Collecting KMC data in routine health information systems

Newborn Health Indicators
Technical Working Group Meeting
17 December 2012
Kate Kerber
Outline

• Intervention definition
• Facility-level indicators
  – Core
  – Supplemental
  – Tools
• Lessons from 4-country evaluation
• Potential for integration
• Discussion
Facility-based Kangaroo Mother Care

Definition

What?
- Continuous, prolonged, early skin to skin contact between mother and low birth weight baby
- Provides warmth, promotes increased breastfeeding, reduced infections and linked to additional supportive care as needed

Who?
- All babies can benefit but indication is for preterm/low birth weight babies (i.e. cases <2000g as marker of <34wks gestation)
- Clinically stable (i.e. not requiring recurrent resuscitation but this can vary depending on context)
Core KMC indicators

Output indicators

• Number of health providers trained in KMC, by cadre
• Proportion of facilities with in-patient capacity where KMC is operational, by level of facility and type of KMC service
• Proportion of targeted facilities with in-patient capacity where KMC is operational, by level of facility and type of KMC service

Outcome indicators

• Proportion of LBW babies who received KMC in catchment area of the KMC facility(ies)
• Proportion of LBW babies who received KMC and survived to discharge from facility, by birth weight category
• Proportion of LBW babies who received KMC who were lost to follow-up after discharge

Indicators in Bold refer to suggested HMIS indicators

Supplemental KMC indicators

Output indicators
• Number of health facility staff oriented to KMC

Outcome indicators
• Average length of stay in KMC services in days
• Average number of follow-up visits among KMC babies discharged from facility
• Proportion of LBW babies who “graduated” from KMC

These indicators should be captured and used at the point of care for monitoring service quality

Monitoring and evaluation tools

Held at district level:
- List/database of health providers trained in KMC
- List/database of KMC facilities established

Held at facility level:
- As above, plus:
- Monthly/quarterly summary forms to aggregate data
- Maternity/admissions register (gives denominator of LBW babies)
- KMC register (includes all information required for core indicators)
- Individual patient records

Represents minimum list; more information can be collected by the district/facility

KMC implementation progress: 4 (5) country evaluation

- **Goal:** Systematically measure scope and institutionalization of KMC services and describe barriers and facilitators to sustainable implementation

- **Countries:** Malawi (14), Mali (7), Rwanda (7) and Uganda (11), *also Nigeria (20)* with MCHIP, SC, support

- **Assessment team:** international experts plus local investigators using standard tool and scoring methodology

- Not specifically intended to assess indicators but KMC measurement was an aspect of the evaluation
KMC implementation progress: Country progress
KMC implementation evaluation: Findings relating to documentation

- Highly variable quality and completeness of recordkeeping and documentation
- Few facilities had a mechanism in place for regularly reporting on KMC-specific activities and statistics to higher management
- Number of LBW babies was routinely captured though frequent confusion between LBW babies in general with those receiving KMC
- Intermittent KMC, feeding poorly documented
- KMC register, patient records rarely connected through to follow up visits, making core indicator collection a challenge

<table>
<thead>
<tr>
<th>Quality of documentation</th>
<th>Malawi</th>
<th>Mali</th>
<th>Rwanda</th>
<th>Uganda</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good: 4</td>
<td></td>
<td></td>
<td>Good: 2</td>
<td>Good: 1</td>
</tr>
<tr>
<td>Average: 6</td>
<td></td>
<td></td>
<td>Average: 5</td>
<td>Average: 6</td>
</tr>
<tr>
<td>Poor: 4</td>
<td></td>
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<td>Poor: 1</td>
<td>Poor: 4</td>
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</tbody>
</table>
Facility-led data collection

MOTTO

NO WORK DONE UNTIL PAPER WORK IS COMPLETE

N.B: Accurate and timely recording will save you!

KANGAROO MOTHER CARE RECORD BOOK
KMC implementation evaluation: Recommendations

• Emphasize monitoring and evaluation in KMC training and follow-up supervision – demonstrate what can be done with the data that are collected to give it purpose

• Ensure that appropriate indicators are being collected and used. While most KMC information is too detailed to include in HMIS, these data are valuable for local use and quality improvement

• Use existing feedback channels (e.g. facility or district meetings) to report on KMC statistics in a systematic way in order to keep KMC on the agenda of providers and policy makers

• Encourage accountability by including KMC data capture in job descriptions and including KMC overview statistics in reports to all levels of the health system
Potential for integration of KMC indicators

• Into MNCH data systems
  – Necessary for local use, tracking, and awareness at facility and certain indicators as district level

• Routine HMIS
  – 2 indicators suggested: Keep it as simple as possible

• Health facility surveys
  – Already included in MCH SPA and newborn-specific tool developed by the group

• Household surveys
  – Possible?
Questions

• What can we do to get the 2 suggested KMC indicators into HMIS?

• Can we encourage districts to collect and use KMC information?

• How to improve the quality and completeness of information collected at health facility level? How to link in the community denominator?

• How can we ensure monitoring remains after projects end?
Thank you!

Save the Children®
Ethiopia MCHIP KMC Study: Review of Indicators

Johns Hopkins IIP, Save the Children, Jhpiego
Step-wise evaluation approach

1. Policies and planning
   Are the interventions and plans for delivery technically sound and appropriate for the epidemiological and health system context?

2. Are adequate services being provided?
   ≈ at health facility level?
   ≈ at community level?

3. Are these services being used by the population?

4. Have adequate levels of effective coverage been reached in the population?

5. Is there an impact on health and nutrition?

6. Cost-effectiveness
   Is the program good value for money? Is it sustainable?

Systematic feedback for program improvement
Data Sources

1. Policies and planning
   - Are the interventions and plans for delivery technically sound and appropriate for the epidemiological and health system context?

2. Provision
   - Are adequate services being provided?
     - at health facility level?
     - at community level?

3. Utilisation
   - Are these services being used by the population?

4. Effective coverage
   - Have adequate levels of effective coverage been reached in the population?

5. Impact
   - Is there an impact on health and nutrition?

6. Cost-effectiveness
   - Is the program good value for money? Is it sustainable?

Data Sources:
- Household Survey
- Routine Program Data
- Routine Data; HEW Skills Assessment
Household Survey

- Advantages for measuring evaluation indicators:
  - Probability sample
  - Actual measure of coverage

- Challenges for measuring evaluation indicators:
  - Sample size and screening procedures—not feasible to screen for only LBW newborns
  - Precise measure of coverage of intervention activities that should reach ALL mothers/newborns (e.g. home visit, education messages)
  - Few babies measured at birth, assessment of birth weight based on mother’s recall
  - Can measure STS/KMC practice, but not with precision
HH Survey Background

- **Instrument**
  - Adapted from SNL COMBINE trial survey instrument

- **Eligibility Criteria:**
  - All women who delivered a live birth in the past 1 to 7 months
  - Birth weight not considered
  - 1 month period since birth to allow for equal opportunity to exposure to the intervention

- **Screening and sampling**
  - Census enumeration areas within the catchment areas of HEWs/health centers
  - 6,881 households screened; sample of 218
  - Lower than expected fertility in some regions
HH Survey—Intervention Exposure

- **HEW KMC Promotion**
  - Proportion of RDWs who received a home visit from a HEW during pregnancy.
  - Among RDWs who received antenatal care from a HEW, proportion who were counseled on: a) care for low birth weight babies; b) KMC positioning; c) expressing breast milk; d) cup feeding with breast milk

- **Facility-based KMC Promotion**
  - Proportion of RDWs who received antenatal care at a health center or hospital
  - Among RDWs who received ANC at a health center or hospital, proportion who were counseled on: a) care for low birth weight babies; b) KMC positioning; c) expressing breast milk; d) cup feeding with breast milk
HH Survey—Thermal care & breastfeeding for all newborns

- Proportion of newborns who were placed skin-to-skin on their mother’s chest immediately after birth.

- Proportion of newborns whose bathing was delayed at least 24 hours.

- Proportion of newborns who were breastfed within the first hour after birth.

- Proportion of newborns exclusively breastfed during the first 2 days (including cup feeding).

→ All newborn care indicators calculated overall AND stratified by delivery location
HH Survey—Care for LBW babies

- Among newborns perceived by their mothers to be smaller than average or very small (n=41)...
  - Proportion who received extra visits from a health worker
  - Proportion who received more frequent breastfeeding
  - Proportion who were put in KMC position
  - Proportion who were kept in KMC position for at least 12 hours a day (all day or all night)
Routine Program Data

Advantages:
- Data collection should be ongoing
- Necessary in step-wise evaluation approach to assess the likelihood of the intervention improving coverage or health outcomes
- Can provide feedback to the program on bottlenecks, areas for attention

Disadvantages:
- Accuracy and completeness of reporting are challenges
- Process needed for extracting data regularly (hasn’t been established in Ethiopia)
HEW Register Extraction

- Number of pregnancies identified per HEW per quarter
- Number of first/2\textsuperscript{nd}/3\textsuperscript{rd} antenatal visits made per HEW per quarter
- Number of deliveries identified per HEW per quarter
- Number of postnatal visits within 24 hours of delivery
- Number of postnatal home visits after 24 hours of delivery
- Number of LBW newborns identified
- Number of LBW newborns for whom KMC was initiated
Analyzing Register Extraction Data

- Compare with catchment area population (e.g. number of pregnancies identified per 1,000 population)

- Compare with expected number of events (e.g. proportion of expected pregnancies identified given population and fertility rate)

- Compare across facilities and/or health workers

- Assess the continuity of care through the postnatal period (e.g. ratio of 1st ANC visits to 1st PNC visits)
Update on WHO PNC Guideline Meeting

SNL Newborn Indicator Meeting

December 17, 2012
Outline of Presentation

• WHO Draft Recommendations
  – Length of stay in facility
  – Number of PNC contacts
  – PNC home contacts
  – Content

• Next steps
Timing of Discharge After Birth

• After an uncomplicated vaginal birth in a facility, healthy mothers and newborns should receive care in the facility for at least 24 hours after birth.

  – Appropriate standard of care for mothers and newborns should be provided in health facilities, as per other WHO guidelines.

  – “Healthy mothers and newborns" are defined in the safe childbirth checklist to be used to assess mothers and newborns at the time of discharge.
Number and Timing of Postnatal Contacts

• If birth is in a facility, mother and newborn should receive postnatal care prior to discharge.
• If birth is at home, the first postnatal contact should be as early as possible within 24 hours of birth.
• At least two additional postnatal contacts are recommended, on day 3 (48-72 hours) and between day 7-14 after birth.
• Final postnatal contact is recommended at 6 weeks
Home visits for PNC

- Home visits in the first week after birth are recommended for care of the mother and newborn.
  - PNC are usually combined with pregnancy home visits
  - Depending on the setting, home visits can be made by midwives, other skilled providers or well-trained and supervised community health workers.
  - Postnatal contacts may also occur at clinic visits.
Content of PNC for newborn

- Assessment of newborn
  - No longer feeding well
  - History of convulsions
  - Rapid breathing (breathing rate >60 per minute)
  - Severe chest in-drawing
  - No spontaneous movement
  - Fever (temperature >37.5°C)
  - Low body temperature (temperature <35.5°C)
  - Any jaundice in first 24 hours of life, or yellow palms and soles at any age

- Exclusive breastfeeding
PNC Content for Newborn (cont)

• Keep newborn warm
  – Bathing delayed at least 6 hours (24 hours preferable)
  – Appropriate clothing (including hat)
  – Same room as mother for 24 hours a day

• Cord care
  – CHX applied to cord first week of life among newborns born at home in high mortality settings (NMR>30/1000)

• Other care
  – Immunization
  – Pre-term/LBW
  – Communication/play
PNC Content for Woman

• Assessment of woman
  – Within 6 hours:
    • Urine voided, blood pressure
  – Within 24 hours:
    • vaginal bleeding, uterine contraction, fundal height, temperature, pulse
  – Postnatal contacts:
    • micturition and urinary incontinence, bowel function
    • healing of any perineal wound
    • Headache, fatigue
    • back pain, perineal pain and perineal hygiene
    • breast pain, uterine tenderness and lochia
    • emotional changes
PNC Content for Woman (cont)

• **Nutrition counseling and supplementation**
  – Women should be counseled on nutrition
  – Iron and folic acid supplementation should be provided for at least 3 months (*WHO Guideline review in process*)

• **Breastfeeding**
  – Breastfeeding progress should be assessed at each postnatal contact

• **Infection prevention**
  – Women should be counselled on hygiene, especially hand washing
  – Administration of antibiotics to women who deliver vaginally and sustain a third or fourth degree perineal tear
• **Family planning and sexual health counseling**
  – Counselling on birth spacing and family planning. Contraceptive methods should be provided if requested
  – Counselling on safer sex including use of condoms. Discussion on resumption of sexual intercourse and possible dyspareunia 2-6 weeks after birth.

• **Malaria prevention**
  – In malaria endemic areas, mother and baby should sleep under an impregnated bed net
• **Mobilization, rest and exercise**
  – Encourage woman to mobilize as soon as appropriate following the birth including rest in postnatal period

• **Psychosocial support**
  – Health professionals should provide an opportunity for women to discuss their birth experience during their hospital stay
  – Psychosocial support by a trained person is recommended for the prevention of postpartum depression among women at high risk of developing this condition
  – At each postnatal contact, women should be asked about their emotional well-being, social support and coping strategies
Next Steps

• Discussion on including “signal functions” in guideline – for newborn and woman
• All participants have reviewed and given comments on draft guidelines
• Guidelines will go through formal WHO Guideline process
• Finalization expected early 2013
HBB Monitoring and Evaluation Technical Working Group

Current status and next steps

Shivam Gupta
Abdullah Baqui & Steve Wall
Goal

• To contribute to HBB program performance evaluation design and implementation in select countries
  – Help to determine how well the HBB program is being implemented
  – Help to measure performance outcomes
Tasks/ Deliverables

• Refine monitoring and evaluation framework consistent with the Implementation Guide drawing on routinely collected data

• Standard set of evaluation indicators for monitoring and evaluation of coverage and quality

• Share tools and consent forms that can be adapted by country programs for data collection

• Share information (tools, consents, and manuals) on Implementation website and at annual meetings
Status update

• Recruitment of TWG members – global and country-based

<table>
<thead>
<tr>
<th>Abdullah Baqui (Jhu–IIP)</th>
<th>Steve Wall (SNL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indira Narayanan</td>
<td>Ishtiaq Mannan (SNL – Bangladesh)</td>
</tr>
<tr>
<td>Anju Puri (MCHIP – India)</td>
<td>Shams El Arifeen (ICDDRB)</td>
</tr>
<tr>
<td>Barbara Rawlins (Jhpiego)</td>
<td>Robyn Wheatley (AAP)</td>
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<tr>
<td>Douglas McMillan</td>
<td>Linda Wright (NIH)</td>
</tr>
<tr>
<td>Nalini Singhal (AAP)</td>
<td>Lily Kak (USAID)</td>
</tr>
<tr>
<td>Rob Clark (LDS charities)</td>
<td>Youssef Tawfik (URC)</td>
</tr>
<tr>
<td>Bill Keenan (AAP)</td>
<td>Shivam Gupta (Jhu – IIP)</td>
</tr>
<tr>
<td>Susan Niermeyer (AAP)</td>
<td>Jennifer Applegate (Jhu – IIP)</td>
</tr>
</tbody>
</table>
Status update

- Common Evaluation Framework and Indicators available as part of implementation guide
- Ongoing compilation of different country plans and tools (Drop box)
  - Bangladesh
  - Malawi
  - Tanzania?
  - Uganda?
  - Cambodia?
  - Other?
Status update

• Conference calls with TWG members: Oct 3 2012

• Dissemination and discussion on
  – Draft TOR
  – Draft HBB Evaluation Matrix comparing different HBB evaluations
  – Draft list of M&E indicators
  – Draft logic frame with indicators
  – M&E section of Implementation guide
Next steps

- Written feedback from members on evaluation matrix, logic frame and indicators
- Connecting with WHO to involve in TWG discussions
- Exploring date and finalizing agenda for the next phone meeting
- Exploring the date and agenda for a face to face meeting
Capture of newborn data on delivery and post-natal period through routine sources: preliminary findings from document review in four countries
Outline

• Background
• Purpose and scope
• Methods
• Summary of findings
• Next steps
• Discussion areas
Background

- Need for global guidance on newborn indicators collected through routine sources emphasized at the last TWG meeting
- A small group of representatives from SNL, MCHIP and USAID met in August to discuss and learn from maternal work
- Group recommended conducting a review to assess what newborn-related data are recorded routinely and what data are aggregated and captured within the HMIS
- Aim to align and link with other efforts:
  - IDEAS group conducting content analysis to learn what is collected for MCH through routine data collection systems in 3 countries (Eth, Northern Ng, and UP in India)
  - IDEAS group examining availability and use of routine facility data by extracting data from routine records in health facilities on # deliveries, birth outcomes, birth weight and APGAR scores in 5 countries (Tz, Ug, Eth, Ng, India)
Purpose and Scope

**Purpose:**
- To conduct an initial scan to identify what newborn data and indicators are routinely recorded, summarized and reported.
- Results will be used to help develop initial recommendations for indicators that could be collected through routine systems and also inform preparation of template registers, reports, etc.

**Scope:**
- Includes routine, MOH-endorsed, facility-level registers, reporting forms and national-level reports.
- Focus on delivery and post-natal period.
- Current review does not include:
  - Specialized or project specific registers (KMC, HBB, etc) or job aids.
  - Individual or family-level cards (health passports, mother-baby cards).
  - Community level forms and reports (next round).
  - Supervision checklists.
Methods

• Selected 4 countries (Malawi, Uganda, Nepal and Bangladesh) for initial review based on availability of forms and presence in country for follow-up

• Obtained copies of latest registers, reporting forms, and reports through:
  o MCHIP ‘drop-box’
  o Online searches
  o Email correspondence with country-based staff

• Extracted newborn-related data elements recorded, summarized, and reported across six content areas (e.g. immediate newborn care, birth outcomes)

• Identified potential issues/data quality issues
Organization of findings

• Review of available registers and reports by country
• Analysis of data elements for newborn captured at 3 levels (registers; reports; HMIS analysis) by categories:
  – Delivery information
  – Newborn complications at birth
  – Immediate newborn care
  – Birth outcomes
  – Postnatal care for baby
  – Management of newborn infections
• Summary of maternal/newborn delivery and postnatal care data captured in HMIS reports
Summary of findings

- Review highlighted variability across countries in capture of newborn data within routine systems at health facilities.
- Only a fraction of the newborn data elements recorded are summarized and even less are reported.
- Guidance for recording is weak and key terms not defined—this is particularly concerning for newborn complications and birth outcomes.
- Open-format registers likely more prone to lack of standardization and ambiguity.
- Some notable disconnects between what is recorded and what is reported (e.g. Uganda birth outcomes).
- Immediate newborn care practices are poorly captured and reporting is non-existent.
Summary

- Data capture for newborn infection identification and management disjointed and poorly defined in Malawi and Uganda (Nepal likely exception rather than the norm)
- Limited data on postnatal care for newborns is captured (esp in Malawi) and focus for reporting is on the mother
- Capture of data on stillbirths and particularly the distinction between fresh and macerated is unlikely to be valid and reliable without efforts to standardize definitions
- Data quality and completeness not assessed – important to better understand this and results from IDEAS will be informative
- Levels of data use for newborns at facility level likely to be very low given the limited emphasis on summary and reporting of newborn data and indicators
Next steps

- Scan was limited in terms of scope and ability to verify elements
- Review and confirm findings with country-based counterparts; complete Bangladesh
- Expand review to include community-based forms and reports
- Convene smaller working group meetings to review findings from this study and others (e.g. IDEAS) and develop recommendations for newborn indicators and data elements collected through routine systems
Discussion areas

– What should the smaller working group focus on?
  • Standard definitions (e.g. newborn complications)
  • Short-list of recommended indicators for HMIS
  • Development of templates/guidance

– Thoughts on:
  • Who should be part of the smaller working group
  • Opportunities or other initiatives to engage with
  • Country-level opportunities
Thank-you!
Detailed tables (handout)
## Documents reviewed

<table>
<thead>
<tr>
<th>Country</th>
<th>Data collection tools</th>
<th>Data reporting forms</th>
<th>Analysis/Reports</th>
<th>Comments</th>
</tr>
</thead>
</table>
| Malawi     | • Maternity register (HMIU-3)          | Facility report (Monthly/Quarterly - HMIS 15)             | HMIS bulletin July-December 2010 (most recent available through country office) | Maternity register updated 2011  
Registers mostly coded  
No PNC register |
| Uganda     | • Maternity register (HMIS 072)  
• PNC register (HMIS 078) | Facility reports (Monthly-HMIS 105/Quarterly/Annual –HMIS 106 & 107) | MOH quarterly report July-September 2011 (most recent online)   | Forms and detailed guidance updated 2010*  
Registers mostly open-ended |
| Nepal      | • Maternity register  
• PNC register  
Annual reports online**  
Registers mostly open-ended |
| Bangladesh | • TBD                                  | Integrated monthly reporting form (MIS-A)                 | 2012 Health Bulletin (2011 data)                                    | Forms in Bangla; only able to review Annual report for this presentation |


**Available online at: [http://dohs.gov.np/](http://dohs.gov.np/)
## Delivery info for baby

<table>
<thead>
<tr>
<th>Country</th>
<th>Newborn data elements recorded</th>
<th>Data elements summarized for reporting</th>
<th>Data elements reported/analyzed</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malawi</td>
<td>• Date of delivery&lt;br&gt;• Gestation (weeks)&lt;br&gt;• Staff conducting delivery (skilled/unskilled/other)&lt;br&gt;• Single/multiple birth&lt;br&gt;• Place of birth&lt;br&gt;• Mode of delivery (SV/VE/BR/CS)</td>
<td>• # of deliveries&lt;br&gt;• # of deliveries attended by skilled health personnel&lt;br&gt;• # of caesarian sections</td>
<td>- % of children delivered by trained personnel (out of expected deliveries)&lt;br&gt;- % of deliveries by C-section</td>
<td>Proportion of facility deliveries not reported</td>
</tr>
<tr>
<td>Uganda</td>
<td>• Delivery date &amp; time&lt;br&gt;• Delivered by (name &amp; signature)&lt;br&gt;• Mode of delivery&lt;br&gt;• Management of 3rd stage (Code 1 for Ergometrine, 2 for Pitocin, 3 for Misoprostol)</td>
<td>• # of deliveries</td>
<td>- % deliveries in gov’t and NGO health facilities</td>
<td>Open-ended for mode (just suggested Vacuum extraction, C-section, etc) Place of delivery assumed facility and attendant to be skilled</td>
</tr>
<tr>
<td>Nepal</td>
<td>• Delivery date &amp; time&lt;br&gt;• Gestation (weeks)&lt;br&gt;• Person attending (SBA/USBA)&lt;br&gt;• Type (mode) of delivery&lt;br&gt;• Place of delivery (inst/home)</td>
<td>• # of deliveries by place and attendant (?)</td>
<td>- % of delivery conducted by SBA (home/facility)&lt;br&gt;- % of deliveries conducted by other than SBA (home/facility)&lt;br&gt;- % institutional deliveries</td>
<td>Register mostly open-ended</td>
</tr>
</tbody>
</table>
## Newborn complications at birth

<table>
<thead>
<tr>
<th>Country</th>
<th>Newborn data elements recorded</th>
<th>Data elements summarized for reporting</th>
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</tr>
</thead>
</table>
| Malawi  | Weight (kg)                    | • # of babies born with weight less than 2500g  
• # of newborns treated for complications | • # and % of newborns treated for complications (out of expected deliveries) | Underestimate of complications  
Complications 'lumped'  
Assumes complications are managed  
Not clear if newborns presenting after delivery are included in summary numbers  
No definitions for complications |
|         | Apgar score (5 min)            |                                        |                                |          |
|         | Circle one leading complication |                                        |                                |          |
|         | • None                          |                                        |                                |          |
|         | • Weight less than 2500g        |                                        |                                |          |
|         | • Prematurity                   |                                        |                                |          |
|         | • Asphyxia                      |                                        |                                |          |
|         | • Sepsis                        |                                        |                                |          |
|         | • Other                         |                                        |                                |          |
| Uganda  | • Weight (kg)                   | • # of birth asphyxia  
• # of babies born with low birth weight (<2.5 kg)  
• # of cases of birth asphyxia  
• # of babies with low birth weight (<2.5kg) |                                | Not clear how cases of birth asphyxia defined and basis for summary numbers since no set place in maternity register |
|         | • Apgar score (1 and 5 minute)  |                                        |                                |          |
| Nepal   | • Weight                        |                                        |                                | Didn't have access to guidance information for registers and reports |
|         | • Newborn complication (open)   |                                        |                                |          |
|         | • Newborn resuscitation (ambu-bag) |                                      |                                |          |
|         | ?                               |                                        |                                |          |
## Immediate newborn care

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</thead>
</table>
| Malawi  | • Breastfeeding initiated within 60 minutes (circle Y or N)  
• Tetracycline eye ointment given                                                                                                                                                                                                   | • None                                | - None                          | HBB register being piloted also includes: Dried & wrapped; Cord cut with sterile blade;                                                                                                                                 |
| Uganda  | • Breastfed ≤ 1 hrs? (Write ‘Y’ if HIV+ mother has started breastfeeding baby within 1 hr after delivery or ‘N’ for No if not  
• Infant feeding option (Code 1 for exclusive BF, 2 for replacement feeding or 3 for mixed feeding)                                                                                                                               | • None                                | - None                          | Immediate BF only captured for HIV+ mothers                                                                                                                                                             |
| Nepal   | • None                                                                                                                                                                                                                           | • None (?)                            | - None                          | Community-based registers (CB-NCP) capture additional information (immediate BF, skin-to-skin)                                                                                                             |
# Birth outcomes

<table>
<thead>
<tr>
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</thead>
</table>
| Malawi  | Circle only one of the 7 options:  
  - **Discharged alive:**  
    - Mother HIV-  
    - Mother HIV+ and ARV started  
    - Mother HIV+ no ARVs started  
    - Mother HIV status unknown  
  - Stillbirth  
  - Fresh  
  - Macerated  
  - **Neonatal death** |  
  - # of deliveries  
  - # of live births | No birth outcome data for newborns reported in routine reports | No data on neonatal outcomes directly reported (direct obstetric deaths reported though)  
Definitions for fresh/macerated stillbirths not given  
Neonatal death indicates baby was born alive but died before discharge |
| Uganda  | Enter the condition of baby at discharge as follows:  
  - SB – Still birth  
  - NND – Immediate neonatal death (0-7 days)  
  - AL – Live baby |  
  - # of live births in unit  
  - # of fresh still births in unit  
  - # of macerated stillbirths in unit  
  - # of newborn deaths (0-7 days) | - # of deliveries in unit  
- # of live births in unit  
- # of stillbirths in unit | - No definition for fresh/macerated stillbirth given and only 'stillbirth' recorded, yet data are disaggregated into fresh/macerated for reporting |
| Nepal   |  
  - Outcome of baby/birth | ? | No birth outcome data for newborns reported | Birth outcomes for baby is open-ended on register; not clear what the response options and definitions are |
# Postnatal care for baby

<table>
<thead>
<tr>
<th>Country</th>
<th>Newborn data elements recorded</th>
<th>Data elements summarized for reporting</th>
<th>Data elements reported/analyzed</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malawi</td>
<td>• No PNC register</td>
<td>• # postpartum care within 2 weeks of delivery</td>
<td>- % of women receiving postnatal care within 2 weeks of delivery (out of expected deliveries)</td>
<td>No PNC register Not clear where data on postpartum care comes from (maternity services section)</td>
</tr>
<tr>
<td>Uganda</td>
<td>• Status of baby (alive/dead)</td>
<td>• # PNC attendances</td>
<td># of postnatal visits (not clear if for mother or baby or both)</td>
<td>No timeframe for PNC attendance reporting and PNC visits reported under ‘antenatal section’ None of PNC data for baby is reported monthly (focus on mother – 4 add’tl elements summarized I monthly reports)</td>
</tr>
<tr>
<td>Nepal</td>
<td>• Timing of visit (within/after 48 hours)</td>
<td>? Need to check report</td>
<td>- % of mothers who received postnatal care at health facility (out of expected pregnancies)</td>
<td>Time frame for PNC visits not clear PNC for baby captured but not reported</td>
</tr>
</tbody>
</table>
## Management of newborn infections

<table>
<thead>
<tr>
<th>Country</th>
<th>Newborn data elements recorded</th>
<th>Data elements summarized for reporting</th>
<th>Data elements reported/analyzed</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malawi</td>
<td>• Sepsis recorded as potential complication at birth</td>
<td>• None</td>
<td>- None</td>
<td>Definition of sepsis not clear; only captured in maternity register. Initiation of treatment and referral not captured. First level facilities in Malawi are only allowed to give first dose to newborns and then refer.</td>
</tr>
</tbody>
</table>
| Uganda  | PNC register captures:  
• Diagnosis (open-ended: ‘Indicate diagnosis such as pneumonia, malaria if the child has any, or normal if the child has no infection’)  
• Other treatment (open-ended: ’Specify other treatments offered to the baby other than immunization)  
• Referral status (1 – young child clinic; 2-HIV chronic, 3 other) | Monthly report includes:  
• # cases of neonatal septicemia  
• # of perinatal conditions in newborns (0-7 days)  
• # of neonatal conditions (8-28 days) | - None | Not clear where data on newborn infections/conditions are derived from since PNC register data not summarized for nb (possibly inpatient/special register). |
## Management of newborn infections

<table>
<thead>
<tr>
<th>Country</th>
<th>Newborn data elements recorded</th>
<th>Data elements summarized for reporting</th>
<th>Data elements reported/analyzed</th>
<th>Comments</th>
</tr>
</thead>
</table>
| Nepal   | CB-IMCI OPD register (< 2 months)  
Signs and symptoms (circle from set list of danger signs/options for each category)  
- PSBI/LBI  
- Diarrhea  
- Low wt/Feeding problem  
- Assess breastfeeding  
Classification(open-ended)  
Treatment  
- Medicine  
- Counsel the mother  
- Referred to  
Follow-up  
- Date  
- Result | -? Not clear (report in nepali) | - # cases <2mos  
- # cases PSBI  
- # cases LBI  
- # cases jaundice  
- # cases hypothermia  
- # cases low weight or feeding problem  
- # cases treated with cotrim  
- # cases treated with gentamycin  
- # cases referred  
- # of dead cases | Data elements for cases treated at health facilities (CB-NCP data for treatment by FCHVs/CHWs for 10 districts reported in separate section) |
## Summary of report elements - Bangladesh

<table>
<thead>
<tr>
<th>Common elements</th>
<th>Newborn/mother specific</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>- # of deliveries</td>
<td>- # neonatal deaths</td>
<td>Not clear if PNC services are for mother or baby or both and no time frame; same with referrals</td>
</tr>
<tr>
<td>- # normal deliveries</td>
<td>- Causes of neonatal death (# and % due to pre-term, pneumonia, sepsis, etc)</td>
<td>IMCI information from 50 districts; Delivery info from 646 health facilities including public, private, NGO etc</td>
</tr>
<tr>
<td>- # forceps/vacuum/destructive</td>
<td>- # of live births</td>
<td></td>
</tr>
<tr>
<td>- # vaginal breech/face presentation</td>
<td>- # of stillbirths</td>
<td></td>
</tr>
<tr>
<td>- # C-sections</td>
<td>- # newborns (0-28 days) treated for IMCI conditions by classification</td>
<td></td>
</tr>
<tr>
<td>- C-section rate (as % of all births)</td>
<td>- Distribution (%) of IMCI conditions within 0-28 days</td>
<td></td>
</tr>
<tr>
<td>- # surgeries</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- # referred in</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- # referred out</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- # visit for PNC services</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- % of all births in EmOC facilities</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Summary of report elements - Malawi

<table>
<thead>
<tr>
<th>Common elements</th>
<th>Newborn/maternal specific elements</th>
<th>Comments</th>
</tr>
</thead>
</table>
| - Skilled attendant: # and % of children delivered by trained personnel (out of expected deliveries) | **Newborn:**
Newborn complications: # and % of newborns treated for complications (out of expected deliveries) | - Numbers disaggregated by district |
| - C-section: # and % of deliveries by C-section | **Mother:**
Pregnancy related complications (# and % of expected deliveries; compared over time) | |
| - PNC: # and % of women receiving PNC visit within 2 weeks of delivery (newborns assumed?) | - C-sections  
- Abortion  
- PPH  
- Maternal sepsis;  
- Severe anaemia  
- Eclampsia | |
|                  | Emergency obstetric complications (EOC) (% out of expected # of EOC cases) | |
|                  | - # and % of direct obstetric complications treated at obstetric care | |
|                  | - # and % of direct obstetric inpatient deaths | |
## Summary of report elements - Uganda

### Common elements

- # deliveries in unit
- # referrals from unit
- # referrals to unit
- # deliveries with TBA
- # deliveries by private provider
- # deliveries HIV+ who swallowed ARVs

### Elements for mother

- **Newborns:**
  - # of Babies born with low birth weight (<2.5kg)
  - # birth asphyxia
  - # live births in unit
  - # still births in unit

- **HIV:**
  - # live births to HIV+ mother
  - # of Babies born to HIV+ mothers given ARVs
  - # deliveries HIV+ in unit

- **Mother:**
  - # of Abortions
  - # of postnatal visits
  - # of maternal deaths

### Comments

Postnatal visits discussed under antenatal section; not clear if includes baby as well, or just mother.
## Summary of report elements - Nepal

### Elements for newborn

- # and % SBA (out of expected live births)
- # and % institutional delivery (out of expected live births)
- # of C-sections done
- C-section rate
- Met need of C-section (%)
- % birth at B/CEOC site

### Elements for mother

- **Newborns:**
  - # cases <2mos
  - # cases PSBI
  - # cases LBI
  - # cases jaundice
  - # cases hypothermia
  - # cases low weight or feeding problem
  - # cases treated with cotrim
  - # cases treated with gentamycin
  - # cases referred
  - # of dead cases

- **Mothers:**
  - PNC: # and % of mothers who received postnatal care at health facility (out of expected pregnancies)
  - EOC:
    - # of obstetric complications managed
    - Met need of EOC (%)
    - Obstetric case fatality rate

### Comments

Postnatal visits discussed under antenatal section and no time frame; not clear if includes baby as well, or just mother.
Register snapshots

Malawi Maternity Register (baby section)- 2011

<table>
<thead>
<tr>
<th>Birth Date</th>
<th>Twins</th>
<th>Sex</th>
<th>Birth Weight (kg)</th>
<th>APGAR (5 min)</th>
<th>Delivery Details</th>
<th>Newborn Complications</th>
<th>Newborn Survival / PMTCT Management</th>
<th>Breastfeeding initiated within 60 mins</th>
<th>Neonatal Death</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

Note: The data is presented in a table format, showing details of births and complications for babies born in Malawi in 2011. The table includes columns for birth details, delivery details, newborn complications, PMTCT management, and breastfeeding initiation status.
Register snapshots
Uganda Maternity Register - 2010

<table>
<thead>
<tr>
<th>ADMISSION INFORMATION</th>
<th>DELIVERY INFORMATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) DOA</td>
<td>(10) Mode of Delivery</td>
</tr>
<tr>
<td>(2) IP number</td>
<td>(11) Date of Delivery</td>
</tr>
<tr>
<td>(3) ANC and Referral Number</td>
<td>(12) Time of Delivery</td>
</tr>
<tr>
<td>(4) Name</td>
<td>(13) Management of 3rd Stage</td>
</tr>
<tr>
<td>(5) Parish &amp; Village</td>
<td></td>
</tr>
<tr>
<td>(6) Phone Number</td>
<td></td>
</tr>
<tr>
<td>(7) Age</td>
<td></td>
</tr>
<tr>
<td>(8) Gravidity/Para</td>
<td></td>
</tr>
<tr>
<td>(9) Diagnosis/WHO Clinical Stage/CD4 count</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CHILD INFORMATION</th>
<th>DISCHARGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>(14) PMTCT CODE</td>
<td>(24) Condition Of Mother at Discharge</td>
</tr>
<tr>
<td>W</td>
<td>(25) Condition of baby at discharge</td>
</tr>
<tr>
<td>P</td>
<td>Delivered by</td>
</tr>
<tr>
<td></td>
<td>Date of PNC</td>
</tr>
<tr>
<td></td>
<td>Name &amp; signature of person discharging</td>
</tr>
<tr>
<td>Vitamin A Supplim.</td>
<td></td>
</tr>
<tr>
<td>ARVs to mother</td>
<td></td>
</tr>
<tr>
<td>Breast fed ≤ 1hrs?</td>
<td></td>
</tr>
<tr>
<td>Sex</td>
<td></td>
</tr>
<tr>
<td>Apgar Score</td>
<td></td>
</tr>
<tr>
<td>WT</td>
<td></td>
</tr>
<tr>
<td>ARVs to baby</td>
<td></td>
</tr>
<tr>
<td>Immunization BCG/Polio</td>
<td></td>
</tr>
<tr>
<td>Infant Feeding Option</td>
<td></td>
</tr>
<tr>
<td>Condition Of Mother at Discharge</td>
<td></td>
</tr>
<tr>
<td>Condition of baby at discharge</td>
<td></td>
</tr>
<tr>
<td>Delivered by</td>
<td></td>
</tr>
<tr>
<td>Date of PNC</td>
<td></td>
</tr>
<tr>
<td>Name &amp; signature of person discharging</td>
<td></td>
</tr>
</tbody>
</table>
## Register snapshots

### Uganda PNC register - 2010

**HMIS FORM 078: INTEGRATED POSTNATAL REGISTER**

**COLUMN HEADINGS:**

<table>
<thead>
<tr>
<th>Serial Number</th>
<th>Client Number</th>
<th>Name</th>
<th>Father’s Name</th>
<th>Parish + Village</th>
<th>Phone Number</th>
<th>Age</th>
<th>Family Planning</th>
<th>Status of Breast</th>
<th>Status of Cervix</th>
<th>Weight &amp; Mid Upper Arm Circumference (WT &amp; MUAC)</th>
<th>PMTCT codes</th>
<th>Routine Administration</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>Status of the baby</th>
<th>Age</th>
<th>WT</th>
<th>Diagnosis</th>
<th>Infant Feeding Options</th>
<th>Immunisation</th>
<th>Infant HIV test</th>
<th>Septrin Given</th>
<th>Results given to care taker</th>
<th>Other treatment</th>
<th>Referral IN/OUT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tr>
</tbody>
</table>
Facility report snapshots

Malawi monthly/quarterly facility report

<table>
<thead>
<tr>
<th>Indic No.</th>
<th>Data Elements (DE)</th>
<th>Month</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Maternal Services</strong></td>
<td></td>
</tr>
<tr>
<td>39</td>
<td>Number of pregnant women starting antenatal care during their first trimester</td>
<td></td>
</tr>
<tr>
<td>40</td>
<td>Total number of new antenatal attendees</td>
<td></td>
</tr>
<tr>
<td>40</td>
<td>Total antenatal visits</td>
<td></td>
</tr>
<tr>
<td>41</td>
<td>Number of deliveries attended by skilled health personnel</td>
<td></td>
</tr>
<tr>
<td>42</td>
<td>Number of women with obstetric complications treated at obstetric care facility</td>
<td></td>
</tr>
<tr>
<td>43</td>
<td>Number of caesarean sections</td>
<td></td>
</tr>
<tr>
<td>44</td>
<td>Total number of live births</td>
<td></td>
</tr>
<tr>
<td>44</td>
<td>Number of babies born with weight less than 2500g</td>
<td></td>
</tr>
<tr>
<td>45</td>
<td>Number of abortion complications treated</td>
<td></td>
</tr>
<tr>
<td>46</td>
<td>Number of eclampsia cases treated</td>
<td></td>
</tr>
<tr>
<td>47</td>
<td>Number of Postpartum haemorrhage (PPH) cases treated</td>
<td></td>
</tr>
<tr>
<td>48</td>
<td>Number of sepsis cases treated</td>
<td></td>
</tr>
<tr>
<td>49</td>
<td>Number of pregnant women treated for severe anaemia</td>
<td></td>
</tr>
<tr>
<td>51</td>
<td>Number of newborn treated for complications</td>
<td></td>
</tr>
<tr>
<td>52</td>
<td>Number of postpartum care within 2 weeks of delivery</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Inpatient Deaths (including Maternity Deaths)</strong></td>
<td></td>
</tr>
<tr>
<td>102</td>
<td>Total number of inpatient deaths from all causes (excluding maternity)</td>
<td></td>
</tr>
<tr>
<td>50</td>
<td>Number of direct obstetric deaths in the facility</td>
<td></td>
</tr>
<tr>
<td>59</td>
<td>Acute Respiratory Infections-inpatient deaths (under 5)</td>
<td></td>
</tr>
<tr>
<td>61</td>
<td>Diarrhoea non-bloody (under 5) - Inpatient deaths</td>
<td></td>
</tr>
<tr>
<td>64</td>
<td>Malnutrition - inpatient deaths (under 5)</td>
<td></td>
</tr>
<tr>
<td>68</td>
<td>TB - inpatient deaths</td>
<td></td>
</tr>
<tr>
<td>69</td>
<td>Malaria - inpatient deaths (under 5)</td>
<td></td>
</tr>
<tr>
<td>74</td>
<td>Malaria - inpatient deaths (5 &amp; over)</td>
<td></td>
</tr>
<tr>
<td>80</td>
<td>Cholera - Inpatient death</td>
<td></td>
</tr>
<tr>
<td>89</td>
<td>Dysentery - Inpatient deaths</td>
<td></td>
</tr>
<tr>
<td>98</td>
<td>Number of road traffic accidents - inpatient deaths</td>
<td></td>
</tr>
</tbody>
</table>

Data Elements (DE)

- Indic No.
- Total number of inpatient deaths from all causes (excluding maternity)
- Number of direct obstetric deaths in the facility
- Acute Respiratory Infections-inpatient deaths (under 5)
- Diarrhoea non-bloody (under 5) - Inpatient deaths
- Malnutrition - inpatient deaths (under 5)
- TB - inpatient deaths
- Malaria - inpatient deaths (under 5)
- Malaria - inpatient deaths (5 & over)
- Cholera - Inpatient death
- Dysentery - Inpatient deaths
- Number of road traffic accidents - inpatient deaths
### Uganda monthly/quarterly facility report

#### 2.2 MATERNITY

<table>
<thead>
<tr>
<th>M1-Admissions</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>M2-Referrals to unit</td>
<td></td>
</tr>
<tr>
<td>M3-Referrals from unit</td>
<td></td>
</tr>
<tr>
<td>M4-Deliveries in unit</td>
<td></td>
</tr>
<tr>
<td>M5-Deliveries HIV positive in unit</td>
<td></td>
</tr>
<tr>
<td>M6-Deliveries HIV positive who swallowed ARVs</td>
<td></td>
</tr>
<tr>
<td>M7-Live births in unit</td>
<td></td>
</tr>
<tr>
<td>M8-Live births to HIV positive mothers</td>
<td></td>
</tr>
<tr>
<td>M9-Birth asphyxia</td>
<td></td>
</tr>
<tr>
<td>M10-Babies born with low birth weight (&lt;2.5Kgs)</td>
<td></td>
</tr>
<tr>
<td>M11-Babies (born to HIV positive mothers) given ARVs</td>
<td></td>
</tr>
<tr>
<td>M12- HIV positive mothers initiating breastfeeding within 1 hour</td>
<td></td>
</tr>
<tr>
<td>M13-No. mothers tested for HIV</td>
<td></td>
</tr>
<tr>
<td>M14-No. mothers tested HIV positive in maternity</td>
<td></td>
</tr>
<tr>
<td>M15-Mother given Vitamin A supplementation</td>
<td></td>
</tr>
<tr>
<td>M16-Fresh Still births in unit</td>
<td></td>
</tr>
<tr>
<td>M17-Macerated still births in unit</td>
<td></td>
</tr>
<tr>
<td>M18-Newborn deaths (0-7 days)</td>
<td></td>
</tr>
<tr>
<td>M19-Maternal deaths</td>
<td></td>
</tr>
<tr>
<td>M20-Deliveries with Traditional Birth Attendants (TBA)</td>
<td></td>
</tr>
</tbody>
</table>

#### 2.3 POSTNATAL

<table>
<thead>
<tr>
<th>P1-Post Natal Attendances</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>P2-Number of HIV + mothers followed in PNC</td>
<td></td>
</tr>
<tr>
<td>P3-Vitamin A supplementation</td>
<td></td>
</tr>
<tr>
<td>P4-Clients with premalignant conditions for breast</td>
<td></td>
</tr>
<tr>
<td>P5-Clients with premalignant conditions for cervix</td>
<td></td>
</tr>
</tbody>
</table>

#### Diagnosis

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>0-4 yrs</th>
<th>5 and over</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.3.4 Maternal and Perinatal Diseases</td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>45 Neonatal sepsisemia</td>
<td></td>
<td></td>
</tr>
<tr>
<td>46 Perinatal conditions in newborns (0-7 days)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>47 Neonatal conditions in newborns (8 - 28 days)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Technical Working Group
December 17, 2012

Newborn Indicator Reference Sheets:
Background on development and current status
Background

• Indicators for household surveys
  – Indicators in major national surveys (DHS, MICS)
    • Skilled birth attendance, C-section rate, etc.
    • More recently - postnatal care for mothers/newborns
  – New recommended indicators
    • Drying after birth
    • Delayed bathing
    • Cord cut with a clean instrument (home births only)
  – Indicators recommended for testing
    • Skin-to-skin contact
    • Nothing (harmful) applied to cord
    • Postnatal care signal functions

• Indicators for health facility assessments
  • Most questions from recent SPA
  • 16 recommended indicators + 2 optional indicators
Decisions at June 2012 meeting

- Focus on dissemination of the finalized indicators and questions, tailoring activities to each survey needs (DHS, MICS, KPC, etc)

- Continue to identify opportunities for further testing of proposed indicators

- Develop reference sheet for each indicator, including suggested tabulation tables
Dissemination/Testing

• Manuscript for *PLOS Medicine* collection Improving Coverage Measurement

• Page on Healthy Newborn Network website: http://www.healthynewbornnetwork.org/page/newborn-indicators

• The Knowledge Practices and Coverage Survey (KPC) Tool
  – Household survey indicators added, still draft
  – Indicators used by Concern Worldwide in Kenya (baseline ongoing)
  – Next steps:
    1. Work with other grantees doing newborn project & household surveys
    2. Partner with grantees interested in doing health facility assessments
    3. Document and share experience using these indicators
Dissemination/Testing

• UNICEF DIVA approach
  – Incorporated newborn indicators into household LQAS (using in DRC)
  – Work on adding to facility assessments

• SNL3
  – Opportunities for testing rapid facility assessment tool
  – Plan to advocate for inclusion of newborn indicators into next DHS/MICS in 7 SNL3 supported countries

• Others opportunities
Newborn Indicator Reference Sheets

Purpose:
- Promote uptake of newborn indicators

Scope:
- 8 indicators
  1. Postnatal care for mothers
  2. Postnatal care for newborns
  3. Drying after birth
  4. Delayed bathing
  5. Cord cut with a clean instrument (home births only)
  6. Skin-to-skin contact
  7. Nothing (harmful) applied to cord
  8. Postnatal care signal functions
# Newborn Indicator Reference Sheets

## Organization:

<table>
<thead>
<tr>
<th>INDICATOR:</th>
<th>Abbreviated title of the indicator</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEFINITION:</td>
<td>Detailed definition of the indicator</td>
</tr>
<tr>
<td>METRIC:</td>
<td>Specifies the numerator and denominator indicators</td>
</tr>
<tr>
<td>EVIDENCE BASE:</td>
<td>Evidence in the literature linking indicator behavior/practice to a reduced mortality or improved health outcome</td>
</tr>
<tr>
<td>RATIONALE:</td>
<td>Reason for collecting the indicator</td>
</tr>
<tr>
<td>DATA SOURCE &amp; COLLECTION METHOD:</td>
<td>Specifies recommended data collection method and data source(s) for the indicator</td>
</tr>
<tr>
<td>RECOMMENDED QUESTIONS &amp; INTERVIEW GUIDELINES:</td>
<td>Recommended questions (with answer options) and suggested guidelines for interviewer to use when adopting the indicator</td>
</tr>
<tr>
<td>DISAGGREGATE BY:</td>
<td>Recommendations for sub-group analyses or disaggregation</td>
</tr>
<tr>
<td>DIRECTION OF DESIRED CHANGE:</td>
<td>Direction in trend analysis that shows improvements</td>
</tr>
<tr>
<td>MEASUREMENT NOTES:</td>
<td>Additional notes related to definitions of the data elements, recommendations for data collection and the interpretation of the indicator.</td>
</tr>
</tbody>
</table>
Discussion areas

- Volunteers to review draft reference sheets

- Do we need reference sheets for newborn related indicators already in DHS/MICS?
  - Skilled birth attendance, C-section rate, breastfeeding, etc.

- Do we need reference sheets for health facility indicators at this time?
Thank-you!
## Recommended Indicators for optional module

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Definition</th>
<th>Numerator</th>
<th>Denominator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thermal care: drying</td>
<td>Percent of newborns dried after delivery</td>
<td># of newborns dried after delivery</td>
<td># of live last births in the 2 years prior to the survey</td>
</tr>
<tr>
<td>Thermal care: delayed bath</td>
<td>Percent of newborns with delayed bath after birth</td>
<td># of newborns with first bath delayed at least six hours after birth</td>
<td># of live last births in the 2 years prior to the survey</td>
</tr>
<tr>
<td>Cord care: clean instrument</td>
<td>Percent of newborns born at home with cord cut using new blade or boiled instrument (non-facility births only)</td>
<td># of newborns born at home with cord cut using new blade or boiled instrument (non-facility births only)</td>
<td># of live last births at home in the 2 years prior to the survey born outside a facility</td>
</tr>
</tbody>
</table>
## Indicators for testing

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Definition</th>
<th>Numerator</th>
<th>Denominator</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Thermal care: skin-to-skin contact</strong></td>
<td>Percent of newborns placed on the mother’s bare chest after delivery</td>
<td># of newborns placed on the mother’s bare chest after delivery</td>
<td># of live last births in the 2 years prior to the survey</td>
</tr>
<tr>
<td><strong>Cord care: Nothing (harmful) applied</strong></td>
<td>Percent of newborns with nothing (harmful) applied to cord</td>
<td># of newborns with nothing (harmful) applied to cord</td>
<td># of live last births in the 2 years prior to the survey</td>
</tr>
<tr>
<td><strong>Postnatal care signal functions</strong></td>
<td>Percent of newborns that received postnatal care within 2 days and at least 2 signal functions were done</td>
<td># of newborns that received postnatal care within 2 days and at least 2 signal functions were done</td>
<td># newborns who received postnatal care within 2 days after birth</td>
</tr>
</tbody>
</table>