Report of a Technical Working Group Meeting on
Newborn Health Indicators

January 27, 2010

Saving Newborn Lives
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Acknowledgements

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Executive Summary

In January 2010, a technical working group (TWG) was convened at Save the Children in Washington, DC to share progress and new evidence for indicators to monitor and evaluate newborn health programs and packages. The meeting provided an opportunity to expand on the work done since the initial April 2008 consultative meeting on survey-based indicators for monitoring and evaluation of newborn health programs and to take steps toward building consensus on key issues. Those in attendance included representatives from Save the Children, United Nations Children’s Fund (UNICEF), the World Health Organization (WHO), IFC Macro, the United States Agency for International Development (USAID), John’s Hopkins University (JHU), John Snow, Inc. (JSI), the Maternal and Child Health Integrated Program (MCHIP), PATH, the World Bank, and Measure Evaluation. The objectives of the meeting were to:

1. Review TWG progress to date and remit of the TWG
2. Share progress on measurement of neonatal mortality and cause of death trends
3. Share new analysis and qualitative research on measuring the postnatal care contact point and content of a health check after delivery
4. Review evidence and methods for measuring healthy behaviors/practice for newborn care
5. Review evidence for measuring health facility capacity for newborn care
6. Develop action plan for TWG next steps

The meeting participants were presented with and engaged in discussions surrounding the current situation for newborn health, new evidence from research studies, and updates on Multiple Indicator Cluster Survey (MICS) and Demographic and Health (DHS) survey questions. After the presentations, participants took part in group work. The three groups focused on further defining the postnatal contact point for DHS/MICS surveys, newborn care behaviors and practices, and measuring the capacity of health facilities for providing newborn care.

Recommendations, action steps, and a timeline were outlined by each group and are also included in this report.

Key recommendations and discussion points included the following:

Postnatal Contact Point Indicator

The group outlined the series of questions under discussion for addition to the maternal health section of the MICS4 questionnaire.

For facility births:

1. How long did the woman stay in the facility after delivery?
2. Before discharge from the facility, did the woman have a check on her health?
3. Before discharge from the facility, did the baby have a check on his/her health?
4. **After discharge from the facility, did the baby have a check on his/her health?**
5. **If yes, who did the check, where and when did the check take place?**
6. **After discharge from the facility, did the woman have a check on her health?**
7. **If yes, who did the check, where and when did the check take place?**

For home births:
1. **Before the “birth attendant” left the home, did she check on the health of the mother?**
2. **Before the “birth attendant” left the home, did she check on the health of the baby?**
3. **After the “birth attendant” left the home, did the baby have a check on his/her health?**
4. **If yes, who did the check, where and when did the check take place?**
5. **After the “birth attendant” left the home, did the woman have a check on her health?**
6. **If yes, who did the check, where and when did the check take place?**

The group noted that most of the proposed questions had already been pilot tested. They recommended leaving the questions worded so that information could be extracted as needed during the analysis stage, as opposed to narrowing the questions asked of the mother.

The following next steps were outlined by the group:
1. Finalize the proposed set of questions, with UNICEF taking the lead;
2. Create a set of potential indicators based on the finalized set of questions;
3. Mobilize the global community with letters of support from key stakeholders;
4. Approach UNICEF and DHS with documentation in order to influence the next DHS revision towards harmonization with the MICS questions; and
5. Discuss content of PNC visit(s) and the possible addition of a newborn or postnatal care module.

**Intrapartum and postnatal care practices**

The group’s discussion focused on the five indicators previously developed by the technical working group on drying, wrapping, bathing and cord care (see Appendix IV). These indicators were tested in a qualitative research study conducted in Bangladesh and Malawi by Dr. Stan Yoder (Macro). The group presented the following conclusions and proposed next steps.

**Thermal Care**
- While the group agreed that *drying/wiping* was an important indicator to measure, they suggested rewording the indicator to the percentage of newborns dried/wiped *as soon as baby is born*. It was noted that there were issues in terms of the translation of the question, reported timing, the use of
the word *immediately*, and potential cultural issues. It is important to include detailed instructions in the interviewer manual about the meaning of the question and appropriate translation.

- The discussion around **wrapping** was focused on programmatic issues in terms of the sequence of wrapping, skin-to-skin contact and immediate breastfeeding. From the qualitative research in Bangladesh and Malawi, all babies who were wiped were also wrapped, and it seemed unnecessary to ask about both behaviors separately. The group recommended only asking about wiping, but suggested conducting additional analyses to assess the correlation between wiping and wrapping in existing data sets. If the correlation is high, indicator will be limited to wiping and wrapping will not be asked.

- The group came to consensus on **delayed bathing**. Based on the research presented, women were able to provide information on the timing of the first bath. Due to the changing global recommendation regarding timing (from six hours to 24 hours after birth), the group’s decided to retain the six hour time frame. The group recommended leaving the question worded so that it would be possible to select the cut-off time during analysis. The group’s final recommendations were supported by the qualitative research presented by Dr. Stan Yoder (Macro).

### Cord Care

- The **clean cord care** indicator measured cutting the umbilical cord with a new blade or boiled instrument. Due to the difficulty in assuring that boiled blades were clean/sterilized, the group suggested focusing on new blades only. This indicator is currently only applicable for home births, based on the assumption that instruments used to cut the cord in facilities are “clean”. The group identified this as an area that may need additional discussion.

- The group also discussed the indicator relating to applying substances to the umbilical cord. The current WHO recommendation is dry cord care. However, in light on new evidence on chlorhexidine applications to the cord, this recommendation may change in the future. The group recommended leaving the indicator for now, but ensuring that questions to calculate this indicator include a list of substances so the indicator can easily be revised in the future if necessary. In addition, the group recommended revising the indicator to nothing ever applied to the umbilical cord (until the cord falls off).

Next steps for the group are as follows:

1. Develop wording of questions for each indicator;
2. Conduct further analysis of potential correlations between wiping and wrapping with data from Saving Newborn Lives (SNL) datasets (the group will circulate a timeline and information on the type of analyses they are planning to conduct);
3. Address other key issues including measurement of skin-to-skin contact, early initiation of breastfeeding, Kangaroo Mother Care (KMC), and care-seeking behaviors; and
4. Engage in further discussions of content of PNC visits.

Newborn Care Services at Health Facilities

This group focused on facility-based care for the woman and baby from delivery to time of discharge. The group’s consensus was that health facility assessment instruments currently do not capture quality of care. The instruments focus on availability of supplies and equipment, and a gap was identified in terms of using observation to assess the quality of services.

MCHIP is currently working with DHS/Macro to conduct a pilot study as part of the Kenya Service Provision Assessment (SPA). This pilot study will assess quality of care for common maternal and newborn complications that occur at the time of delivery, including eclampsia/pre-eclampsia, hemorrhage, and newborn resuscitation. The sample will include an estimated 700 public and private facilities across Kenya and include approximately 1,000 deliveries. The study was designed to understand what happens during delivery up to one hour after birth. The group discussed including an assessment of postnatal care (PNC) within this pilot and extending the observations up to the time of discharge.

The group’s recommendations and next steps are outlined below:
- Consider expanding the pilot in Kenya by adding an observation checklist for PNC (one hour after delivery up to discharge) to observe provision of care to mother and baby;
- Consider using sentinel sites on a rotating basis to integrate assessment of quality of care (including observation, checklist, and health worker interview) into routine monitoring of newborn and maternal care practices; and
- Establish a working group to focus on these areas (the group did not have time to discuss a next meeting or timeline).

Identified next steps and timeline

Allisyn Moran brought the larger group back together at the end of the group work presentations to review the key recommendations/outcomes of the meeting and outline the next steps proposed by each of the groups. She also shared a general timeline for future meetings.

Key outcomes

1. The postnatal contact point indicator group will work on a set of questions and indicators for MICS4 and work to standardize with DHS.
2. The intrapartum and postnatal care practices group made progress on indicators and is working on the exact wording of questions.

3. The newborn care services group suggested expanding observations of delivery and newborn care practices up to the time of discharge.

**Key next steps**

1. For the postnatal contact point indicator group, it will be critical to resolve questions and indicators as soon as possible, follow-up with DHS for harmonization, and establish a working group to move forward on measurement of PNC content.

2. For the intrapartum and postnatal care practices group, there will be follow-up with additional analysis and rewording of the current questions and then the group will move forward with new areas.

3. For the newborn care services group, in order to build on Kenya pilot, they will establish a working group to move forward.

**Timeline**

The larger group will plan to meet again in six months (July 2010) to report on the progress of the smaller working groups.

The three working groups will identify a point person and develop a plan for moving forward independently on their identified next steps.
Context of the meeting

On January 27th, 2010, a Technical Working Group (TWG) was convened by Saving Newborn Lives (SNL) at Save the Children in Washington, DC to assess indicators to monitor and evaluate newborn health programs. The day-long meeting was opened by Massee Bateman, Director of SNL. He discussed progress in newborn health over the last decade and the expansion of funding and programs to improve neonatal mortality. Even with this significant progress, consensus has not been reached among the newborn health community in terms of indicators to monitor and evaluate programs. Bateman emphasized the importance of this group making progress on today’s agenda and striving to reach consensus. He then asked participants to introduce themselves briefly (a complete list of participants can be found in Appendix I).

Claudia Morrissey, Senior Director for Technical Leadership and Support with SNL, followed with a welcome and thanked the group for their participation. She stressed the importance of reaching consensus on measurement issues for newborn health. She then reviewed the objectives for the day’s meeting (the full meeting agenda can be found in Appendix II).

1. Review TWG progress to date and remit of TWG
2. Share progress on measurement or neonatal mortality and cause of death trends
3. Share new analysis and qualitative research on measuring the postnatal care contact point and content of a health check after delivery
4. Review evidence for and methods for measuring healthy behaviors/practice for newborn care
5. Review evidence for measuring newborn care at the health facility level
6. Develop action plan for TWG for the next 18 months

Morrissey highlighted three critical issues to address during the TWG meeting. She stressed the importance of reaching consensus around key indicators to measure postnatal care. She discussed the necessity of informing the development of an optional newborn module on content of PNC visits as well as intrapartum and postnatal care practices. She identified the great potential of the Service Provision Assessment (SPA) to collect key information on the newborn at the health facility level – a key area that has not yet been addressed. She also briefly discussed logistical issues regarding scheduling for future meetings of this group, with biannual meetings for larger group and smaller working groups that have their own agendas and more frequent meetings over the next eighteen months. The ultimate goal is consensus on indicators as soon as possible – no later than mid-2011.

Next, Neal Brandes (USAID) gave a short presentation on the importance of newborn health indicators. He also discussed the basics of the Obama Global Health Initiative (GHI) and what opportunities this initiative presents to the newborn health community. The GHI uses a woman-centered and streamlined approach to global health with an
increased focus on health system strengthening and metrics and evaluation. The GHI also focuses on country implementation and capacity building. He cited the WHO/UNICEF Joint statement on home visits for the newborn child and pilot expansion of the Service Provision Assessment (SPA) to include observations of deliveries in collaboration with MCHIP in Kenya.

In closing, he posed this question to the group: What other platforms can the newborn health community stand on?

Then, Allisyn Moran, Senior Advisor for Research and Evaluation with SNL, gave a brief overview on the background of the TWG and progress to date.

**Background:**
Moran outlined the growing global interest in newborn health, as evidenced by Millennium Development Goals 4 and 5, the WHO/UNICEF joint statement on home visits, and the GHI. She highlighted that though there are still major gaps in the monitoring and tracking of newborn health, clear opportunities have presented themselves. She discussed the urgent need to develop standardized newborn health indicators for use in large-scale household surveys, independent research studies, program tracking, facility assessments, and other assessments. The main challenge identified by Moran was in determining what to measure and coming to agreement on the indicators needed.

In April 2008, SNL/Save the Children convened the initial meeting of experts to assess survey-based indicators to monitor and evaluate newborn health. The objectives of this meeting were to review existing questions on newborn health from Demographic Health Surveys (DHS), Multiple Indicator Cluster Surveys (MICS), and independent research studies, assess the validity of existing indicators, and develop an action plan for next steps. The group then split into three working groups and reviewed a set of indicators and survey questionnaires and developed recommendations for next steps. Moran gave a summary of those recommendations.

*Intrapartum care for mother and baby:*
The group recommended continued promotion of the use of questions considered to be robust and widely used in population surveys, including information related to place of delivery, attendance at birth, delivery by C-section, length of stay in the facility, reasons for not delivering in a facility (if a home birth), baby’s weight and size, and time of first breastfeed. The group concluded that more work was needed on indicators related to recognition of danger signs, care-seeking, thermal care, cord cutting and care, resuscitation, skin-to-skin care, and a composite indicator for thermal care.

*Postnatal care for mother and baby:*
This group defined a set of questions that they considered to be widely used in population-based surveys including when and where a postnatal examination of mother
and baby took place and who conducted the examination. The group identified a number of problematic issues with these questions; they noted that these questions were limited to the first postnatal care visit and were asked for both mother and baby. They also highlighted the fact that mother’s knowledge and recall about this time period was not well understood. The group’s recommendations included further testing and validation around the wording of questions, possible different cultural interpretations, appropriate timing of events, and mother’s interpretation and recall of the content of the first and subsequent visits.

_Pregnancy and birth history:_
The recommendation of this group was to include a full pregnancy history module that excluded questions probing reasons for early pregnancy loss (e.g., miscarriage vs. abortion), noting that more information was needed on the quality of data provided by pregnancy history versus birth history modules, exploration of cultural barriers, and feasibility of implementation (including timing and burden to interviewers and mothers).

_Progress to date:_
Moran then reviewed what steps had been taken since the initial April 2008 meeting, including establishing a working group with representatives from SNL/Save the Children, USAID, IFC Macro, and UNICEF. This group focused on three areas:

1. Provide input to DHS/MICS on newborn care indicators for inclusion in core questionnaires;
2. Develop an expanded module on newborn care practices for adoption and use on a country-by-country basis; and
3. Identify critical gaps, priorities, and opportunities for validation of newborn care indicators overall.

Between May 2008 and August 2009, this working group met several times. They reviewed the DHS and MICS survey questions as well as SNL baseline questionnaires. The group developed a draft of the DHS revised core questionnaire, a list of proposed indicators to include in a newborn module, and a draft questionnaire for the newborn module. The group also helped to develop a list of key newborn practices and behaviors. Three research studies were undertaken in response to the activity of the working group. Moran provided a brief summary of these studies and explained that these results would be discussed in detail during the subsequent presentations.

An analysis of DHS data from Bangladesh (2004 and 2007) and Egypt (2005 and 2008) was conducted to better understand postnatal care for women and newborns with home and facility births over time. A qualitative study was conducted to look at women’s experiences and recall in Malawi and Bangladesh. The study examined women’s recall of birth, postnatal, and immediate newborn care among women with home and facility births in urban and rural areas in the 1-2 years or 1-3 months
preceding the interview. Moran also identified a third study to be conducted by ICH and KHRC in Ghana, with research questions similar to the study conducted in Malawi and Bangladesh.\(^1\)

Moran stated that there are more data available for newborn health. More countries had data to present in the 2010 *Countdown to 2015* interim report; however, issues still exist in terms of indicator definitions, question consistency, and comparability of data on mother and baby. Moran also shared some information about the surveys conducted as part of SNL. Currently, fifteen household surveys have been conducted (with six of them calculating neonatal mortality rates) and fifteen end-line household surveys are planned for 2010 and 2011.

Moran then addressed the current situation and how the group can to move forward. She shared a sense of urgency in key areas where the group could impact DHS, MICS, and the SPA. Next, Moran talked about the need for consensus on the indicators and the necessity to move forward. She talked about possible coordination with the maternal health group and what other research and analyses might be necessary. The areas of focus identified for the meeting were as follows:

1. **PNC indicator**: including the timing and place of the visit, the care provider and possibly content.
2. **Intrapartum and postnatal care practices**: what to measure and how to ask the questions.
3. **Newborn services**: ensure key drugs and equipment are available and measuring staff competencies.

Finally, Moran reviewed the meeting objectives and expected outputs (the terms of reference for the technical working group can be found in Appendix III).

**Presentation One: Measurement of Neonatal Mortality Trends**  
**Presenter:** Joy Lawn (Save the Children)

Joy Lawn gave a short presentation, *Neonatal Mortality Trends – What’s New?*, on current newborn indicators and measurement. She updated the group on progress to date in this area. Her main messages were related to the necessity of focusing on postnatal care, measuring how many newborns are dying, and the need for clearer data.

First, Lawn gave a brief background on neonatal mortality data and reporting. She highlighted that Millennium Development Goal 4 is focused on global mortality data and that current discussions are ongoing regarding changing the distinction from infant and child to under 5 and neonatal. She pointed out that in the past it was not clear who was leading the discussion and that there didn’t seem a systematic review process. Looking

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\(^1\) This study will be conducted by ICH in Ghana between January and June 2010.
at the reporting in The State of the World’s Children, the neonatal data used are a few years old and the methods used to generate the numbers were not always clear. Currently, a new set of neonatal mortality rates (NMR) and methods for annual estimation are under review and will be available in May 2010.

**Mortality Data:**
Neonatal mortality rates have not declined at the same rate as under-five mortality over the past decade. The global mean for mortality in children under five has come down to 65 deaths per 1,000 live births (Figure 1). Next, Lawn brought the group’s attention to cause of death data, where there has been a significant improvement. The pie chart of causes of under-five deaths presented by WHO and UNICEF in 2004 did not show neonatal causes (the two largest slices in the 2004 pie were *other* and *perinatal causes*). Research commissioned by WHO in 2005 helped illuminate perinatal and neonatal causes (Figure 2). This research was also published as part of a 2005 Lancet series on neonatal health.

![Figure 1: Progress to MDG 4 for Child Survival (Lawn et al. 2005)](image)

Lawn was excited to tell the group that the 2008 updated data would be released at the Women Deliver Conference in June of this year in the *Countdown to 2015* report. At this stage, she voiced the need for more country level review and ownership of data (citing the 2004 Bangladesh example) and the need for sub-national data in larger countries where size masks important disparities (e.g., India, Nigeria). With both national and sub-national data, it will be possible to see variations in rates of neonatal tetanus, infections, and other causes of neonatal mortality and morbidity.
Figure 2: Estimates of Causes of Neonatal Death, 2000 (Lawn et al 2005)

She commended the Child Health Epidemiology Reference Group (CHERG), funded by the Bill and Melinda Gates Foundation, for their upcoming release of cause of death data, which will now be available on an annual basis. Lawn highlighted the importance of this publication and how it was a step forward in data consistency.

**Current Situation:**
Lawn shared a few details about the current situation regarding data for neonatal mortality. Vital registration data from 72 countries (up from 46) had become available so four percent of neonatal deaths were now being captured through national registration (up from two percent). The cause of death in the remaining countries are modeled using 71 survey datasets. With an increase in available datasets, especially from China and India, more accurate information on neonatal cause of death is now possible. Lawn envisioned that soon there will be a pie chart that shows causes of death in the first week or life, in addition to one that shows causes of death in the first month of life.

Next, Lawn shared some preliminary data for neonatal cause of death from 2006 to 2008 and noted that it will be possible to ascertain a clearer cause of death as verbal
autopsies improve. The enormous burden of morbidity was also evident in that it accounts for nearly double the DALYs attributed to HIV. Lawn pointed out that there are still variations within each slice of the pie, which may be caused by inconsistent methodology in assessing cause of death. She said that problems with misclassification and measurement regarding stillbirths are issues that are currently being addressed.

Lawn urged participants to think about what this all means with regard to surveys. She said the 75% of neonatal mortality and morbidity data comes from surveys. With MICS, a few countries have reported neonatal mortality (e.g., Malawi, eastern European countries). Some DHS have collected information on pregnancy history and while there has been some research, nothing new has been published in the last 20 years. Lawn also briefly discussed a phenomenon called *heaping* where neonatal mortality data indicate higher risk of death on certain days (7, 14, 21, 30/31). She reviewed the *heaping index*, which has been used to mitigate the issue. Lawn wanted the group to brainstorm other ways the data could be improved.

She concluded her presentation by saying that annual NMR estimates are likely although the process still has not been fully institutionalized. Lawn brought up a few concerns regarding data reliability and underestimation of mortality rates in DHS and MICS. She felt that the pregnancy history module would improve neonatal death capture and also count stillbirths. She also talked about neonatal causes of death, saying that there have been advances in country-based neonatal estimates using programmatic cause categories, there was more data (especially in larger countries like India and China), and increasing comparability. As far as trends, Lawn said that there has been a definite reduction in neonatal tetanus and apparent reductions in infections in some regions and countries. Lawn’s final statement was that there is no substitute for real data in looking at comparable trends across countries.

Participants commented on the indirect methodology used in the MICS to calculate NMR and clarified that countries do include the birth history module. It was also noted that there was a need for better models to estimate NMR (further discussion was tabled until the later presentation on MICS).

**Presentation Two: Analysis of DHS PNC contact point – Progress for who, where, when?**

**Presenter:** Alfredo Fort (PATH, seconded to Macro/DHS)

Alfredo Fort began his presentation, *Postnatal Care* in *DHS: Some results and methodological issues*, by discussing the background issues that influenced the study’s design. He described the continuum of care and the current gap in postnatal care data. Though DHS has been collecting postnatal care data for years, they have only collected portions of it. A larger issue that Fort touched on was the term postnatal care (PNC).
He said that PNC could actually be differentiated as care provided to the mother\(^2\) and care provided to the baby.\(^3\) He questioned whether it was necessary to unify the two parts or if they could remain separate as they seem to be separate events according to the data. Fort also identified the difficulty of including both home and institutional births.

Next, Fort briefly described the methods used in the study. He described the questionnaire format and terminology used. In DHS, the question(s) only ask about the first check (not beyond 41 days) and only look at the most recent birth. The study looked at two data sets, one from Egypt (2005 and 2008) and one from Bangladesh (2004 and 2007). Fort then reviewed the context and conclusions for each of the data sets.

**Egypt:**
Fort gave a brief overview of the context that surrounds the current data on postnatal care (both postpartum care (PPC) and postnatal care (PNC)) in Egypt. He highlighted that in Egypt, as with many developing countries, both C-sections and institutional deliveries are increasing. He also drew the group’s attention to a comparison between all births and last birth, based on place of delivery. Moving onto PPC, he used a pie chart to show postpartum care among institutional births before and after discharge from the health facility. Fort highlighted the very small fraction of women who reported receiving postpartum care after discharge; he also pointed out that currently it was not clear what was meant by *after discharge*. Fort also showed what few women reported receiving postpartum care for non-institutional births (Figure 3). Finally, Fort talked about the timing of these postpartum care events. A key finding was that most women who reported care before discharge also said that the care took place on the same day as delivery.

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\(^2\) Post partum care (PPC) – focused on care given to the mother.

\(^3\) Postnatal care (PNC) – focused on care given to the baby.
Figure 3: Postpartum care before and after discharge, Egypt 2005

Next, Fort moved on to look at postnatal care (PNC) for the neonate. He asked the group to look at the differences between the PNC data and PPC data and think critically about why these differences might exist. He suggested that these differences might be due to the mother’s perception of care in institutional births versus non-institutional births. The timing of the newborn care events also seem to be shifted much later, with 45% (institutional births) and 52% (non-institutional births) reporting that care took place seven to forty-one days after delivery. Fort also noted that follow up questions were not asked regarding these care events, so the content of the visit was not clear. The study also looked at when PPC and PNC took place at the same time and Fort displayed a graph and pointed to the correlations between wealth, higher education, and urban location for women to report simultaneous care events.

The final piece of the study was to look at comparisons between PPC and PNC over the two data sets (2005 and 2008). Fort noted that among women with institutional births, there was an increase in PPC, but not PNC. In the continuum of care, there was an increase in provision of care for ANC, delivery, and PPC, and there was a decrease for PNC.

**Bangladesh:**
Fort gave a brief overview of the context that surrounds the current data on postnatal care (both PPC and PNC) in Bangladesh from 2004 and 2007. As discussed with Egypt, C-

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4 This data included all PPC and PNC within 41 days.
sections and institutional births have increased, though in Bangladesh these numbers have remained low. Also, the increase in institutional births has been mostly in private facilities.

In Bangladesh, the DHS only asked about PPC care for non-institutional births in 2004. One thing that Fort noted here was that there was a very low proportion of women reporting *don’t know*. The timing for these care events was high for the 7 – 41 day range as well as for care on the same day as delivery. Fort also commented that it was unclear who the provider was in these situations and that it could in fact be anyone. The data for PNC showed large differences, ranging from 88% of women with institutional births reporting PNC for their baby to 21% of women with non-institutional births reporting PNC. For institutional births, most women reported that care took place the same day as delivery, while for non-institutional births women reported a range of answers. Looking at correlations between PPC and PNC, Fort noted that for institutional births, 90% of women reported that the care events took place simultaneously. He commented that either this was what the mother perceives, but was not true, or if this phenomenon was true, it was not being measured correctly. In essence, he said that it was still not clear if the care events were actually happening at the same time.

At this point, participants asked for clarification and offered some comments. One participant asked how PPC and PNC were being defined or differentiated in the DHS questionnaire. Fort answered that for DHS they were not defined beyond a very generic sense. Another participant commented that in Bolivia, women perceive PNC when they are discharged from the health facility and also that women don’t always see everything that is done to the child and might not report the care they do not observe. There was also a comment made that in Malawi and Bangladesh, women didn’t understand the terminology used (*health check*). A final comment suggested a multiple regression analysis or other analyses to fully understand the data.

**Discussion and Recommendations:**

First, Fort stated that this was the first time where figures for PPC and PNC were comparable within the continuum of care (for both institutional and non-institutional births). Overall there has been an improvement and a slight increase in care for newborns (PNC). Fort also noted that this was the first time that all live births were used as the denominator and that many countries have been adding components to better measure the provision of PPC/PNC (though this was not necessarily consistent across surveys).

A few positive points that Fort identified were the low frequencies of *don’t know* answers or missing data. He also noted that the earlier assumption that the increase in C-sections and deliveries in private institutions would affect the provision of PPC/PNC was not found. Lastly, more PPC/PNC cases are lost among non-institutional births than institutional births due to care beyond the postpartum period. Lingering issues
presented by Fort included the need to better understand what is meant by the first check up. Understanding women’s perceptions as they relate to the first check up, the need for more understanding of content of care and the reason/occasion for care were all key issues.

Fort concluded his presentation by offering a few recommendations regarding methods, research, and policy. First, he wondered if it was necessary to use both the before discharge and after discharge questions. He also discussed the use of the term checking for health and the possibility that the term was too general. He elaborated that this was because postnatal care does not really exist as an entity or clearly defined concept. He suggested that by adding a few anchors of content it might be possible to clearly define PNC as a concept. For example, for PPC, women could be asked if she was checked for hemorrhage or if the uterus was contracting; for PNC, women could be asked if the baby was checked to make sure it was breathing properly or if the umbilical cord was infected. Fort also asked the group how to better assess simultaneity of care for the mother and baby. Finally, he suggested asking mothers to report on the reasons for care, for example asking women if the event was for immunization, growth monitoring, a sick child visit, or for discharge.

Fort recommended that the research be interpreted in light of policies and programs. He suggested that as a next step further analysis should be done, such as multivariate analyses to understand more about women and their household and to learn what the predictors of PNC/PPC might be. It would also be important to correlate PPC/PNC with outcomes such as NMR. For large samples, Fort said, it would also be important to compare NMR within the content of care provided. Potentially some of the new questions around content can be tested in upcoming pilots or formative research. Fort’s final recommendation was that PNC/PPC should be developed into its own entity and recorded on a health card for mother and baby.

Participants commented that it was wonderful to see this type of comparison between countries. Others made the point that the content of PNC was laid out in recent guidance from WHO, where each visit was defined (timing and content). Others added that there was a real need to understand what was provided during these visits. Concerns were voiced regarding the problem of adding questions to the current DHS module and how questions about the contact should be asked so that they are meaningful enough for programmatic tracking. Another participant commented that it was important to maximize the value of each question added to DHS, but agreed that there was a need to ask the objective content questions about specific services in order to really understand what was happening. Another question raised was whether this questioning would substitute as a point of contact question.

There was also discussion about defining the timing of the PNC visit and how to differentiate it from the intrapartum period. Another participant followed-up on this comment by saying that it was important to tighten up the timing because so many
deaths occur early on. One participant added that the timing of visits was not captured in log books or facility registers in Kenya. Overall, it seemed clear to participants that more definition was necessary in order to draw conclusions on what the indicators mean. One participant suggested that these questions might be suitable for an optional maternal and newborn module. Another participant suggested that a representative from UNFPA be included in the group to offer guidance on defining PPC.

**Presentation Three: Analysis of Countdown Data**

**Presenter:** Kate Kerber (Save the Children)

Kate Kerber opened her presentation, *Progress towards a global indicator for postnatal care Countdown to 2015 of MNCH,* with a brief update on the data for the *Countdown to 2015* report. She shared that Saving Newborn Lives had been given the task for putting together the postnatal care indicators (both mother and baby) for *Countdown.* She talked about the postnatal period as a time of great risk, and the evidence for having an early postnatal contact point as a platform for delivering high impact interventions to reduce mortality and morbidity. She also recognized the paradigm shift in programs, leading to a focus on mother *and* baby, home *and* facility, immediate *and* early care, routine care *and* extra care. She posed the following question to the group:

*How can we translate these ideas into measurement and how can we track it at a global level?*

Kerber then outlined the key pieces around measurement of the postnatal contact point where there seem to be consensus.

- Timing of the first visit needs to be within 2 days
- The denominator measured should be all births
- Data for visits must be comparable for mother and baby
- Place of visit can vary
- Provider does not have to be the same skilled provider as the one attending delivery\(^5\)

She shared the following working definition of the global indicator(s) for postnatal care.

**Definition:** Percent of mothers with lives births/babies who received a postnatal check within two days of birth

**Numerator:** Number of women/babies who received a postnatal check within two days of birth

**Denominator:** Total number of live births to women age 15-49 years in the X years prior to the survey.

\(^5\) As a caveat Kerber identified that this may not be consensus in all countries/settings and may need further discussion.
Kerber stated that the respondent’s understanding of the terminology around postpartum / postnatal was not an issue as commonly thought, as surveys are currently not asking about postnatal care (PNC) or postpartum care (PPC), instead women are being asked about a check on the woman’s health or their baby’s health. Both indicators – for mother and baby – are being tracked at the global level through the Countdown to 2015 process, but there are limitations with both indicators.

Next, she talked about progress on collecting postnatal care data and highlighted the increase in countries with new surveys (DHS, MICS). Unfortunately, there were no new data on PNC for babies in these surveys. Kerber identified that it was evident from the available data that not all facility births receive PNC for mother or baby. The data on timing of checks indicate that most first checks occur very early on, with the majority within the first four hours of birth. A ‘red flag’ presented by the data is evident by the fact that some countries are reporting higher levels of postnatal care than skilled attendant at delivery. Kerber pointed out that the PNC provider may include checks by untrained traditional birth attendants (TBA) and that this may account for the higher coverage.

She voiced her concern with the group that where a pattern was expected there was no consistency, reflecting that the questions may be understood differently in various contexts. She also noted that as a newborn health community we know that these data do not represent what is actually happening either in policy or program implementation. Her conclusion was based on in-country work and prospective surveillance conducted by Saving Newborn Lives and others. Kerber then asked the group:

*What are we measuring and is it what we want to be measuring?*

Kerber’s final question to the group was based on the previous presentations and comments. She asked if visits that took place in the first hour should be removed from the analysis, noting that those who may have had a second PNC visit would not be counted, and underestimating the true coverage of PNC. She also asked the group to keep in mind the following questions for later in the afternoon.

- How can we deal with postnatal checks taking place before and/or after discharge in a global indicator?
- How will we measure the number of postnatal checks?
- How can we capture the quality of the postnatal care visit (do we need to include content)?
- Is there one indicator that encompasses postnatal care provided to both mother and baby?

Participants first commented on the progress made in terms of reaching consensus. There was agreement on the denominator and although the terminology was slightly different, all seemed to be looking at the same visit(s). Another participant asked about
qualitative data on these visits for mother and baby and whether checks for mother and baby were usually separate or simultaneous. There may be some formative research on this topic and as a next step it could be pulled together in a useful way in order to answer that question.

Further comments were focused on the timing of visits and whether or not a very early visit falls under the definition of postnatal care. There was a point made regarding the WHO guidelines, which state that care was only considered postnatal care if it took place at least one hour after birth, and if there was agreement within the group on that piece of the definition. Participants’ voiced that it was important to capture the first hour after birth, even if the care was not considered postnatal care, in order to address events such as postpartum hemorrhage and asphyxia. One participant suggested reviewing the DHS tabulation plan to see if it would allow for different analyses for various program and policy decisions, but that it was necessary for the group to come to an agreement and move forward. A possible analysis was discussed to look at DHS data, controlling for time and place in order to calculate whether care for mother and baby was provided simultaneously.

**Presentation Four: Lessons learned from qualitative research in Bangladesh and Malawi – What do mothers know and recall of delivery and postnatal care, where home or at a health facility?**

**Presenter:** Stan Yoder (Macro)

Stan Yoder presented findings from the qualitative study *Recall of delivery and neonatal care: Women’s experiences in Malawi and Bangladesh*. He began by discussing the background and primary objectives for the study. The study was undertaken in response to the recommendations from the working group meetings from April 2008 to August 2009 and to address the needs of the newborn health community.

The objectives of the study were to discover what women remember about delivery and newborn care, assess women’s responses to survey questions about newborn care and postnatal care, and ultimately, to provide clear guidance on what survey questions are likely to produce reliable results. Yoder also briefly described a few key assumptions that were evident in the study design. These included the systematic differences in home and facility births, the differences in recall for recent birth events and those farther in the past, and the different experiences among women in rural and urban areas.

Yoder then briefly described the data collection methods, including individual interviews with women, which produced narratives of delivery experiences. The second part was a set of survey questions similar to DHS or SNL surveys. The researchers then held a series of group discussions with interviewers and supervisors to determine what they learned during the interview process. The sample of women included four groups of twenty women (varied by birth location and when birth had taken place).
Birth Events
In Bangladesh and Malawi, women who gave birth at home and at facilities reported a similar sequence of events surrounding birth. For example, labor pains and delivery seemed to be very clear in the minds of mothers. Most women recalled the cutting and tying of the cord. The delivery of the placenta was one key event that seemed to vary quite a bit on timing in relation to other events. Overall, it seemed that there was a series of eight to ten events that mothers remember clearly and recognized when asked about them. When events were put on a timeline, it also became clear that ideas about newborn care were slightly more vague for women with facility births versus women with home births. The sequence of events is listed below.

<table>
<thead>
<tr>
<th>Home births</th>
<th>Facility Births</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Malawi</strong></td>
<td><strong>Bangladesh</strong></td>
</tr>
<tr>
<td>Labor pains</td>
<td>Labor pains</td>
</tr>
<tr>
<td>Delivery of newborn</td>
<td>Delivery of newborn</td>
</tr>
<tr>
<td>Cutting the cord</td>
<td>Cutting the cord</td>
</tr>
<tr>
<td>Tying the cord</td>
<td>Tying the cord with thread</td>
</tr>
<tr>
<td>Delivery of placenta</td>
<td>Delivery of placenta</td>
</tr>
<tr>
<td>Wiping of newborn</td>
<td>Wiping of newborn</td>
</tr>
<tr>
<td>Wrapping of newborn</td>
<td>Massaging newborn with mustard oil, or bathing the baby</td>
</tr>
<tr>
<td>Bathing of baby</td>
<td>Wrapping the newborn</td>
</tr>
<tr>
<td>Breastfeeding the baby</td>
<td>Breastfeeding the baby</td>
</tr>
</tbody>
</table>

Home and facility births were also compared on six key factors including assistance at delivery, if a skilled attendant was present in delivery room, bathing the newborn, and placing baby on mother’s chest. In Malawi, many women delivered without a skilled attendant, even those who delivered in a facility, because the delivery happened so quickly that the attendant did not arrive in time. In Bangladesh, nearly all women with facility births and many women with home births were given a saline drip with oxytocin to augment labor. Yoder also commented on a few other findings. In Bangladesh, it seemed that all women who wiped their babies also wrapped their babies. Most often a
traditional birth attendant (TBA) went to the hospital with the woman and women were surrounded during the birth. It was also noted that the baby was not usually weighed in facility births. In Malawi, a recent national policy was enacted that prohibited deliveries assisted by TBAs. Yoder noted that this made for a very difficult situation, as only 56% of women deliver in facilities and most women said they preferred to deliver at home.

Yoder also discussed the initial assumption regarding differences in recall between women with births one to three months or one to two years before the interview. The two groups were compared based on detail in women’s descriptions, answers to questions about timing of events, and the percent of don’t know answers. Overall, very few differences in recall were found, and although women with longer ago births were less precise about the timing of care, there were no differences found in the percentages of don’t know answers between the two groups.

**Newborn Care Practices**

Questions about umbilical cord care were focused on what was used to cut the cord. In both countries, the questions regarding cutting and tying of the umbilical cord were easily answered. In, Malawi, new blades were consistently used in home births; this was most likely due to the availability of delivery kits (which include a new blade). Scissors were usually used in facility births. In Bangladesh, mothers sometimes brought a blade to the facility with them and those who said that the umbilical cord was cut with a new blade also said this new blade was not boiled. Questions regarding boiling were only asked of women who had home births, as the study assumed that facility births were using sterile equipment. Yoder brought attention to this issue as a point for discussion regarding what was considered sterile, programmatically, and what decisions or interpretations might be made based on this line of questioning. As for tying of the umbilical cord, thread was consistently used.

Yoder then moved into a discussion of problems with asking about the timing of events, specifically wiping, wrapping, and bathing. This included a series of three questions:

1. *How long after birth was the baby wiped?*
2. *How long after birth was the baby wrapped?*
3. *How long after birth was the baby bathed?*

The initial instructions to the interviewers were to record what the women said. If the answer was non-numeric, then the interviewer was to probe further, with the end goal of identifying any coding challenges and determining how these challenges could be addressed. For the question about wiping, the assumption was that the majority of answers would be non-numeric and therefore difficult to code. Only 29% of women in

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6 The term *wiping* was used as opposed to *drying* to give a clearer description of what event the question was asking about.
Malawi and only 43% of women in Bangladesh gave numeric answers. To mitigate this coding challenge, another version of the question was introduced.

The term immediately needed to be defined as a specific amount of time in minutes. The appropriate response categories also needed to be developed and the interviewer would need to read out to the responses so that the respondent could select the category that fit best.

For questions regarding bathing, the answers were not as difficult to code. Most respondents in Malawi gave a response in the form of a number of days or a time of birth and a time of bathing. In Bangladesh, most respondents said next day or gave a number of days. The coding categories were broad (1-6 hours, 7-24 hours, >24 hours) which also helped to reduce coding problems. The research team also asked questions regarding the time of the placenta delivery. Both the Malawi and Bangladesh teams found that responses were quite varied and for this reason the use of these questions was not recommended.

Yoder then shared the main recommendations on proposed indicators based on study findings. Regarding umbilical cord care, no revisions were suggested except for adding a question dealing with boiling the instrument or whether the instrument was sterile. The questions dealing with the timing of wiping or wrapping of the newborn needed to have answer categories read out to respondents and questions about bathing time had no coding issues. Finally, the use of placenta delivery as a reference point was not recommended.

**Understanding the PNC Questions**

Yoder also discussed how women in Bangladesh and Malawi understood the main postnatal care questions and how interviews prompted respondents in each country context.

*After the birth of your baby, did any health care provider (anyone) check on your health?*

Women in all groups were asked this question (above) regarding a health check, but the women had difficulty understanding the question. The interviewers then clarified the question by providing a brief explanation. After the question was clarified, 42 out of 84 women reporting having a health check in Malawi (71% of facility births and 22% of home births). In Bangladesh, 24 out of 80 women reported having a health check (half of facility births and 10% of home births). Women who reported having a health check were also asked about the timing of that visit. In Malawi, 26 out of 42 women gave a numeric response ranging from two to fifteen minutes up to one to three days. In Bangladesh, mothers reported numeric responses ranging from up to an hour to two to seven days. Overall, no responses were reported as greater than a week or don’t know. Yoder pointed out that while this seemed promising, it is not clear what these mothers were referring to. The research team also measured a few content items in postnatal
care for mothers who said they received a health check. The responses in both Bangladesh and Malawi showed that while in general content was not clear, mothers would answer when asked direct questions about a specific event.

Women were also asked questions about postnatal care for the baby. In Malawi, mothers reported that 47 out of 84 babies had a health check (77% of facility births and 28% of home births). In Bangladesh, women reported that 28 out of 80 newborns had a health check (50% of facility births and 20% of home births). The timing and number of visits reported by mothers showed that in Malawi ten newborns (out of 47 who received a health check) were checked in the first five hours and fifteen newborns were checked two or three times. In Bangladesh, twelve newborns (out of 28 who received a health check) were checked in the first hour and twelve newborns were checked three or four times. These results left questions as to what the content of these visits might be and presented the possibility that mothers might be reporting non-medical checks or visits as a health check. To follow up on these questions, mothers who reported that their newborn had received a health check were asked questions about the content of the visit. In Malawi, of mothers who reported that their newborn had received a health check, 32 reported their newborn had their temperature taken, twenty had their breathing checked, and nineteen had their feeding checked (breastfeeding). In Bangladesh, of mothers who reported that their newborn had received a health check, twelve reported that their newborn had their temperature taken, twenty had their breathing checked, and eleven had their umbilical cord checked.

In the subsequent discussion, participants talked about components of postnatal care practices for the newborn. One participant asked a question regarding the current standard for delayed bathing. Participants also wanted to know if questions were asked about what was put on the umbilical stump. Yoder answered that this was part of the questionnaire and there were a couple of cases (four out of 80) where antiseptic was put on the umbilical stump. Participants also wanted to clarify timing of putting the baby in skin-to-skin contact with the mother and wrapping the baby. Yoder answered that in most cases baby was already wrapped, he also mentioned that in Malawi women said that in the facility the baby was put skin-to-skin, but that this was not done at home.

One participant was concerned that there were other interventions implemented in the study area. This was discussed in prior to implementation of the study, and the study team intentionally went outside of the intervention areas.

Other participants were interested in how the terms and questions were understood by the mothers. There was a question of the possibility that the country teams understood the questions differently and about other possible terms for health check. Participants wanted to know if there was such a concept in the local language. One participant offered that in Bangla, there was not an appropriate term for health care provider and the research team instead used the term anyone.
Yoder summed up his presentation with a few remaining concerns.

1. The main question does not seem to be well understood without additional explanation (women did not seem to know what a health check is)
2. Timing varies greatly (ranging from minutes to days)
3. Multiple check-ups for newborns (who was the provider?)
4. Does this distinction between providers for the health checks matter?

In conclusion, the data gathered about health checks was not clear. Yoder closed his presentation with a request for any suggestions for further analyses that might bring more clarity to the data.

Participants responded to this request by pointing out the data for the woman and the baby health checks seemed similar and wondered if it might be possible to define the questions with a few more recognizable details. There were also suggestions for clarifying the main health check question by adding standard probes or by rewording the question so that it would be understandable to women. One important step noted was the need to reduce or eliminate the non-standard probes being supplied by interviewers.

There were also concerns voiced regarding how to differentiate between health checks during the intrapartum period and those which would be considered postnatal. One suggestion for solving this problem would be to crosstab the data on the visit timing with how long the women stayed in the facility. One participant also noted that in crosstabing content questions with timing it would show if the visits were clustering in postnatal or intrapartum care. Another participant stated that it was necessary to know what the data needed to show and how PNC was defined for the purpose of neonatal mortality reduction. One participant noted that in a previous presentation, 75% of mothers were checked during the first three hours (Egypt/Bangladesh), which many would consider the intrapartum period. It was also noted that during the first hour after birth, the skilled attendant is still with the woman in case of any complications. Another participant commented that to get at the who, what, and when information it is crucial to have observational data. With survey-style questions, women may not give an accurate answer for many reasons.

Another participant asked if women were asked about receiving counseling on danger signs, breastfeeding, etc. Yoder explained that the survey actually used two questions; the second question included a piece about whether or not someone spoke to the woman about danger signs or seeing a doctor.
**Presentation Five: Update from UNICEF on MICS4**  
**Presenters:** Holly Newby (UNICEF) and Attila Hancioglu (UNICEF)

Attila Hancioglu, the Global MICS Coordinator (UNICEF), began with a background on the MICS survey. He explained that MICS was conducted in rounds and the initial approach was to work with countries to coordinate timing so that the survey would be implemented at the same time across countries. The protocol has changed slightly, with regional meetings and countries given limited flexibility in changing questionnaires. The MICS team must have a final set of questions for the beginning of each round and as a rule changes cannot be made until the next round.

The development of the fourth round began in 2008, including the development of survey tools, a technical assistance system, a human resources system, and a data needs assessment. Currently, 26 countries were involved and 20-25 countries were to be added in the near future. Previously, the PNC module was excluded due to problems with ambiguity. The questions for the current PNC module (developed in consultation with this group) for the next round were pilot tested in Mombasa, Kenya in 2009. Hancioglu told the group that the final revision of MICS4 including a PNC module were currently ongoing.⁷

Next, Holly Newby (UNICEF) shared some issues regarding the PNC module considerations. She first wanted to be clear that when UNICEF/MICS talks about PNC they are defining it in a generic sense to both PNC to mother and baby. She added that the situation was fast moving (since the 2008 WHO-UNICEF joint statement) and that evidence was being collected that can add to the deliberation. UNICEF has been trying to address this issue in finalizing the questions for MICS4.

Newby elaborated on the information provided by her colleague by sharing that the MICS 4 pretest questions were based on and inspired by DHS questions and will be further shaped by the outputs of this group today. She explained that there were many possible interpretations of a check on health and during the interviewer training it was clear that those being trained didn’t really understand what they were looking for. Newby suggested that it might be necessary to include an introductory statement (i.e. When I say this, I mean . . .) or use a standard statement for large-scale surveys.

Other concerns were identified regarding the PNC indicators. For instance, by definition PNC was care happening within two days of birth, but on further analysis of the data it became clear that about half of these women were actually reporting on an event that happened within two hours of birth. Newby pointed out that as a newborn health community there was agreement on the information necessary, but what wasn’t yet clear was how it will all translate into survey questions.

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⁷ For more information about MICS: [www.childinfo.org](http://www.childinfo.org) or [www.globalmics.blogspot.com](http://www.globalmics.blogspot.com).
Newby shared that previously pretested questions seemed inadequate and were removed (NOT harmonized with DHS). She told the group that there was a current lack of data for programmatic decisions and that it will be important to take lessons learned from previous MICS/UNICEF findings until data from DHS was made available. She also cited the lack of standardized recommendations for PNC as a key issue. For UNICEF, care was considered PNC post-discharge (or after the skilled provider has left). She elaborated on this by saying that because of this definition, the check at the facility may not be considered PNC, but was still a good measurement of quality of care. Newby also said that it was important to look at the length of stay in the facility and compare this data to the current recommendations.

The proposed MICS PNC module was then shared with the group. Newby told the group that the questions will be part of the women’s questionnaire, included in the maternal health module. The questions would be asked of all women who have had a live birth within the previous 2 years. She wanted to be clear that what she was going to present were concepts to be reviewed, NOT the actual questions. She also wanted to have the group clarify what they mean by indicator, as far as if it will be a global indicator or a statistic that can be used in a table with other statistics for further calculations.

The series of concepts to be discussed were as follows:

**Facility births**
- Timing of discharge
- Pre-discharge check (not trying to get timing or content, this was only a yes/no question)
- Post-discharge check (start by asking about the baby to possibly trigger recall)
  - Whether baby received a health check after discharge
  - Timing, location, and provider of first check
  - Whether mother received a health check after discharge
  - Timing, location, and provider of first check

**Non facility births**
- Whether birth attendant checked on mother’s and baby’s health after birth
- Whether baby received health check after attendant left
  - Timing, location, and provider of first check
- Whether mother received a health check after the attendant left
  - Timing, location, and provider of first check

Newby concluded her presentation with a few comments. She told the group that she knew the task was very difficult, even if there was agreement on the specific intervention to measure. A few key points that would be discussed during the group work were as follows:
• Are talking about mothers and babies?
• What do we need to know about the timing?
• What information is necessary for home versus facility births?
• Appropriate terminology (*health check*)?

Newby’s bottom line was that UNICEF wanted to have a module that will yield programmatically useful data and trials that we are going through are not unique to newborn health (the public health community has gone through this with HIV, malaria, etc.). She also shared the importance of being able to measure PNC properly and not to include the module only because the issue has importance. Newby also stressed that responsibility needed to be taken for fine tuning the wording and sequence of the key questions.

Participants had a few questions and comments regarding the terminology used and the possibility of rewording. It was also voiced that using the pre- and post- discharge distinction will help to solve the problems on misclassifying checks within one to two hours as PNC. Another participant commented that it was really necessary to have further indicators and not only one blanket question. The importance of not only measuring *contacts*, but including elements of care, was also stressed by participants.

Another participant brought up the timing issue, in the context of the pre- and post-discharge, and highlighted that this was not a standardized measure and might cause programmatic issues. Others voiced that while it was important not to underestimate checks within the first hour, it was also crucial to obtain accurate information about PNC versus intrapartum care. The final comment was that it was either necessary to make sure that the women completely understand the question or break up the questions in a way that the analysis can pull out the information needed.
Group Work:
The participants were divided into three groups.

1. How to measure the PNC contact with 2 days after delivery
2. How to measure intrapartum and postnatal care behaviors or practices (e.g., thermal care, skin-to-skin, breastfeeding, hygiene)
3. How to measure health facility capacity for newborn care services (SPA, health facility assessments)

Outputs from the group work are summarized below.

Group One: PNC Contact Point Indicator
Presenter: Kate Kerber (Save the Children)
Group members: Joy Lawn (Save the Children), Holly Newby (UNICEF), Attila Hancioglu (UNICEF), Alfredo Fort (Macro), Joy Fishel (Macro), Lale Say (WHO)

Kate Kerber presented the results of the group’s work. The group first reviewed the DHS core questionnaire, including changes that were made and the limitations of the revised questionnaire. The group then moved on to discuss the MICS proposed questions. The group identified as a long-term goal harmonization between DHS and MICS.

The first issue was the need to have consensus on the global package for postnatal care. There are clear recommendations from WHO and UNICEF that needed to be highlighted. Lale Say (WHO) agreed to gather documentation on key evidence and guidance and circulate these documents among the larger group.

As a larger group, it was identified that consensus was still lacking on a few important details:

What the global indicator was going to look like, how to emphasize different time periods, and how were the questions going to be phrased?

Kerber outlined the series of questions that group had preliminarily agreed on to be added to the maternal health section of the MICS questionnaire (this series was already proposed during Presentation Five).

For facility births:
1. How long did the woman stay in the facility after delivery?
2. Before discharge from the facility, did the woman have a check on her health?
3. Before discharge from the facility, did the baby have a check on his/her health?
4. After discharge from the facility, did the baby have a check on his/her health?
5. If yes, who did the check, where and when did the check take place?
6. After discharge from the facility, did the woman have a check on her health?
7. If yes, who did the check, where and when did the check take place?

For home births:
1. *Before the “birth attendant” left the home, did she check on the health of the mother?*
2. *Before the “birth attendant” left the home, did she check on the health of the baby?*
3. *After the “birth attendant” left the home, did the baby have a check on his/her health?*
4. If yes, *who did the check, where and when did the check take place?*
5. *After the “birth attendant” left the home, did the woman have a check on her health?*
6. If yes, *who did the check, where and when did the check take place?*

She noted that most of the proposed questions have already been pilot tested. The group had also agreed to try and use the analysis stage to answer the key questions about postnatal care, allowing more flexibility in the question series.

Kerber then outlined the next steps agreed on by the group:

1. **UNICEF representatives** (Holly Newby and Attila Hancioglu) will finalize the set of questions. (They will circulate within the small group if there is time before the Feb 1st deadline)
2. Draft a set of indicators possible with the finalized questions. (not limited to one global indicator at this point) and by the end of next week (Feb 5th) the group will have a final indicator chosen.
3. Mobilize the global community – gather letters of support from key stakeholders (e.g., USAID, UNICEF, members of the Countdown coordinating committee) to defend these new questions and explain why and how they will better capture the information.
4. Next, the group will approach UNICEF and DHS with this documentation (Feb 12th) with the goal of the next DHS revision harmonized with the MICS questions.
5. Discuss possible content of health check(s) and possible addition to a newborn or postnatal module
   a. Check mother for bleeding
   b. Observed breastfeeding
   c. Cord care
   d. Take temperature
   e. Assess breathing
Group Two: Intrapartum and Postnatal Care Practices  
**Presenter:** Allisyn Moran (Save the Children)  
**Group Members:** Bertha Pooley (Save the Children), Tanya Guenther (Save the Children), Stan Yoder (Macro), Ingrid Friberg (Johns Hopkins University), Steve Wall (Save the Children), Leslie Elder (World Bank), Heather Rosen (JHU), Goldy Mazia (MCHIP), Bertha Pooley (Save the Children), Cleo Bell (Save the Children)

Allisyn Moran presented the output from this group. She said the discussion focused on the five indicators tested by the research presented earlier by Stan Yoder (Macro) and trying to refine these indicators and questions based on the qualitative research in Bangladesh and Malawi. The group came to the following conclusions and gave the following recommendations.

**Thermal Care**
- While the group agreed that **drying/wiping** was an important indicator to measure, they suggested rewording the indicator to the percentage of newborns dried/wiped *as soon as baby is born*. It was also noted that there was still an issue of the wording of the question, reported timing, the use of the word *immediately*, instructions given to interviewers, and potential cultural issues.
- The discussion around **wrapping** was mainly focused on programmatic issues, especially the sequence of skin-to-skin contact, immediate breastfeeding, in relation to wrapping the newborn. The group reached a final consensus, based on the findings from Malawi and Bangladesh (see Presentation Four) that all babies who were wiped were also wrapped and it seemed unnecessary to ask about both behaviors separately. The group said that they would do additional analysis to look at correlations between wiping and wrapping in existing data sets, and if a high correlation holds true, the indicator will be kept out.
- The group came to consensus on **delayed bathing**. Based on the research presented, women seemed able to provide information on the timing of the first bath. Due to the changing global recommendation regarding timing (from six hours to 24 hours after birth), the group’s consensus was to leave indicator at six hours. It was discussed that the question seems to be asked in a variety of ways and the group recommended to leave the question worded so that at the analysis stage it would be possible to select the cut-off time. The group’s final recommendations were supported by the qualitative research presented by Stan Yoder (Macro), which found it very easy to code the mothers’ responses into broad categories of time.

**Cord Care**
- The original indicator regarding **clean cord care** was defined as cutting the umbilical cord with new blade or boiled instrument. Due to the difficulty in asking about boiling, the group decided to focus this indicator only on
women who used a new blade. The group also noted that this indicator was currently only being used for home births, as the assumption was that instruments in the health facility are clean. One participant noted that the current recommendation in Bangladesh was that the instrument be boiled. In conclusion, the group identified this as an area that needed additional discussion.

- The group also discussed the indicator relating to applying substances to the umbilical cord. At present the WHO recommendation is **nothing ever applied to the cord**, but in light of new evidence that chlorhexidine washes are effective in preventing infection, additional analyses were required before a formal recommendation can be made (the group did discuss adding chlorhexidine to the list already supplied with the question). At this stage the group recommended leaving the indicator as **nothing applied to the cord**. Another key issue the group specified was with the timing of the event and recommended that the question be reworded from **after cutting the cord** to **until the cord falls off**.

Moran identified the following as the next steps for the group (no specific timelines or dates were presented):

- Finalize the questions and wording of the indicators,
- Conduct further analysis of potential correlations between wiping and wrapping with data from SNL datasets (the group will circulate a timeline and information on the type of analyses they are planning to conduct),
- Address how to ask about and how to measure skin-to-skin contact, early initiation of BF, KMC, and care-seeking behaviors, and
- Further discussion of content.

**Group Three: Newborn Services**

**Presenter:** Barbara Rawlins (MCHIP)

**Group Members:** Becca Levine (Save the Children), Claudia Morrissey (Save the Children), Mary Ellen Stanton (USAID), Linda Wright (NIH), Reshma Roshania (Save the Children)

Barbara Rawlins outlined the group’s discussion, which focused on facility-based care from delivery to time of discharge. The group’s consensus was that basic health facility assessment instruments did not capture quality of care. These instruments seemed to focus on availability of supplies and equipment. The major gap identified by the group was in the lack of observational data of service delivery needed to determine quality.

MCHIP is currently working with DHS/Macro to conduct a pilot study as part of the Kenya Service Provision Assessment (SPA). This pilot study will assess quality of care for common maternal and newborn complications that occur at the time of delivery, including eclampsia/pre-eclampsia, hemorrhage, and newborn resuscitation. The
sample will include an estimated 700 public and private facilities across Kenya and include approximately 1,000 deliveries. The study was designed to understand what happens during delivery up to one hour after birth. The group discussed including an assessment of postnatal care (PNC) within this pilot and extending the observations up to the time of discharge.

Rawlins shared that the pilot will combine a delivery observation checklist with the SPA and will also incorporate questions in the health worker interview to assess knowledge on eclampsia/pre-eclampsia, and birth asphyxia in order to compare knowledge with practice. A few questions were also added to the SPA inventory for maternal and newborn care and to their ANC observation checklist to better understand the hour after birth (this pilot will not look beyond the discharge period). In Kenya, there were concerns with access to care and the pilot hopes to evaluate the introduction of an improved package of PNC. One participant asked if there was a special reason why infection was being left out of this pilot. The presenter commented that currently the pilot was focused on care up to discharge and infection usually occurs after that time period.

The group’s recommendations and next steps are outlined below:

- Consider expanding the pilot in Kenya by adding an observation checklist for PNC to the SPA (one hour after delivery up to discharge) and exploring actual practice,
- Consider using sentinel sites on a rotating basis to integrate assessment of quality of care (including observation, checklist, and health worker interview) into routine monitoring of newborn and maternal care practices, and
- As a next step, establish working group to focus on these areas (the group did not have time to discuss a next meeting or timeline).

**Identified next steps and timeline**

Allisyn Moran brought the larger group back together at the end of the group work presentations to review the key recommendations/outcomes of the meeting and outline the next steps proposed by each of the groups. She also shared a general timeline for future meetings.

**Key outcomes**

4. The postnatal indicator group will work on a set of questions and indicators for MICS4 and work to standardize with DHS.
5. The intrapartum and postnatal care practices group made progress on indicators and is working on the exact wording of questions.
6. The newborn services group suggested expanding observations of delivery and newborn care practices up to the time of discharge.
Key next steps

1. For the postnatal indicator group, it will be critical to resolve questions and indicators as soon as possible, follow-up with DHS for harmonization, and establish a working group to move forward on measurement of PNC content.

2. For the intrapartum and postnatal care practices group, there will be follow-up with additional analysis and rewording of the current questions and then the group will move forward with new areas.

3. For the newborn services group, in order to build on Kenya pilot, they will establish a working group to move forward.

Timeline

The larger group will plan to meet again in six months (July 2010) to report on the progress of the smaller working groups.

The three working groups will identify a point person and develop a plan for moving forward independently on their identified next steps.
## Appendix I: Participant List

### Newborn Indicators Technical Working Group

#### January 27, 2010 - Participants

<table>
<thead>
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<th>Organization</th>
<th>E-mail</th>
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<tbody>
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</table>
Appendix II: Agenda

Objectives of the Meeting:
1. Review TWG progress to date and remit of TWG
2. Share progress on measurement of neonatal mortality and cause of death trends
3. Share new analysis and qualitative research on measuring the postnatal care contact point and content of a health check after delivery
4. Review evidence for and methods for measuring healthy behaviors/practices for newborn care
5. Review evidence for measuring health facility capacity for newborn care
6. Develop action plan for TWG next steps

<table>
<thead>
<tr>
<th>Time</th>
<th>Session/Activity</th>
<th>Presenter(s)</th>
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<tbody>
<tr>
<td>9:30 – 9:50</td>
<td>Welcome and Introduction</td>
<td>Massee Bateman</td>
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<td></td>
<td>Objective of Meeting and Anticipated Outcomes</td>
<td>Claudia Morrissey</td>
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<tr>
<td>9:50 - 10:00</td>
<td>Importance of newborn indicators</td>
<td>Neal Brandes</td>
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<tr>
<td>10:00 – 10:15</td>
<td>Overview of history of TWG and progress to date</td>
<td>Allisyn Moran</td>
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<tr>
<td>10:15 – 10:30</td>
<td>Coffee and Tea Break</td>
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<tr>
<td>10:30 – 10:45</td>
<td>Measurement of Neonatal Mortality Trends</td>
<td>Joy Lawn</td>
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<tr>
<td>10:45 – 11:30</td>
<td>Analysis of DHS PNC contact point – progress for who, where, when?</td>
<td>Alfredo Fort</td>
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<tr>
<td>11:30 – 11:45</td>
<td>Analysis of Countdown data</td>
<td>Kate Kerber</td>
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<td>11:45 – 12:15</td>
<td>Update from UNICEF on MICS4</td>
<td>Holly Newby</td>
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<tr>
<td>12:15 – 1:00</td>
<td>Lessons learned from qualitative research in Bangladesh and Malawi - What do mothers know and recall of delivery and postnatal care, whether at home or at a health care facility?</td>
<td>Stan Yoder</td>
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<tr>
<td>1:00 – 1:30</td>
<td>Lunch</td>
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<tr>
<td>1:30 – 1:40</td>
<td>Overview of Group work</td>
<td>Allisyn</td>
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<tr>
<td>Time</td>
<td>Session/Activity</td>
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<td>1:40 – 3:00</td>
<td>Group work</td>
<td>All</td>
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<tr>
<td></td>
<td>1. How to measure the PNC contact point and content of visit (e.g. timing, provider, place, mother’s perception)</td>
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<td></td>
<td>2. How to measure newborn behaviors/practices (eg, thermal care, skin-to-skin, breastfeeding, hygiene), both intrapartum and postnatal</td>
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<td></td>
<td>3. How to measure health facility capacity for newborn care (SPA, HFA)</td>
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<tr>
<td>3:00 – 3:15</td>
<td>Coffee and Tea Break</td>
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<tr>
<td>3:15 – 3:45</td>
<td>Group work report back (10 minutes per group)</td>
<td>All</td>
</tr>
<tr>
<td>3:45– 4:00</td>
<td>Summary and next steps, highlighting key priorities for the TWG Action plan with timeline</td>
<td>Allisyn, Joy Claudia</td>
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</table>
Appendix III: Technical Working Group Terms of Reference

1. **Ensure consistent use of existing and expanded newborn health indicators** by revising and/or developing questions on newborn health for potential inclusion in nationally representative surveys (DHS, SPA, MICS) and independent research projects.
2. **Provide in-depth instruments on newborn care** by developing an expanded newborn care module for consideration on a country-by-country basis for use in population-based surveys.
3. **Advance the state-of-the-art in newborn care measurement** by identifying priorities and opportunities to validate indicators relating to newborn health.
## Appendix IV: Proposed Indicators for Newborn Care Practices

| Program element | Indicator
d | Numerator | Denominator
d | Prior experience with indicator |
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<tbody>
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<td>Cord care</td>
<td>Percent of newborns with cord cut with clean instrument</td>
<td># of newborns with cord cut using new blade or boiled instrument</td>
<td># of live last births in the (two or five) years prior to the survey</td>
<td>DHS: Bangladesh 2007, Nepal 2006 SNL Indonesia 2008, Ethiopia 2008, Nepal 2008, Bangladesh 2008</td>
</tr>
<tr>
<td>Cord care</td>
<td>Percent of newborns with nothing applied to cord</td>
<td># of newborns with nothing applied to cord</td>
<td># of live last births in the (two or five) years prior to the survey</td>
<td>DHS: Bangladesh 2007, Nepal 2006 SNL Indonesia 2008, Ethiopia 2008, Nepal 2008</td>
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8 All indicators should include deliveries at home and at facilities

9 Surveys will vary in period of recall. Typically, DHS surveys use a recall period of five years while UNICEF/MICS surveys use a two year period.