



IMA WORLD HEALTH



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Tracking Maternal Mortality

in the Democratic Republic of Congo

ASSP and ASSR - 2013 to 2022

MEASURING IMPACT ON MATERNAL DEATHS

BACKGROUND

According to the International Classification of Diseases (ICD), maternal death is defined as “the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes.”

Maternal mortality rate (MMR), or maternal deaths per 100,000 live births is considered one of the best indicators of the level of development of health systems and social inequalities in access to health care. This indicator is included in the Human Development Index (HDI) every year by the United Nations Development Program (UNDP).

For the achievement of the Sustainable Development Goals (SDGs), the aim is to reduce the MMR to 70 percent worldwide by 2030, which corresponds to an annual reduction of 7.5 percent on average. Eventually the goal is to eliminate avoidable maternal mortality. According to WHO, for countries with extremely high maternal

mortality rates today, greater than 450/100,000, the aim is to reduce this to 114/100,000 by 2030.

While the ICD definition of maternal death is broad, according to WHO, 75 percent of maternal deaths are due to direct obstetric complications such as antenatal and postpartum hemorrhage, postpartum infections, hypertension during pregnancy, complications of childbirth and abortions. These complications are preventable. Therefore, any interventions that address the prevention and management of direct obstetric complications will significantly reduce maternal mortality.

MMR IN DRC - WHERE ARE WE STARTING FROM?

MMR data for DRC is varied depending on the year and the source. For example:

- In DRC, the DHS 2013-2014 survey estimated the MMR at 846/100,000 births.
- The United Nations Inter-Agency Maternal Mortality Estimation Group (MMEIG) 2019 report shows MMR estimates for the DRC in 2017 at 473/100,000 births.
- 2021 DHIS2 data shows MMR at 236/100,000

births

It is widely accepted that the DHIS2 data on MMR is sorely under-reported. This is due to poor understanding or capture of the broad case definition of maternal mortality, lack of tracking mechanisms in the rural communities, and systemic and/or cultural barriers to reporting, which are beyond the scope of this paper.

TRACKING INTERVENTIONS IN ASSR – JUST SHORT OF MEASURING IMPACT?

The FCDO-funded ASSR project, which took place from 2019 to 2022, aimed to build on the successes of its predecessor, ASSP, which took place from 2013 to 2019, to support the health system in the DRC and address social inequalities in access to health care. A primary focus was on improving availability of and access to Emergency Obstetric Care (EmOC).

Throughout ASSR, implementing partners used serial surveys to report on EmOC readiness in health facilities, including tracking for appropriate completion of the partograph. IMA also reported on the number of deliveries attended by a skilled birth attendant.

Such programmatic process indicators are not translatable into “number of lives saved” or “maternal deaths prevented”; and, at the end of the project, IMA could not report with confidence the impact of ASSR on maternal mortality. Finally, while maternal deaths are documented by health facilities and reported through the DHIS2 system, there is general consensus about under- or other- reporting.



Germaine Muamba, Head Midwife of Lukonga Health Zone, studies a partograph for one of her patients with Maternity Nurse, Ngalula Kabikabu at Dikongayi Health Center in Kasai Central.

PROCESS INDICATORS

The UN Guidelines for Emergency Obstetric Services, published in 2003, outlines six process Indicators for reducing maternal mortality.

1. Amount of emergency obstetric care (EmOC) services available - *Do EmOC services exist?*
2. Geographical distribution of EmOC facilities - *Are EmOC services accessible to the population?*
3. Proportion of all births in EmOC facilities - *Are the EmOC services being used by pregnant women?*
4. Met need for EmOC services - *Are the EmOC services being used by women who really need them?*
5. Cesarean sections as a percentage of all births in the population - *Are appropriate referrals happening for high-risk situations?*
6. Case fatality rate - *Are the facilities saving women's lives?*

INGOs supporting health system strengthening would use these process indicators to focus their efforts on improving obstetric outcomes by ensuring EmOC services are available, geographically accessible and utilized (UN Process indicators 1-5).

In terms of tracking maternal deaths, using the broad ICD definition would be impossible to capture today, given that women in rural health zones typically spend on average only three to five days in the maternity following delivery. Deaths of pregnant women in the community are rarely reported to the health facility, and there is no follow up of discharged women postpartum before the child's first visit at 45 days for vaccination.

Case Fatality Rate: UN Process indicator 6, Case Fatality Rate, on the other hand, captures the proportion of women with obstetric complications admitted to a facility who die. If we assume that 75 percent of maternal deaths are due to obstetric complications, then deaths (case fatality) captured during the crucial point-in-time (labor & delivery and up to five days postpartum) should capture the majority of maternal deaths. It is possible, therefore, that Case Fatality/100,000 births is what the DHIS2 is currently capturing.

In summary, with process indicators clearly defined and monitored as part of project monitoring activities, and case fatality rate at health facilities already generated as part of DHIS2 reporting, we can track changes in case fatality over time through DHIS2 reporting against annual regression targets that we set at the project outset.

BEYOND ASSR

DEFINING CASE FATALITY GOALS AND TARGETS

ASSR made significant progress in terms of availability and utilization of EmOC services (i.e. UN Process Indicators 1-3) in health zones supported by the project. Beyond ASSR, we will build on this success and expand our focus to ensure evidence-based practices that reduce maternal deaths are consistently delivered.

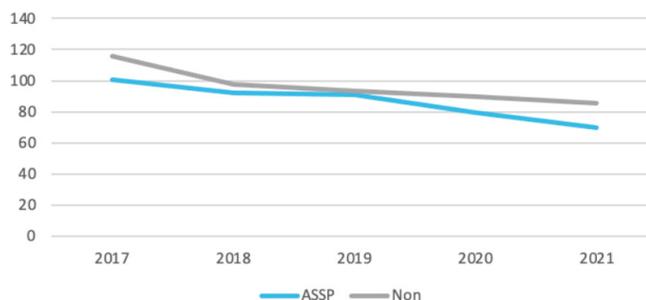
Beyond ASSR we track empirical data on Case Fatality Rates through DHIS2 reporting as a proxy for reporting MMR. It follows that project targets for maternal deaths will depend on the baseline case fatality rates and the projected annual regression rate that is targeted through project implementation.

Baseline: We will use 2021 data from DHIS2, that is 236/100,000 births. While labeled “Maternal Mortality Rate” in the system, we recognize that this number probably reflects deaths related to obstetrical complications within the facilities, or Case Fatality per 100,000 births.

Regression: We will use regression rates to calculate annual targets. DRC has two suggested annual maternal mortality

regression rates: 7.5 percent proposed by WHO for countries with extremely elevated MMR; and 4.8 percent observed regression rate for DRC in the MMEIG report. We would propose the more aggressive 7.5 percent annual regression rate for a project beyond ASSR. The logic is that planned intervention should strive for targets better than an observed, pre-intervention, rate.

Figure 1. DHIS2 average for maternal mortality [case fatality] rate in ASSR provinces compared to non-ASSR provinces.



THE AVERAGE OF CASE FATALITY RATES FOR ASSR PROVINCES WAS 5% LOWER THAN THE AVERAGE FOR NON-ASSR PROVINCES.

DHIS2 2021 [CASE FATALITY] / 100,000 BIRTHS

The tables below illustrate the compared annual targets for [Case Fatality]/100,000 births in Kasai province through 2030 using annual regression rates of 7.5% and 4.8%.

Table 1. Regression Rate of 7.5%

Données de l'OMS ODD (Mortalité maternelle)						Application ODD dans la DPS KASAI												
pays	DONNES DE BASE OMS		Objectif 230		reduction annuelle en %	DONNEES DE BASE KASAI			REGRESSIONS ANNUELLES									
	nbre des décès M	Naissance vivantes	nbre des décès M	Naissance s vivantes		POP KASAI attendu 2030	Nces attendus 4%	Décès M attendus / BIRTHS LIVES	Y1/2022	Y2/2023	Y3/2024	Y4/2025	Y5/2026	Y6/2027	Y7/2028	Y8/2029	Y9/2030	
RDC	236	100000	114	100000	92.5	9466076	378643	894	827	765	707	654	605	560	518	479	443	
								pop	7472608	7696786	7927690	8165521	8410486	8662801	8922685	9190365	9466076	
								naissance	298904	307871	317108	326621	336419	346512	356907	367615	378643	
								decès mat	277	248	223	200	180	162	145	130	117	

Table 2. Regression Rate of 4.8%

Données de l'OMS ODD (Mortalité maternelle)						Application ODD dans la DPS KASAI												
pays	DONNES DE BASE OMS		Objectif 230		reduction annuelle en %	DONNEES DE BASE KASAI			REGRESSIONS ANNUELLES									
	nbre des décès M	Naissance vivantes	nbre des décès M	Naissance s vivantes		POP KASAI attendu 2030	Nces attendus 4%	Décès M attendus / BIRTHS LIVES	Y1/2022	Y2/2023	Y3/2024	Y4/2025	Y5/2026	Y6/2027	Y7/2028	Y8/2029	Y9/2030	
RDC	236	100000	114	100000	95.2	9466076	378643	894	851	810	771	734	699	665	633	603	574	
								pop	7472608	7696786	7927690	8165521	8410486	8662801	8922685	9190365	9466076	
								naissance	298904	307871	317108	326621	336419	346512	356907	367615	378643	
								decès mat	285	263	243	225	208	192	177	164	152	

DATA COLLECTION

Table 3. SAMPLE Indicators and Targets aimed at Reducing Maternal Deaths, beyond ASSR.

GOAL	INDICATOR	TARGETS (YEAR 1 / END OF PROJECT)	SOURCE / PERIODICITY
1. Quality EmONC services are available in all HZ	Number of facilities per HZ that are equipped and staffed to provide EmOC services	Year 1: 1 EmOC-C and 4 EmOC-B per HZ Target: 100% health facilities are equipped and staffed to provide EmOC services	Survey, iHRIS (quarterly)
2. Quality EmONC services are accessible to all communities all HZ	Facilities providing EmOC are geographically accessible to all health areas ("aires de sante")	Year 1: 1 EmOC-C and 4 EmOC-B per HZ Target: 100% "aires de sante" are within 10 km of EmOC services	Mapping (quarterly)
3. Women with obstetric complications deliver in EmOC facilities	Proportion of all births in the population that take place in EmOC facilities	Year 1: 80% Target: 100%	Registry, DHIS2 (quarterly)
4. Women with obstetric complications receive evidence-based treatment in EmOC facilities	Proportion of women with obstetric complications treated according to evidence-based guidelines	Year 1: 80% Target: 100%	Registry, Partograph review, SDMR reports (quarterly)
5. Women with obstetric complications have appropriate access to Cesarean section	Cesarean deliveries as a proportion of all births in the population	Year 1: Target: 5-15%	DHIS2 (monthly)
6. Maternal deaths per 100,000 births decrease at a rate of 7.5% annually	YoY – Maternal deaths per 100,000 births	See 7.5% regression targets	DHIS2, SDMR reports (monthly)