Underreporting of maternal deaths in the current surveillance system in Morocco

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Background

1st Action Plan 2008-2012
Accelerated Reduction of Maternal Mortality

3 PILLARS

<table>
<thead>
<tr>
<th>Reduce barriers to access and improve the availability of qualified personnel</th>
<th>Improve the quality of care during pregnancy and delivery</th>
<th>Improve governance and management</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Free emergency obstetric and newborn care</td>
<td>6. Audit and upgrade of maternity care facilities</td>
<td>8. Establishment of a national maternal mortality surveillance system</td>
</tr>
<tr>
<td>2. Obstetric ambulances for rural settings</td>
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<td>3. Increased training of doctors and midwives</td>
<td>7. Improved quality of patient experience in facilities through improved communication, respect, and privacy</td>
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<td>4. In-service training for existing providers</td>
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<tr>
<td>5. Identification of high risk pregnancies in rural areas through mobile medical units</td>
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</tbody>
</table>

Follow up of each action point through annual reports
Mesure 24:
Improve the monitoring of the program through strengthening of MDSS
Timely notification of all maternal deaths, followed by review of their causes and the best methods of prevention

More and better data for maternal deaths (Two confidential enquiries 2009 & 2010)
Objective of the study

To assess the completeness of MDSS at the regional level
Study site

- 800 km²
- 63 communes (53 in rural)
- General population: 1,904,112;
  Rural: 51% (Source: Census 2014, HCP)
- Live births per year: 37,000
- Proportion of Institutional deliveries: 59% (Source: ENSPF 2011, MS)

Proportion of Institutional deliveries: < national average (73% according to ENSPF 2011)
Number of expected births: Min. 30,000 per year
MDSS Data: 2009-2013
**Method**

**To identify deaths among WRA**

<table>
<thead>
<tr>
<th>Vital statistics</th>
<th>86</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bureaux d’hygiène (Health offices)</td>
<td>10</td>
</tr>
<tr>
<td>Caïdats (Local authorities)</td>
<td>32</td>
</tr>
<tr>
<td>Hospitals</td>
<td>4</td>
</tr>
</tbody>
</table>

Retrospective survey on women of reproductive age deaths

*From January, 1st 2013 to September, 31th 2014*
Preliminary results
(1) Deaths of WRA by province of occurence

Deaths of WRA in 2013

Deaths of WRA in 2014
(first three quarters)

*Mortality rate for women aged 15-49 = 1.02 ‰ (source: Haut Commissariat au Plan, 2010)
(2) Deaths of WRA by data sources

Deaths of WRA

<table>
<thead>
<tr>
<th>Year</th>
<th>Vital statistics</th>
<th>Bureaux d'hygiène</th>
<th>Health care facilities</th>
<th>Caïdats (local authorities)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>82.5%</td>
<td>59.4%</td>
<td>30.8%</td>
<td>7.5%</td>
</tr>
<tr>
<td>2014</td>
<td>77.8%</td>
<td>54.0%</td>
<td>29.1%</td>
<td>9.3%</td>
</tr>
</tbody>
</table>
(3) Death during pregnancy, childbirth or puerperium by place of occurring

Deaths in 2013

<table>
<thead>
<tr>
<th>Place of Occurring</th>
<th>MDSS</th>
<th>Study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health care facility (including transfer)</td>
<td>17</td>
<td>23</td>
</tr>
<tr>
<td>Outside health care facility</td>
<td>0</td>
<td>18</td>
</tr>
<tr>
<td>Unspecified</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>TOTAL</td>
<td>17</td>
<td>42</td>
</tr>
</tbody>
</table>

Deaths in 2014 (first three quarters)

<table>
<thead>
<tr>
<th>Place of Occurring</th>
<th>MDSS</th>
<th>Study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health care facility (including transfer)</td>
<td>11</td>
<td>23</td>
</tr>
<tr>
<td>Outside health care facility</td>
<td>1</td>
<td>11</td>
</tr>
<tr>
<td>Unspecified</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>TOTAL</td>
<td>12</td>
<td>35</td>
</tr>
</tbody>
</table>
(4) Deaths during pregnancy, childbirth or puerperium by province of residency

Deaths in 2013

- KENITRA: 22 (Expected), 16 (Study), 0 (MDSS)
- SIDI KACEM: 12 (Expected), 2 (Study), 0 (MDSS)
- SIDI SLIMANE: 6 (Expected), 0 (Study), 0 (MDSS)
- Total: 41* (Expected), 17 (Study), 2 (MDSS)
- Outside the region: 0

Deaths in 2014 (first three quarters)

- KENITRA: 18 (Expected), 8 (Study), 0 (MDSS)
- SIDI KACEM: 10 (Expected), 4 (Study), 0 (MDSS)
- SIDI SLIMANE: 6 (Expected), 0 (Study), 0 (MDSS)
- Total: 34 (Expected), 12 (Study), 1 (MDSS)
- Outside the region: 0

*MMR = 112 [73 - 148]/ 100000 live births (source: ENDPR 2010-11, Haut Commissariat au Plan)
(5) Causes of deaths during pregnancy, childbirth or puerperium

- Haemorrhage: 25 (33%)
- Hypertensive disorders: 13 (17%)
- Infection: 7 (9%)
- Miscarriage: 3 (4%)
- Other direct cause: 4 (5%)
- Indirect cause: 10 (13%)
- Unknown/indetermined: 7 (9%)
- Coincidental: 1 (1%)
- Late maternal death: 7 (9%)
- Other: 8 (10%)
Concluding points (1)

- Underreporting of maternal deaths in the current MDSS in ‘Gharb Chrarda Bni Hssen’ and only 40% were recorded

- Need of combination of the four sources to identify all maternal deaths

- More efforts need to be done to improve collaboration between all stakeholders:
  - Routine Information transmission on deaths of WRA by the Civil registration services
  - Investigation of all deaths of WRA to identify deaths during pregnancy, childbirth et puerperium
Concluding points (2)

FOLLOWING STEPS

Â To determine and test solutions that can improve maternal deaths reporting

Â Identify the factors that can make the MDSS a real tool for decision making at the regional level
Acknowledgments go to

Mrs. Wali and Governor of the province of Kenitra & Mr governors of the province of Sidi Kacem and Sidi Slimane for their support

Managers of civil registration offices at the provinces, communes, caïdats, bureaux d’hygiène for their collaboration

Thank you for your attention

Provincial delegates of the ministry of Health, hospital directors, provincial officers in charge of health programmes (SIAAP), animators in charge of the safe motherhood and the health staff who performed the data collection

Finally, we are very grateful to the families of the deceased women