EVALUATION OF THE MATERNAL DEATH SURVEILLANCE AND RESPONSE (MDSR) SYSTEM OF THE NORTHWEST AND CENTRE REGIONS OF CAMEROON:

LOOKING BACK, MOVING FORWARD

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Outline

→ Background
→ Objectives
→ Methods
→ Results and discussions
→ Conclusion
→ Recommendations
Background
Global maternal mortality

→ Every year, an estimated 289000 women die due to pregnancy and birth related causes worldwide
  • Developing countries account for 99% (286 000)
  • SSA region alone accounting for 62% (179 000)
  • Most of the causes are preventable

→ Underestimation of the true magnitude by up to 70%

→ Millenium Development Goal (MDG) number 5 not met in 2015

→ Sustainable Development Goal (SDG ) Aim Maternal Mortality Ratio less than 70 / 100 000 live births by 2030
Maternal Mortality in Cameroon

Population 2015 = 23,344,000

Among top 15 countries with highest MMR (WHO, 2015)
Maternal Deaths (MD) Surveillance in Cameroon

2009: FIGO/LOGIC Initiative in Maternal and Newborn Health

2010: Guidelines tools, trainings, Committees

2013: Transition to MDSR

2014: Training and notification tools / IDSR

2015: Implementation of MDSR
MDSR in Cameroon

**Problems Identified**

- Under notification
- Poor quality of data
- Poor involvement of health facility staff
- Discordance of data between facility registries and reported deaths

**Identification and Notification**
- Maternities of legal health facilities
- Little from communities
- Weekly and monthly

**Review**
- MD Review committees in 50/189 health districts
  - Committee meetings not regular
  - Recommendations not implemented

**Analysis**
- Little analysis done at all levels

**Response**
- Limited, not coordinated
Evaluation Purpose

→ To assess the key attributes of system

→ To assess usefulness of system

→ To identify strengths and areas needing improvement
Methods: Data Collection

→ Descriptive, cross-sectional in 7 months

→ Target: health personnel notifying maternal deaths (MD)
  • in regional, district and health area levels

→ Data collection
  • structured questionnaire
  • key informant interviews

→ Data analysis
  • Epi info 7 and Excel 2013

CDC’s Updated Guidelines for Evaluating Public Health Surveillance Systems, MMWR
### Methods: Attributes definition

<table>
<thead>
<tr>
<th>Attributes</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Simplicity</td>
<td>• Ability to identify and notify Maternal Deaths (MD)</td>
</tr>
<tr>
<td>Acceptability</td>
<td>• Willingness to collect and report perinatal mortality data</td>
</tr>
<tr>
<td>Usefulness</td>
<td>• Ability to use maternal mortality data to implement changes that leads to maternal care and mortality reduction</td>
</tr>
<tr>
<td>Sensitivity</td>
<td>• The ability to capture all maternal deaths when they occur</td>
</tr>
<tr>
<td>Flexibility</td>
<td>• The ease with which system can integrate another disease or event with little or no additional resources</td>
</tr>
<tr>
<td>Stability</td>
<td>• Reliability of the system to perform properly without failure</td>
</tr>
<tr>
<td>Data quality</td>
<td>• Completeness and validity of maternal mortality data</td>
</tr>
</tbody>
</table>
Methods: Procedure

→ Authorisations obtained

→ Visit health facilities (categories 3-6) for data collection
  - Key informant interviews
  - Collection of data (IDSR and MD notification)
  - Correct misconceptions, share case definitions

→ MD active search in 2 health facilities
  - Government (Regional Hospital)
  - Private (Biggest)
MD active search

→ Identification of deaths of WRA from all sources

→ Determination of pregnancy status

→ Ascertainment of causes of death and contributing factors

→ Notification
RESULTS
Category of respondents

N = 29
Response rate = 100%

- GP: 17%
- Midwife: 21%
- Nurse: 48%
- Others: 10%
- Gynaecologist: 4%
Function of respondents/MDSR training

N = 29
# Simplicity

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Obtained</th>
<th>Target</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Correct MD case definition</td>
<td>18</td>
<td>≥ 80%</td>
<td>0</td>
</tr>
<tr>
<td>Data analysis</td>
<td>4</td>
<td>≥ 80%</td>
<td>0</td>
</tr>
<tr>
<td>Information flow circuit known</td>
<td>29</td>
<td>≥ 80%</td>
<td>1</td>
</tr>
<tr>
<td>No difficulties in filling a notification form</td>
<td>29</td>
<td>≥ 80%</td>
<td>1</td>
</tr>
</tbody>
</table>

→ Target 80% and ¾
→ Poor knowledge of MD tools
→ Case definitions not pasted
→ Steps to follow not known
## Data quality

<table>
<thead>
<tr>
<th>REGIONS</th>
<th>Number of MD notified through IDSR weekly forms</th>
<th>Number of MD notification forms</th>
<th>Completeness (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CENTRE</td>
<td>8</td>
<td>5</td>
<td>62.5</td>
</tr>
<tr>
<td>NORTH WEST</td>
<td>16</td>
<td>2</td>
<td>12.5</td>
</tr>
<tr>
<td>TOTAL</td>
<td>24</td>
<td>7</td>
<td>29.2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DISTRICT</th>
<th>Number of MD notification forms filled</th>
<th>Number of forms correctly filled</th>
<th>Validity (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAFIA</td>
<td>5</td>
<td>5</td>
<td>100</td>
</tr>
<tr>
<td>KUMBO WEST</td>
<td>2</td>
<td>2</td>
<td>100</td>
</tr>
<tr>
<td>TOTAL</td>
<td>7</td>
<td>7</td>
<td>100</td>
</tr>
</tbody>
</table>
Acceptability

→ Almost all (96.6%) of the respondents consider MDSR as being part of their duty
→ Almost all participants (93.1%) know maternal deaths are a notifiable event

<table>
<thead>
<tr>
<th></th>
<th>MD NOTIFIED SYSTEMATICALLY</th>
<th>MD NOTIFICATION FORMS FILLED SYSTEMATICALLY</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>Yes</td>
<td>21</td>
<td>72.4</td>
</tr>
<tr>
<td>No</td>
<td>3</td>
<td>10.3</td>
</tr>
<tr>
<td>No MD has occurred</td>
<td>5</td>
<td>17.3</td>
</tr>
<tr>
<td>I don’t know</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>29</td>
<td>100</td>
</tr>
</tbody>
</table>
### System sensitivity 2014-2016

<table>
<thead>
<tr>
<th>YEAR</th>
<th>MD notified</th>
<th>MD active search</th>
<th>Sensitivity (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>5</td>
<td>8</td>
<td>62,5</td>
</tr>
<tr>
<td>2015</td>
<td>4</td>
<td>11</td>
<td>36,4</td>
</tr>
<tr>
<td>2016*</td>
<td>6</td>
<td>14</td>
<td>42,9</td>
</tr>
<tr>
<td>TOTAL</td>
<td>15</td>
<td>33</td>
<td>45,5</td>
</tr>
</tbody>
</table>

We are afraid to « dirty » our statistics (Nurse, government hospital)

* Data from January to June
Stability and Flexibility

Stability

→ More than half of the respondents reported having stock outs of notification forms
  • majority do not know of its existence

Flexibility

→ The MDSR system could be considered flexible as it has integrated the surveillance of neonatal deaths with the same resources
Usefulness

→ Only 6 (20.7%) trained in MDSR

→ Only 34.5% agreed decisions made after analysis of data from

  • only 40% of could show a documented proof
  • low level of implementation of recommendations
Level of satisfaction

N = 29

- Not satisfied: 86%
- Very satisfied: 10%
- Average Satisfaction: 4%

Needs

→ Training
→ Supervision
→ Guides
→ Involve CHW
→ Motivation
Limitations

→ Patient records not well kept
→ Most maternal deaths captured are due to direct causes
The MDSR system into the IDSR system, weekly notification

The system

- is flexible and acceptable
- is less sensitive and unstable
- produces data of poor quality

System strongly needs improvement

Overall system less useful
Recommendations

To the MINISTRY OF PUBLIC HEALTH

→ Train all actors on MDSR
→ Produce and disseminate a national guide for MDSR to all health facilities
→ Install maternal death review committees in all Districts and provide funding for their functioning

To the REGIONAL DELEGATIONS OF PUBLIC HEALTH

→ Integrate supervision on MDSR in the routine supervision
→ Compel districts to timely notify and investigate all MDs from in their districts
Acknowledgements

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