health Centre (PHC). The study further revealed that strong spiritual beliefs in traditional birth attendants, as well as a high preference for traditional birth homes, are the major factors contributing to this gap. These perceptions and practices continue to discourage the utilization of formal healthcare facilities for childbirth within the community. In light of these conclusions, several recommendations are proposed. Health workers should engage in sustained advocacy efforts across different segments of the community, working closely with members of the Ward Health Development Committee. Such efforts should emphasize the importance of clinic-based delivery as an effective measure for reducing maternal mortality and preventing birth-related complications. Furthermore, health workers, in collaboration with allied professionals such as health educators and public health officers, should implement comprehensive community-wide sensitization programs. These initiatives should aim to educate community members about the risks associated with reliance on traditional birth attendants and unregulated birth homes. By increasing awareness and promoting informed decision-making, these interventions can help improve the acceptance and utilization of healthcare facilities for safe delivery practices.

References

- Anatasi, E., Borchat, M., Campbell, O. M. R., Sondorp, E., Kaducv, F., Hill, O., Okeng, D., Odong, V. N. & Lange, I. L. (2015). Losing women along the path to safe motherhood: why is there such gap between women's use of antenatal care and skilled birth attendance? A mixed methods study in northern Uganda. *BMC Pregnancy Childbirth*, 15, 287. <https://doi.org/10.1186/s12884-015-0695-9>.
- Acharya, S. K., Sharma, S. K., Dulai, B. P. & Aryal, K. K. (2018). Quality of care and client satisfaction with maternal health services in Nepal further analysis of the 2015 Nepal health facility survey. DHS further analysis reports no 112 ICF Rockville, Maryland.
- Azarabadie, S. & Aghlmand, S. (2016). The real quality of maternity care in Iran hospitals: a quality assessment study. *IIOABJ*, 7:611-617.
- Banke-Thomas, A., Makwe, C.C, Balogun, M., Afolabi, B.B., Alex-Nwangwu, T.A. & Ameh, C.A. (2020). Utilization cost of maternity services for childbirth among pregnant women with coronavirus disease 2019 in Nigeria's epicenter. *International Journal of Gynecology & Obstetrics*; 152 (2): 242-248.
- Bhattacharyya, S., Srivastava, A., Saxena, M., Gogoi, M., Dwivedi, P. & Giessler, K. (2018). Do women's perspectives of quality of care during childbirth match with those of providers? A qualitative study in Uttar Pradesh, India. *Global Health Action*, 11:1527971.doi:10.1080/16549716.2018.1527971
- Boah, M., Mahama, A. B. & Ayamga, E. A. (2018). They receive antenatal care in health facilities, yet do not deliver there: predictors of health facility delivery by women in rural Ghana. *BMC Pregnancy Childbirth*, 18, 125. <https://doi.org/10.1186/s12884-018-1749-6>
- Danilack, V. A., Nunes, A. P. & Phipps, M. G. (2015). Unexpected complications of low-risk pregnancies in the United States. *American Journal of Obstetric & Gynecology*, 212(6): 809 e1-6
- Ensor, T., Quigley, P., Green, C., Badru, A., Kaluba, D. & Siziya, S. (2014). Knowledgeable antenatal care as a pathway to skilled delivery: modeling the interactions between use of services and knowledge in Zambia. *Health Policy and Planning*, 29(5): 580-588. <https://doi.org/10.1093/heapol/czto44>.
- Fekadu, M. & Regassa, N. (2014). Skilled delivery care service utilization in Ethiopia: analysis of rural-urban differentials based on national demographic and health survey (DHS) data. *African Health Science*, 14(4): 974-984.
- Gage, A. D., Carnes, F., Blossom, J., Aluvaala, J., Amatya, A., Malata, A., Roder-DeWan, S., Twum-Danso, N., Yahya, T. & Kruk, M. (2019). In low-and middle-income countries, is delivery in high-quality obstetric facilities geographically feasible? *Global Health Policy*, 38(9). <https://doi.org/10.1377/hlthaff.2018.05397>.

- Ganle, K. K., Parker, M., Fitzpatrick, R. & Otupiri, E. (2014). A qualitative study of health system barriers to accessibility and utilization of maternal and child newborn healthcare services in Ghana after user free abolition. *BMC Pregnancy Childbirth*, 14(1):1-17.
- Kruk, M. E., Leslie, H. H., Verguet, S., Mbaruku, G. M., Adanu, R. M. K. & Langer, A. (2016). A quality of basic maternal care functions in health facilities of five African countries: an analysis of national health system surveys. *Lancet Global Health*. 4:e845-855.doi:10.1016/S2214-109X(16)30180-2.
- Mekie, M. & Taklual, W. (2019). Delivery place preference and its associated factors among women who deliver in the last 12 months in Simada district of Amhara region, Northwest Ethiopia: a community based cross sectional study. *BMC Research Notes*; 12:114. doi:10.1186/s13104-019-4158-7.
- Morgan, A., Jimenez, Soto, E., Bhandari, G. & Kermode, M. (2014). Provider perspectives on the enabling environment required for skilled birth attendance: a qualitative study in western Nepal. *Tropical Medicine & International Health*. 19(12): 1457-1465. doi:10.1181/tmi.12390.
- Musarandega, R., Nyakura, M., Machekano, R., Pattinson, R. & Munjanja, S. P. (2021). Causes of maternal mortality in sub-Saharan Africa: A systematic review of studies published from 2015 to 2020. *Journal of Global Health*, 9. doi:10.7189/jogh/jogh.11.04048.
- National Population Commission, ICF International (2019). Nigeria demographic and health survey 2018 final report. Abuja, Nigeria: NPC and ICF.
- Nuamah, G. B., Agyei-Baffour, P., Mensah, K. A., Boateng, D., Quansa, D.Y., Dobin, D. & Addai-Donkor, K. (2019). Access and utilization of maternal healthcare in a rural district in the forest belt of Ghana. *BMC Pregnancy and Child Birth*, 19(6), 1-11. <https://doi.org/10.1186/s12884-018-2159-5>
- Olasupo, J.O., Tijani, Y.O., Akinoso, A.A., Komolafe, R., Makata, V.C., Abdulazeez, A., Babatunde, A.O. & Toluwalase, S. (2021). Bad attitudes and behaviours of some health workers: An important contributory factor to high maternal mortality in Nigeria. *Journal of Patient Care*, 7: 176.
- Oyedele, O. K. (2023). Disparities and barriers of health facility delivery following optimal and suboptimal pregnancy care in Nigeria: evidence of home births from cross-sectional surveys. *BMC Women's Health*, 23(194). <https://doi.org/10.1186/s12905-023-02364-6>
- Oyedele, O. K., Fagbamigbe, A. F., Akinyemi, O. J. & Adebawale, A. S. (2023). Coverage-level and predictors of maternity continuum of care in Nigeria: implications for maternal, newborn and child health programming. *BMC Pregnancy Childbirth*, 23(1): 36. <https://doi.org/10.1186/s12884-023-05372-4>.

- Purkan, D., Ranjan, M. & Dwivedi, L. K. (2018). Impact of timing of breastfeeding invitation on neonatal mortality in India. *International Breastfeeding Journal*, 13(27). <https://doi.org/10.1186/s13006-018-0162-0>.
- Udenigwe, O., Okonofua, F.E., Ntoimo, L.F.C., Imongan, W., Igboin, B. & Yaya, S. (2021). “We have either obsolete knowledge, obsolete equipment or obsolete skills”: policy makers and clinical managers’ view on maternal health delivery in rural Nigeria. *Family Medicine and Community Health*, 9(3):e000994
- Ugboaja, J. O., Oguejiofor, C. B., Oranu, E. O. & Igwegbe, A. O. (2018). Factors associated with using traditional birth attendants in Nigeria: A secondary analysis of 2013 Nigeria national demography and health survey. *Nigerian Journal of General Practice*, 16: 45-52.
- United Nations (2015). Sustainable development goals (SDG). Washington, D. C.
- Tabatabaei, S. M., Pour, F. B., Mallashahi, S. S. Moakhar, Z. S. & Zaboli, M. (2015). The quality gap in the service provided by rural maternity units in Southeast of Iran. *Health Scope*, 4(4): e25344.
- WHO (2019). Trends in maternal mortality 2000 to 2017: estimates by WHO, UNICEF, UNFPA, World Bank Group and the United Nations Population.