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**Strengthening Emergency Obstetric Care and Reducing Maternal Deaths in Kiambu County**

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| **County:** | **Kiambu** | | |
| **Sector/s:** | **Health** | **Sub-sector/Theme:** | **Maternal Health Care** |
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| **Target Audience:** | **National Government, County Governments, health sector stakeholders, development partners, healthcare workers, general public** | | |
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**Introduction**

Maternal mortality remains one of the leading public health challenges in Kenya, with postpartum hemorrhage (PPH) and hypertensive disorders in pregnancy, including preeclampsia, accounting for a significant proportion of maternal deaths during pregnancy, childbirth, and the post-delivery period. According to the 2019 Kenya Population and Housing Census, Kenya's maternal mortality ratio remains high at 355 maternal deaths per 100,000 live births, highlighting persistent challenges in access to timely emergency obstetric care, skilled healthcare workers, blood products, referral systems, and life-saving maternal health commodities. Excessive bleeding following childbirth remains one of the leading direct causes of maternal mortality globally and in Kenya, particularly where emergency response systems and access to specialized care remain inadequate.

In Kiambu County, maternal emergencies continued to pose significant risks to pregnant women and mothers requiring emergency obstetric care, specialized treatment, blood transfusion services, or urgent referral to higher-level facilities. Delays in accessing timely care, shortages of blood products during emergencies, inconsistent availability of maternal emergency commodities, and limited access to specialist healthcare workers increased risks of complications and preventable maternal deaths. These challenges mainly affected pregnant women, mothers during childbirth and post-delivery periods, newborns, and families dependent on public healthcare facilities for maternal and newborn care services.

Maternal deaths and severe obstetric complications not only resulted in loss of life, but also caused emotional distress, social disruption, and economic hardship for families and communities. The County further recognized that reducing maternal mortality required more than isolated facility-level interventions, but a coordinated and systems-based response strengthening emergency preparedness, referral coordination, blood availability, workforce capacity, accountability systems, and community surveillance in maternal healthcare services.

Recognizing the need for a more integrated maternal health response, Kiambu County implemented a comprehensive maternal healthcare improvement strategy focusing on leadership and governance, emergency obstetric preparedness, blood and blood products management, referral systems, specialist deployment, community engagement, and strengthening of Maternal and Perinatal Death Surveillance and Response (MPDSR) systems.

As a result of these interventions, Kiambu County recorded zero maternal deaths in all public hospitals between December 2025 and May 2026 attributable to the two leading causes of maternal mortality, postpartum hemorrhage and hypertensive disorders of pregnancy, including preeclampsia.

**Implementation of the Practice**

To strengthen maternal healthcare services and reduce preventable maternal deaths arising from obstetric emergencies, Kiambu County adopted a coordinated and systems-based approach focusing on leadership and governance, emergency obstetric preparedness, specialist deployment, blood availability, referral coordination, community engagement, and strengthening of Maternal and Perinatal Death Surveillance and Response (MPDSR) systems across public health facilities.

*Figure 1Fully equipped neonatal incubator station at Kiambu Level Five Hospital providing specialized care for premature and critically ill newborns*

The interventions were implemented across all public maternity facilities within the County from 2023 to date, with significant scale-up occurring between 2024 and 2025. Implementation involved collaboration between the County Government, public hospitals, private and faith-based

maternity facilities, Community Health Promoters (CHPs), development partners, and referral hospitals including Kenyatta National Hospital and Kenyatta University Teaching, Referral and Research Hospital. Their roles included policy leadership, emergency response coordination, commodity provision, technical support, referrals, surveillance, specialist care, and community mobilization.

### 1. Strengthening Leadership, Governance, and Accountability

The County Government of Kiambu, under the leadership of H.E. Governor Dr. Kimani Wamatangi, prioritized maternal health as a key agenda to reduce preventable maternal deaths and strengthen emergency obstetric care services. County leadership maintained open and responsive engagement with frontline healthcare workers, enabling timely escalation and resolution of maternal health challenges.

In June 2025, the Governor convened a County-wide maternal health stakeholders' forum bringing together representatives from 136 maternity facilities, including 36 public and 100 private and faith-based facilities. The forum provided a platform to share best practices, address maternal health challenges, strengthen referral linkages, and promote collective accountability for maternal health outcomes.

*Figure 2Specialized neonatal care in Kiambu County, strengthening survival and health outcomes for newborns*

The County strengthened governance and accountability for maternal and newborn health through active involvement of the County Executive Committee Member (CEC) for Health, the Chief Officer, and the County Director of Health in Maternal and Perinatal Death Surveillance and Response (MPDSR) processes. A County MPDSR Committee, chaired by Dr. Maina and comprising representatives from all health departments, including medical services, nursing, and laboratory services, meet every two weeks to review cases and monitor implementation of recommendations. Complementing this structure, each sub-county has an MPDSR sub-committee that meets weekly and reports to the County committee, ensuring

continuous learning, accountability, and timely follow-up of actions across the health system. This sustained leadership involvement enhanced coordination of maternal health interventions and supported continuous quality improvement across facilities.

**2. Strengthening Emergency Obstetric Preparedness and Access to Life-Saving Commodities**

To improve management of obstetric emergencies, the County strengthened availability of essential maternal emergency commodities and adopted evidence-based interventions aimed at reducing deaths arising from excessive bleeding during childbirth.

Kiambu County became the second County in Kenya to fully adopt the World Health Organization recommendations on prevention and treatment of postpartum hemorrhage following successful pilot implementation in Makueni County. The recommendations emphasize timely use of evidence-based maternal emergency interventions, including Heat Stable Carbetocin and Tranexamic Acid, which are critical in prevention and management of excessive bleeding during childbirth and the post-delivery period (World Health Organization (WHO), 2012).

Beginning November 2024, all public facilities offering maternity services, including Level 3 hospitals, consistently stocked Heat Stable Carbetocin and Tranexamic Acid without stock-outs. Availability of these commodities strengthened preparedness of maternity facilities to respond promptly to obstetric emergencies while improving management of postpartum hemorrhage among mothers during childbirth and post-delivery periods.

The intervention improved continuity of emergency maternal healthcare services and reduced delays associated with shortages of life-saving maternal health commodities during obstetric emergencies.

**3. Health Workforce Strengthening and Specialist Support**

Recognizing the critical role of skilled healthcare workers in emergency maternal care, Kiambu County strengthened workforce capacity through deployment of specialist obstetricians, mentorship, supportive supervision, and coordination of emergency obstetric services.

The County currently has 33 specialist obstetricians deployed across its health facilities, including all Level 4 hospitals, improving access to specialized maternal healthcare and timely management of high-risk pregnancies and obstetric emergencies closer to communities.

Healthcare workers also receive continuous mentorship, technical support, and clinical supervision to strengthen the quality of maternal healthcare services and emergency response capacity across facilities.

To promote peer learning and collaboration, the County convened a maternal health stakeholders' forum in June 2025, bringing together healthcare providers from public, private, and faith-based maternity facilities. The forum provided an opportunity to share experiences, discuss challenges,

review lessons from maternal death reviews, and strengthen coordination in the delivery of maternal healthcare services across the County.

4. **Strengthening Blood and Blood Products Management Systems**

Recognizing the critical role of blood availability during maternal emergencies, particularly in the management of postpartum hemorrhage, Kiambu County strengthened blood supply systems through regular blood donation drives, procurement of blood bags and screening reagents during periods of national shortages, and enhanced coordination with blood transfusion services to ensure continuity of supply within public hospitals.

A key innovation introduced by the County was the *Expectant Fathers of Kiambu* initiative, which integrated blood preparedness into Antenatal Care (ANC) services. During ANC visits, expectant mothers were encouraged to attend clinic appointments with their partners, who were sensitized on the childbirth journey, potential obstetric emergencies, and the importance of blood donation in saving maternal lives. Based on mothers' blood group profiles, haemoglobin levels, and anticipated delivery needs, partners and family members were encouraged to donate blood before the expected date of delivery.

This proactive approach enabled facilities to secure blood in advance for mothers who might require transfusion during delivery or emergency obstetric care. In many cases, blood was already available at the mother's preferred facility upon admission, significantly reducing delays during emergencies. Where the blood was not utilized, it was released back to the blood bank for use by other patients after safe delivery and postnatal recovery.

The intervention, first introduced in 2020, helped maintain adequate blood bank stocks even during periods of low donor turnout, including the COVID-19 pandemic when blood shortages were experienced in many parts of the country. Combined with routine blood donation campaigns and strengthened blood management systems, the approach significantly improved emergency preparedness within maternity units.

Since March 2025, Kiambu County has not experienced blood shortages affecting emergency maternal care, strengthening the County's capacity to respond to severe obstetric bleeding and other maternal emergencies while contributing to improved maternal health outcomes.

### 5. Strengthening Referral Coordination and Emergency Response Systems


*Figure 3Kiambu ambulances that were rehabilitated and fully equipped by the Kiambu County Government*

To reduce delays in accessing emergency obstetric care, Kiambu County strengthened referral coordination and emergency transport systems for mothers and newborns requiring specialized care.

The County also strengthened coordination between Level 4 and Level 5 hospitals to streamline referral pathways, improve emergency communication, and enhance management of obstetric emergencies between facilities.

The County dedicated a fully operational ambulance exclusively for maternal and newborn referrals, operating 24 hours a day with continuous fuel support to ensure uninterrupted emergency response services across the County.

Coordination between Level 4 and Level 5 hospitals was strengthened to streamline referral pathways, improve communication, and enhance management of obstetric emergencies. The County leveraged the Health Management Information System (HMIS) to digitize referral processes, enabling referring facilities to electronically initiate referrals and automatically alert receiving hospitals in real time. The system also provides visibility into workload and ongoing operations across facilities, facilitating timely decision-making and better coordination of care. By replacing the previously cumbersome process that relied on phone calls and manual communication, the interventions reduced delays in referral management, improved continuity of care, and strengthened access to specialized maternal healthcare services during obstetric emergencies.

### 6. Community Engagement and Maternal Health Awareness

Kiambu County strengthened community engagement and maternal health awareness interventions to promote early identification and timely referral of mothers experiencing pregnancy-related complications.

In 2023, the County introduced Open Maternity Days with support from development partners to enhance awareness on antenatal care, danger signs during pregnancy, birth preparedness, and safe delivery practices. The forums strengthened engagement between healthcare workers, pregnant mothers, caregivers, and communities while promoting informed maternal health decisions.

Community Health Promoters (CHPs) were also empowered to support community surveillance, early identification of high-risk pregnancies, and timely referral of mothers requiring urgent medical attention. Through household visits and health education, CHPs promote antenatal care attendance, birth preparedness, and continuity of care.

These community-based interventions have strengthened maternal health awareness, improved linkage to healthcare services, and enhanced early detection and referral of pregnancy-related complications within communities.

**7. Strengthening Maternal and Perinatal Death Surveillance and Response (MPDSR)**

To strengthen accountability, learning, and quality improvement within maternal healthcare services, Kiambu County enhanced implementation of Maternal and Perinatal Death Surveillance and Response (MPDSR) systems across public, private, and faith-based health facilities. Notably, Kiambu was among the first Counties to institutionalize a County-wide MPDSR framework that actively engaged public facilities, faith-based organizations, and private hospitals in maternal death reviews and response actions.

The County provided a dedicated vehicle to support rapid response, supportive supervision, maternal death reviews, and coordination of MPDSR activities. It also facilitated virtual and physical joint maternal death reviews involving referral hospitals, including Kenyatta National Hospital and Kenyatta University Teaching, Referral and Research Hospital, strengthening follow-up of maternal deaths occurring within and outside the County.

A key milestone has been the establishment and active functioning of the County Maternal and Perinatal Death Surveillance and Response (MPDSR) Committee, chaired by Dr. Maina and comprising representatives from all health departments, including medical services, nursing, and laboratory services, as well as maternity facilities from the public, private, and faith-based sectors. The committee meets every two weeks to review cases, promote collective learning, and monitor implementation of recommendations arising from maternal and perinatal death reviews. In addition, each sub-county has an MPDSR sub-committee that meets weekly and reports to the County committee, creating a structured system for continuous surveillance, accountability, and follow-up of corrective actions across the County.

In June 2025, the Committee convened a County-wide maternal health stakeholders' forum involving representatives from 136 maternity facilities, including 36 public and 100 private and faith-based facilities. The forum provided an opportunity to review maternal health challenges, share lessons from maternal and perinatal death reviews, and identify actions to strengthen quality of care across facilities.

The strengthened MPDSR system has improved coordination, accountability, and evidence-based decision-making within maternal healthcare services, ensuring that lessons emerging from maternal and newborn death reviews inform quality improvement interventions and strengthen emergency maternal care across the County.

8. **Dedicated Intensive Care Support for Mothers**

To strengthen management of severe maternal complications, Level 5 facilities established dedicated Intensive Care Unit (ICU) beds specifically reserved for mothers requiring critical care support during obstetric emergencies.

The ICU services strengthened capacity of Level 5 facilities to manage critically ill mothers experiencing severe obstetric complications including excessive bleeding, hypertensive emergencies, and other life-threatening maternal conditions. The intervention improved access to specialized critical care services within the County while reducing delays associated with referral and stabilization of critically ill mothers requiring advanced maternal healthcare support.

The ICU facilities also supported management of referrals from within and outside Kiambu County, strengthening continuity of care for mothers requiring specialized maternal critical care services.

Overall, sustainability of the interventions continues to be supported through continued County budgetary allocation to maternal health services, sustained procurement of emergency maternal health commodities, specialist deployment, strengthening of MPDSR systems, expansion of community health services, and continued collaboration with development partners and referral hospitals to strengthen maternal healthcare systems within the County.

**Results of the Practice**

The integrated maternal healthcare interventions strengthened emergency obstetric preparedness, referral coordination, specialist support, blood availability, and maternal death surveillance systems across Kiambu County. The interventions improved management of maternal complications, enhanced continuity of care for mothers and newborns, and strengthened coordination, accountability, and community-level surveillance within the maternal healthcare system.

- From December 2025 to May 2026, Kiambu County recorded zero maternal deaths in public hospitals resulting from postpartum hemorrhage and hypertensive disorders of pregnancy, including preeclampsia. This marked a major achievement in the County's efforts to strengthen emergency obstetric care and improve maternal health outcomes.

- Continuous availability of Heat Stable Carbetocin and Tranexamic Acid without stock-outs since November 2024 significantly strengthened management of postpartum hemorrhage and improved preparedness of maternity facilities to respond to excessive bleeding during childbirth and post-delivery periods.
- Strengthening of blood supply systems through county-supported blood donation drives, procurement of blood bags and screening reagents, and coordination with blood transfusion services eliminated blood shortages for emergency maternal care since March 2025. This improved timely access to blood during obstetric emergencies and strengthened emergency response capacity within maternity facilities across the County.
- Deployment of specialist obstetricians to all Level 4 facilities strengthened management of high-risk pregnancies and improved access to specialized obstetric care within public hospitals. The intervention reduced delays associated with referral of complicated maternal cases while improving timely management of obstetric emergencies closer to communities.
- Strengthened referral coordination and dedicated maternal emergency ambulance services improved emergency response and timely referral of mothers and newborns requiring specialized care. Improved coordination between Level 4 and Level 5 facilities further strengthened continuity of care and management of maternal emergencies across the County.
- Community engagement interventions, including Open Maternity Days and strengthening of Community Health Promoters (CHPs), improved awareness on maternal health, antenatal care, danger signs during pregnancy, and safe delivery practices. Community surveillance systems also strengthened early identification and referral of mothers experiencing pregnancy-related complications, including high blood pressure during pregnancy.
- Strengthened Maternal and Perinatal Death Surveillance and Response (MPDSR) systems improved accountability, learning, coordination, and quality improvement within maternal healthcare services. Joint maternal death reviews with referral hospitals strengthened follow-up of maternal and newborn deaths while supporting continuous improvement of emergency maternal healthcare systems.
- Establishment of dedicated Intensive Care Unit (ICU) beds for mothers strengthened critical care support for severe maternal complications within Level 5 facilities. The ICU services improved management of critically ill mothers from both Kiambu County and referrals from outside the County.

Overall, the interventions demonstrated the importance of coordinated maternal health systems strengthening approaches involving leadership, emergency preparedness, specialist deployment, blood availability, referral coordination, community surveillance, and accountability systems in reducing preventable maternal deaths and improving maternal healthcare outcomes.

**Lessons Learned**

- ***Strong political leadership and accountability strengthen maternal healthcare outcomes:*** Active involvement of County leadership in maternal health coordination, emergency response, and MPDSR processes strengthened prioritization of maternal healthcare services,

accountability, and implementation of timely interventions aimed at reducing preventable maternal deaths.

- ***Availability of life-saving maternal health commodities significantly improves management of obstetric emergencies:*** Continuous availability of essential emergency maternal health commodities such as Heat Stable Carbetocin and Tranexamic Acid strengthened timely management of postpartum hemorrhage and improved preparedness of maternity facilities to respond to excessive bleeding during childbirth and post-delivery periods.
- ***Reliable blood supply systems are critical in reducing maternal mortality:*** Strengthening blood donation drives, procurement of screening materials, and coordination with blood transfusion services improved emergency response capacity and reduced delays associated with access to blood during obstetric emergencies.
- ***Coordinated referral systems improve emergency obstetric response and continuity of care:*** Strengthened referral coordination, emergency communication, and dedicated ambulance services improved timely access to specialized care for mothers and newborns experiencing obstetric complications.
- ***Specialist deployment strengthens management of high-risk pregnancies and obstetric emergencies:*** Deployment of specialist obstetricians to Level 4 facilities improved access to advanced maternal healthcare services closer to communities while reducing delays associated with referrals for complicated maternal cases.
- ***Community health systems strengthen early identification and referral of maternal complications:*** Empowering Community Health Promoters and strengthening maternal health awareness initiatives improved early identification, surveillance, and referral of mothers experiencing pregnancy-related complications requiring urgent medical attention.
- ***Strengthened MPDSR systems improve accountability, learning, and quality improvement:*** Regular maternal death reviews, joint reviews with referral hospitals, and coordinated surveillance systems strengthened accountability, continuous learning, and quality improvement processes within maternal healthcare services.
- ***Integrated maternal health systems strengthening approaches produce better outcomes than isolated interventions:*** Coordinated investments in leadership, emergency preparedness, specialist support, referral systems, blood availability, community surveillance, and accountability mechanisms strengthened continuity of care and contributed towards reduction of preventable maternal deaths within public hospitals.

**Recommendations**

- ***Maternal healthcare should remain a priority within County leadership and health planning processes:*** Strong political commitment, leadership support, and accountability mechanisms are important in strengthening maternal healthcare systems and reducing preventable maternal deaths.
- ***Counties should prioritize uninterrupted availability of emergency maternal health commodities:*** Strengthening procurement and supply chain systems for life-saving obstetric

commodities can improve preparedness and response to maternal emergencies, particularly postpartum hemorrhage and hypertensive disorders in pregnancy.

- ***Strengthening referral coordination and emergency transport systems improves access to timely obstetric care:*** Counties should invest in emergency referral coordination, ambulance services, and communication systems to reduce delays in accessing specialized maternal healthcare services during obstetric emergencies.
- ***Investment in specialist healthcare workers strengthens emergency obstetric care services:*** Deployment and continuous support of specialist obstetricians and skilled healthcare workers improves management of high-risk pregnancies and maternal complications within public health facilities.
- ***Reliable blood supply systems are critical for effective maternal emergency response:*** Counties should strengthen blood donation initiatives, procurement of screening materials, and coordination with blood transfusion services to support timely access to blood during obstetric emergencies.
- ***Community health systems should be strengthened to support early identification and referral of maternal complications:*** Strengthening Community Health Promoter programmes and maternal health awareness initiatives can improve early detection and timely referral of mothers experiencing pregnancy-related complications.
- ***Continuous strengthening of MPDSR systems improves accountability and quality improvement:*** Regular maternal death reviews, coordinated surveillance systems, and joint learning platforms strengthen accountability, learning, and quality improvement within maternal healthcare services.
- ***Integrated maternal healthcare approaches strengthen continuity of care and improve maternal health outcomes:*** Coordinated investments in leadership, emergency preparedness, workforce strengthening, referral systems, blood availability, community engagement, and accountability mechanisms are important in reducing preventable maternal deaths and strengthening maternal healthcare systems.

**Further reading**:


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