A Regional Assessment of Facility-Level Maternity and Perinatal Death Surveillance and Response Systems in Four Sub-Saharan Countries

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Background
An estimated 2.3 million women and their babies died from pregnancy and childbirth complications in sub-Saharan Africa in 2013. Of these, 201,000 were maternal deaths, 1.06 million were stillbirths, and 1.04 million were newborn deaths. A system for maternal and perinatal death surveillance and response (MPDSR) is an important component of a strategy to decrease preventable maternal and perinatal deaths. Despite evidence of favorable national policies in many countries, few sub-Saharan African countries have robust MPDSR systems.

Assessment and Objectives
From 2016–2017, the United States Agency for International Development’s Maternal and Child Survival Program (MCSP) conducted an assessment on MPDSR implementation in four countries: Nigeria, Rwanda, Tanzania, and Zimbabwe. The objectives of the assessment were to 1) assess implementation status of MPDSR processes at subnational and facility levels and 2) describe facilitators and barriers to sustainable MPDSR practices.

Methods
MCSP conducted a desk review of national MPDSR policies, guidelines, and tools and conducted semi-structured interviews with 41 key informants (national and subnational levels). Data collectors visited 55 health facilities (41 hospitals and 14 health centers) to conduct semi-structured interviews with managers and providers, review documents for MPDSR processes, and assess the implementation status of each facility’s MPDSR system. Facility inclusion criteria included presence of child health services, including referral and primary-level facilities; and current or previous experience conducting maternal or perinatal death review, or both, or implementing formal MPDSR processes or policies.

Results
In the four countries, the mean MPDSR implementation progress score across 55 facilities was 15.9 (demonstrating some evidence of MPDSR practice). The top 3 observed barriers to MPDSR implementation were 1) health worker capacity, i.e., limited staff time and work overload, preventing people from attending meetings; 2) human resource shortage, i.e., high staff turnover and general staff shortage; and 3) lack of motivation because recommendations were not implemented.

Examples of successful practices
- District reproductive health coordinators participate in facility death reviews (Tanzania).
- Capacity-building for MPDSR cascades to all facility levels (Rwanda).
- Junior colleagues receive mentoring (Nigeria).
- Death review meetings have multidisciplinary participation (all facilities in Zimbabwe).

Conclusions
This multicountry assessment is the first to measure across facilities the stage of MPDSR implementation. Findings demonstrate that most facilities practice some elements of MPDSR, but there are implementation gaps. The practice of MPDSR should continue to be assessed and monitored to clarify generalizability of findings and deepen understanding of the quality of MPDSR processes to further inform country implementation and global recommendations.

Recommendations
- Strengthen health workforce to enable meaningful participation in audit meetings.
- Build health worker capacity to implement the full cycle of a death audit, including the following: identification of all deaths, correct assignment of death using a standardized classification system, identification of key contributing factors, and prioritization and systematic implementation of recommendations.
- Create or strengthen the joint quality improvement progress marker or instrument item.
- Motivate health workers and engage professional associations to support MPDSR and apply the benefits in their everyday work.
- Ensure systematic surveillance, notification, and tracking of all institutional deaths.
- Promote availability and accurate completion of standardized forms, including the use of a standardized classification system to accurately assign the cause of death.
- Promote systematic ‘response’ processes to follow up on audit recommendations across all health system levels.
- Incorporate surveillance results from maternal and perinatal death audits into mortality surveillance in HMIS and CRVS.

References
2. Bergh AM, Arsalo I, Malan AF, et al. 2005. Measuring implementation progress (0–100, implementation (11–17), or institutionalization (18–30). MCSP adapted Bergh et al.’s scoring tool, with permission, to assign the implementation progress score.”

Table 1. Proportion of facilities with evidence of practice that achieved the selected progress markers

<table>
<thead>
<tr>
<th>Implementation construct</th>
<th>Progress marker or instrument item</th>
<th>Nigeria (n = 13 facilities)</th>
<th>Rwanda (n = 33 facilities)</th>
<th>Tanzania (n = 15 facilities)</th>
<th>Zimbabwe (n = 16 facilities)</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Creating awareness</td>
<td>Clear leader(s) establishing and championing death reviews (past or future)</td>
<td>100%</td>
<td>69%</td>
<td>100%</td>
<td>94%</td>
<td>89%</td>
</tr>
<tr>
<td>2. Adopting the concept</td>
<td>Steering committee established</td>
<td>67%</td>
<td>100%</td>
<td>100%</td>
<td>81%</td>
<td>97%</td>
</tr>
<tr>
<td>3. Taking ownership</td>
<td>Tools available—data collection form</td>
<td>17%</td>
<td>100%</td>
<td>100%</td>
<td>69%</td>
<td>84%</td>
</tr>
<tr>
<td>4. Evidence of practice</td>
<td>Evidence of MPDSR meeting—meetings notes include action items</td>
<td>17%</td>
<td>31%</td>
<td>100%</td>
<td>81%</td>
<td>68%</td>
</tr>
<tr>
<td>5. Evidence of routine integration</td>
<td>Further evidence of practice—evidence of change based on previous recommendations</td>
<td>61%</td>
<td>10%</td>
<td>44%</td>
<td>71%</td>
<td>44%</td>
</tr>
<tr>
<td>6. Evidence of sustainable practice</td>
<td>Documented results—ongoing death review meetings for &gt;1 year</td>
<td>75%</td>
<td>85%</td>
<td>77%</td>
<td>95%</td>
<td>83%</td>
</tr>
</tbody>
</table>

Figure 1. MPDSR implementation scores by country