Research Article
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Maternal death surveillance summary report from July 1, 2024 to March 30, 2025

Abstract

Introduction: It's usually a joyful event when women give birth to a baby she wishes. But birth is a critical time for the health of the mother and baby. Skilled care throughout pregnancy from inception to postnatal care is life-saving for women and the child and institutional delivery is the one which is the most important place to get such services. Reproductive health care is a highly focused issue in the development of a country and delivery service to pregnant women is the most important component of reproductive health care to handle high-risk deliveries.

Method: A retrospective, cross-sectional analysis was conducted on 258 maternal death reports submitted to the Ethiopian Public Health Institute via the national Public Health Emergency Management system from July 1, 2024, to March 30, 2025. Data, collected through facility abstraction (51%) and verbal autopsy (46%), were analyzed descriptively to profile demographic characteristics, causes of death, and contributing factors using the "Three Delays" model.

Result: From the 258 maternal death 133 (51%) of were extracted from facility abstraction format, 118(46%) of them were extracted from verbal autopsy and 7(3%) MD source were not identified. The majority 150(58%) of maternal deaths were happened at hospital followed by home which contributes 50(19.3%) of MD. 157 (62 %) of maternal deaths were happened during post-partum period. From Direct obstetric cause hemorrhage was the leading cause of maternal death (41%) followed by HDP (16%) of MD. Anemia was the leading cause among the indirect obstetric causes of deaths (17%). 82%-Maternal death was believed that the death was preventable.

Conclusion and recommendation: The findings expose a critical paradox: most deaths are preventable and occur within healthcare facilities, yet are preceded by profound community and systemic delays. To avert these losses, urgent action is needed on two fronts: (1) strengthening community mobilization and education to ensure timely care-seeking, and (2) ensuring health facilities are fully equipped and prepared to provide quality emergency obstetric care without delay. The full implementation of the MDSR "Response" component is essential to translate these findings into life-saving policy and practice.

Keywords: maternal mortality, maternal death surveillance and response (MDSR), three delays, Ethiopia, preventable deaths, emergency obstetric care

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Background

It's usually a joyful event when women give birth to a baby she wishes.[1] But birth is a critical time for the health of the mother and baby.[2] Skilled care throughout pregnancy from inception to postnatal care is life-saving for women and the child and institutional delivery is the one which is the most important place to get such services.[3] Reproductive health care is a highly focused issue in the development of a country and delivery service to pregnant women is the most important component of reproductive health care to handle high-risk deliveries.[4] Utilization of essential obstetric care services, including but not limited to antenatal care (ANC), skilled attendants at birth, and postnatal care, contribute to the reduction of maternal and neonatal mortality and morbidity.[5] Over three-quarters of maternal deaths is due to causes directly related to pregnancy and childbirth and more than 60% of maternal deaths occur immediately following delivery, with more than half occurring within a day of delivery.[6] About 80% of preventable maternal deaths are due to severe bleeding, infections, unsafe induced abortion, hypertensive disorders in pregnancy, and obstructed labor, prolonged labor, and eclampsia.

The health of mothers is mostly regarded as an indicator of the health of society. But maternal mortality is continued as one of the scariest health challenges globally and particularly in Sub-Saharan African countries including Ethiopia.[7] Despite the international emphasis on the need to address the unmet health needs of pregnant women and children, progress in reducing maternal mortality has been slow.[8] Every year, an estimated 300,000 maternal deaths occur worldwide and 12 million suffer from birth complications and particularly in sub-Saharan Africa where over 162,000 women still die each year during pregnancy and childbirth.[9] The sustainable development goals (SDGs) call for an accelerated reduction in MMR to fall to 70 or below by 2030 (20). But it is reported that globally, about 300,000 women die each year due to preventable causes.[10]

High MMRs are not uniformly distributed across sub-Saharan Africa. For instance, for every 100,000 live births in 2024, Sierra Leone had an MMR of 1100, the Central African Republic had 880, South Sudan had 730, Nigeria had 560, and Ghana had 380. The estimated maternal mortality ratio (MMR) for high-income regions was 12/100,000 live births and, for low-income regions was 239/100,000.

Ethiopia is a major contributor to the worldwide death tax of mothers with a maternal mortality ratio of 412 per 100,000 live births and 19,000 maternal deaths annually. Despite the Ethiopian

government's efforts to expand health service facilities and promote institution-based delivery service in the country, maternal health services are poorly equipped, inaccessible, negligible, and not well documented. The pregnancy-related mortality ratio in Ethiopia was 412 maternal deaths per 100,000 live births according to the 2016 DHS survey. Institutional delivery service is an effective intervention for reducing the risk of maternal morbidity and mortality.

This Maternal Death Surveillance and response (MDSR) summary report serves to provide Key information's on MDSR activities and summarizes maternal death notification and case-based reports received during the last 9 months from July 1 / 2024 – March 30/ 2025. From all reporting regions and city administrations. It highlights the national maternal surveillance to assess the maternal death notification status with other diseases and conditions under surveillance in Ethiopia, trends of maternal death notification and maternal death case based reports of the reporting regions/ city administrations, identified silent zones (frequently zero reporting zones for the last 9 months) and aggregate summery of the (Maternal Death Reporting Formats) MDRF reported in the last 9 months. This report presents a descriptive analysis of data from Ethiopia's national Maternal Death Surveillance and Response (MDSR) system for the period from July 1, 2024, to March 30, 2025.

Objective

General objective

To provide a comprehensive nine-month epidemiological summary of notified maternal deaths in Ethiopia, analyzing the causes, determinants, and health system gaps to inform urgent, evidence-based policy and programmatic interventions aimed at reducing preventable maternal mortality.

Specific objective

1) To characterize the trends and sources of maternal death notifications across reporting regions from July 1, 2024, to March 30, 2025.
2) To describe the socio-demographic and obstetric profile of deceased mothers, including age, education, parity, and timing of death.
3) To determine the leading medical causes (direct and indirect) of maternal death during the reporting period.
4) To analyze the contributing factors using the "Three Delays" model to identify the predominant health system and community-level barriers to care.
5) To assess the perceived preventability of reported maternal deaths.
6) To provide actionable recommendations for strengthening the Maternal Death Surveillance and Response (MDSR) system and improving the quality of emergency obstetric care.

Methodology

Study design and setting

We conducted a retrospective, cross-sectional analysis of all maternal death reports received at the Ethiopian Public Health Institute (EPHI) through the national Public Health Emergency Management (PHEM) system. The reporting framework includes all regions and city administrations of Ethiopia.

Data source and collection

The primary data source was the standardized national Maternal Death Reporting Format (MDRF). These case-based reports are generated through two primary mechanisms:

Facility Abstraction: For deaths occurring within health facilities, trained personnel completed the MDRF by reviewing medical records and conducting interviews with involved healthcare providers.

Verbal Autopsy: For deaths occurring in the community (e.g., at home), trained data collectors, typically Health Extension Workers or PHEM officers, administered a standardized verbal autopsy questionnaire to family members or close associates of the deceased to ascertain the cause and circumstances of death.

Reports were compiled at the woreda (district) and regional health bureau levels before electronic submission to the central database at EPHI.

Variables

Socio-demographic characteristics: Age, marital status, parity, educational level.

Death circumstances: Place of death (home, health center, hospital), timing relative to pregnancy (antenatal, intrapartum, postpartum).

Cause of death: Classified as direct obstetric causes (e.g., hemorrhage, hypertensive disorders) or indirect obstetric causes (e.g., anemia, existing disease exacerbated by pregnancy), as determined by clinical review or verbal autopsy algorithms.

Contributing factors: Analyzed using the "Three Delays" model: Delay I (decision to seek care), Delay II (reaching an appropriate facility), and Delay III (receiving adequate care upon arrival).

Preventability: Each case was assessed by reviewing health officers or committees at the reporting level for perceived preventability based on the care pathway.

Data management and analysis

Data were cleaned and analyzed using descriptive statistics (frequencies, percentages) in statistical software (e.g., SPSS, STATA, or R). Results are presented in tables and figures. Trends were analyzed over the epidemiological weeks of the reporting period. Ethical oversight for the national MDSR system is provided by EPHI, and data were handled anonymously.

Limitations

Key limitations include under-reporting, particularly of community deaths; variability in the quality and completeness of reporting across regions; and the inherent challenges of determining precise causes of death from verbal autopsies.

Results

Maternal death Notification from cases-based report

During the last nine months, a total of 258 maternal deaths were reported from five regions and one city administration through a case-based reporting format (MDRF). Of these, 85 (33%) occurred in Oromia, 64 (25%) in Tigray, and 59 (23%) in the Amhara region. Among the 258 reports received at EPHI, 133 (51%) were extracted using the Facility Abstraction Format, 118 (46%) were derived from Verbal Autopsy, and the source of the remaining 7 reports (3%) could not be identified (Table 1).

Citation: Meshesha TA, Abera T, Assefa K, et al. Maternal death surveillance summary report from July 1, 2024 to March 30, 2025. *MOJ Women's Health.* 2026;14(1):19–23. DOI: 10.15406/mojwh.2026.14.00332

Table 1 Number of maternal deaths reported to EPHI from notified maternal deaths through PHEM system, from July 1, 2024 – March 30, 2025

Region	MDRF (%)
Oromia	85(32.95)
Tigray	64(2481)
Amhara	59(22.87)
Addis Ababa	25(9.69)
Harari	18(6.98)
Gambella	7(2.71)
Grand Total	258(100%)

In last nine months on average 7 maternal death were notified per month with a minimum 0 which was notified during WHO Epi week 1 to maximum 21 which was notified during WHO Epi week of 43 (Figure 1).

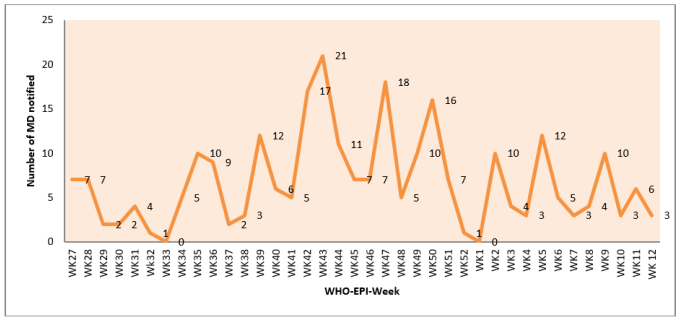

Figure 1 Maternal death notification trend per week of reporting from July 1, 2024 – March 30, 20225.

Socio demographic and personal characteristics of deceased mothers

Of 258 maternal deaths reported, 71(28%) of them were aged between 26-30 years old (Figure 2).

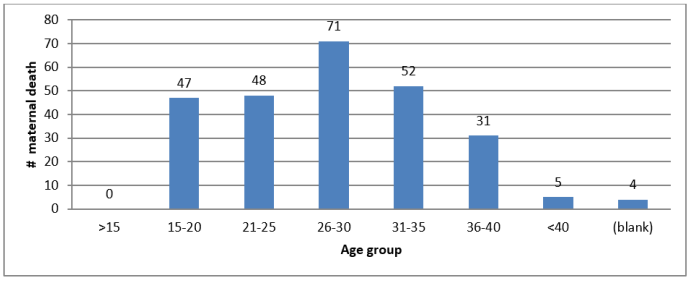

Figure 2 Distribution of reported maternal death per age group from July 1, 2024 – March 30, 2025 N=258.

The majority of the deceased mothers, 236 (91%), were married. Regarding parity, 104 (40%) had a parity of 2–4, 36% had a parity of 0–1, and 22% had a parity of 5 or more. Of the 258 reported maternal deaths, 110 (42.6%) were among women who were illiterate or had no formal education. Additionally, 24 (9.3%) had attended elementary school, 10 (3.6%) had reached high school, and 7 (2.7%) had attended college or above.

Place of death

In related to place of death, majority 150(58%) of maternal deaths were occurred at hospital followed by home which contributes 50(19.4%) of the total (Figure 3).

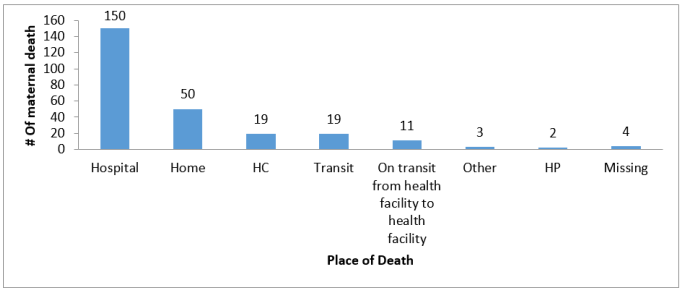

Figure 3 Distribution of reported maternal death per health facility from July 1, 2024 – March 30, 2025 N=258.

Obstetric factors

Of the total maternal deaths reported, 79% were attributed to direct obstetric causes, while 20% were related to indirect causes. Among the direct obstetric causes, hemorrhage was the leading cause of maternal death, accounting for 41% of all cases reported over the last nine months. This was followed by hypertensive disorders of pregnancy, which were responsible for 16% of deaths. Among indirect causes, anemia was the most prominent, contributing to 17% of maternal deaths during the same period (Figures 4–6).

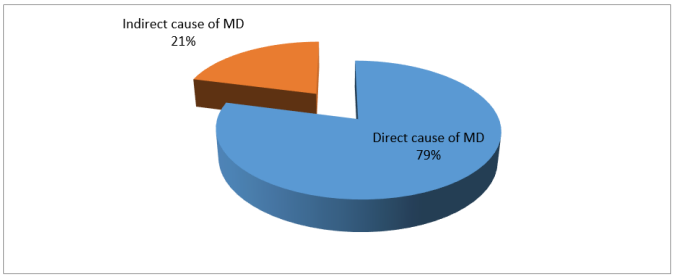

Figure 4 Distribution of reported maternal death per cause of death from July 1, 2024 – March 30, 2025 N=258.

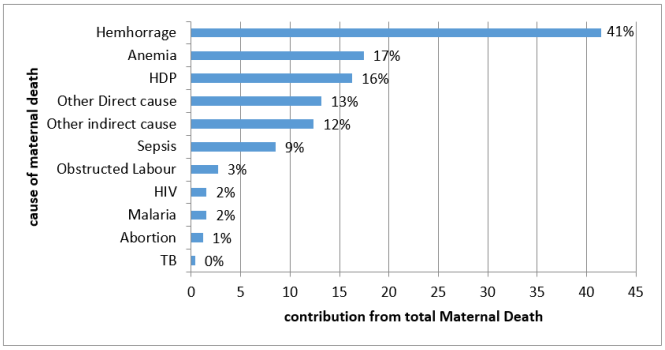

Figure 5 Distribution of reported maternal death per cause of death from July 1, 2024 E.C – March 30, 2025 N=258

Almost all, 157(62 %) of maternal deaths were happened during post-partum period.

For the maternal deaths reported during the last nine months, Delay1 reported for 221(86%), Delay2 for 147(57%) and Delay3 for 123 (48%) of Maternal Death. lack of decision to health facility were responsible for 29 % of Maternal deaths followed by failure recognized of the problem (24%) in delay one category. Delayed arrival to referred health facility takes the majority proportion (25%) from delay two factors. Delayed arrival from health facility to another facility takes the largest proportion among delay three factors, which is 22% (Figure 7).

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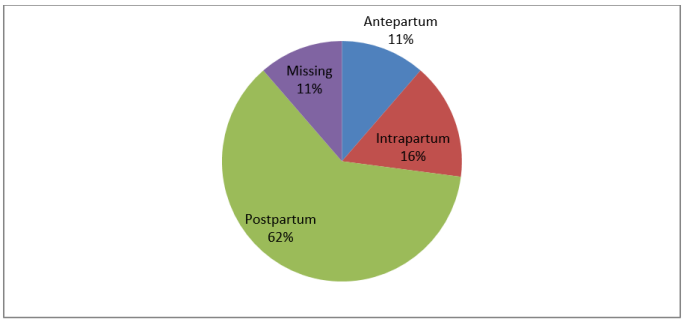

Figure 6 Distribution of reported maternal death per timing of pregnancy from July 1, 2024– March 30, 2025

Contributing factors: The three-delay model.

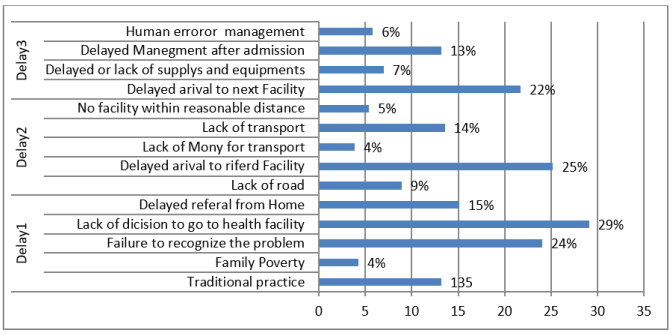

Figure 7 Distribution of contributing factors by delay model for maternal deaths reported July 1, 2024 E.C – March 30, 2025.

Interrupted oxygen supply, blood transfusion, Lack of blood supply, Vasopressors, magnesium salphate, no chemistry machine, and mechanical ventilator was other listed shortage of supply.

Of the total, 258 MD reported 222 (86 %) of maternal deaths were filled about the death attributed to preventability; 82 % of maternal deaths were believed that the maternal deaths were preventable.

Discussion

This nine-month surveillance paints a sobering picture of maternal health in Ethiopia, where the act of bringing life into the world remains perilously linked to death for hundreds of women. The data reveals a tragic paradox: while the majority (58%) of maternal deaths occurred in hospitals sites intended for safety this statistic underscores a systemic failure. It suggests not that hospitals are inherently dangerous, but that women are arriving too late, often in critical condition after prolonged delays, turning these facilities into places of last resort rather than centers of proactive care. The fact that nearly one in five deaths still occurs at home speaks to significant gaps in community-based surveillance and the accessibility of timely care.

The leading causes of death are starkly clear and persistently preventable: hemorrhage (41%) and hypertensive disorders (16%) account for more than half of all lives lost. These are not mysteries of modern medicine; they are conditions with established, life-saving protocols. Their predominance points directly to weaknesses in the continuum of care, from early identification in the community to emergency readiness within facilities. The "Three Delays" model analysis confirms this, with 86% of cases involving a delay in deciding to seek care often rooted in socioeconomic factors and a lack of awareness and nearly half experiencing delays in receiving adequate care after reaching a facility. This final delay is tragically illustrated by reported shortages of essential supplies like blood, oxygen, and anticonvulsants.

Perhaps the most devastating, figure is that 82% of these deaths were deemed preventable. This is not a dry statistic; it represents over 200 individual women mothers, daughters, partners whose lives could have been saved with a more responsive and resolute system. Their stories are echoed in the demographic data: most were young, in their prime reproductive years (26-30), and a significant proportion had low or no formal education, highlighting the intersecting vulnerabilities of gender, youth, and literacy.[11–21]

Conclusion

The findings compel us to move beyond surveillance as a mere counting exercise and into the heart of the MDSR mandate: Response. Knowing that most deaths are preventable and occur postpartum in hospitals creates a clear mandate for action. We must reframe hospitals not as endpoints for maternal mortality but as critical control points where every arrival must trigger a flawless, well-resourced emergency protocol. This requires fixing the known, tangible gaps: ensuring consistent availability of blood products, emergency medications, and functional equipment in every delivery unit.

Ultimately, reducing these preventable deaths demands a dual-front strategy. First, we must empower communities through targeted education, enabling earlier recognition of danger signs and dismantling the barriers to seeking care. Second, we must strengthen the health system's capacity to provide quality emergency obstetric care without delay. Each maternal death reviewed must translate into a concrete, local system correction. The memory of these 258 women must serve as the most urgent catalyst for change, transforming data into decisive action that honors their lives by protecting others.

Recommendations

a) Strengthen integration of MDSR and PHEM structures at all levels starting from RHBs by providing training for untrained PHEM focal points.

b) Strengthening ownership of regional and woreda health offices PHEM unit by including MDSR in the performance indicators of the unit

c) Incorporates Maternal as one event expected to report to next level by the upcoming community and event-based surveillance

d) Providing orientation for community leaders, 1-5 networks, HDA, HEWs, Political leaders, health professionals working in different departments of the health institution

e) The R part of MDSR report with best practice should be documented and reviewed at each level for response

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Conflict of interest

The authors have no conflict of interest.

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