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Measuring skilled attendance at birth using linked household, health facility, and health worker surveys in Ethiopia, North-East Nigeria, and Uttar Pradesh, India

Tanya Marchant and Joanna Schellenberg
Women increasingly deliver with skilled birth attendants

Estimated that 56% of maternal, fetal and newborn deaths could be prevented if all births were assisted by a skilled attendant in a facility providing basic emergency care (State of the World’s Mothers, 2013)
What is the measurement problem?

“What gets measured gets done” (and we don’t measure enough) estimates of effective coverage?
1. Are health facilities ready?

What proportion of births took place in a primary health facility that was ready for clean delivery care?
2. Are skilled birth attendants prepared?

What proportion of skilled birth attendants had all the basic items ready at the last birth they attended?

What was the effective coverage?
3. Do skilled birth attendants take life saving actions during births?

What proportion of skilled birth attendants administered prophylactic uterotonics to prevent post-partum haemorrhage at the last birth they attended?

What was the effective coverage?
Methods with IDEAS

• Cluster sample survey of households in 2012 in NE Nigeria, Ethiopia, and Uttar Pradesh, plus surveyed frontline health workers and primary care facilities serving the selected households

• Surveyed all households and interviewed all women aged 13-49 in selected clusters (mean cluster size: 58 households)

• Survey instruments compatible with other large-scale questionnaires:
  – Household survey: special module for women with a birth in last 12 months to collect detailed information about care and behaviours
  – Facility survey: availability and functionality of items for maternal and newborn health care, staffing, and work load
  – Health worker survey: training, cadres, actions at last birth attended
Study area - Uttar Pradesh, India

THIS SURVEY (Nov 2012)

- 80 clusters
- 5258 households
- 604 women with recent birth
- 62 Skilled birth attendants
- 155 Unskilled attendants
- 60 Primary health facilities

76% delivered with a SBA
79% delivered in a facility

Uttar Pradesh, 2010:
MMR: 440/100,000
NMR: 45/1,000
Study area – Gombe State, Nigeria

THIS SURVEY (June 2012)

- 40 clusters
- 1868 households
- 349 women with recent birth
- 20 Skilled birth attendants
- 41 Unskilled attendants
- 25 Primary health facilities

- 22% delivered with a SBA
- 30% delivered in a facility

Nigeria, 2010:

- MMR: 840/100,000
- NMR: 39/1,000
Study area – Ethiopia

**THIS SURVEY (June 2012)**

- 80 clusters
- 4294 households
- 533 women with recent birth
- 77 Skilled birth attendants
- 239 Unskilled attendants
- 81 Primary health facilities

- 16% delivered with a SBA
- 15% delivered in a facility

**Ethiopia, 2010:**
- MMR: 470/100,000
- NMR: 35/1,000
Facility Readiness: infection prevention

disinfectant, disposable gloves, soap, clean cord cutter, cord tie

Uttar Pradesh

Service not provided

Service provided, not available, items missing

Service provided, not available, all items present

Service provided, available, items missing

Service provided, available, all items present
Facility Readiness: infection prevention: disinfectant, disposable gloves, soap, clean cord cutter, cord tie

- Service not provided
- Service provided, not available, items missing
- Service provided, not available, all items present
- Service provided, available, items missing
- Service provided, available, all items present

Uttar Pradesh: 87% of facility births (62)
NE Nigeria: 39% of facility births (28)
Ethiopia: 49% of facility births (32)
Skilled birth attendant reported actions at last birth attended

**Items prepared:**

- Disinfectant
- Gloves
- Gauze
- Uterotonic
- Clean cloths
- Sterile blade
- Cord ligature
- Eye ointment

**Prepared all basic items**

- Uttar Pradesh
- NE Nigeria
- Ethiopia

**Administered prophylactic uterotonics**
Effective coverage: components of skilled birth attendance

**Items prepared:**
- Disinfectant
- Gloves
- Gauze
- Uterotonic
- Clean cloths
- Sterile blade
- Cord ligature
- Eye ointment

- **SBA where SBAs are prepared**
- **SBA where SBAs not fully prepared**
- **No SBA**

<table>
<thead>
<tr>
<th>Location</th>
<th>SBA where SBAs are prepared</th>
<th>SBA where SBAs not fully prepared</th>
<th>No SBA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uttar Pradesh</td>
<td>11</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td>NE Nigeria</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ethiopia</td>
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Limitations

• Facility and frontline worker survey only extended to primary level care provision in this enquiry

• Facility readiness only assessed on the day of survey – does not reflect duration of stock-outs

• Likely (?upward) responder bias by skilled birth attendants – no observation of behaviours

• Skilled birth attendant information refers to the last birth attended: effective coverage estimates don’t directly measure behaviours for individual women
## Summary

<table>
<thead>
<tr>
<th></th>
<th>1. PHC deliveries in a ‘ready’ facility</th>
<th>2. Quality SBA</th>
<th>3. Prophylactic uterotonic</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. PHC deliveries in a ‘ready’ facility</strong></td>
<td>87%</td>
<td>39%</td>
<td>49%</td>
</tr>
<tr>
<td><strong>Skilled birth attendance</strong></td>
<td>76%</td>
<td>22%</td>
<td>16%</td>
</tr>
<tr>
<td><strong>Effective coverage</strong></td>
<td><strong>11%</strong></td>
<td><strong>2%</strong></td>
<td><strong>8%</strong></td>
</tr>
<tr>
<td><strong>2. Quality SBA</strong></td>
<td><strong>38%</strong></td>
<td><strong>15%</strong></td>
<td><strong>7%</strong></td>
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<td><strong>3. Prophylactic uterotonic</strong></td>
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- Ethiopia: JaRco Consulting
  www.jarrco.info
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