CASE STUDY

Functionalizing a Hospital Maternal and Perinatal Death Review (MPDR) Committee: An Experience of Anaka Hospital in Nwoya District, Northern Uganda

Uganda's maternal mortality rate is 438/100,000 live births with most of the maternal deaths resulting from hemorrhage and obstructed labor, while the neonatal mortality rate is 27/1,000 live births with the majority of deaths resulting from infections, birth asphyxia, birth injuries, and complications of prematurity. The Saving Mothers Giving Life (SMGL) Initiative, a partnership between the US and Uganda governments was launched to accelerate a reduction of maternal and newborn mortality rates in selected districts of Northern and Western Uganda. In Northern Uganda, 6 districts with the highest maternal and newborn mortality rates were supported to implement high-impact, low-cost interventions in reducing maternal and newborn deaths at 118 health facilities. In Anaka Hospital, one of the SMGL-supported health facilities in Nwoya district, there was no functional MPDR Committee. 75% of perinatal deaths were being audited and the perinatal death rate was at 30/1,000 live births. In March 2015, ASSIST through SMGL supported the formation & functionalization of the MPDR quality improvement (QI) committee. ASSIST supplied the MPDR policy and books. The committee assigned a focal person to coordinate review meetings. The team scheduled weekly MPDR meetings. The assigned maternity wards sorted the death files and stored them separately. The committee supported lower health facilities, including health center IIIs. The percentage of perinatal deaths audited increased from 75% to 100% by December 2015. The perinatal mortality rate reduced to 0/1,000 live birth in June 2016 across the 4 health facilities in Nwoya district.

Background

The institutional maternal mortality rate in northern Uganda was estimated to be 143/100,000 in 2013/14 (Annual Health Sector Report), while the newborn mortality rate was estimated to be 31/100,000, with both being above the national averages. The Ministry of Health (MOH) conceptualized the MPDR audits as one of the solutions to reducing the high mortality rates. Both health facilities and regional level facilities are mandated to conduct these audits as a key component in identifying gaps within and outside the facility where these deaths take place, and to immediately inform process changes and community interventions to address these gaps.

The MPDR is a qualitative, in-depth investigation of the causes and circumstances surrounding a small number of maternal deaths occurring at selected health facilities and communities. The MOH stipulated that on occurrence of either a maternal or perinatal death, a short message system (SMS) notification message must be sent to the MOH through an electronic system, MTRAC, within 24 hours.


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by a staff member who was present. In addition, a MPDR audit must be conducted by a selected MPDR committee within 7 days.

The MPDR process was one of the key preventative high impact interventions that USAID Applying Science to Strengthen and Improve Systems project (ASSIST) supported health facilities institutionalized under the Saving Mothers Giving Life (SMGL) project that began in February 2016. SMGL was geared at reducing maternal and perinatal deaths across 20 high-volume health facilities and 98 scale-up sites in 6 districts in northern Uganda.

Anaka General Hospital is the main referral facility of Nwoya district offering comprehensive emergency obstetric and newborn care services. The facility conducts 1,317 deliveries per annum. With the start of SMGL in Nwoya district and at this facility, the maternal, newborn and child health (MNCH) health care providers were trained in essential obstetric and newborn care, including maternal and perinatal death review processes.

A March 2015 baseline assessment conducted by ASSIST indicated that despite an average of 5 perinatal deaths monthly and a 30/1,000 perinatal death ratio, there was no functional MPDR committee; all deaths were being audited by a senior midwife who wouldn’t routinely report to the district or notify the MOH within the stipulated time period.

**Improvement Process**

ASSIST began SMGL interventional support at the hospital in June 2015 where it formed a quality improvement team in the maternity department. On a monthly basis, through coaching and mentorship visits, the team spread best practices in reducing maternal and perinatal deaths, including increased correct partograph usage to monitor the labor process, active management of the third stage of labor, improved newborn resuscitation skills and the provision of the essential newborn care package. Despite these changes, perinatal death rates were not dropping drastically.

During a coaching visit to the facility in October 2015, ASSIST supported the maternity team to form the MPDR committee (box 1 on the right) following the MOH policy guidelines. Barriers identified by the new committee included: stock out of MPDR books, that death files were being mixed with other files and couldn’t be easily identified, staff taking these reviews as critique, blaming and punitive sessions which couldn’t be responded to positively, and a lack of a schedule for these meetings. The committee also came up with the following responsibilities for themselves: notify the MOH within 24 hours of death and audit within 7 days, prepare and organize the MPDR meetings, identify key avoidable factors and recommend appropriate solutions, mobilize resources to implement recommended actions, synthesize findings and give feedback to the District Health Office and follow up on recommendations to ensure appropriate actions are taken.

An improvement objective for the committee was to increase the percentage of maternal and perinatal death that are audited from 75% in September 2015 to 100% by December 2015. The health facility team tested the following changes (box 2) to attain the improvement objective.

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**Box 1: Anaka Hospital MPDR Team Composition:**
1. Medical Superintendent
2. Medical Officer In Charge
3. Principal Nursing Officer/ Matron
4. Hospital Administrator
5. Dispenser
6. Laboratory Technician
7. Anesthetist Officer
8. Record Assistant
9. Community Health Dept. In Charge
10. Maternity In Charge
11. MNCH Staff

**Box 2: Interventions to Improve MPDR:**
- Form the MPDR committee
- Supply the MPDR forms and books (by ASSIST)
- Assign a focal person (a maternity ward staff) to coordinate the MPDR meetings
- Schedule a day (Thursday) within a week for the MPDR meetings
- Sort the death files and store them separately (by the facility)
- Support the lower health facilities to conduct their own audits (by the facility)
The MPDR committee also agreed to support 3 high-volume health center IIIs on site, including Kochgoma HCIII, Alero HCIII, and Purongo HCIII, to conduct any perinatal audits in the event that they occurred. They began a process where the health center IIIs would inform the MPDR focal person, who mobilizes the hospital audit team, to visit that health facility. The reports from these audits would then be shared with the DHO and the district biostatistician who inputs them into the DHIS2 (the national health information reporting system).

**Results**

On a monthly basis, the team collected and reviewed data to monitor their progress. By June 2016, 100% of perinatal death audits were conducted as shown in **Figure 1**. The commonest cause of death was birth asphyxia due to delay to make a decision to go for skilled birth attendant and eventually delay to reach the facility, poor resuscitation skills for the asphyxiated newborns, and late referrals from the lower health facilities to Anaka hospital. The Audit committee set up recommendations which included setting up Helping Babies Breathe skills lab where midwives would practice and learn how to resuscitate under the supervision of an expert midwife, the committee also went and audited the cases that died at lower health facilities and the focal person for the committee trained the staff there in resuscitation skills and monitoring of mothers in labor using a partograph. This improvement in staff skills in newborn resuscitation and labor monitoring improved timely management of labor related complications and led to a reduced rate of perinatal death from 30/1,000 live births to 0/1,000 live births in 4 facilities in Nwoya district in northern Uganda during the same intervention period, as shown in **Figure 2**.

**Figure 1: Perinatal death compared to perinatal death audits, Nwoya district (July 2015-June 2016)**

According to the team, listed below are the most effective changes that brought about improvement;

- Selecting the MPDR focal person, who is also the in-charge maternity unit, as the second person to be in charge of the ambulance fuel. (This saw an improvement in response to referrals from lower health facilities to the hospital from 2 hours to an average of 1 hour response time).

- Having well-equipped and ready to use resuscitation trays in the labor suite, these should contain: an ambubag, penguin sucker, a thermometer, stethoscope, different size

**Bright Spot:**
The MPDR team identified a Traditional Birth attendant (TBA) in Alero sub-county who was deterring the mothers. Through ASSIST, the community team engaged her to change her role from delivering mothers to referring them to the health facility. She has also been incorporated into the Village Health Team system of her village. Since January 2016, she no longer delivers mothers and instead she escorts them to Alero health center III.
nose masks, adrenaline injection, dextrose 10%, a cannula and IV giving set.

- Starting up the HBB skills lab for staff to continuously improve their skills.
- Screening all pregnant women for syphilis during their ANC visits to curb macerated still birth rates.

**Figure 2: Reduction in perinatal mortality rate, 4 facilities, Nwoya district (July 2015-June 2016)**

**Lessons Learned**

1. Assigning a focal person to coordinate members for the MPDR meetings greatly improves the MPDR processes.

2. Sorting of death files increases the efficiency of the MPDR meetings.

3. Scheduling of the day within a week to have the meetings held improves MPDR.

4. Supporting lower health facilities to conduct MPDR audits reduces delays in referral of complicated deliveries that may predispose both mothers and newborns to mortality.

**Conclusion**

All maternal and perinatal deaths should be audited to identify avoidable causes of death that can then be addressed to prevent and reduce the deaths. Assigning the focal person to coordinate the MPDR meetings improves the MPDR processes. Sorting the files of the deaths improves the efficiency and therefore reduces the time taken to retrieve the files for the audit. These changes are key for successfully improving the MPDR processes in a similar setting. Scheduling a day for MPDR meetings also creates awareness amongst the team and keeps them reminded of the meetings.
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