

Maternal and perinatal death reviews to reduce mortality: Spotlight on Webuye Hospital

At 2pm, a 34 year old mother of five was admitted to the sub-county hospital, 12 hours after her labour had started.

Within a few minutes of arrival she delivered a stillborn infant.

The nurse tried cardiac massage on the infant, but seeing no response did not attempt resuscitation. The mother delivered her placenta quickly without any difficulty, but 15 minutes later she began to bleed profusely.

As soon as the bleeding started the nurse phoned the other two blood banks within Bungoma County and the blood banks in the two neighbouring counties, as the blood bank on site was empty. Once blood was located the ambulance was immediately dispatched to collect it.

The on-call Medical Officer (intern) instructed the nurse to administer oxytocin and an intravenous drip, and conducted a vaginal examination. Multiple lacerations were observed, but the excessive bleeding obscured the view.

The mother was taken to the operating theatre and a second on-call Medical Officer was contacted, who attempted to repair the tears. The mother had very low blood pressure and a very fast pulse. She began gasping for breath and the medical officer started CPR.

Three and a half hours after the mother had started bleeding, the blood arrived, although only one pint could be sourced. The blood transfusion commenced, while the CPR continued. The CPR attempts were unsuccessful and four hours after being admitted the mother died.

Maternal death review, Webuye Sub-county Hospital.

In 2015, **35,727** women across Bungoma County delivered in a facility. Of these:

- **1,765** experienced complications
- **615** infants were stillborn
- **336** infants died in the first month
- **21** women died

Many deaths like this could be prevented with good quality services and a strong referral system. However, with limited government resources allocated to maternal and newborn health, delayed facility reimbursements for maternity incentive schemes, and increasing demand, many facilities are facing serious challenges.

The MANI project is supporting Maternal Perinatal Death Surveillance and Response (MPDSR) activities in six sub-counties in Bungoma.

The MPDSR process includes maternal and perinatal death reviews (M/PDRs), during which participants analyse the circumstances surrounding each death, identify avoidable factors, and agree on the action required to improve care at all levels of the health system. They link reporting systems to review and action, as an integral aspect of health-care quality improvement, with the aim of improving response mechanisms to avoid future deaths.

Prior to MANI's support, Webuye Hospital had not conducted M/PDRs.

"The reviews have helped us, as a facility, to look at our processes and gaps in our hospital health systems. Initially the person handling the patient often carried the blame in case anything bad happened to a patient"
Newborn In-Charge

"Our health care workers have no fear coming for the MPDSRs. Before MANI came and supported us with the MPDSR, the blame was squarely on the health care workers, and sometimes disciplinary action followed"
Nursing Officer In-charge



MANI HAS SUPPORTED:

- FORMATION OF MPDSR COMMITTEES AT **42** FACILITIES
- FORMATION OF MPDSR COMMITTEES AT **6** SUB-COUNTIES
- TRAINING OF **98** HEALTH CARE WORKERS
- QUARTERLY SUB-COUNTY **REVIEW MEETINGS**
- FOLLOW-UP SUPPORT TO FACILITIES THROUGH **MENTORSHIP** AND MONTHLY **SUPPORTIVE SUPERVISION VISITS**, ESPECIALLY AT THE TWO HIGHEST VOLUME FACILITIES.

The reviews have supported the hospital in identifying and overcoming a number of challenges that have contributed to avoidable maternal and newborn deaths, including:

- The ad hoc management of clients experiencing complications. The first on-call wasn't always aware of who was second on-call. The lack of protocol often led to fatal delays, highlighted in the M/PDRs. An administrative meeting was held to discuss this, and a point person was identified to **develop a monthly rota** stipulating the first and second on-call. The first on-call (usually an intern) reports complicated cases to the second on-call (a qualified medical officer). If the second on call is unable to manage a complicated case, a registrar or consultant is informed.
- Frequent power cuts at Webuye Hospital. Previously the back-up generator was not connected to the maternity ward or newborn unit, and fuel shortages and extended periods of breakdown were common. The MPDSR committee observed that a number of premature newborns were dying due to the lack of continuous power supply to the incubator to keep them warm and raised this with the Hospital Administrator. The Administrator has since arranged for the maternity ward and newborn unit to be **connected to the generator**, and ensured that resources are available for continuous fuel supply and maintenance.
- The MPDSR committee observed there were a high number of stillbirths, as well as newborn deaths, due to birth asphyxia. Staff who required **on-the-job training in neonatal resuscitation** were identified and received theory training, as well as a practical session with a mannequin.
- A lack of effective communication between health care providers (including between senior and junior doctors), between health care providers and management, as well as between different

departments, and weak linkages with the community. However, *"the MPDSR reviews have improved our teamwork, both amongst ourselves and even interdepartmental collaboration. Everyone involved in the care of mothers and newborns are involved in the MPDSR committee deliberation"* (Maternity In-Charge.) The health care workers have also formed a WhatsApp group for the facility MPDSR committee, which serves as a communication channel for the committee, including meeting date reminders, action follow-up and updates.

- Following the review of the case above, a team was formed to **conduct blood drives**, comprising of two people from Webuye Hospital and two from the Bungoma County blood satellite clinic. The first major blood drive targeted three secondary schools and 132 pints of blood were donated. A second blood drive is due to happen soon.



Although significant challenges still remain, including staff shortages, a lack of EmONC equipment, a weak referral system, and a shortage of blood, Webuye Hospital has managed to overcome many of the lower cost challenges identified through the M/PDRs.

Major infrastructure improvements are currently underway: a new maternity operating theatre is opening soon, and the MANI project is funding a significant revamp of the newborn unit, both of which will provide a more enabling environment for the health care workers moving forwards.

Webuye Hospital has shown that by identifying and reviewing the factors contributing to preventable maternal and perinatal deaths, this can quickly lead to appropriate action and tangible improvements.



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