Rapid Mortality Mobile Phone Surveys (RaMMPS) during COVID-19: Insights from Burkina Faso

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Objectives: use RAMMPS for estimating (excess) mortality during the COVID-19 pandemic in five LLMICs

Specific objectives:
- Develop and validate RAMMPS instruments and methods
- Generate mortality estimates by age, sex and locality (and compare them to a pre-COVID-19 baseline).
- Nested validation studies

RaMMPS studies differ in terms of:
- Sampling approaches
- QQN instruments used
Burkina Faso RAMMPS- Sampling design

**Sampling** (two arms):

1. Re-contact ~6,000 households from the 2018-’19 living conditions surveys (EHCVM): → RAMMPS interview with HH head + 1 woman of reproductive age (15-49)

   Mortality QQN: HH deaths, sibling histories & parental survival

   Mortality QQN: (parental survival), sibling histories, truncated birth histories

2. 9,000 completed interviews with numbers generated through RDD:
   - Pre-screening of functional phone numbers ([https://viamo.io/](https://vi amo.io/))
   - Quota per trimester with oversampling in women of reproductive age

<table>
<thead>
<tr>
<th>Place of residence</th>
<th>18-49</th>
<th>50-64</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ouagadougou</td>
<td>Men 87</td>
<td>Women 174</td>
<td>29 290</td>
</tr>
<tr>
<td></td>
<td>Men 30</td>
<td>Women 60</td>
<td>17 107</td>
</tr>
<tr>
<td>Bobo-Dioulasso</td>
<td>Men 70</td>
<td>Women 140</td>
<td>31 241</td>
</tr>
<tr>
<td>Other cities</td>
<td>Men 448</td>
<td>Women 896</td>
<td>268 1612</td>
</tr>
<tr>
<td>Rural areas</td>
<td>Men 635</td>
<td>Women 1270</td>
<td>345 2250</td>
</tr>
</tbody>
</table>

   • Mortality QQN modules: HH deaths, parental survival, sibling histories, truncated birth histories
Burkina Faso RAMMPS - Validation studies

1. Validation against secondary data sources
   - Comparison of RaMMPS mortality estimates against those from the DHS (2021), Census (2019);
   - Record linkage with census for individual level comparison of age and death reporting.

2. Validation study in the Ouagadougou HDSS
   - Oversampling residents with deceased relatives (n=2500);
   - Comparison of aggregated mortality estimates from RAMMPS & HDSS;
   - Individual and household-level comparisons: death reporting, ages at death reporting, displacement of events in time and household composition.
Burkina Faso RAMMPS - Call outcomes

- **Overall high response rates**

- **Higher response rates in the EHCVM arm**

CATI outcomes in RAMMPS-BF

- **Response**
  - RDD (n=11243) = 70.00%
  - EHCVM (n=1779) = 80.00%

- **No response**
  - RDD (n=11243) = 0.00%
  - EHCVM (n=1779) = 10.00%

- **Number not in use including network issues**
  - RDD (n=11243) = 20.00%
  - EHCVM (n=1779) = 30.00%

- **Language issues**
  - RDD (n=11243) = 0.00%
  - EHCVM (n=1779) = 40.00%

- **Others**
  - RDD (n=11243) = 0.00%
  - EHCVM (n=1779) = 50.00%
Preliminary results of under5 mortality (Truncated BH) - EHCVM arm

- Consistent NMR & U5M compared to UN IGME (but wide CIs)
- Lower IMR compared to UN IGME estimates
- Large sex differences in the RAMMPS → under reporting of female deaths?
Discrepancies between the two sources

Underestimation of mortality in the RAMMPS?
- Underreporting of deaths?
- Displacement of deaths in time?
- Overreporting of surviving siblings (inclusion of other relatives that are not siblings)?

A pronounced underestimation of female mortality.

Similar results with the RDD sample.
Conclusions

**Keys points:**
- High response rates in both arms;
- Encouraging estimates of under 5 mortality;
- Mixed results on adult mortality (to investigate more).

**Next steps:**
- Routine data collection (6 months);
- Validation studies;
- Estimation of (Covid excess) mortality;
- Dissemination.