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Maternal and Newborn Indicator Validation Study in Mozambique

**A collaboration between
Maternal Child Health Integrated Program (MCHIP),
Child Health Epidemiology Reference Group (CHERG),
and Mozambique Ministry of Health**

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Rationale for the study

“*Skilled birth attendant*” is the core indicator for global monitoring of maternal health care around the time of birth

- Describes contact with the health system but not content of care
- Additional information on the content of women’s health care is needed for country level planning
- Study Objective: To test the validity of women’s recall of new content of care indicators for interventions delivered around the time of birth

Selection of Indicators to Test

- Document review
 - DHS/MICS questionnaires, evidence-based maternal health care manuals and guidelines
- Discussions with colleagues
- **RESULT: 34 indicators identified for assessment**
 - 17 identified as “High Demand” evidence-based indicators; appropriate for possible inclusion in DHS/MICS
 - 17 identified as appropriate for in-depth maternal health surveys

Assessment of two aspects of indicator validity

1. Accuracy at the *individual level*

How accurately do women self-report on care received?

Depends on indicator sensitivity and specificity

2. Accuracy at the *population level*

How accurately does the indicator estimate true prevalence in the population?

Depends on sensitivity, specificity and prevalence

Criteria for recommending incorporation of new indicators into surveys

	Individual-level Accuracy	Population-level Accuracy
High Demand Indicators	Yes	Yes
Other indicators	Either Individual or Population level Accuracy	

Study Design

Step 1: Observe Labor & Delivery Care
(525 labors/births observed in 46 facilities across MZ in Quality of Care Study)



Step 2: Wait
for 8-10 months

Step 3: Conduct household interviews

- 1) Standard DHS/MICS questions, where appropriate
- 2) Additional questions for new indicators
- 3) N = 304 interviews; Response Rate = 65%

Step 4:
Compare,
determining
validity of
respondents'
reports

Sample Characteristics

Socio-demographic Characteristics	Maternal Recall Survey	MICS 2008
EDUCATION		
None	12.8	23.8
Primary	55.6	62.2
Secondary or higher	31.6	13.4
Don't know/missing	0.0	0.7
RESIDENCE		
Urban	54.0	39.9
Rural	43.1	60.1
Missing	3.0	0.0



RESULTS: Indicators meeting both Individual/Population Accuracy Criteria

INDICATOR	Individual Accuracy	Population Accuracy	High Demand Indicator?
Woman delivered in a hospital versus a health center (<i>Contact; on DHS/MICS</i>)	Yes	Yes	No
Woman had a companion present during the labor or delivery (<i>Content</i>)	Yes	Yes	Yes
Woman was encouraged to have a companion during labor or delivery (<i>Content</i>)	Yes	Yes	No
Newborn is placed skin to skin on mother's chest (<i>Content</i>)	Yes	Yes	Yes

Indicators meeting *either* Individual or Population Accuracy Criterion

INDICATOR	Individual Accuracy	Population Accuracy	High Demand Indicator?
Woman had her blood pressure taken	No	Yes	Yes
Woman received fundal massage after delivery of the placenta	No	Yes	Yes
Newborn dried & wrapped in towel/cloth (among those not placed skin-to-skin)	No	Yes	Yes
Newborn immediately dried	No	Yes	Yes
Woman encouraged to ambulate during labor	No	Yes	No

Key Maternal Indicators Not Recommended for Household Surveys

HIV/PMTCT:

- Woman asked about her HIV status

Active Management of Third Stage of Labor:

- Woman received a uterotonic within 3 (a few) minutes after birth of baby
- Woman received controlled cord traction
- Active management of third stage of labor (composite indicator)

Key Newborn Indicators Not Recommended for Household Surveys

Early Initiation of Breastfeeding:

- Breastfeeding initiated within one hour of birth
 - (Question formulation differed from the DHS)

Newborn Thermal Care:

- Newborn is placed skin to skin on mother covered with a cloth
- Newborn is wrapped in a towel/cloth
- Newborn immediately dried, placed skin to skin and covered with a towel/cloth (composite indicator)

Study Strengths

- Reference standard was direct observation, rather than chart review
- Follow up period comparable to MICS (study average = 9 months vs. MICS average =12 months)
- Closely mimicked conditions of DHS/MICS data collection.

Study Limitations

- 65% Response Rate: 1/3 of women could not be located for follow-up interview
- Some bias of sample toward more educated, urban, young women –may overestimate accuracy of recall
- Could not validate 7 indicators due to small sample size in the observed births

Conclusions

- ***Women are able to report on some aspects of intrapartum care***
 - Some intrapartum interventions will always require health facility-based data collection
- Further studies needed, especially in other contexts.
- Hypothesis: if women know they should expect certain routine interventions and awareness is increased, their recall will be more accurate
- Qualitative research may assist in improving the formulation of some questions.