



Meeting Report: Newborn Health Indicators Working Group Meeting
January 23-24, 2014

Saving Newborn Lives
Save the Children
Washington, DC

April 2014

The Newborn Health Indicators Technical Working Group (TWG) met January 23-24, 2014 at the MCHIP office in Washington, DC. The agenda is given in Appendix 1; participants are listed in Appendix 2; presentations in Appendix 3.

Day 1: January 23rd

1. Welcome and introductions

Lara Vaz gave welcoming remarks and an overview of the objectives for the meeting. The purpose of the meeting was to share updates on various global level measurement activities and to discuss and agree on how the Newborn Indicators TWG will engage in priority measurement areas in 2014, including: neonatal mortality and cause of death estimates; routine information systems; metrics for high impact interventions in collaboration with KMC Acceleration Partnership and RMNCH Coalition/UN Commission on Life Saving Commodities and household surveys and facility assessments.

2. Every Newborn Action Plan Update: Global targets & indicators

Joy Lawn reviewed the Every Newborn Action plan (ENAP) with a focus on data and measurement issues. One clear message coming from ENAP is the need for better newborn-related data at country level. The Indicators TWG is in a position to help improve coverage data, which is a huge gap.

ENAP has 5 strategic objectives – each one is fundamentally based on data to operationalize, track, and move forward. The ENAP targets were developed in the context of other plans and targets, so its coverage targets focus on what is new and center on 3 health packages: 1) Care at birth; 2) Care of small and sick newborns; and 3) Community and behaviors. Within one year of the launch of ENAP, there is a need to define metrics to measure targets for all three packages.

Joy suggested ways in which the Indicators TWG can contribute:

- Immediately: Promote responses to ENAP because UN looks at how many people respond and it affects the priority it gets within UN.
- Over the next year: Contribute to the ENAP evaluation framework and monitoring plan including defining metrics and the mother-baby package.
- Over the next few years: Contribute to improvements in availability and quality of data.

General discussion points:

- The ENAP needs to explicitly address equity. Each country must have an equity plan to reach those left behind.
- There has been discussion with the maternal community on better integration with maternal health - outcomes for mothers are included in the draft plan, though targets were omitted and the mother is not mentioned in the ENAP title. The reason for these omissions is that discussions on maternal targets are ongoing and WHO indicated changing the title would delay the document by a year. ENAP is likely to include interventions for maternal health and a maternal mortality target, but it is unclear whether they will all be added to the document before the UN process.
- Saving Lives At Birth is setting forth a theory of change – this process is going forward and includes standard metrics and an impact framework similar to ENAP, with many of the same people involved.
- There was concern expressed that deaths due to intrapartum causes and infections may receive too little attention in ENAP. Preterm babies frequently die of infection, more than respiratory distress, and there is need for focus on infection prevention at facility level (including hand-washing and Chlorhexidine). It was felt that good messaging is needed so that these causes are not ignored.

Discussion on how Indicators TWG will contribute to ENAP global targets & indicators:

- There is a list of milestones that need to be reviewed by April (milestones include things such as defining mother-baby quality of care content, defining framework, etc.).

- The TWG can recommend measures that are most useful for improvement of care at facility level. The TWG can review quality improvement projects (such as example from Colombia, where adherence is compared to outcomes), with the knowledge that many quality improvement projects have too many indicators; there is need to pare down to realistic lists of comparable indicators.
- TWG can provide more clarity on what indicators reflect coverage of life-saving interventions and which ones reflect contact with health services it is important to conceptually separate quality content from contact in that way.
- At country level, TWG could give guidance on what sources of data are needed for each indicator and help with implementation. There is now a need to provide regular feedback to/input from countries.
- TWG can provide guidance on use of data and bring the issue of data use to the forefront. In particular, there is need for guidance on what information is needed at different levels – what can be useful at global level may not be useful at local level.

3. Neonatal mortality estimates

Holly Newby presented on behalf of Denzhen You (UNICEF) on UN Inter-agency group for Child Mortality estimation (IGME) and how neonatal mortality estimates are produced.

Data used to estimate mortality rates come from many sources; the gold standard is a well-functioning vital registration system, but most developing countries do not have one in place. It is important to note that less data are available for neonatal mortality than for child or infant mortality. The summary birth history is used to estimate under-five mortality, but neonatal mortality cannot be teased out in this indirect approach. Using Bangladesh as an example, we see a range of different estimates from different data sources for any given year. The work of the child mortality estimation group is to make sense and bring clarity from conflicting data sources. In other countries, the number of data sources is even fewer, and there can be major discrepancies (e.g. Albania). The child mortality website (www.childmortality.org) shows data available for every country, whether from household survey, census, or vital registration.

To improve the quality of data, there is a feedback mechanism to countries and national leaders with recommendations on how to prospectively enhance data quality at country level. IGME members conduct workshops for country staff involved in mortality data to build capacity and conduct country visits to review data – especially for those countries that have more than one source or large discrepancies between data sources. Country consultations also provide venues for hearing back from countries to understand data quality. For neonatal deaths, IGME tries to look at whether the ratio is within normal range (for example in Afghanistan ratio of neonatal deaths to child deaths was quite low and needed to be adjusted). IGME does not use verbal autopsy to improve data quality, but other partners are doing this work.

Discussion points:

- For the definition of early neonatal deaths, IGME is using 7 completed days, which is the epidemiological definition. IGME has just started to think about whether to start to work on these methods – IGME TAG is reviewing Simon Cousens' paper and will have a call in March to decide whether to develop methods to improve early neonatal deaths estimates.
- There is increasing interest around birth registration and vital events and opportunities exist to assist countries to strengthen their systems.
- Sub-national neonatal estimates are not available from IGME because it is very hard to estimate even at the national level.

4. Neonatal cause of death estimates

Joy Lawn gave a brief overview on cause of death data. Before 2005, newborn deaths fell into 'perinatal causes' and 'other.' Now, newborn deaths are counted separately and there are national estimates and transparent inputs into the estimates. Data availability has also improved – there are more data available

from vital registration (mostly from high income countries), national data inputs from India and China (which contribute to about 30% of global neonatal deaths), and more study data. Still, there are data gaps in certain geographic areas and we need to think about more than neonatal deaths.

Shefali Oza presented the new cause of death (COD) estimates (for 194 countries from 2000 to 2012). These estimates are currently being reviewed in country consultations and have not yet been disseminated so results cannot be included in this report. New estimates now include injury as a cause of death and distinguish between early and late neonatal deaths. She also discussed how estimates are calculated and some of the methodological issues. In countries where reliable vital registration does not exist, different models are used for low mortality and high mortality settings – low mortality settings use vital registration data with covariates, high mortality settings use study data with covariates. She outlined ways in which all input data – vital registration, study data (including verbal autopsy), and covariates – need to be improved to increase the reliability of COD estimates regardless of how estimates are generated.

Kate Kerber presented country processes and efforts to look at sub-national COD data. The process varies between countries, but involves casting a wide net. South Africa was shared as an example where national estimates do not match global estimates and there is not lot of communication between the two. The government has used national results to set priorities.

Discussion points:

- There is difficulty differentiating preterm and LBW and failure to train people in COD attribution; the COD analysis weighed more heavily studies that differentiate LBW.
- It has been difficult to compare DHS and vital registration data to look at coverage of the vital registration system and coding quality of the vital registration systems because of the way they are coded and classified.

5. Measuring Quality of Care: summary from December WHO meeting

Kathleen Hill from URC gave a summary of the December WHO meeting on MNCH quality of care (QoC), in which 70 regional and country experts participated. The meeting built on earlier work to define quality of care indicators; participants were asked to share tools before the meeting and the initial part of the meeting focused on reviewing what had been developed to date and experiences in the assessment and improvement of MNCH quality of care in facilities.

Participants were divided into 3 groups (maternal, newborn and child) to define 5 core indicators that should be reported in all countries ('must-haves'), to feed into the UN commission on accountability to bring focus at global level on quality of care. Groups reviewed lists of 13 indicators developed through previous work and an additional 43 indicators related to pregnancy, childbirth, postnatal, neonatal, and child health. Groups were allowed to develop optional 'good to have' indicators and cross-cutting indicators. They were given a set of criteria by which to judge indicators.

The indicators are included in Kathleen's presentation (see appendix 3). In addition to the proposed set of global core indicators for measuring and reporting MNCH QoC, they agreed to the required tools, methods, and processes to measure them. These global clinical core quality indicators are intended to complement coverage indicators for comparison within and across countries and to flag at higher level the importance of monitoring and improving quality of MNCH care. Participants agreed on the need for a parallel discussion on district and facility level indicators to support real-time decision making and improvement. A report is under development and will be shared.

Discussion points:

- Feedback is being collected on indicators and will be examined and the list will be modified. Process will be ongoing and taken forward by WHO.

- Some indicators have strong evidence for efficacy, while others do not.
- There is need for more consistency across the 3 areas; it is unclear if/how the types of indicators will be standardized (if they all should touch on readiness, deaths, etc).
- There is need for a framework for what we are trying to measure (outline lifesaving interventions, what do we already have, what is missing, and how do we get at actual practice).

6. Collaboration with KMC Acceleration Partnership

Bina Valsangkar gave an update on the KMC Acceleration Partnership, which initially met in September, 2013 in Istanbul, and shared plans for collaborating with the TWG to improve measurement. The aim of the partnership is to accelerate *effective* implementation of KMC, integrated into RMNCH programs. The goal (which aligns with ENAP) is for 50% of eligible newborns to receive KMC by 2020. Key areas of work are: increasing effective coverage, developing a research agenda, exploring the role of community KMC, and better defining of KMC to balance fidelity to the proven model and a realistic uptake. Development of indicators is on the list of priorities – measuring effective coverage, including measuring how many babies need KMC and get as well as elements of quality. The partnership is looking at key signal countries where better measurement can be supported.

Discussion points:

- The Bogota group has updated indicators, which should be reviewed. Brazil could be a good model.
- There needs to be focus on proper follow-up post-discharge, which is often lacking in programs.

7. Updates from UN Commission on Life Saving Commodities (UNCoLSC) Technical Resource Teams

Representatives of the neonatal working groups provided brief updates from recent meetings held in January 2014. An additional note was made that the new Countdown to 2015 profile will track whether policies include all 13 of the essential commodities.

Neonatal resuscitation (Donna Vivio): Recently, quality issues have come up in terms of the device specifications as well as provider performance. The group developed a quality framework that lays out quality of care challenges at provider performance and systems support levels (facility and district). The framework identifies common challenges and promising solutions, the premise being that challenges are common across settings. The group also reviewed indicators for facility level teams to improve quality of services and minimum set of indicators for use at district level to monitor availability of key inputs and enabling factors to support high quality services.

Chlorhexidine (Steve Hodgins): An active working group existed before the UNCoLSC, and now works under that umbrella. This new intervention is moving quickly in several countries, and the group is starting to think about indicators for routine monitoring with a subgroup focused on monitoring and measurement. The different needs at global, national, district and facility levels and by phase of introduction have been identified and will be considered in indicator development. The ultimate goal is to get to the stage where application of Chlorhexidine is part of standard practice so it may not need to be part of HMIS. But in interim, it needs to be tracked and there may be need to estimate effective coverage. One challenge is that the current WHO recommendations only recommend application of Chlorhexidine for newborns delivered at home because the data that experts reviewed in August 2012 did not disaggregate analysis by place of birth. Still, some countries moving ahead are ignoring WHO recommendation to limit Chlorhexidine use to home births and are including facility deliveries in the intervention. Measurement at facility level will be easier; there is a need to find effective means to reach home births and to verify achieving high levels of effective coverage at home births.

Antenatal corticosteroids (Joy Lawn): This group is working with WHO to set up a guidelines review committee and place ANCS into new protocols and clinical guidelines. Country activities have included assessment of bottlenecks; not one of 10 assessed countries allowed providers other than doctors to administer ANCS, so this is a major bottleneck. The group is reviewing indicators that countries are using. Initial data from a pilot study in Malawi show major improvements suggesting rapid changes in uptake of ANCS are possible.

Injectable antibiotics (Lara Vaz for Steve Wall): This group is focusing on updating guidelines for implementation based on results of the SATT and AFRINEST trials. The group is working on a country landscaping and bottleneck analysis, and has not yet started developing indicators and data collection methods for coverage and quality.

8. Update on RMNCH scorecards and potential tasks for the TWG

Lily Kak from USAID presented the scorecards currently being developed in 10 countries in Asia and Africa as part of *A Promised Renewed's* effort to strengthen RMNCH programs. Indicators are selected through a country consultation process, and are intended to mostly come from HMIS. Scorecards are intended to be fully owned, updated, and tracked by countries' MOH – which makes them different than other tracking efforts. The threshold for color-coding is also determined within country. WHO, ALMA, and USAID do provide assistance in developing scorecards; partners have stayed away from a suggested list of indicators, but can encourage certain indicators based on LiST, other analyses, or indicators that align with high-level global initiatives. As a result, there is a lot of variation across countries.

Recent experiences have demonstrated that scorecards helped identify gaps in HMIS. Newborn data are weak and many HMIS newborn indicators are 'out of date.' However, it is hoped that data will improve from wave 1 to wave 2 by revising HMIS – because of deficiencies in data, wave 1 has often focused more on readiness, but wave 2 has more outcome data. Many countries have more newborn indicators planned in wave 2, though no countries have yet completed wave 2. It may help to have standard list of recommended newborn indicators for HMIS and for inclusion in the scorecards.

9. Discussion of TWG priorities based on Day 1 presentations

- The TWG had recommended indicators for inclusion in ENAP that should be collected from various key data sources, but the current draft plan looks very different. A sub-group will continue to engage with the appropriate ENAP committees to:
 - o Review the indicators in the current draft document and give input
 - o Understand why the framing has turned out to be very different and how the included indicators, which do not always align with the TWG's recommendations, were selected
 - o Contribute to developing the ENAP evaluation framework and monitoring plan: the TWG can focus on framing why indicators matter
 - o Think through support to countries on how to measure these indicators; the TWG could provide guidance for countries on how to collect indicators
- The TWG can adapt a list of recommended indicators for use when developing score cards (linked to Lily's presentation)
- Develop quality of care indicators (also linked to ENAP)
 - o There is no consensus on a standard set of indicators for use at district facility and lower levels with guidance on how to use data
 - o The TWG can map/test indicators that are already collected in routine systems. It will be important to first look at the quality of existing data, current products and move from there

Day 2: January 24th

I. DHS update

Joy Fishel from DHS provided an update on the questionnaire review process for DHS-7. The DHS contract was awarded in September 2013 and the internal and external review of the questionnaire is underway. Phase 1 is the internal review and is coordinated closely with health teams at USAID. Phase 2 is the external consultation process in which DHS will solicit comments through an online portal for a 4 week period. When providing feedback, DHS asks that respondents consider questions that need to be deleted, revised, or new questions that need to be added. This TWG has developed a set of questions on newborn care, although it is not currently a formal optional module. Countries are increasingly asking to include additional newborn content, and it is important to have a standardized set of questions. Joy further stressed that it would be ideal for the ENAP indicators to be finalized in time to inform the DHS. The first draft of the revised core questionnaire will be finalized by June/July 2014 and sent to USAID for approval.

Discussion points:

- SNL will coordinate consensus input for DHS-7.
- DHS was not designed for capturing maternal and newborn indicators so sample sizes are not adequate for these indicators; point estimates cover a five year recall period and are often not helpful for tracking trends over time and small sample sizes limit ability to disaggregate or do cross tabulations. Increasing the sample of women who recently delivered would address these issues. Mismatches between methods and plans for data use can be included in the recommendations for improvements during the open comment period.
- Lilly Kak (USAID) reminded the group that the existing DHS postnatal care indicator was introduced because of the work and influence of the newborn TWG. The influence of this TWG was very important and it should be empowered to influence DHS-7 both through direct comments to DHS through the open portal and by reaching out to USAID directly. Lily and Donna are the newborn technical leads for USAID and they will be part of the internal topic group discussions and continue to be strong advocates for indicators in DHS.
- The technical community sets priorities, not DHS, so it is critical for the newborn community to identify the priority data needs and show how data are used. The role of USAID should not be underestimated as they are the main client and funder for DHS.
- The TWG agreed it would be useful to explore the experiences of countries (Nepal, Bangladesh) that included an expanded set of newborn questions in a cross-country report. The aim would be to have this report for the ENAP launch (June 29th). Since countries used different questions, it is not possible to compare data directly.

2. MICS Postnatal Care Data

Attila Hancioglu presented results from the postnatal health check (PNHC) module from 6 MICS4 surveys (completed and published). The PNHC module was updated in 2011 and used by countries that joined the program towards the end of MICS4 (14 of 60 total countries). The module is long and complex because it takes into account place of delivery and birth attendant. The module includes health checks while in facility or before birth attendant leaves, postnatal visits, timing, and provider. Major findings from the 6 published surveys include:

- A large proportion of facility deliveries remain in facilities for more than 12 hours, though there is a wide range.
- Several countries had high levels of postnatal health checks for newborns (includes pre and post-discharge). Numbers are mainly driven by health checks before discharge/attendant left home.
- There are similar results for mothers and newborns, but newborns are a little more likely to receive PNC visits in some surveys.

- Where coverage is high, more PNC is happening at facilities.
- There are differentials - rural areas and poorest households lag behind.

To date, 44 MICS5 (2013-2015) surveys have been confirmed; most countries do not have final questionnaires but it is safe to assume most will include the PNHC module. There will be PNHC data for >50 countries by end of 2015 and there are plans to disseminate this information before the end of the year.

Discussion points:

- Questions on the quality of contact are critical; MICS will be looking to this TWG for input.
- Despite efforts to increase PNC after delivery, most checks are occurring soon after birth. The global indicator of PNC within 2 days after birth masks this reality.
- JHU used a similar module in Ethiopia and had issues with timing and defining what constitutes as service contacts.

3. Postnatal data for Countdown to 2015 report

Kate Kerber presented a summary of postnatal care data in the Countdown report. The newborn TWG came together to recommend an indicator for PNC contacts for mothers and newborns and was successful in adding to MICS and DHS and including in global reports and tracking. In 2014 we will have PNC contact data for 38 countries for mother and 17 countries for newborn. Most checks occur within the first 24 hours, and often within the first 6 hours. There is no consensus on what to do with checks within the first hour and it continues to pose issues for analysis and interpretation. For home births, DHS showed higher coverage of PNC contacts for mothers than newborns (as opposed to MICS data where gaps were not large). Trends over time may be challenging to interpret even between the same type of survey (e.g. PNC contacts decreased in Indonesia between 2007 and 2012 DHS). There are outstanding questions on the number of visits, content of care, comparability between DHS and MICS, and how to better capture PNC outside of household surveys.

Discussion points:

- The TWG needs to continue to think about what we can do to improve the questions and approaches to measurement of PNC contact.

4. WHO recommendations on PNC: comparison to TWG's recommended indicators for household surveys

Deborah Sitrin presented a comparison of the new WHO recommendations on postnatal care (#2-7 are focused on newborn care) to the TWG recommendations for household survey indicators to identify what aspects are captured by the recommended indicators and any gaps that may exist. In summary, the recommended indicators are fairly well aligned to the WHO recommendations, although there are some gaps where the TWG could formulate additional indicators: home visits, care-seeking for newborns with illness, and application of chlorhexidine.

Discussion points:

- Additional optional questions on home visits and chlorhexidine should be added to the TWG recommendations, for use in countries where programs are being implemented.
- Care-seeking questions are challenging due to small sample size, issues with recall, and the number of questions needed to explore care for sick newborns. The TWG can consider drafting a standard module with careful consideration on guidelines for when to apply it.

5. Population Council indicator validation study: methods & preliminary results

Charlotte Warren presented the Population Council's recent indicator validation study in Kenya and Mexico. Results have not yet been published and cannot be included in this report. Data collection included observation during childbirth and two hours following, interviews with mothers at discharge, and interviews with mothers one year after delivery. The study measured both recall sensitivity and specificity; low sensitivity

meant mothers underestimated the true prevalence and low specificity meant mothers overestimated the true prevalence. While results were shared with the group, they cannot be shared widely until the study is published.

Discussion points:

- It is unknown if the exit interview biased the one year recall.
- When making decisions about indicator validity it is important to also consider clinical importance – while it clinically makes a fundamental difference if a baby is given skin to skin contact versus wrapped and placed on the mother, it is not clear if it is important whether breastfeeding is initiated within 60, 70, or 80 minutes after delivery.
- Recall is difficult if mothers do not know what should be done for PNC. We need to think about advocating for telling mothers during ANC what to expect during PNC checks.

6. Household survey in Burkina Faso: learning about recall

Melinda Munos presented results from an analysis of recall using data from household surveys in Burkina Faso and Ethiopia. The study assessed whether point estimates for indicators of interest or the proportion of ‘don’t know’ responses changed with the recall period (difference between date of birth and date of interview). She also investigated whether certain sub-groups had higher ‘don’t know’ answers. For comparison, she used a 1 or 2 year recall period (1 year for behaviors, 2 years for feeding) compared to 1 month recall (2-3 months for care seeking). Restricting the sample size to women with recall <1 month did not change point estimates, with the exception of breastfeeding within 1 hour and care-seeking, but these differences were not statistically significant. Length of recall was not associated with more ‘don’t know’ responses. In Ethiopia, women who delivered in facility were less likely to have ‘don’t know’ responses (maybe because of other related variables); in breastfeeding, religion was associated with number of ‘don’t know’ responses. These results seem to justify longer (1-2 year) recall period for indicators measured in household surveys. There is need for validation studies to know the accuracy of maternal recall and ability to answer questions in the first place.

Discussion points:

- The MCHIP and Population Council validation studies show that women seem unable to recall certain behaviors. The length of recall period was less of a factor, rather the findings show that many women are not able to give an answer in the first place.

7. Update on Service Provision Assessments

Paul Ametepi gave a short update on the status of ongoing or upcoming SPA surveys:

- Malawi is finalizing data collection and a report will be available in a few months; the MCHIP quality of care module was used
- Ethiopia will start a survey soon; it will not include a quality of care module
- Bangladesh will be piloting in March 2014; the MCHIP quality of care module will be used in a select number of districts where USAID is supporting implementation
- Tanzania has had issues with funding mechanism and therefore the assessment has been on standby for almost a year

SPA is working on a revised tabulation plan, which will be posted online once final. It will include most of the indicators requested by the TWG; newborn content will be in chapter 7. Data will also be open access. There will not be a public comment period similar to DHS-7 at this time because SPA was just revised a few years ago. In countries applying the new questionnaire, SPA would like to do a review of how the revisions are working.

As the decision to undertake a SPA survey is made by countries, Paul Ametepi requested that the TWG raise interest in doing a SPA survey in countries TWG members work.

Discussion points:

- SPA plans to triangulate quality of care and readiness data. Once done, this TWG can decide if additional analysis related to newborn care is needed. There are no standard tables for quality of care assessments; the TWG can work with SPA to produce tables for specific indicators.
- Bangladesh SPA is including some private providers, but not in the quality of care module.
- In next few years, only 6 countries are planning to do SPA surveys (mostly in Africa, Bangladesh is the only country in Asia). The SPA in Nepal was cancelled due to high costs and because UNICEF was also doing an assessment.

8. Discussion of TWG priorities related to household surveys and facility assessments

The TWG prioritized the following work areas for household surveys and health facility assessments over the next 6 months-1 year:

- Household surveys
 - o Provide consensus input on DHS revision through the open consultation process (SNL will draft and circulate)
 - o Compile what has been collected in household surveys, who has used data and how, what is known about the quality of data, and recommendations (SNL will circulate PPT that was presented by Bangladesh during Global Newborn Conference)
 - o Continue to review data on postnatal care and the global indicator (PNC within 2 days) - JHU is considering conducting a validation study on PNC, Pop Council may be able to share data on PNC observations. This TWG could consider how to further analyze MICS and DHS data and cross-reference with other data because we need to combine quality of care and contact data to have a real idea of what is happening
 - o SNL will post recommended indicators on TWG page on HNN
- Develop KMC indicators linked to KMC Acceleration Partnership
- Take recommended indicators and update MEASURE's online RMNCH indicators compendium (compendium was updated with some of the recommended household survey indicators, but this exercise was not comprehensive)

The TWG also reviewed the previous day's discussion around priorities and concluded that the following would be prioritized in the next 6 months:

- Provide additional inputs to ENAP (see Day 1)
- Develop menu of indicators for scorecards (see Day 1) including how to leverage DHIS2 to incorporate newborn indicators and use it as a source of information for the scorecards
- Further develop recommendations regarding routine data on quality of care (see Day 1)

There was also discussion on the need to conduct a cross country review of quality of vital registration systems but tabled for the next meeting.

9. Next Steps

- SNL will send a short online survey to people can volunteer to participate in above priorities
- SNL will recirculate the Terms of Reference for this TWG
- Next TWG meeting: London school is interested in hosting in late July if there is a possibility and interest in combining the TWG meeting with a discussion on measuring strength of implementation. [Note: This idea has been tabled subsequent to the meeting because of multiple global measurement meetings and will be brought up for discussion during the next TWG, to be held in DC in July]
- Note: MCHIP will be hosting a meeting on facility quality of care within the next six months scheduled for May 27, 2014)

Appendix I: Agenda

Indicators Technical Working Group

MCHIP office

1776 Massachusetts Ave, Suite 300, Washington, DC

23-24 January 2014

Meeting Objectives

1. Provide updates on various global level measurement activities
2. Discuss and decide how the Indicators TWG will engage in the following areas of work in 2014:
 - a. NMR & COD estimates
 - b. Routine Information Systems including measuring quality of care and contributing to national scorecards
 - c. Metrics for high impact interventions in collaboration with KMC Acceleration Partnership and UN Commission on Life Saving Commodities (UNCoLSC) Technical Resource Teams (TRTs)
 - d. Household surveys & facility assessments

Time	Session/Activity	Presenter (s)
Day One: Thursday, 23 January 2014		
10:00-10:15	Welcome & Objectives	Lara Vaz, SC
10:15-10:45	Every Newborn Action Plan Update: Global targets & indicators	Joy Lawn, SC/LSHTM
10:45-11:15	Discussion on how Indicators TWG will contribute to ENAP global targets & proposed indicators	
11:15-11:45	Neonatal mortality estimates	Denzhen You, UNICEF
11:45-12:30	Neonatal cause of death estimates	Joy Lawn, SC/LSHTM Shefali Oza, LSHTM Kate Kerber, SC
12:30-1:00	Lunch	
1:00-1:30	Measuring Quality of Care: summary from December WHO meeting	Kathleen Hill, URC
1:30-2:15	Small group discussions: <ol style="list-style-type: none"> 1. How Indicators TWG can engage in NMR and COD estimates 2. How Indicators TWG can contribute to measuring Quality of Care 	
2:15-2:45	Report out from groups & discussion	
2:45-3:00	Break	
3:00-3:30	Collaboration with KMC Acceleration Partnership	Bina Valsangkar, SC
3:30-3:45	Updates from UN Commission on Life Saving Commodities (UNCoLSC) Technical Resource Teams (TRTs) on M&E activities	Multiple

3:45-4:15	Update on RMNCH scorecards and potential tasks for the TWG	Lily Kak, USAID
4:15-4:45	Discussion of TWG priorities based on morning discussions	
Day Two: Friday, 24 January 2014		
8:30-9:00	Breakfast	
9:00-9:15am	Welcome & Objectives	Lara Vaz, SC
9:15-9:30	DHS Update	Joy Fishel, ICF/DHS
9:30-10:15	MICS Postnatal Care Data	Holly Newby/ Attila Hancioglu, UNICEF
10:15-10:30	Postnatal data for Countdown to 2015 report	Kate Kerber, SC
10:45-11:00	Break	
11:00-11:15	WHO recommendations on PNC: comparison to TWG's recommended indicators for household surveys	Deborah Sitrin, SC
11:15-11:45	Population Council indicator validation study: methods & preliminary results	Charlotte Warren, Population Council
11:45-12:15	Household survey in Burkina Faso: learning about recall	Melinda Munos, JHU
12:15-12:45	Lunch	
12:45-1:15	Update on health facility assessments	Paul Ametepi, SPA/ICF Macro
1:15-1:45	Discussion of TWG priorities related to household surveys & facility assessments	
1:45-2:00	Wrap-up including dates/location for next TWG meeting	

Appendix 2: Meeting Participants

January 23, 2014

Name	Organization
Jim Ricca	SC-MCHIP
Steve Hodgins	SC-SNL
Rebecca Winter	DHS
Joy Fishel	DHS
Tanya Marchant	LSHTM
Shefali Oza	LSHTM
Tanya Guenther	SC-SNL
Bina Valsangkar	SC-SNL
Naoko Kozuki	JHSPH
George Little	AAP
Magdalena Serpa	MCHIP/PATH
Neena Khadkha	SC-MCHIP
Aline Simen-Kapeu	UNICEF
Melinda Munos	JHSPH
Joseph de Graft-Johnson	SC-MCHIP
Barbara Rawlins	MCHIP/Jhpiego
Linda Wright	NICHD
Holly Newby	UNICEF
Lara Vaz	SC-SNL
Kathleen Hill	URC/ASSIST
Charlotte Warren	Pop Council
Donna Vivio	USAID
Lily Kak	USAID
Greta Wetzel	SC-SNL
Deborah Sitrin	SC-SNL
Kate Kerber*	SC-SNL
Joy Lawn*	LSHTM/SNL

January 24, 2014

Name	Organization
Jim Ricca	SC-MCHIP
Steve Hodgins	SC-SNL
Rebecca Winter	DHS
Joy Fishel	DHS
Tanya Marchant	LSHTM
Shefali Oza	LSHTM
Tanya Guenther	SC-SNL
Bina Valsangkar	SC-SNL
Naoko Kozuki	JHSPH
George Little	AAP
Magdalena Serpa	MCHIP/PATH
Neena Khadkha	SC-MCHIP
Aline Simen-Kapeu	UNICEF
Melinda Munos	JHSPH
Joseph de Graft-Johnson	SC-MCHIP
Barbara Rawlins	MCHIP/Jhpiego
Linda Wright	NICHD
Holly Newby	UNICEF
Lara Vaz	SC-SNL
Kathleen Hill	URC/ASSIST
Charlotte Warren	Pop Council
Donna Vivio	USAID
Lily Kak	USAID
Greta Wetzel	SC-SNL
Deborah Sitrin	SC-SNL
Kate Kerber*	SC-SNL
Attila Hancioglu*	UNICEF

Appendix 3: Presentations



TWG Presentations.zip



EVERY WOMAN
EVERY CHILD

EVERY NEWBORN

AN ACTION PLAN TO END
PREVENTABLE DEATHS

Targets and metrics



COMMITTING TO CHILD SURVIVAL
A PROMISE RENEWED

Professor Joy Lawn on behalf of the team
23rd Jan 2014



Outline

1. *Why Every Newborn?*

2. Mortality targets for 2035

Neonatal
Stillbirths

3. Strategic objectives and coverage targets

4. Discussion

Roles for the Newborn Indicators TWG?



Our delivery goal



No woman should die while giving life



~ 250,000 die

4.1%
per yr



No newborn is born to die

2.9 million die

1.8%
per yr

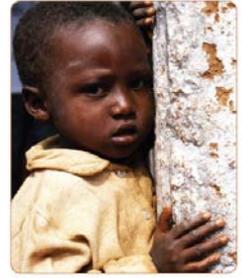


No baby stillborn

2.6 million die

~1%
per yr

Levels & Trends in **Child Mortality** Report 2013
Estimates Developed by the UN Inter-agency Group for Child Mortality Estimation



unicef

No child dying or stunted

3.7 million die

2.5%
per yr

~9 million deaths

3.5 million within a few days of birth

Building momentum for newborn survival within global frameworks

May 2012

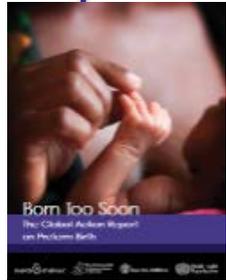
June

Nov 2012

April 2013

Nov 2013

May 2014

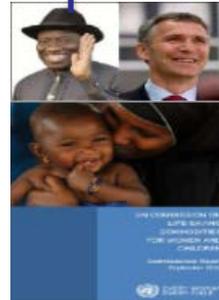


CHILD SURVIVAL
CALL to ACTION

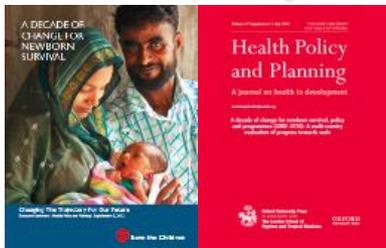


COMMITTING TO CHILD SURVIVAL
A PROMISE RENEWED

world
prematurity
day november 17



world
prematurity
day november 17



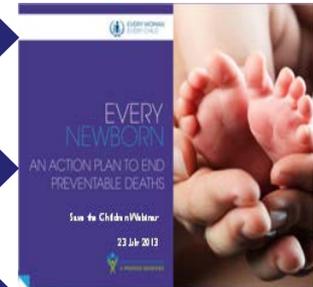
NEWBORN 2013 Global Newborn Health Conference
Johannesburg, South Africa
April 15-18

Many consultations
Countries & Constituencies

Analyses, Lancet Series
Epi, Interventions, Country

Global target setting group
Links to other global plans

WHO Exec Board
Epi, Interventions, Country

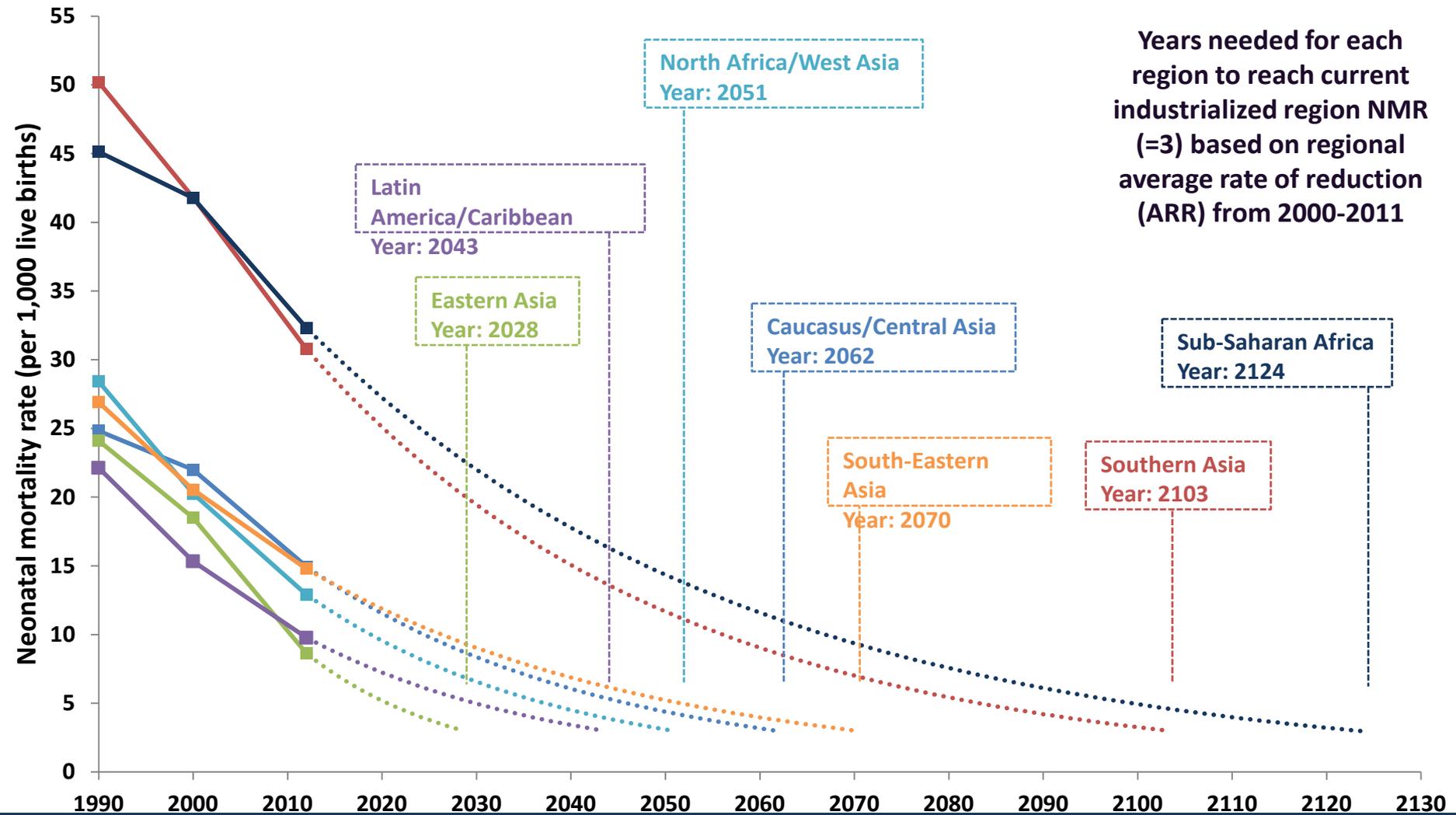


LAUNCH!
Report and
Lancet series

Post 2015 Consultations

Post MDG era of 'No One Left Behind', 'Grand Convergence'

When will every newborn have the same survival chance as the richest (absolute target of NMR=3)?



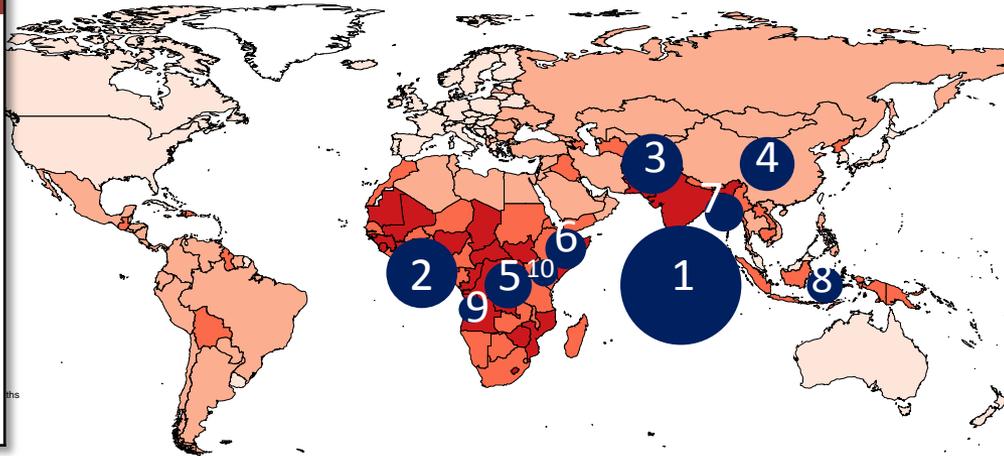
110 YEARS FOR AFRICAN NEWBORNS...
 Nearly 3 times longer than the same change took rich countries a century before, despite new interventions

Where?

The countries with highest neonatal mortality rates

Nine countries with NMR ≥ 40

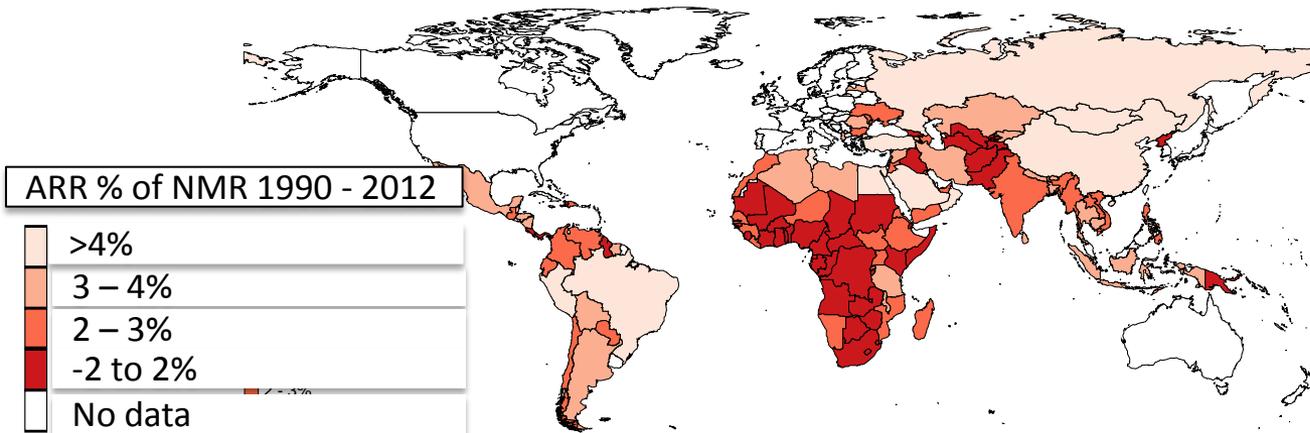
- Cen African Rep (40.9)
- Mali (41.5)
- DR Congo (43.5)
- Lesotho (45.3)
- Angola (45.4)
- Guinea Bissau (45.7)
- Somalia (45.7)
- Sierra Leone (49.5)



Ten countries with highest neonatal death numbers

1. India (779,000)
2. Nigeria (267,000)
3. Pakistan (202,400)
4. China (157,400)
5. DR Congo (118,100)
6. Ethiopia (87,800)
7. Bangladesh (75,900)
8. Indonesia (72,400)
9. Angola (41,200)
10. Kenya (40,000)

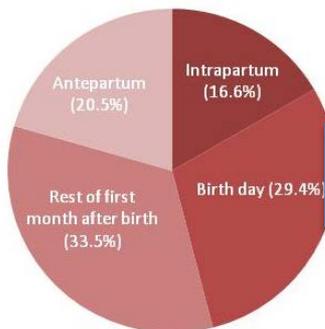
.... are mostly the ones making the slowest progress (ARR 1990-2012)



The country challenge for changing the trajectory for neonatal survival

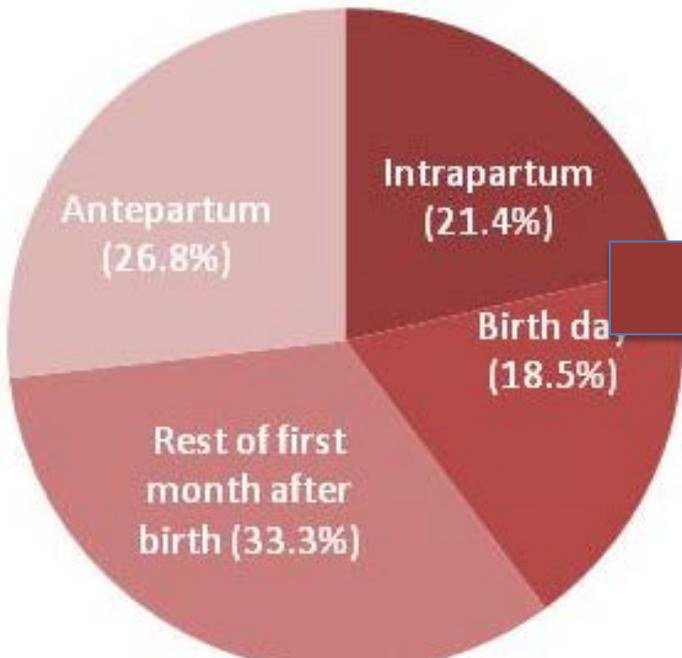
When?

For women, stillbirths, neonates, birth and the birth day are the highest risk



**46% of maternal deaths
(0.12 million)**

**2.3 million deaths
during labour
and birth day**



**40% of stillbirths + neonatal
deaths (2.17 million)**

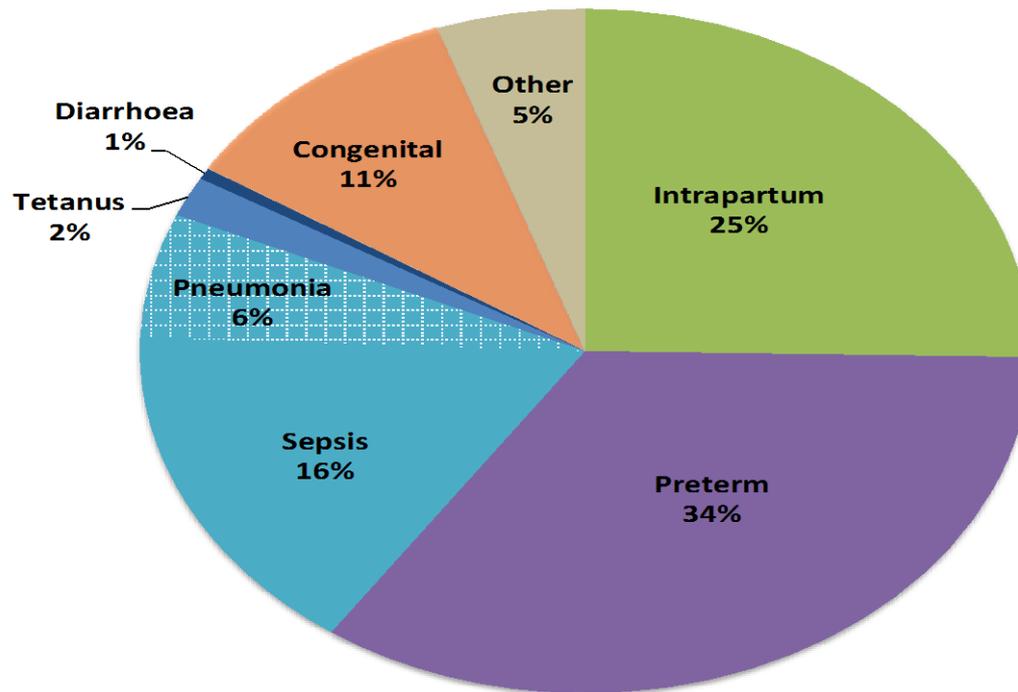
Coverage goals

By 2020 close the gap for quality of care at birth for facility births

Why?

Causes of neonatal deaths worldwide in 2012

(based on 184 countries and will also present early and late neonatal deaths)

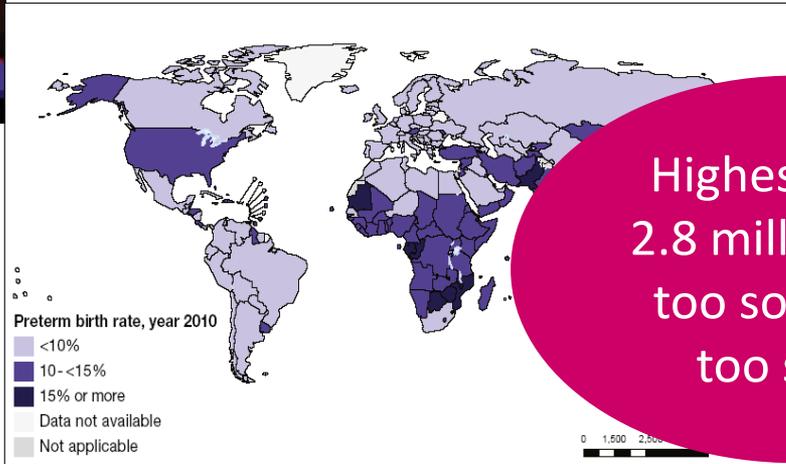


Three causes account for > 80% of neonatal deaths
Preterm birth complications reducing the slowest

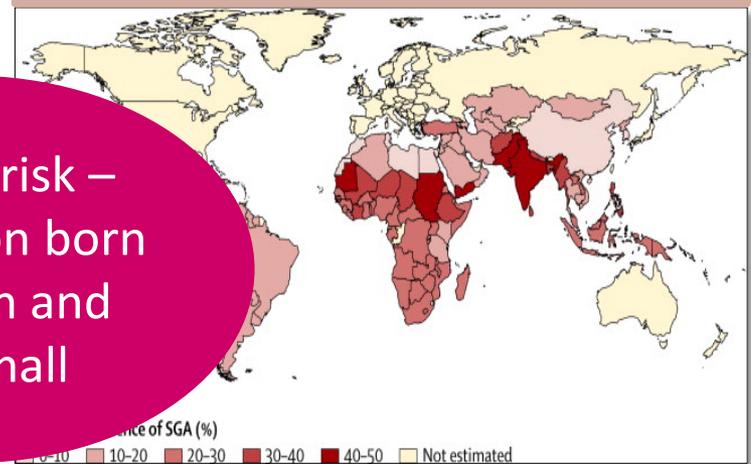
>11 x mortality risk from preterm complications if born in low income country

Who? Small babies

Born too Soon (preterm)



Born too Small (SGA)



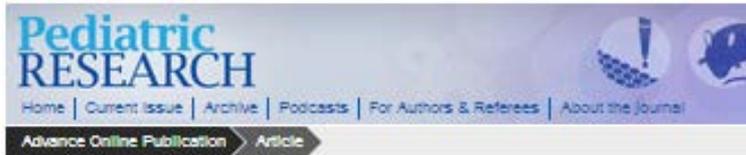
Highest risk –
2.8 million born
too soon and
too small

Number	14.9 million preterm 6.3 million preterm are not LBW	10.6 (Small for Gestational Age and LBW) 19.0 million additional SGA are not LBW
Geography	Highest rates in Africa	Highest rates in South Asia
Impact	Very high risk of neonatal death Risk of poor growth (stunting) (RR=1.93 for AGA, 4.5 for preterm SGA) Christian '13 Major risk of disability Some risk of adult onset non comm diseases	Increased risk of neonatal death (RR=2.4) Katz '13 Important risk of poor growth (stunting) (RR=2.4) Christian '13 Small risk of adverse cognitive outcomes Risk of adult onset non communicable diseases

Programme message –imperative to focus more on small babies
Also raises questions about what to measure and how

Beyond Survival

Long term disability after neonatal conditions



PEDIATRIC RESEARCH | EDITORIAL OPEN

Beyond newborn survival: the world you are born into determines your risk of disability-free survival

Joy E. Lawn, Hannah Blenowe, Gary L. Dermsdadt & Zulfiqar A. Bhutta

Pediatric Research (2013) | doi:10.1038/pr.2013.202

Advance online publication 15 November 2013



Every year, 135 million newborns enter the world, each arriving naked and apparently equal. Yet, their chances of surviving and thriving vary dramatically depending on which world these babies are born into—ranging from high-income countries with universal neonatal intensive care to the world of home births without midwives, medical supplies, or health system support (Figure 1).

Figure 1



NATURE PEDIATRIC RESEARCH

5 papers with estimates of incidence & impairment regional and global for 2010:

- Preterm birth
- Retinopathy of Prematurity (ROP)
- Intrapartum-related neonatal encephalopathy
- Neonatal infections
- Neonatal jaundice

47 authors, 35 institutions

Published 19TH DECEMBER

BUT some countries are “bending the curve” for newborn survival despite low income

Over the last decade
77 countries reduced NMR by >25%
Including >12 low income countries

Bangladesh, Bolivia, Eritrea, Guatemala, Indonesia, Nepal,
Madagascar, Malawi, Morocco, Senegal, Rwanda, Tanzania,
Vietnam

		MDG 4	MDG 5	Neonatal mortality rate Av annual change 2000-2010
Bangladesh		✓	✓	4.0%
Nepal		✓	✓	3.6%
Malawi		✓	Progressing	3.5%





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Target setting - Neonatal

Data input

Individual country unit of analyses, using UN-IGME neonatal mortality rates 1990-2012. Business as usual based on ARR 2000-2012 so more optimistic than 1990-2012. All analyses weighted by lives births per country by year using UN Pop Div live births projections

Analysis

> 9 scenarios for NMR reduction applied with baseline of 2012 NMR to predict 2035 NMRs and number of neonatal deaths based on the scenarios for 195 countries.

	NMR		# of neonatal deaths (millions)	
	2012	2025	2035	2035
National scenario				
1. Business as usual (2000-2012 ARR)	20.8	16.0	13.2	1.8
2. Other countries comparison				
Best regional rates	-			-
Historic US/UK ARR	-			-
3. Target scenarios				
Relative (66% or 75% reduction)	-			-
Absolute NMR (5, 7, 10, 12)				

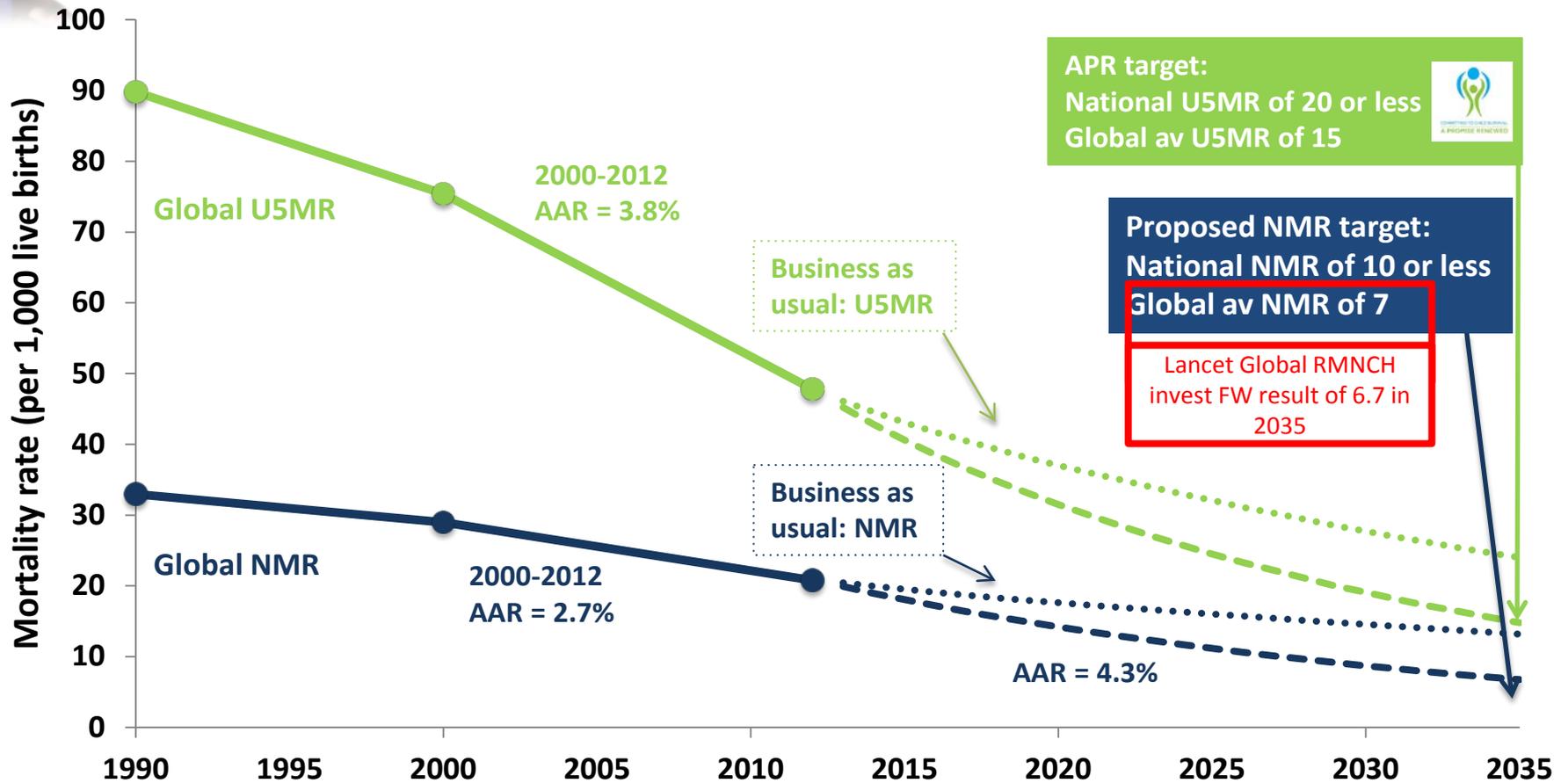
Absolute target of NMR 10 per 1000 or less for every country

Also similar to 2/3rds reduction in NMR as unfinished agenda in MDG4

For countries with NMR<10 to make specific equity focused targets



Target setting - Neonatal



Scenario	2035 global NMR (weighted)	2035 neonatal deaths
Business as usual	13	1.8 million
Every country to NMR of 10 per 1000	7	0.9 million
Similar to 2/3 reduction in NMR as if a continuation of MDG4		



Target setting - Stillbirth

Data input

Using estimated ARR % for stillbirths 2000 – 2009 to estimate stillbirth rates for 2012. Various SBR reduction scenarios applied to 2012 SBR to predict 2025 and 2035 SBRs and number of stillbirths based on the scenarios for 195 countries.

Analysis

National scenario	SBR			# of stillbirths (in millions)		
	2012	2025	2035	2012	2025	2035
1. Business as usual (2000-2009 ARR)	18.2	16.9	15.8	2.53	2.35	2.23
2. Relative target (66% reduction)						
3. Absolute target Stillbirth rate of 5 by 2035	-	8.8	4.5	-		0.62
Absolute target Stillbirth rate of 10 by 2035	-	11.5	8.0	-		1.11

Absolute target of SBR 10 per 1000 or less for every country

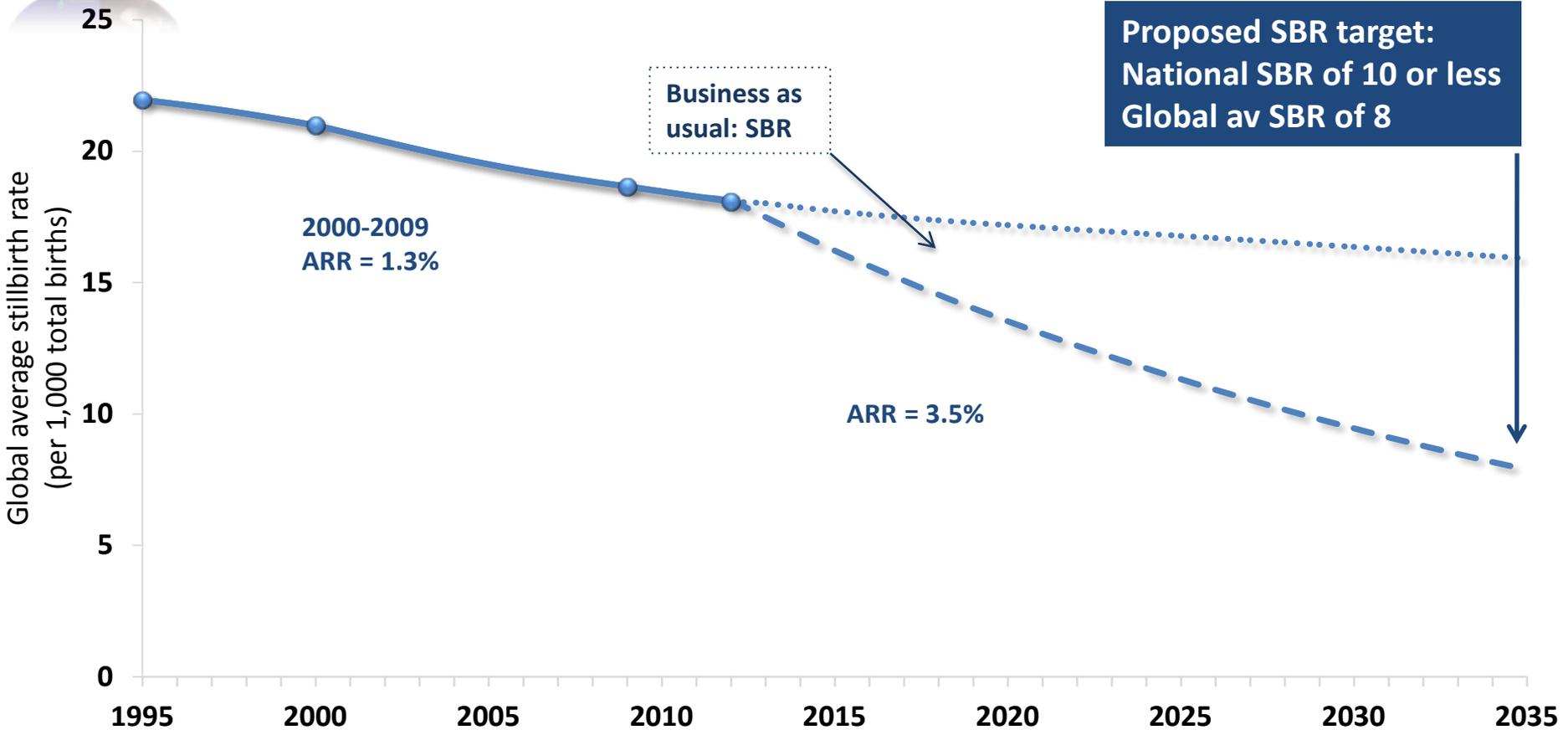
Consistent with NMR target of 10 so SBR:NMR ratio of 1:1

Also similar to 2/3rds reduction in SBR

SBRs are highly inequitable and countries should have specific equity focused targets



Target setting - Stillbirth



Scenario	2035 global SBR (weighted)	2035 stillbirths
Business as usual	15.9	2.2 million
Every country reaches SMR of 10 per 1000	8.0	1.1 million
	Also similar to $\geq 2/3$ reduction in SBR for every country	



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Five strategic objectives

1. **Prioritise care during labour, birth and the first days after birth**
2. **Improve the quality** of maternal and newborn care throughout the continuum including family planning
3. **Reach every woman and every newborn** to reduce inequities
4. Harness the **power of parents, families, and communities**
5. **Count every newborn** – measurement, programme tracking and accountability

ENAP supports other plans and targets

eg FP 2020, Nutrition, HIV Countdown to Zero, Elimination of Syphilis

ENAP Coverage targets are focused on what is new and the content and tracking will be developed in partnership with the maternal health community
(also informed/refined by LiST analysis and costing which is still in process)



ENAP Coverage goals

Packages

1. Care at birth (Skilled birth attendance)

Issue is the content and quality of
For effective coverage including CEmOC

2020

90% of births in a facility receive high quality care

2025

95% of all births

2035

99% (universal)

Within a year of launch of ENAP to define:

1. Content “Mother-Baby” package and indicators
2. Metrics especially specific tracer interventions (eg immediate bfing, steroids, resuscitation, also for maternal care and respectful care)

2. Care of small and sick newborns

- Kangaroo Mother Care >50% >75% Universal
- Sepsis case management >50% >75% Universal
- Comprehensive neonatal intensive care (country specific tgt to be specified)

Within a year of launch of ENAP to define metrics especially for KMC

3. Community and behaviour

- Postnatal care 20 increase from baseline 90% of all births
- Breastfeeding (exclusive) 50% at 6 months Universal

Within a year of launch of ENAP to improve the metrics especially for content of PNC



What can the Newborn Indicators TWG do?

NOW - Consultation on the plan (WHO Exec Board yesterday!!)

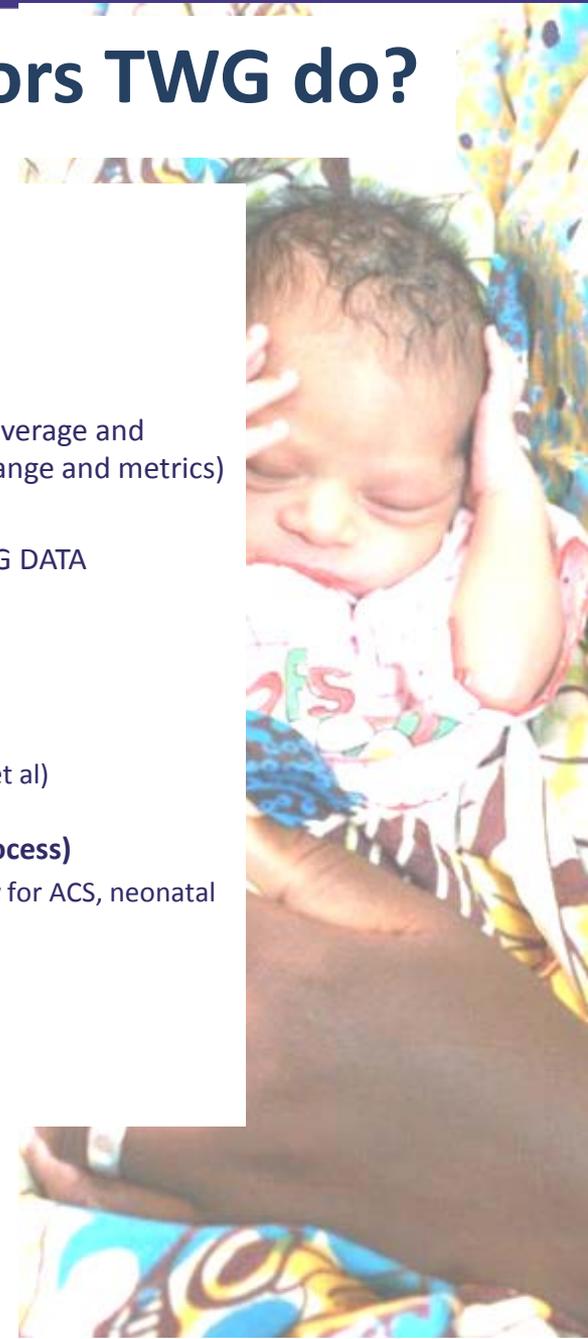
- Review detail and make suggestions
- Promote for others to respond and support especially to official process

OVER THE NEXT YEAR

- Contribute to refining Evaluation Framework and monitoring plan for ENAP (programmatic coverage and commitments /inputs) (note also linked to development of Saving Lives at Birth Theory of Change and metrics)

OVER THE NEXT FEW YEARS ACTIVELY IMPROVE THE DATA ESPECIALLY PROGRAMMATIC TRACKING DATA

- **Coverage data possible through household surveys**
 - Postnatal care content, refining the contact point data
 - Kangaroo Mother care
 - Chlorhexidine
 - Possibly neonatal sepsis case management (noting issues for pneumonia CM as per Campbell et al)
- **Quality of care and health facility service provision data (linking with WHO QoC metrics process)**
 - Clarity on indicators for coverage ,access, human resources, commodity supply etc) especially for ACS, neonatal resuscitation, case management of neonatal infections and other complications eg jaundice
 - Critical to link with maternal health community effectively on this
- **Data collection in countries, consistent tools and tabulations etc**
 - Surveys
 - HMIS
 - Special studies eg SPA and SAM/SARA or for specific projects
- Contribute to improvements in outcome data for deaths, stillbirths, morbidity, disability





**Thank you!
Be part of
the action**

#EveryNewborn



EVERY NEWBORN

AN ACTION PLAN TO END
PREVENTABLE DEATHS

Be part of the action for
newborns

Ongoing now

- Country consultations, sharpening national plans
- Global and regional events and consultations
- Analysis for series and report

2014 launches

- May 2nd Lancet series launches
- May 5th Vancouver, Pediatric Academic society
- Late May World Health Assembly
- End of June launch at PMNCH, Countdown, iERG in Joburg





Key messages

- **Programmatic focus is clear and evidence-based**
 - Time around birth, triple return on investment for survival,
 - Focus on 3 main causes of neonatal death – esp. preterm
 - Priority attention to small babies to reduce deaths, disability and risk of non communicable diseases (NCDs)
- **Post MDG case for investment**
 - Neonatal survival unfinished agenda, stillbirths still missing, but count for women
 - Beyond survival, economic gains thru' reduced deaths, disability and NCDs
 - Synergies of newborn survival with demographic transition and focus on girls
- **Progress is possible** – targets have been a participatory process and close to final



Estimating Neonatal Mortality

Data and UN IGME Estimation Methods

Danzhen You
UNICEF

With courtesy to Leontine Alkema and Jin Rou New

Overview of Presentation

- Child mortality data
- Introduction to UN Inter-agency Group for Child Mortality Estimation (UN IGME)
- UN IGME methods to estimate neonatal mortality



Child Mortality Data

- Measures of child mortality
- Data sources
- Data problems

Measures of child mortality

Child mortality: Probabilities of dying during the first 5 years of life, usually broken down by conventional age segments

Category	Includes deaths that occur:
Neonatal mortality	During the first 28 days of life
Post-neonatal mortality	At ages 1 to 11 months
Infant mortality	Between birth and exact age 1
Child mortality	At ages 1 to 4 years
Under-five mortality	Between birth and exact age 5

Data Sources

Child/neonatal mortality data can come from a variety of sources:

- vital registration systems
- population censuses
- household surveys
- sample registration systems
- demographic surveillance sites

Data problems

Data errors

- sampling errors (surveys)
- omission of deaths
- misreporting of child's age at death or date of birth
- selection bias

Note that **Less data** are available for neonatal mortality than for under-five or infant mortality as no estimates would be generated from summary birth history using indirect methods.

Data rich country but with variations in mortality levels from different sources

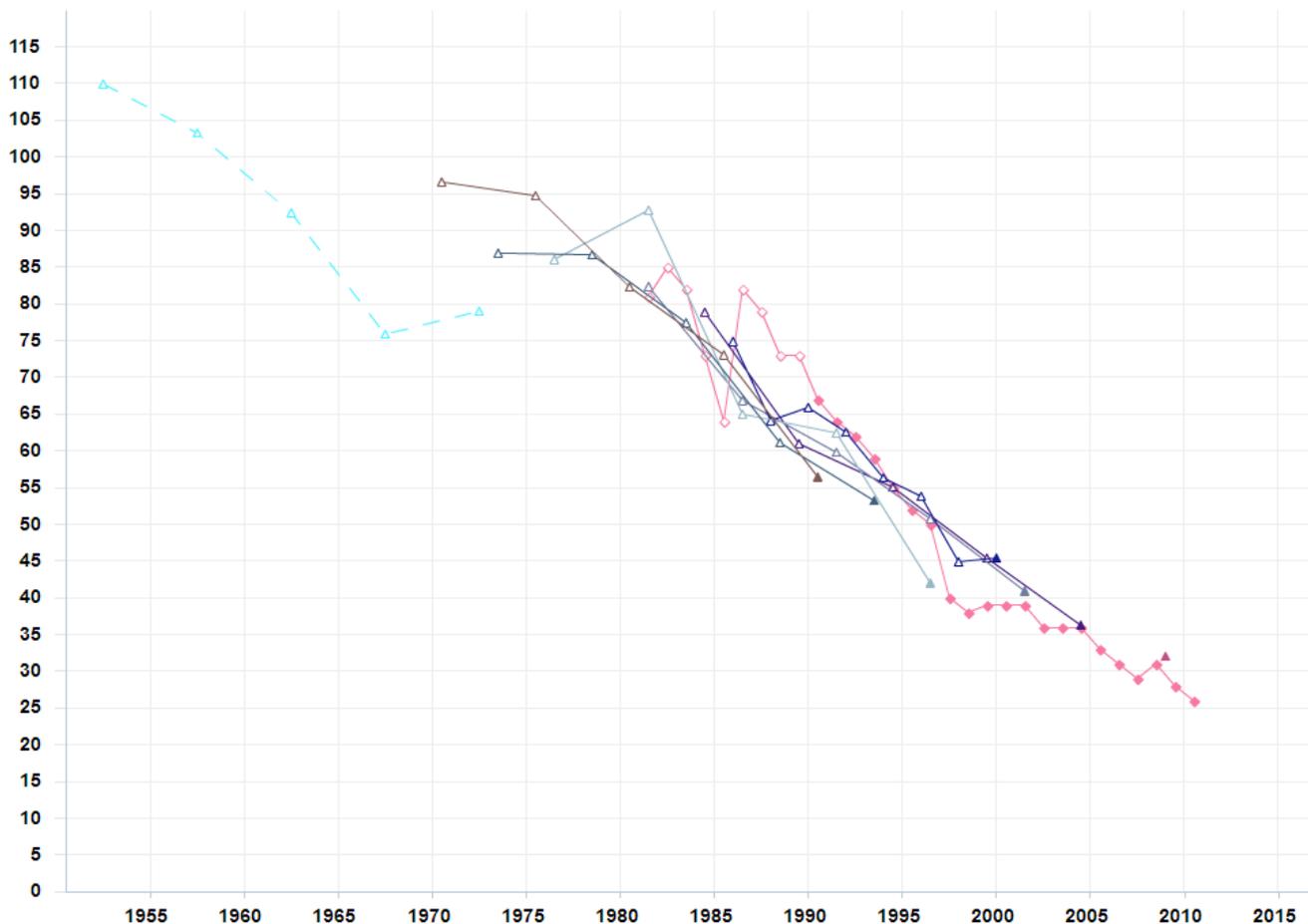
 Bangladesh

*BGD_Multilevel_Neonatal mortality rate_Default_2012.5

Neonatal mortality rate ▼

Total ▼

[View](#) | [Series](#) | [Data](#) | [Estimates](#) | [Export](#) | [Notes](#) |   



Data poor country with wide variations



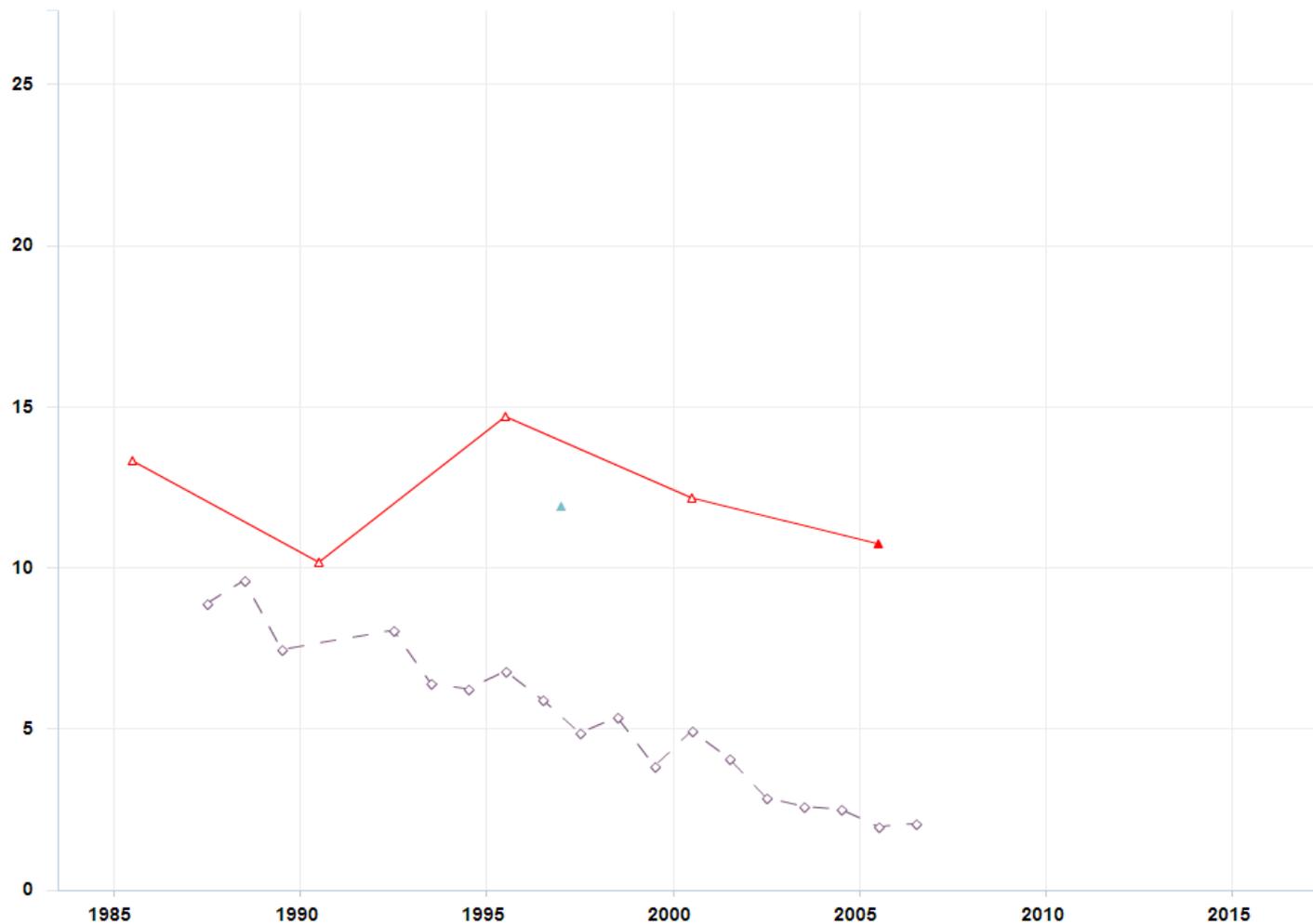
Albania

*ALB_Multilevel_Neonatal mortality rate_Default_2012.5

Neonatal mortality rate ▼

Total ▼

[View](#) | [Series](#) | [Data](#) | [Estimates](#) | [Export](#) | [Notes](#) |





The UN Inter-agency Group for Child Mortality Estimation

The UN Inter-agency Group for Child Mortality Estimation (IGME)

- Formed in 2004, led by **UNICEF** and includes members of **WHO, UN Population Division** and **The World Bank**
- Objectives of the IGME
 - Harmonize estimates within the UN system
 - Improve methods for child mortality estimation
 - Produce consistent estimates of child mortality worldwide for reporting on progress towards MDG 4 at global level
 - Enhance the capacity of countries to produce timely estimates of child mortality

TAG of the UN IGME

Independent Technical Advisory Group (TAG)

- Composed of leading experts in demography and biostatistics
- Provide technical guidance on estimation methods, technical issues and strategies for data analysis and data quality assessment

Scope of the IGME and TAG work

Current work

- Produce and update estimates annually
 - Under-five deaths and mortality rates (total, male, female)
 - Infant deaths and mortality rates (total, male, female)
 - Neonatal deaths and mortality rates (total)
- Research on improving estimation methods (e.g., optimized interval for estimates, indirect estimates based on age of women vs time since first birth, etc.)
- Research on mortality disparity

Scope of the IGME and TAG work (cont'd)

Planned work

- Neonatal mortality – more robust curve fitting methods
- Early neonatal and late neonatal mortality
- Mortality of children aged 5-17 years



The UN IGME Method to Estimate NMR



UN IGME broad strategy to measuring child mortality

- **Compile all available nationally-representative empirical data** - civil registration, survey, censuses, and surveillance system -relevant to the estimation of child mortality.
- **Assess data quality** and adjust empirical data if necessary to account for possible biases in data collection.
- **Apply standard methods** to generate estimates of child mortality – fitting a curve to underlying data.
- Use the model to **extrapolate estimates** to a target year.
- **Additional adjustments** applied to countries with high HIV/AIDS prevalence
- **Country consultation** prior to publication of final estimates

Note: Estimates generated in different rounds may not be comparable

Method used to generate NMR estimates

- For the UN IGME estimates released in 2012 and 2013, the UN IGME used methods developed by Oestergaard and coauthors on behalf of the UN IGME and the CHERG
 - PLOS Medicine paper: Neonatal mortality rates from 193 countries in 2009 with trends since 1990: past progress, future projections and policy priorities



Method used to generate NMR estimates (cont'd)

- Countries with high quality VR data – VR Rescaled (38 countries):
Rescale data points to match latest U5MR time series from IGME
 - IGME U5MR value used
 - NMR rescaling:

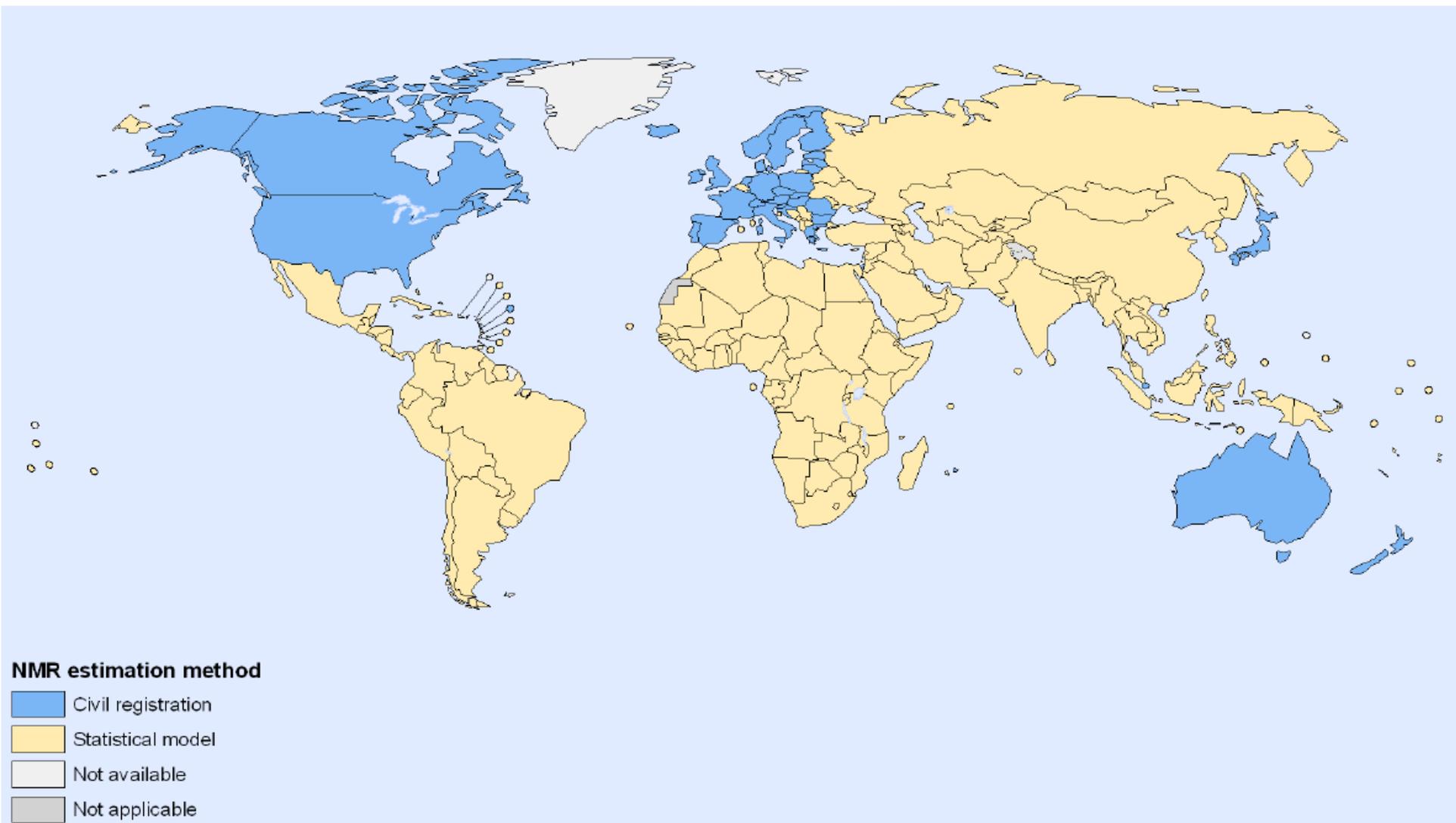
$$\mathbf{NMR.new = NMR.observed * (U5ME.IGME / U5MR.observed)}$$

- Countries with no high quality VR data – Statistical model (155 countries)

$$\mathbf{\ln(NMR_i/1000) = \alpha_o + b_1 * \ln(U5MR/1000) + b_2 * [(\ln(U5MR/1000))^2] + \alpha_{j[i]} + \alpha_{k[i]} + e_i}$$

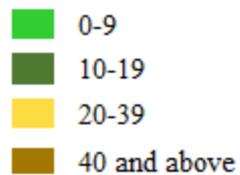
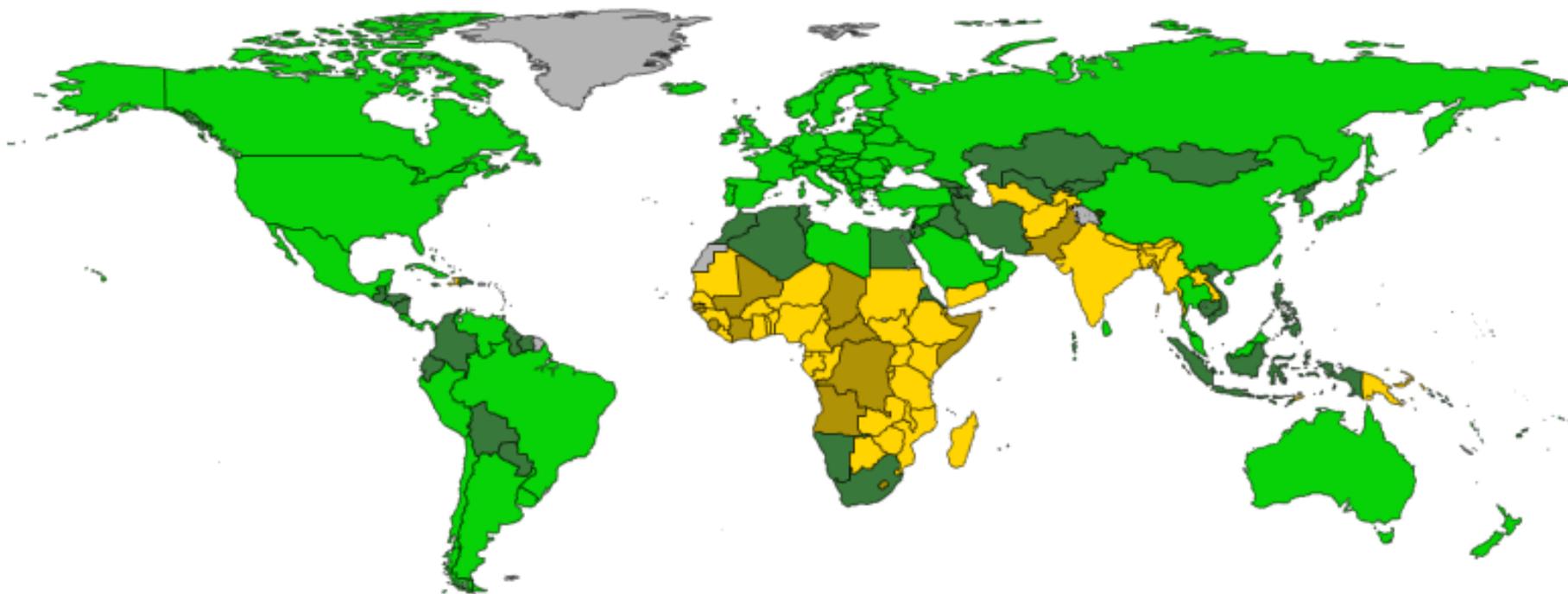
Where, for observation i , $\alpha_{j[i]}$ and $\alpha_{k[i]}$ are random effects variables for country j and region k , respectively, and e_i is error term.

Models used by country for NMR



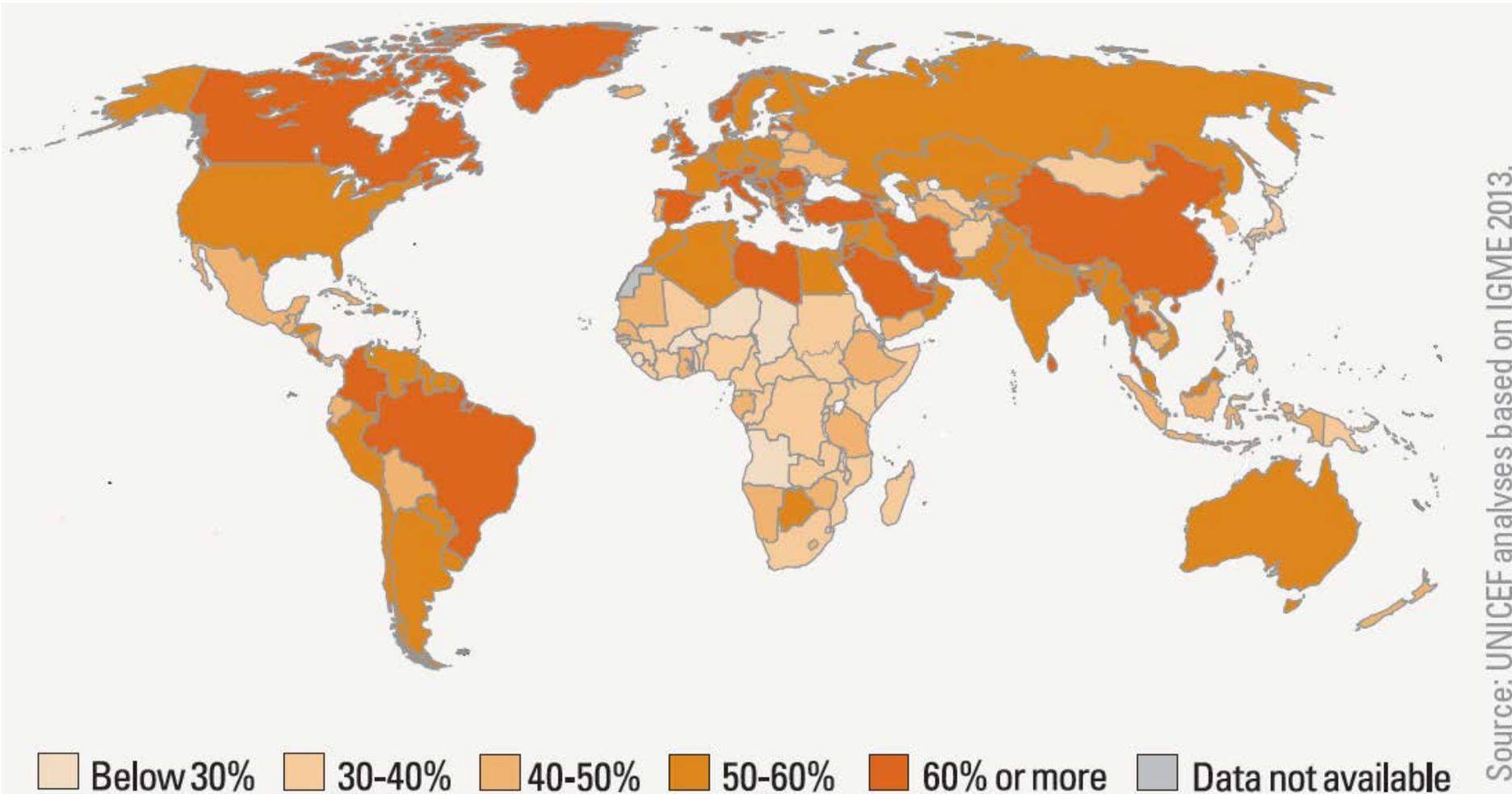
Slides borrowed from Mikkel Oestergaard

NMR, by country, 2012



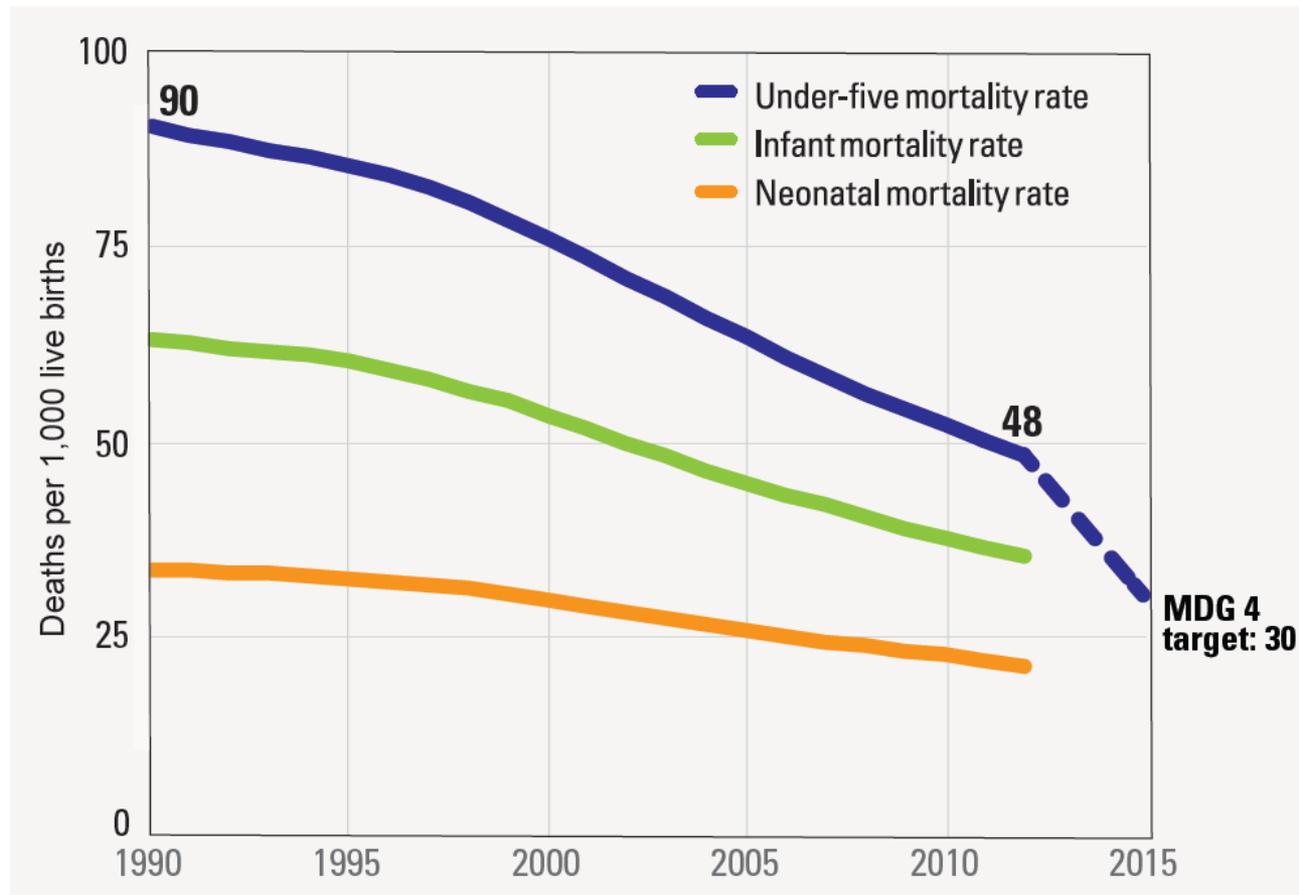
Percentage of under-five deaths occurring in the neonatal period, by country, 2012

(Globally, 2.9 million neonatal deaths account for 44% of global under-five deaths)



Global NMR has declined by 37%, from 33 deaths per 1,000 live births in 1990 to 21 in 2012

Global U5MR, IMR and NMR, 1990-2012



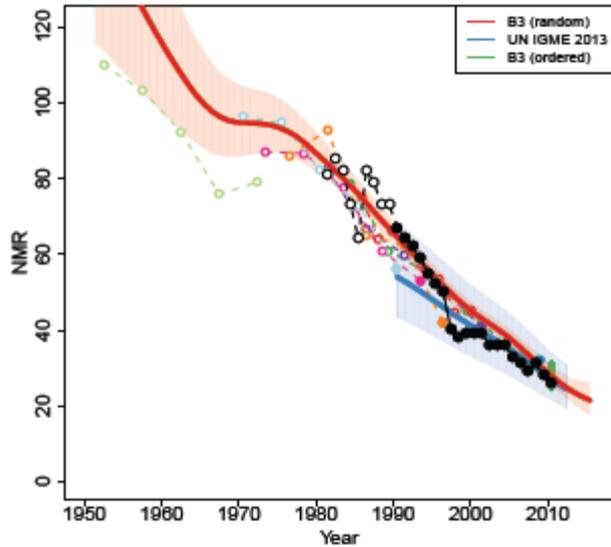
Method under development

- Explore the application of B3 (Bayesian, B-Spline and Bias adjusted) approach to NMR
 - B3: Current IGME method to fit a curve to derive U5MR estimates
 - For NMR, also try B3 model
 - Better accounts for data errors
 - Better capture short-term fluctuations in mortality rate and its annual rate of reduction
 - Also performs better in projections
 - More reasonable uncertainty ranges

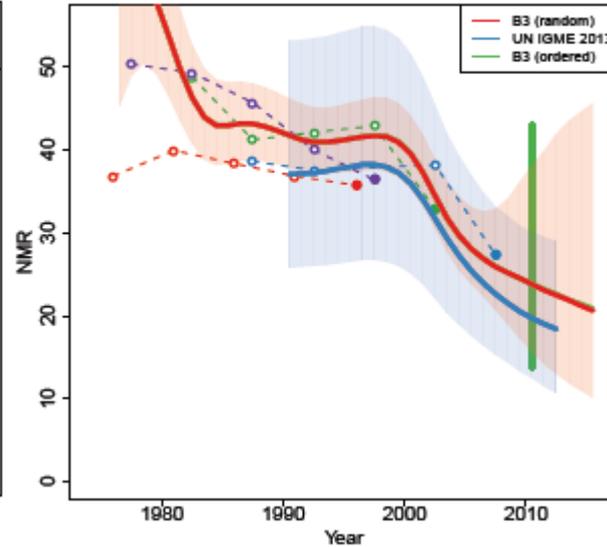
Preliminary results based on 83 (non-VR) countries, with DHS, WFS and MICS Direct data only

Results: NMR

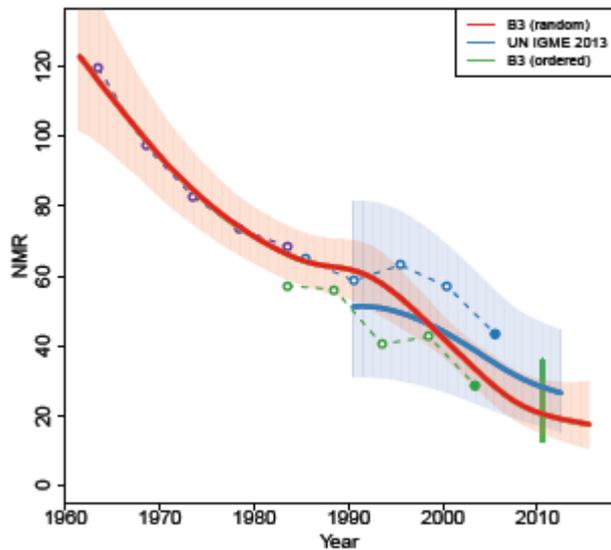
Bangladesh



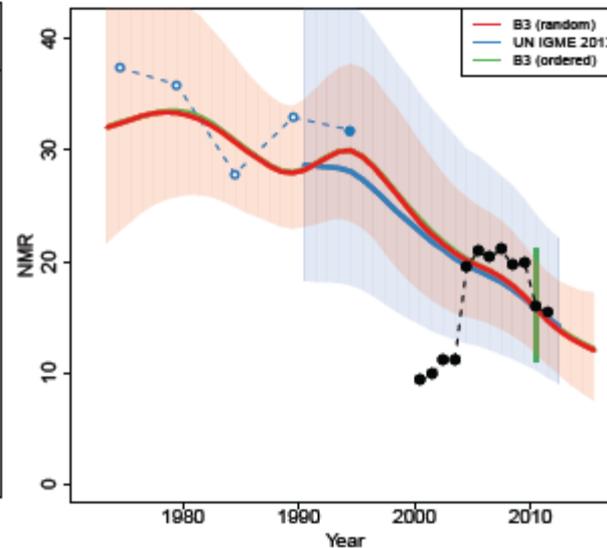
Cambodia



Liberia



Kyrgyzstan



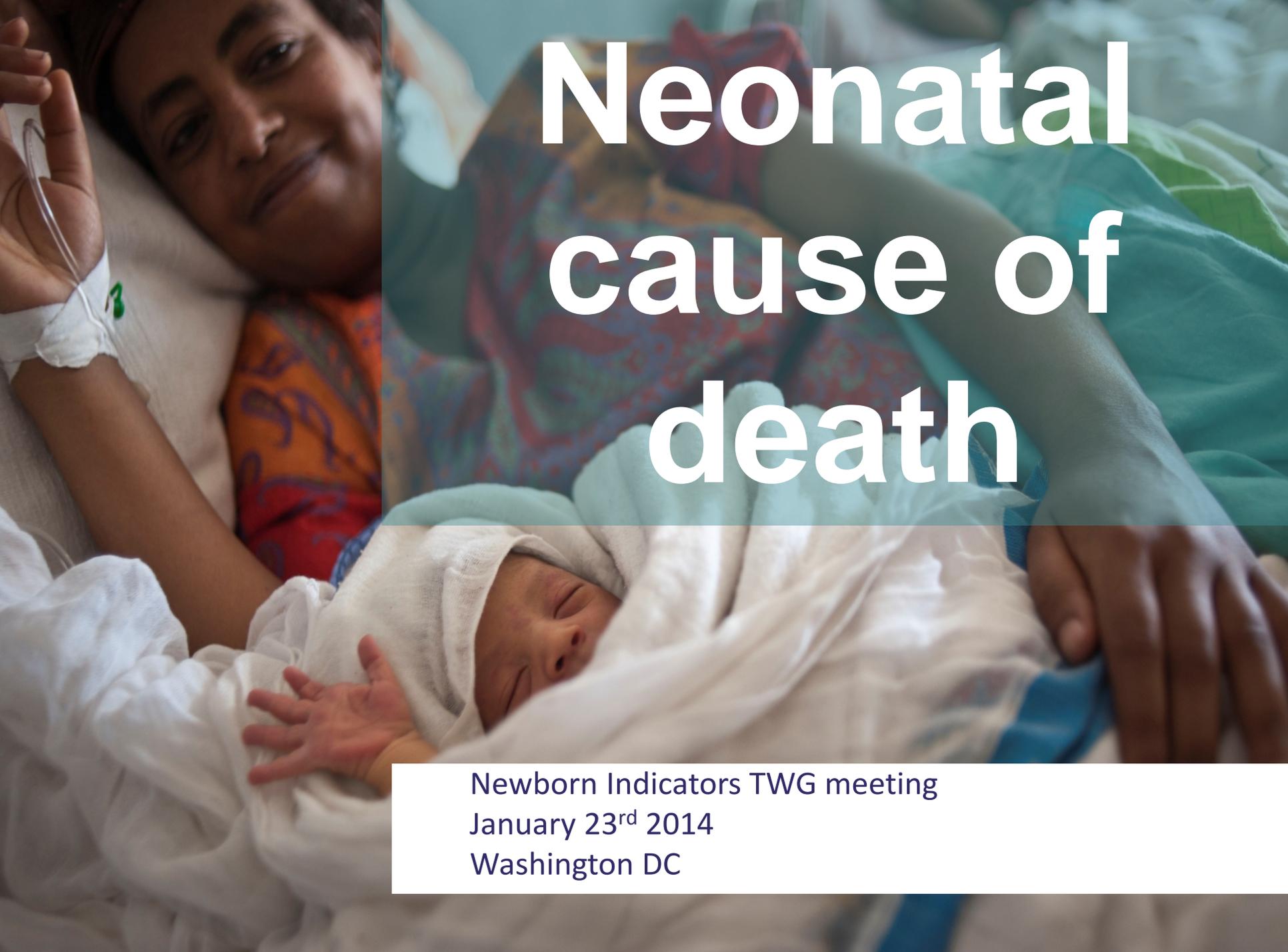
- ▶ Blue: UN IGME 2013
- ▶ Red: B3 (random combination of NMR/U5MR and U5MR trajectories)
- ▶ Note: different databases were used for UN IGME 2013 estimates and B3 estimates.
- ▶ Green: B3 (ordered combination of NMR/U5MR and NMR trajectories)

More work to improve NMR estimates

- Continue to complete the neonatal mortality database – currently data from many national surveys other than DHS and MICS are not included in the database
- Continue to explore the application of B3 methods to NMR
 - Adjust AIDS deaths
 - Apply to good VR countries
 - Use ratios NMR/IMR instead of NMR/U5MR
 - TAG conference call in March to discuss preliminary results and make a decision whether the IGME should change to the B3 method to generate NMR

Thank you
dyou@unicef.org





Neonatal cause of death

Newborn Indicators TWG meeting
January 23rd 2014
Washington DC



Neonatal cause of death

1. Introduction

Joy Lawn

Where we have come from,
Where we want to get to

2. New results for 2012

Shefali Oza

Results for 2012 and trends 2000-2012

3. National process

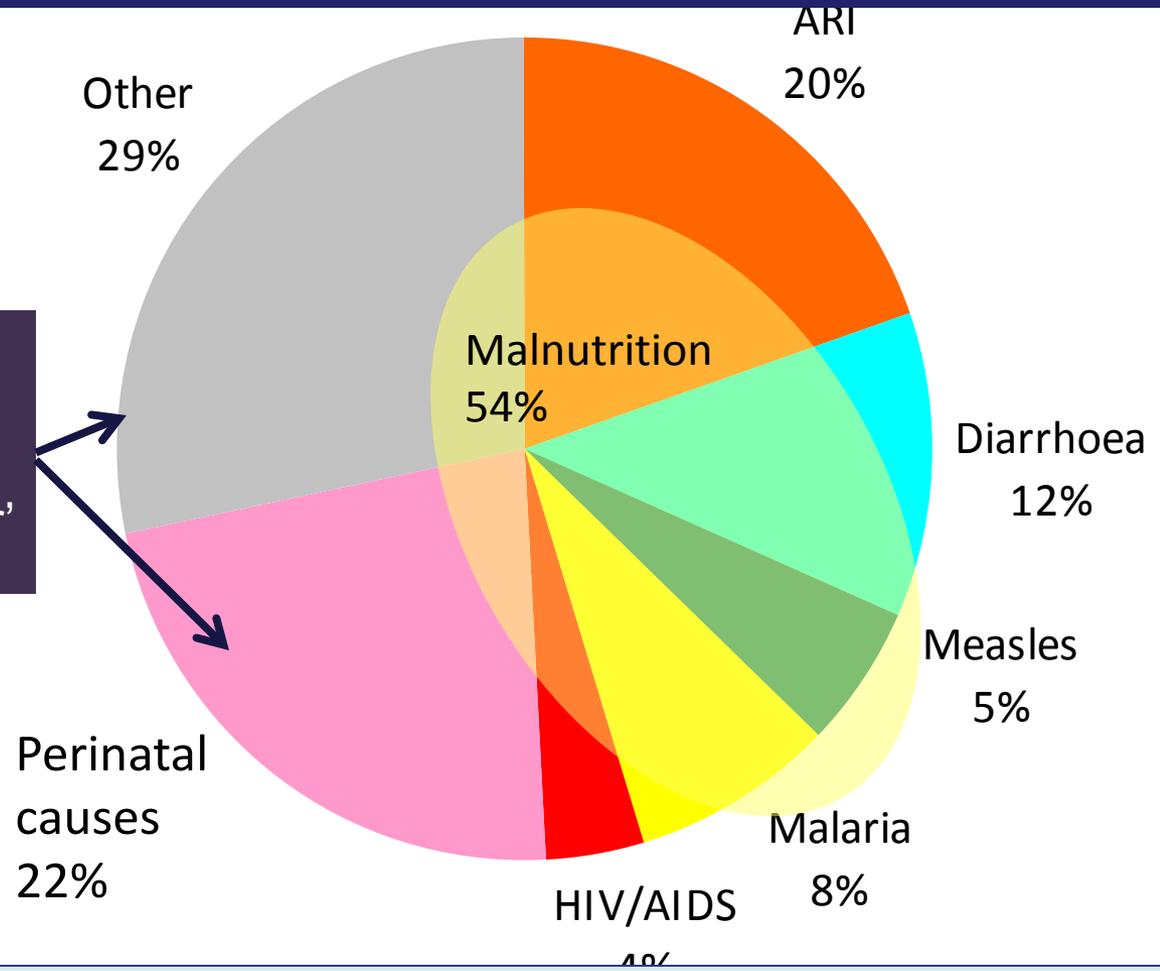
Kate Kerber

South Africa, Nigeria, some eggs

Discussion

Using the final slide for each of the 3 talks

Global causes of child death for 2000



Neonatal deaths 36%
but lost & unactionable in
'Perinatal causes' & 'Other'

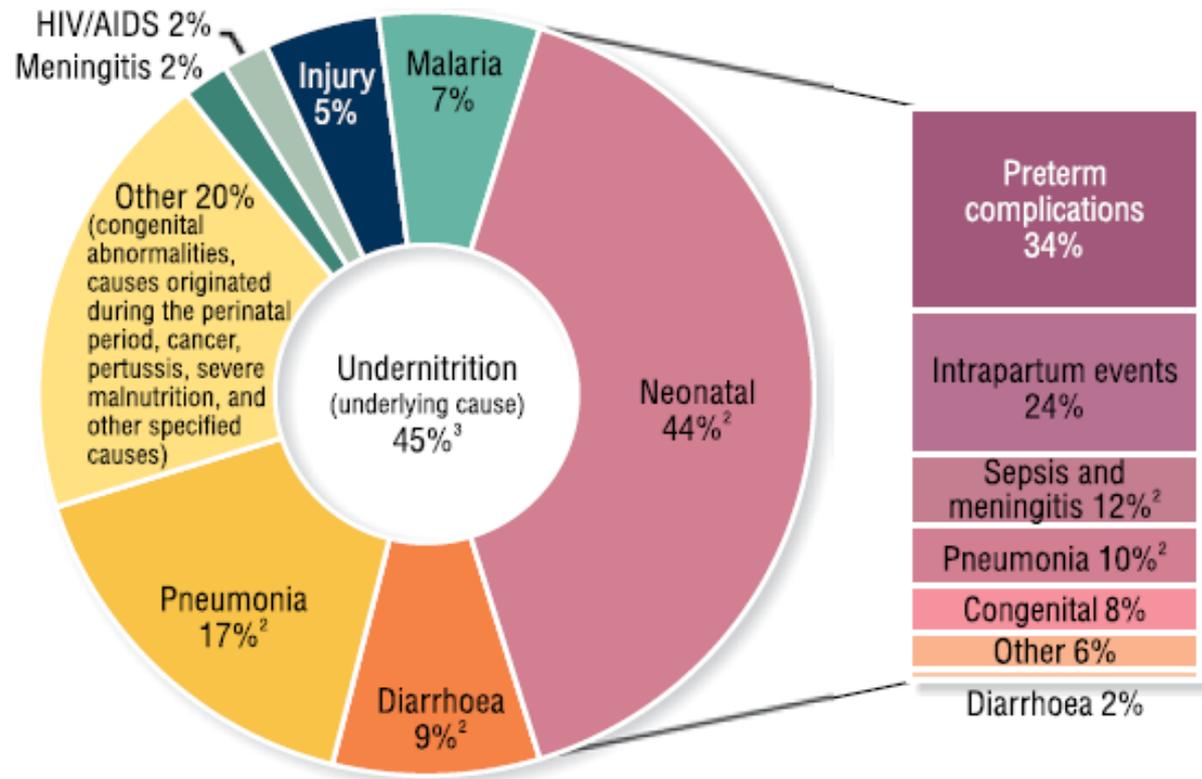
Newborn deaths invisible

Neonatal deaths invisible, plus no national estimates only global pie
First national neonatal cause of death estimates published in 2005
in Lancet Neonatal Series and WHR with detailed methods in Int J Epi

We now know the causes of newborn deaths and these are visible to all with national estimates

Preventable deaths in children under 5 years of age¹

(6.6 million child deaths every year/around 18,000 preventable deaths every day)²



Every year there are an additional 2.6 million stillbirths/
more than 7,200 stillbirths every day⁴

3 main killers to address:

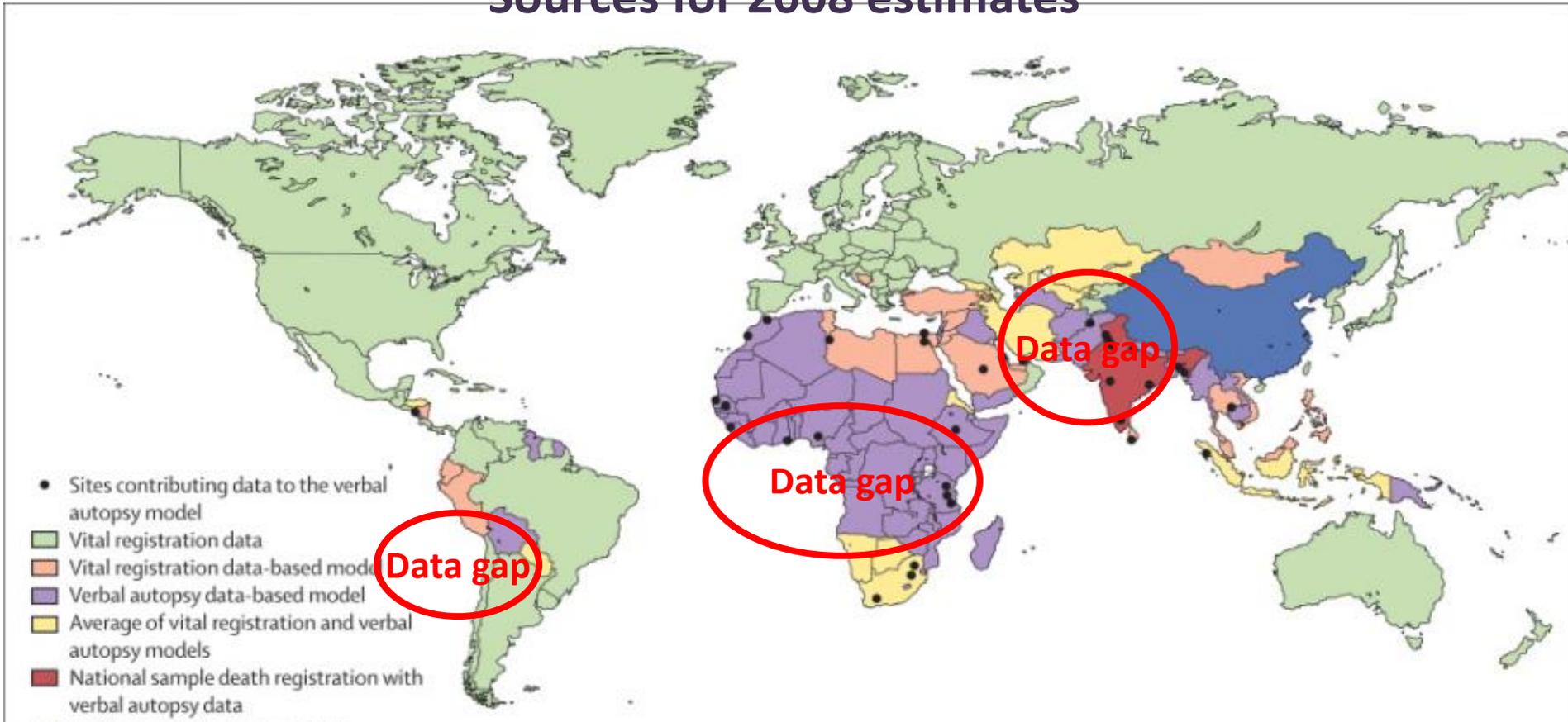
1. Preterm birth (born too soon)
2. Birth complications
3. Neonatal infections

Visible and actionable!

Transparent methods,
predictable timing of
estimates, country
consultations by WHO

Data inputs for neonatal cause of death

Sources for 2008 estimates



DATA ADVANCES (2000-2012)

1. More Vital Registration data (65 countries up from 46, 1.3 million deaths)
2. National data inputs from India and China (~30% of global deaths)
3. More study data (112 inputs, ~100,000 deaths)

Next phase of improving the data and estimates

	Outcomes	National and global estimates	Process, next update
MORTALITY OUTCOMES	Neonatal mortality	Annual	1. UN IGME 2. IHME
	Neonatal cause of death	Bi annual (Next update in Lancet Every Newborn series and released on WHO Observatory May 2014)	1. WHO but now no official UN Ref group, so next yr thru MCHEE grant at JHU, work by LSHTM 2. IHME
	Stillbirths	First published 2011 by LSHTM with WHO (Lancet stillbirth series 2011)	No routine update system. Planning 2015 publication by LSHTM with WHO, SNL funding
	Stillbirths timing, major conditions	IP SBRs but no detailed conditions (Lancet stillbirth series 2011)	Needs more consistent input data... (> 45 classification systems)
RISKS, MORBIDITY, DISABILITY	Preterm birth prevalence	First published 2012 by LSHTM with WHO (Born Too Soon, Lancet)	Due update in 2015 by LSHTM with WHO & UNICEF
	Small for gestational age	First published 2013 by JHU (Lancet nutrition series, note only SSA and South Asia)	Due global update after InterGrowth study and LBW rate time series completed
	Low Birth weight rate	Annual updates by UNICEF, but no time series	New work by UNICEF/WHO/LSHTM partly funded by MCHEE
	Morbidity and impairment outcomes	First published 2013 by >35 institutions thru CHERG/LSHTM with GBD (Nature Ped Res suppl)	Major work needed on definitions and tools especially to standardise developmental outcomes

Estimates of neonatal causes of death:

194 countries in 2012
with trends since 2000

Shefali Oza

with Simon Cousens and Joy Lawn

London School of Hygiene & Tropical Medicine

NOTE: all results embargoed



Main funders

CHERG



Save the Children

MARCH
centre for
MATERNAL
ADOLESCENT
REPRODUCTIVE &
CHILD
HEALTH

LONDON
SCHOOL of
HYGIENE
& TROPICAL
MEDICINE



Objectives

Estimate the distribution of neonatal deaths for:

- 194 countries (and regional/global levels)
- Years 2000 to 2012
- 9 programmatically important causes of death
 - Preterm direct complications
 - Intrapartum-related (“asphyxia”)
 - Sepsis/meningitis, pneumonia, diarrhoea, tetanus
 - Congenital conditions
 - Injuries
 - Other neonatal conditions (e.g. jaundice)
- Early (days 0-6) and late (days 7-27) neonatal periods

In the next 15 minutes...

1. Methods
and data inputs

2. Results

3. Improving the
data inputs



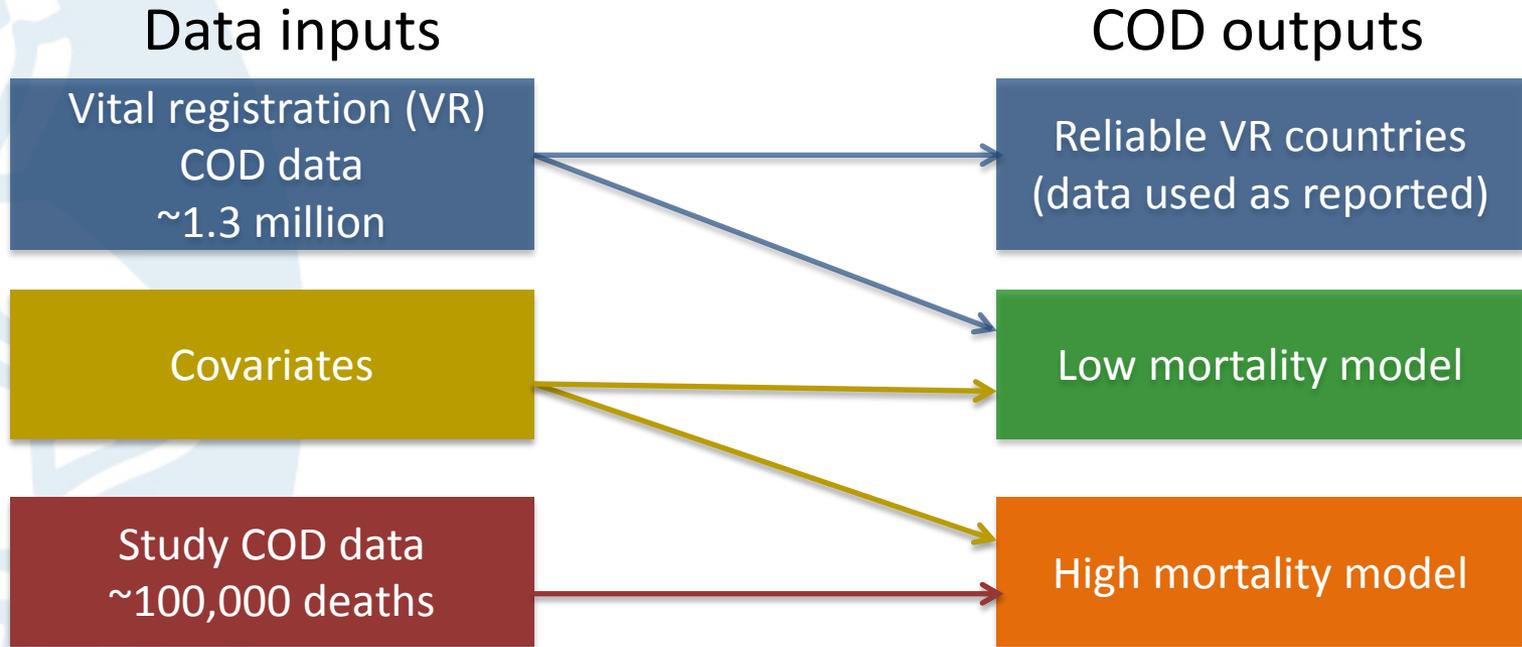


Methods and data inputs

Overview of methods

	Reliable vital reg. (VR)	Low mortality model	High mortality model
Data inputs	VR data by early/late 65 countries, 1.3 mil deaths	VR data by early/late 65 countries, 1.3 mil deaths	High mortality setting studies 112 inputs, 0.1 mil deaths
Model building		10 national-level covariates	11 local/national covariates
		Covariate selection for equations: jackknife out-of-sample method	
		Multinomial model	
Outputs		6 equation model (7 causes)	7 equation model (8 causes)
	Proportions by cause: directly from VR data	Proportions by cause: apply models to national-level covariates by year and country	
		# of deaths by cause: apply proportions to WHO neonatal envelopes by country and year	
Uncertainty	65 countries 0.1 million deaths in 2012	49 countries 0.3 million deaths in 2012	80 countries 2.5 million deaths in 2012
	Assume Poisson (SE = sq. root of # of deaths)	Bootstrap estimation method	

Data inputs: overview

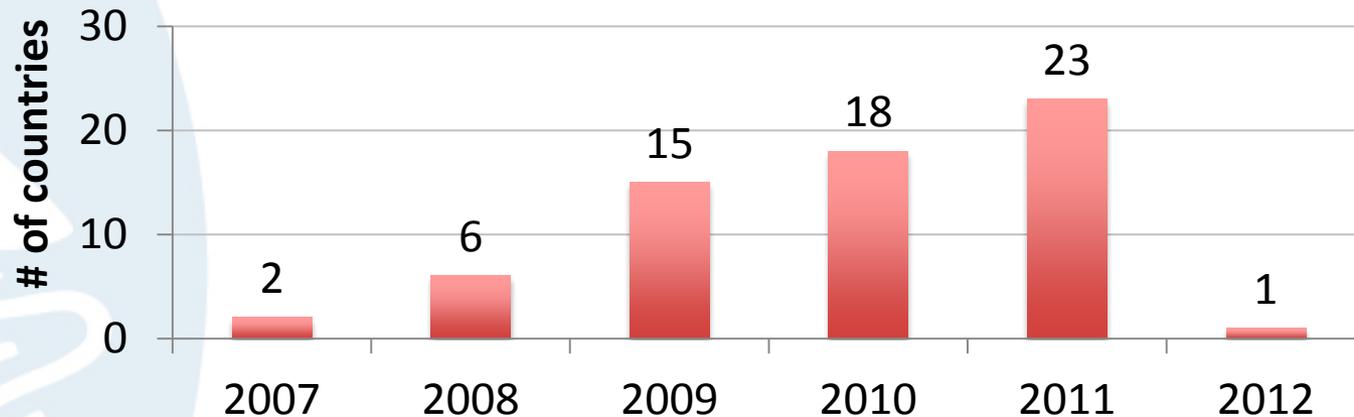


- **Garbage in, garbage out:** even clever modeling can't make up for poor input data quality

Data inputs: vital registration

- Timeliness: VR data release is faster than other sources

Latest year of VR input data by country



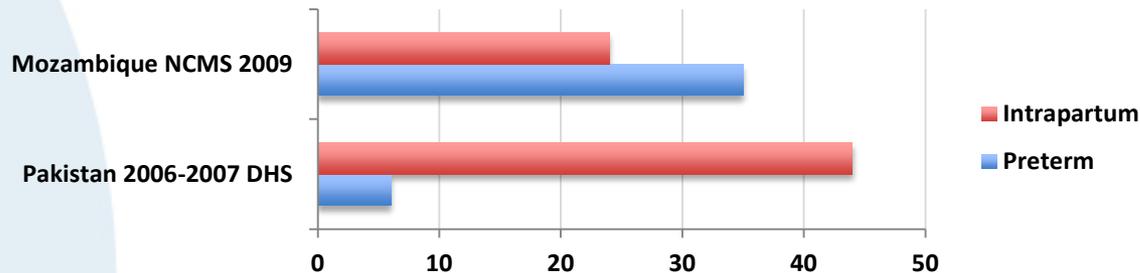
- Need data reported yearly by the early/late neonatal periods
 - e.g. Canada distribution is modeled because data not split by early/late
 - Some countries with several years of missing data
- Need consistent ICD coding within/across countries
 - e.g. fewer “garbage” codes

Data inputs: study data

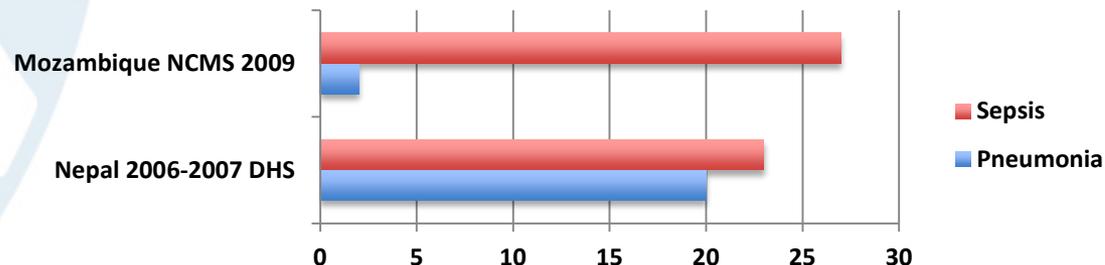
- Studies (community and facility) identified by:
 - Systematic lit searches through ~10 databases
 - DHS-based verbal autopsy studies
 - Research networks and colleagues
- Main reasons for exclusion:
 - Population not representative
 - Neonatal cause of death data
 - Not distinguished from child or perinatal
 - Too few causes of death (need at least 4)
 - Too many “unknown” or unclassified
- Challenge of finding local covariate information for study population

Data inputs: verbal autopsy issues

- Many community studies use verbal autopsy, but...
 - Causal hierarchies may be different (but are rarely specified)



- Some causes difficult to distinguish clinically (e.g. sepsis/pneumonia)



- Some causes challenging to identify without diagnosis (e.g. cardiac congenital abnormalities)

Data inputs: covariates

- Covariates used: NMR, IMR, U5MR, ANC, BCG, PAB, DPT, SBA, LBW rate, GFR, female literacy, GNI, gini coefficient
Key sources: World Bank, WHO, UNICEF, IGME
- Limited to covariates with good national time series
 - e.g. could not include place of death, c-section rates...
- Missing data within time series
 - How to best impute missing information?
 - Smooth covariate time series?
- Need consistent definitions for covariates
 - e.g. several operational definitions of skilled birth attendance



A photograph of a woman lying in a hospital bed, holding a newborn baby. The woman is wearing a colorful patterned top and has an IV drip on her left hand. The baby is wrapped in a white blanket. The background shows other hospital beds and a green blanket.

Results

Embargoed

More details in upcoming paper...

More cause-specific results (proportions, risk, numbers) for

- Timing – neonatal period
- Geography – regional and country variation (194 countries)
- Mortality level – NMR level
- Year – from 2000 to 2012

- Methodological details (model coefficients, ICD to cause category mapping, VR and study input data details, comparison to previous estimates,...)
- Data gap priorities by geography

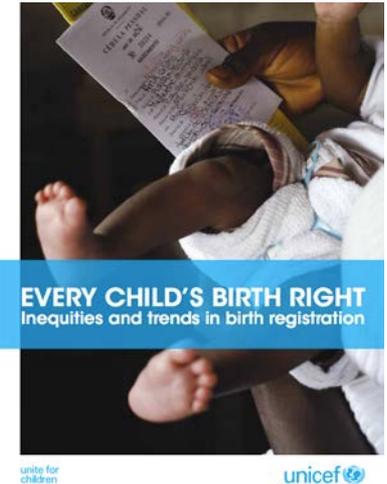


A newborn baby is wrapped in a white blanket, lying in a hospital bed. A woman's hands are visible, holding the baby. The background shows a hospital setting with a patterned blanket and a green hospital gown. A semi-transparent dark blue rectangle is overlaid on the image, containing the text.

Improving the input data

Next phase: what we want

- Counting neonatal deaths and stillbirths, especially in VR
- Improved neonatal cause-of-death data
 - Improved coverage and quality of VR data
 - VA studies with standardized protocols/hierarchies
- Time series data for more covariates
 - e.g. facility delivery, c-section rates, cord care, KMC, antenatal steroids, antibiotic treatment of suspected infections
 - Quality of care metrics (e.g. rapid increase in facility deliveries – but if low quality, may not have predicted effect)
- Sub-national covariates (esp for large countries)
- Improved modeling methods especially



Embargoed: do not release

A woman with dark hair and a gentle smile is lying in a hospital bed. She is wearing a colorful patterned top. Her left arm is resting on her chest, holding a newborn baby wrapped in a white blanket. The baby's face is visible, and they appear to be sleeping. The woman's right hand is resting on the bed. A teal text box is overlaid on the image, containing the words "Thank you" in white. Another teal text box is in the bottom right corner, containing the word "questions?" in white.

Thank you

questions?

Neonatal cause of death

Country engagement

Kate Kerber

Indicators TWG
23 January 2014



UNIVERSITY of the
WESTERN CAPE



Save the Children

CHERG

Country engagement in cause of death estimates

Rationale

- Increase ownership and use of results
- Raise awareness of programmatically-relevant, population-based cause of death categories, *especially first month of life*
- Develop subnational estimates
- Expand data reach, e.g. access to unpublished VA or mortality audit data, local population/coverage data for model covariates

Process

- Convene stakeholder group
- Review, reanalyse existing data
- Build and test model, including subnational
- Gain consensus around results and disseminate



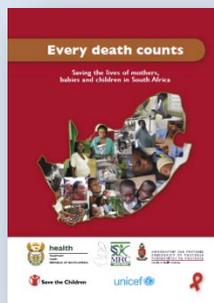
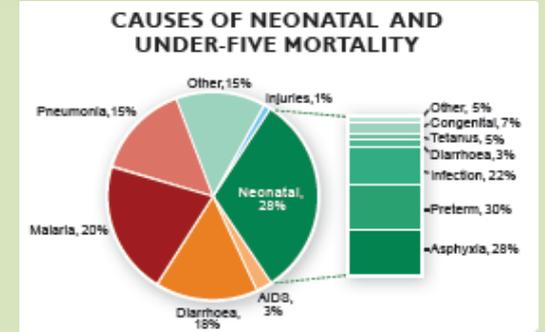
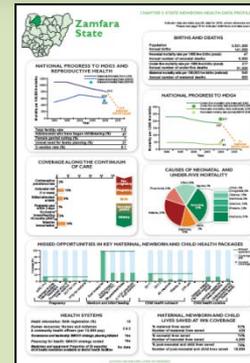
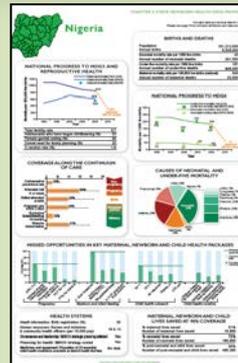
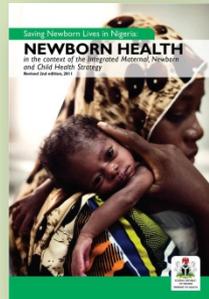
Causes of deaths in children younger than 5 years in China in 2008

Igor Rudan^a, Kit Yee Chan^a, Jian S F Zhang, Evropi Theodoratou, Xing Lin Feng, Joshua A Salomon, Joy E Lawn, Simon Cousens, Robert E Black, Yan Guot, Harry Campbell^t, on behalf of WHO/UNICEF's Child Health Epidemiology Reference Group (CHERG)



Causes of neonatal and child mortality in India: a nationally representative mortality survey

The Million Death Study Collaborators^{*}



South African child deaths 1990–2011: have HIV services reversed the trend enough to meet Millennium Development Goal 4?

Kate J. Kerber^{a,b,c}, Joy E. Lawn^{b,c,d}, Leigh F. Johnson^e, Mary Mahy^f, Rob E. Dorrington^g, Heston Phillips^h, Debbie Bradshawⁱ, Nadine Nannanⁱ, William Msemburiⁱ, Mikkel Z. Oestergaard^j, Neff P. Walker^k, David Sanders^a and Debra Jackson^a

Neonatal cause of death estimates: South Africa



- Multiple data sources: VR, VA, mortality audit (PPIP)
 - ▣ VR data reanalysed nationally and for 9 provinces, compared with early (PPIP) and late (VA) deaths and used in the CHERG/LSHTM model
- Conflicting NMR trend and numbers
 - ▣ National advocacy to agree on NMR trend and numbers of deaths, work with IGME to adjust AIDS deaths in NMR model
- Ministerial Committee has used results for priority setting, feeding into national post-MDG LiST/OHT analysis.

**WHO and PMNCH Consultation on
Improving Maternal, Newborn and Child
Quality of Care in Health Facilities
Dec 9-11 2013, Geneva**

Meeting Highlights
Newborn Indicators TWG Meeting
Washington D.C. Jan 23rd, 2014

Objectives of Global Consultation

- Share global and regional experiences in assessment and improvement of MNCH QoC in facilities.
- Review/agree on core and supplementary global indicators for monitoring and reporting on facility MNCH QoC
- Review assessment tools, methodologies and processes used in measuring quality of care in facilities.
- Agree on a framework for reporting on quality of care for maternal, newborn and child health.
- Discuss opportunities and future collaboration in the area of maternal, newborn and child quality of care improvement.

Agenda Highlights

Overview :

- Overview & context of measuring quality of care
- Global situation analysis: MNCH QoC assessments

MNC QoC facility assessments in countries: experiences

- Assessment of quality of MNC services in facilities- Bangladesh's experience
- Assessing and improving care of seriously ill child hospital care– Kenya's experience
- Assessing/improving quality of MNC care in WHO European Region
- Using a standards-based approach to promote best practices in MNC care
- Service Availability and Readiness Assessment (SARA): overview of survey methodology and selected results

Development and use of QoC indicators

- National Core Standards to improve quality and safety of care (South Africa).
- RMNCH indicator development: Harmonized Reproductive Health Registry Initiative
- QUALMAT methods and experiences in measuring quality of maternal and newborn care
- Developing global QoC indicators – the road so far

Agenda Highlights (cont'd)

Experience of using data to improve MNCH quality of care

- Using data in real time to improve MNCH care
- Ending preventable maternal deaths through Maternal Deaths Surveillance and Response
- Improving QoC through death reviews: a decade of Child PIP in South Africa
- Strategies to improve health care provider performance

Experience in addressing gaps in MNC quality of care

- Mother friendly health facility initiative
- Quality of care improvement process in selected African and Central Asian hospitals
- Addressing gaps in QoC
- Safe Childbirth Checklist (SCC) Collaborative

Participants

- Total of 70 participants
 - Regional and country experts
 - Representatives of professional organizations and non-governmental organizations working on quality of care issues
 - Participants from bilateral and multilateral agencies

Process of Indicator Selection

- Participants divided into three groups – maternal, newborn and child
- Each group asked to define five core indicators: “must have” indicators which should be reported in all countries.
- Each group reviewed list of 13 core indicators developed through previous work and additional 43 indicators related to pregnancy, childbirth, postnatal, neonatal and child health.
- Each group generated a list of optional supplementary “good to have” and “cross-cutting” indicators.
- Core indicators generated by each group then discussed and debated by all participants

Criteria for Indicator Selection

- **Action Focused**: “It is **clear what needs to be done** to improve outcomes associated with this indicator (e.g., immunise to reduce neonatal tetanus)”
- **Important**: “The indicator and the data generated will make a **relevant and significant contribution** to determining how to effectively respond to the problem”
- **Operational**: “The indicator is quantifiable; **definitions are precise** and reference standards are developed and tested or it is feasible to do so”
- **Feasible**: “It is **feasible to collect data** required for indicator in the relevant setting”
- **Simple and valued**: “The people involved in the service can **understand and value** the indicator”

Source: Harmonised Reproductive Health Registries (hRHR); Norwegian Institute of Public Health

Maternal Core Indicators

Proportion of women who had blood pressure measured at the last antenatal visit

Proportion of women with severe preeclampsia and eclampsia treated with magnesium sulphate injection

Proportion of women receiving oxytocin immediately after birth of baby

Proportion of women with prolonged labour

Intrapartum stillbirth rate

Proportion of women with severe systemic infection/sepsis in post partum period, including readmissions

Newborn Core Indicators

Proportion of health facilities with maternity services that have functional bag & masks (2 neonatal mask sizes) in the delivery areas

Proportion of newborns who received all four elements of essential newborn care:

- immediate and thorough drying
- immediate skin-to-skin contact
- delayed cord clamping
- initiation of breastfeeding in the first hour

Proportion of health facilities where Kangaroo Mother Care is operational, by level of facility

Facility neonatal mortality rate disaggregated by birth weight: >4000 g, 2500-3999 g, 2000-2499 g, 1500-1999 g, < 1500 g

Proportion of health facilities offering maternity services that have BFHI certification and recertification not older than two years

Child Core Indicators

Proportion of children who are correctly prescribed an antibiotic for pneumonia

Proportion of children needing referral who receive correct pre-referral treatment and referral

Proportion of children with Severe Acute Malnutrition (SAM) who are correctly prescribed therapeutic feeding

Hospitalized under-5 death rate

Cross-cutting Indicators

Proportion of health facilities that had a stock out of essential life savings medicines (oxytocin, magnesium sulphate, dexamethasone, vaccines, oral rehydration salt (ORS), zinc, oral amoxicillin, injectable gentamicin, (MRDT/antimalarial and ARVs context specific) in a specified period of time

Proportion of maternal, perinatal and child deaths occurring in the facility that were audited

Proportion of health facilities with availability of soap, running water or alcohol based rub in labour and childbirth, neonatal and paediatric wards

Proportion of health facilities with safe uninterrupted oxygen supply in the childbirth, neonatal and paediatric wards

Optional indicators

MOTHER

- 1 Proportion women who have had antenatal care diagnosed with severe anaemia on admission in labour

NEWBORN

- 1 Proportion facilities with established mechanism to continuously measure and improve quality of care
- 2 Completeness of relevant clinical information in patient charts
- 3 Proportion health facilities providing hospital care for neonates able to provide phototherapy
- 4 Proportion of hospitalized newborn infants who present with low body temperature (<36.5 °C) at admission to a neonatal ward or neonatal intensive care unit after referral

CHILD

- 1 Proportion of health facilities that have facility based child health record systems
- 2 Proportion of children whose nutritional status is correctly assessed
- 3 Hospital death rates within 24hours of admission

CROSS-CUTTING GENERAL

- 1 Proportion of health facilities that have facility based health record systems
- 2 Proportion of days without electricity
- 3 Proportion health facilities w/ functional mechanism to measure client satisfaction (national)
- 4 Level of client satisfaction 0% – 100% (local)
- 5 Proportion health facilities providing in-patient care for neonates, which are able to perform standard blood laboratory tests on micro-samples

Conclusions & Next Steps

- Meeting culminated in proposed set of global core indicators for measuring and reporting MNCH QoC, including required tools, methods and processes to measure them.
- Global core quality indicators intended to complement coverage indicators as QoC markers for comparison within & across countries, and to flag at higher level importance of monitoring and improving quality of MNCH care
- Participant agreement on need for parallel discussion on district and facility indicators that can support real-time improvement and decision-making (*“different information needed by different stakeholders for different purposes”*)
- Lots of feedback being collected on indicators...*stay tuned*
- Next steps.....

Thank You

Kangaroo Mother Care Acceleration

Bina Valsangkar

Saving Newborn Lives/Save the Children

Kangaroo Mother Care Acceleration--WHAT

- **Purpose:** To accelerate effective implementation of KMC globally within RMNCH programming
- **Goal:** 50% of eligible newborns receiving KMC by 2020
- **Key areas of work**
 - Increasing effective coverage
 - Developing a research agenda
 - Exploring the role of community KMC
 - Better defining KMC
 - KMC accelerated as a facility-initiated intervention for preterm and LBW babies

Kangaroo Mother Care Acceleration—WHY

- Implementation of effective KMC has not kept pace with the robust evidence for its use
- Issues with translating research findings into effective programs and results
- Momentum

Kangaroo Mother Care Acceleration--WHO

- **Istanbul Convening hosts:** Bill and Melinda Gates Foundation, Save the Children
- **KMC Acceleration Core Group and Partnership:** membership from WHO, MCHIP, UNICEF, academics, Kangaroo Foundation, AAP, ACNM
- **Country Partners:** MOH/govt SCI, academics, NGOs

Kangaroo Mother Care Acceleration--HOW

- **Country-level Activity**
 - Mapping country-level activity, prioritization
 - Malawi example
 - Mobilizing funding
 - Indicators and measurement
 - Effective coverage
 - Signal countries
- **Global-level Activity**
 - Driving a research agenda
 - Advocacy
 - WHO and professional body guidelines/statements of support

What is a country scorecard?

- A list of 15-20 HMIS indicators selected by a country that tracks progress at a regional (or district) level; helps district health officers inform programming on a quarterly or semi-annual basis
- Fully owned, updated and tracked by the MoH; **they are not updated or evaluated by an external group of partners.** This is what sets them apart from other scorecards, like CARMMA scorecards, which are created and tracked by an external group, and that compare countries, annually, based on the same set of large-scale indicators.

How are indicators chosen for a scorecard?

- General agreement among partners (WHO, UNICEF, USAID, ALMA) that an analysis to identify the highest impact interventions should be done in-country to develop the *scorecard*
- Thus, the 15-20 score card indicators represent relevant high impact interventions selected through an analytic process using tools like the *Lives Saved Tool (LiST)*.
- A country determines how it's progressing in each area by assigning each county/ district the color red, yellow, or green based on performance related to each indicator. Each country determines what will be its country-specific thresholds for red, yellow, green. And, as time progresses, a country can add or remove an indicator as it sees fit. The cards are meant to be fluid, changing with country priorities and programming.

What role do partners play?

- 100% country owned and driven:
 - MOH is keeper of the score card. MOH provides a list of indicators that are already being tracked. Stakeholders and MOH narrow down from that list. New indicators, if needed, are inserted as “future wave” indicators.
 - Partners have stayed away from offering a suggested list of indicators. Partners can encourage certain indicators, based on LiST, other analyses, or indicators that align with high-level global initiatives.
- Roles/partner support:
 - LiST TA: USAID
 - Scorecard TA: ALMA (some exceptions). ALMA has experience with malaria scorecards. Countries requested ALMA to create an RMNCH scorecard.
 - Partners (WHO, UNICEF, USAID, Save the Children, World Vision, etc) have provided input in the selection of the indicators. They encourage the MoH to update the scorecard, hold quarterly (or semi-annual) indicator discussions, encourage the MoH to ensure the indicators in "future waves" are not forgotten, and to keep conversations focused on tracking country-specific high-impact interventions.

Which countries have scorecards so far?

How have they helped countries?

- Ethiopia, Nigeria, Liberia, Malawi, Sierra Leone, Senegal, and Mozambique all have scorecards that were developed with TA from ALMA.
- With the exception of Ethiopia, India, Bangladesh and Nigeria, the scorecards were just developed in the last quarter of 2013.
- Not all of these governments have released their scorecards for public or partner viewing. DRC, Bangladesh, Mozambique, and Uganda (and possibly Senegal) have prototypes that are in various states of updating and are not for large-scale distribution for the moment.
- Many countries are new to the scorecard process so we can't be certain yet how useful they're going to be.
- But countries appreciate having something so "personal" and flexible:
 - Liberia has met its child health MDG, so it has fewer child health indicators.
 - Malawi is proud of its Kangaroo Mother Care program and wanted that as its newborn indicator. Used it as an in-country advocacy or awareness tool - launched it on World Prematurity Day.
 - Some have said that the scorecard makes them actually look at and analyze the quarterly data that was being collected but never examined.
 - Some have said it has made them realize where they have extremely poor data or gaping data holes.

Summary

- The newborn and nutrition indicators are usually the weakest – and even when the indicator is there – the data is weak and unreliable
- Many of the newborn indicators in the current versions of the HMIS are out of date or inappropriate, e.g., PNC within 6 months in Nigeria in “Wave 1”.
- But “Wave 2” indicators are new and reflect countries’ plans for tracking more relevant indicators, e.g. PNC 24 hours in Nigeria in Wave 2 plans.
- The waves are designed as part of the recognition that the indicators in the scorecard in the first wave are not necessarily ideal and there is a potential for better indicators and data out there. As soon as an indicator is changed for example in the HMIS -or the data becomes available - the indicator moves into the next wave. In some countries – especially around PNC 48 hours – there was recognition that the indicator was not being collected and there is an urgent need to either change the policy and also the indicator. Waves are not all timed for the same time – so if data for newborn becomes available, it doesn’t have to wait for the second wave nutrition indicator, for example.

MNH Indicators in Score Cards

Country	FP	MNH*	NB	NB-CH	Wave 2	Wave 3
1	X	4				
2	X	6	LBW			
3	X	4	PNC <48hrs	EBF 6 mo ICCM		
4	X	3		BF<6 Mo	PNC <48hrs (facilities)	PNC<48 hrs (all)
5		4	PNC <48 hrs		Stillbirth	
6	X	8	Facilities w KMC		PNC <48 hrs, NBs rec KMC, Corticosteroid stockouts, NBs receiving resuscitation	
7		6	LBW		Facilities w KMC, Cord care, NB resuscitation equipment, NB receiving resuscitation	
8		4	Excl BF NBs rec NB care, Facilities w KMC		NBs receiving KMC	
9		4	Early BF		PNC 2 days, Neonatal institutional mortality	
10			Essential newborn care (KMC, HBB, sepsis mgt)			

* MNH indicators: numbers denote the number of indicators which include ANC, SBA, EmONC, facility delivery, PNC

Multiple Indicator Cluster Surveys: Postnatal Care Data

Attila Hancioglu
Data and Analytics Section
UNICEF

Newborn Indicators
Technical Working Group Meeting
Washington DC, 23-24 January 2014

Plan

- The MICS Post-natal Health Checks module, overview of data availability
- Results from 6 MICS4 surveys
- A more detailed look into the findings of Ghana MICS 2011
- PNHC data collection in MICS5 (2013-2015)

MICS and PNHC

- The Post-Natal Health Checks (PNHC) module was added to the standard MICS questionnaires in 2011
- Mainly used by countries/surveys that joined the program towards the end of MICS4 (2009-2012)
- Included in 14 MICS4 surveys (out of 60)

MICS4 Surveys with PNHC Module

Belarus*	Tunisia*
Moldova	Barbados
Ukraine	Belize*
Lao*	St. Lucia
Madagascar (South)*	Trinidad & Tobago
Algeria	Ghana*
Qatar	Ghana (Accra)*

* Final reports published and accessible at childinfo.org

POST-NATAL HEALTH CHECKS		PN
<p><i>This module is to be administered to all women with a live birth in the 2 years preceding the date of interview. Check child mortality module CMI3 and record name of last-born child here _____ Use this child's name in the following questions, where indicated.</i></p>		
<p>PN1. Check MN18: Was the child delivered in a health facility?</p> <p><input type="checkbox"/> Yes, the child was delivered in a health facility (MN18=21-26 or 31-36) ⇒ Continue with PN2</p> <p><input type="checkbox"/> No, the child was not delivered in a health facility (MN18=11-12 or 96) ⇒ Go to PN6</p>		
<p>PN2. NOW I WOULD LIKE TO ASK YOU SOME QUESTIONS ABOUT WHAT HAPPENED IN THE HOURS AND DAYS AFTER THE BIRTH OF (name).</p> <p>YOU HAVE SAID THAT YOU GAVE BIRTH IN (name or type of facility in MN18). HOW LONG DID YOU STAY THERE AFTER THE DELIVERY?</p> <p><i>If less than one day, record hours. If less than one week, record days. Otherwise, record weeks.</i></p>	<p>Hours 1 ___</p> <p>Days 2 ___</p> <p>Weeks 3 ___</p> <p>Don't know / remember 998</p>	
<p>PN3. I WOULD LIKE TO TALK TO YOU ABOUT CHECKS ON (name)'S HEALTH AFTER DELIVERY – FOR EXAMPLE, SOMEONE EXAMINING (name), CHECKING THE CORD, OR SEEING IF (name) IS OK.</p> <p>BEFORE YOU LEFT THE (name or type of facility in MN18), DID ANYONE CHECK ON (name)'S HEALTH?</p>	<p>Yes 1</p> <p>No 2</p>	
<p>PN4. AND WHAT ABOUT CHECKS ON YOUR HEALTH – I MEAN, SOMEONE ASSESSING YOUR HEALTH, FOR EXAMPLE ASKING QUESTIONS ABOUT YOUR HEALTH OR EXAMINING YOU.</p> <p>DID ANYONE CHECK ON YOUR HEALTH BEFORE YOU LEFT (name or type of facility in MN18)?</p>	<p>Yes 1</p> <p>No 2</p>	
<p>PN5. NOW I WOULD LIKE TO TALK TO YOU ABOUT WHAT HAPPENED AFTER YOU LEFT (name or type of facility in MN18).</p>	<p>Yes 1</p> <p>No 2</p>	<p>1 ⇒ PN11</p> <p>2 ⇒ PN16</p>

The PNHC Module

- For all deliveries:
 - In addition to health checks while in facility or before birth attendant leaves, collects data on postnatal care “visits”
 - Contact with a provider after discharge (for facility deliveries)
 - Contact with a provider after TBA/birth attendant leaves home (for home deliveries)
- Also collects information on the timing of PNC visits, as well as providers

The PNHC Module

- The key MICS indicator, Postnatal health checks within two days of birth covers
 - Any health check after delivery (while in facility or at home) or
 - PNC visit within two days of delivery, regardless of location of the check
- Long and complex module, need to ask separate questions that take into account
 - Place of delivery, birth attendant, before/after discharge, before/after birth attendant leaves home, timing of visits,
 - for newborns and mothers
 - covering last births of women age 15-49 in the last two years

Duration of stay in health facility

	Facility Births (%)	Post-partum duration of stay in facility (%)					More than 12 hours (%)
		Less than 6 hours	6-11 hours	12-23 hours	1-2 days	3 days or more	
Lao	38	26	8	4	44	17	65
Madagascar (South)	24	5	3	0	44	48	92
Tunisia	99	0	1	2	76	21	99
Belize	94	5	3	1	66	25	92
Ghana	67	10	16	9	42	23	74
Ghana (Accra)	97	5	8	8	51	27	87

Post-natal health checks (newborn)

Newborns	Health checks after delivery (%)	PNC Visits (%)				Post-natal Health Check (%)
		Within 2 days	2-6 days	After the first week	No PNC Visit	
Lao	40	7	2	2	88	41
Madagascar (South)	64	12	9	6	73	65
Tunisia	98	4	14	44	37	98
Belize	97	18	10	28	41	97
Ghana	81	13	7	21	59	83
Ghana (Accra)	93	16	13	42	28	94

Post-natal health checks (mothers)

Mothers	Health checks after delivery (%)	PNC Visits (%)				Post-natal Health Check (%)
		Within 2 days	2-6 days	After the first week	No PNC Visit	
Lao	39	3	2	2	93	40
Madagascar (South)	62	9	7	5	78	62
Tunisia	92	1	11	18	70	92
Belize	94	11	5	19	64	95
Ghana	81	8	5	13	75	83
Ghana (Accra)	91	11	8	42	36	91

Notes in the results

- Health checks while in facility or before attendant leaves home drives the indicator
- Most of the PNC is through thee checks – large proportions of newborns and mothers receive no PNC visit
- Similar patterns for newborns and mothers, but newborns are more likely to receive PNC visits

Provider table here

Newborns	PNC visits within the first week after delivery			
	% Distribution by Location		% Distribution by Provider	
	Home	Facility	Skilled	TBA
Lao	46	54	88	12
Madagascar (South)	75	25	40	60
Tunisia	2	98	100	0
Belize	10	90	97	3
Ghana	36	64	78	22

Mothers	PNC visits within the first week after delivery			
	% Distribution by Location		% Distribution by Provider	
	Home	Facility	Skilled	TBA
Lao	70	30	16	84
Madagascar (South)	86	14	31	69
Tunisia	13	87	100	0
Belize	98	2	96	4
Ghana	47	53	74	26

PNHC for newborns and mothers

	Post-natal Health Checks for:				Total
	Both Newborn and Mother	Only Mother	Only Newborn	Neither	
Lao	38	1	2	58	100
Madagascar (South)	60	2	4	34	100
Tunisia	91	0	7	1	100
Belize	93	1	3	2	100
Ghana	80	2	3	15	100
Ghana (Accra)	89	1	4	6	100

PNC Data from Ghana MICS 2011

- Ghana MICS 2011
- Place of delivery (Last births in last 2 years)
 - Facility births in Ghana: 67 percent
 - 74 percent stay in facility for more than 12 hours
 - 10 percent are discharged within 6 hours of delivery

Similar patterns for mothers, but mothers are less likely to receive a PNC visit

Priority receive a health check in facility
 Less for home
 Similar figures for newborns and mothers

21 percent receive a first PNC visit more than one week after delivery

Percent receive a PNC visit on the same day, or one or two days following delivery

	Health check after delivery	Same day	1-2 days following birth	3-6 days following birth	After first week following birth	Missing / Don't Know	Total	Global Indicator: PNHC	Number of last births in the 2 years prior to survey
Newborns									
Place of delivery									
Health facility	97.1	6.3	3.3	1.7	27.0	55.7	100.0	97.2	1434
Home	47.4	12.6	7.3	1.3	8.5	64.3	100.0	54.5	793
Total	80.9	8.5	4.5	1.6	5.0	21.0	100.0	83.3	2528
Mothers									
Place of delivery									
Health facility	97.5	3.2	1.4	0.9	16.7	73.4	100.0	97.5	1703
Home	47.3	7.9	4.9	0.9	4.3	78.4	100.0	51.6	793
Total	81.1	4.8	2.5	0.9	3.8	12.8	100.0	82.5	2528

PNC Data from Ghana MICS 2011

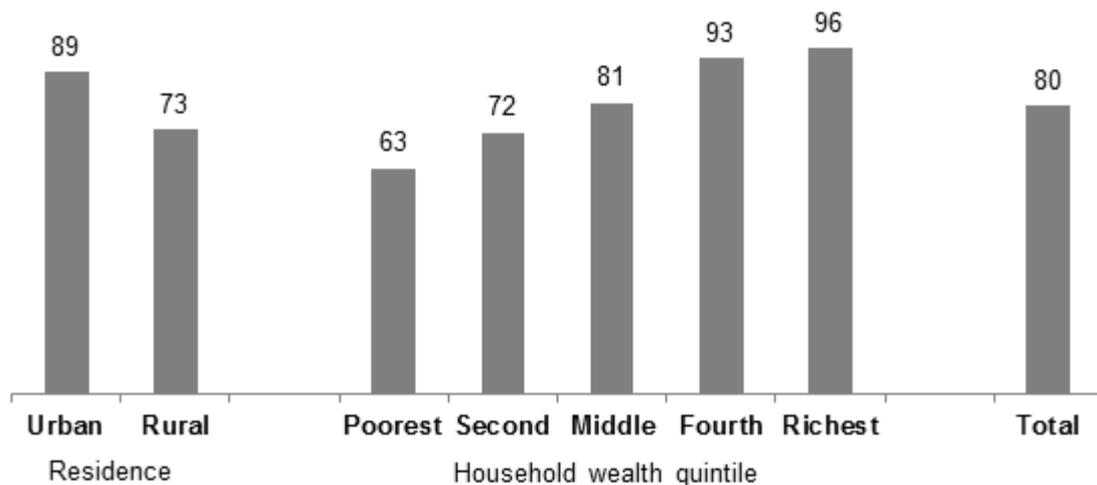
- Health checks performed universally in facilities, but PNC visits may not be performed at all, or may be performed quite late
- In the case of home deliveries, less than half of birth attendants perform health checks on mothers and newborns
- More PNC visits for newborns than mothers – both for home and facility deliveries

PNC Data from Ghana MICS 2011

		Location of first PNC visit					Provider of first PNC visit					
		Home	Public sector	Private sector	Other	Total	nurse/ midwife	Aux. Midwife	Community health worker	TBA	Total	
Majority of home deliveries receive PNC visits at home; more than half have PNC visits with a TBA						Very similar patterns for newborns and mothers					Number of newborns/mothers of last births in 2 years prior survey with a PNC visit within first week of life	
Facility deliveries return to a facility for a PNC visit (88 %) Almost all are seen by a doctor/midwife/nurse												
Newborns												
Place of delivery												
Home		68.4	31.5	0.1	0.0	100.0	38.3	1.7	7.6	52.4	100.0	210
Health facility		12.3	73.6	14.1	0.0	100.0	95.6	1.7	2.7	0.1	100.0	277
Total		36.1	55.5	7.9	0.4	100.0	70.8	1.7	5.0	22.5	100.0	495
Mothers												
Place of delivery												
Home		66.6	33.2	0.2	0.0	100.0	41.0	2.1	10.0	47.0	100.0	129
Health facility		17.2	71.0	11.8	0.0	100.0	95.5	1.7	1.6	1.1	100.0	146
Total		39.2	53.9	6.4	0.0	100.0	70.5	1.8	5.5	22.2	100.0	280

PNC Data from Ghana MICS 2011

Per cent of both mothers and newborns receiving a health check in the facility or at home, or a PNC visit within two days of birth



Possible to use MICS data to uncover differentials – for example:

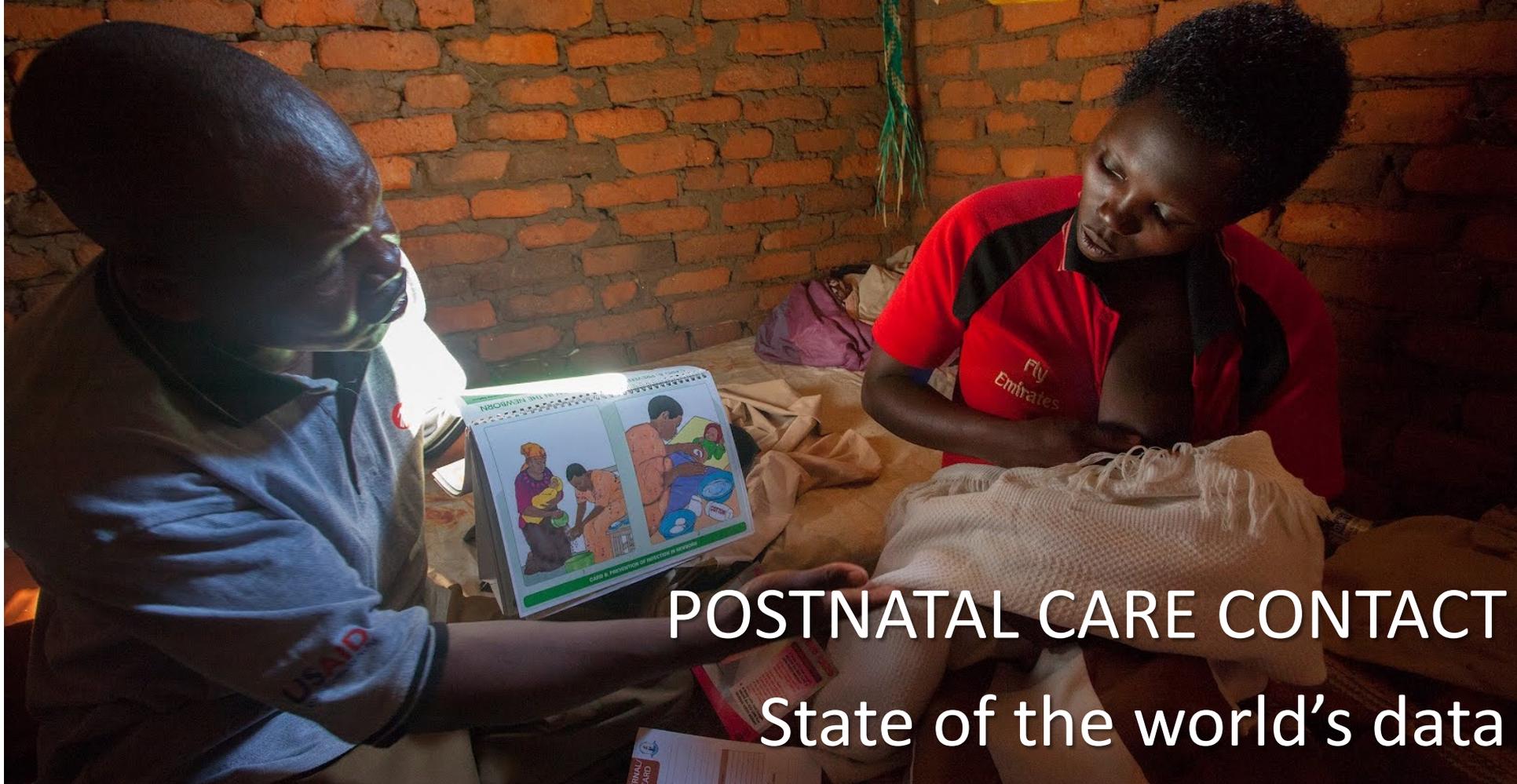
- 80 percent of both mothers and newborns receive PNHC
- Newborns in rural areas and poorest households lag behind, at 73 and 63 percent

MICS5 and PNHC Module

- 44 MICS surveys confirmed (2013-2015)
- Questionnaires currently available for 27 surveys – only one country has not included the PNHC module
- Most of the countries in Sub-Saharan Africa do not have final questionnaires at this point – however, safe to assume that the majority of these countries will include the module
- Together with MICS4 data, we could be looking at PNHC data for more than 50 countries by the end of 2015

MICS5 Surveys with PNHC Module

Kosovo	Kenya (West-North Rift Counties)	Panama
Kosovo (Roma)	Malawi	Benin
Kyrgyzstan	Zimbabwe	CAR
Moldova (Transnistria)	Egypt (Subnational)	Guinea Bissau
Montenegro	Oman	Sao Tome & Principe
Montenegro (Roma)	State of Palestine	
Mongolia	Pakistan (Punjab)	
Vietnam	Pakistan (Sindh)	
Bangladesh	Cuba	
Nepal	Guyana	



POSTNATAL CARE CONTACT

State of the world's data

Kate Kerber

Newborn Indicators Technical Working Group

January 2014



Save the Children®



PNC contact in household surveys and global tracking

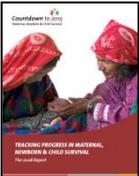
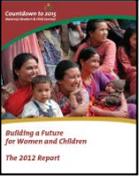
Postnatal care: % of mothers / % of newborns with first PNC contact within 2 days of birth

- Included in Countdown to 2015, COIA, many country scorecards
- Included in national surveys, but limited data, varying definitions
 - DHS: maternal PNC limited to home births before 2006; baby PNC for home births only from ~2006-2010
 - MICS: included in MICS4 in 2011 after question pretest including before/after discharge questions

Measuring Coverage in MNCH: Indicators for Global Tracking of Newborn Care

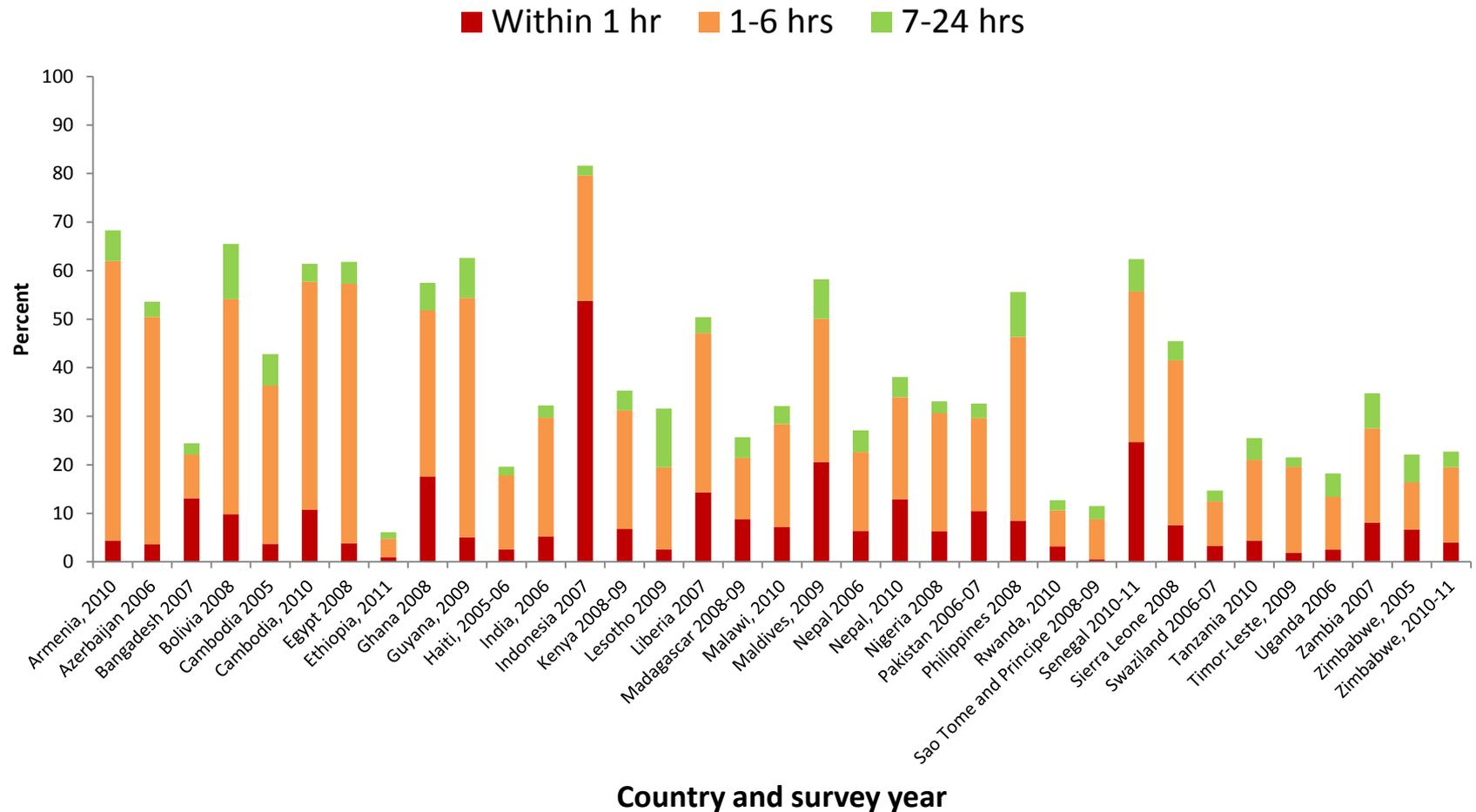
Allisyn C. Moran^{1*}, Kate Kerber^{2,3}, Deborah Sitrin¹, Tanya Guenther¹, Claudia S. Morrissey¹, Holly Newby⁴, Joy Fishel⁵, P. Stan Yoder⁵, Zelee Hill⁶, Joy E. Lawn²

History of PNC in Countdown

Year	Mother PNC contact	Baby PNC contact
2005 	All profiles read “no data”	No indicator included
2008 	11 countries	No indicator included
2010 	23 countries	4 countries
2012 	33 countries	11 countries
2014 	38 countries <i>Median PNC for mother: 44%</i>	17 countries <i>Median PNC for baby: 30%</i>

Timing of first PNC contact

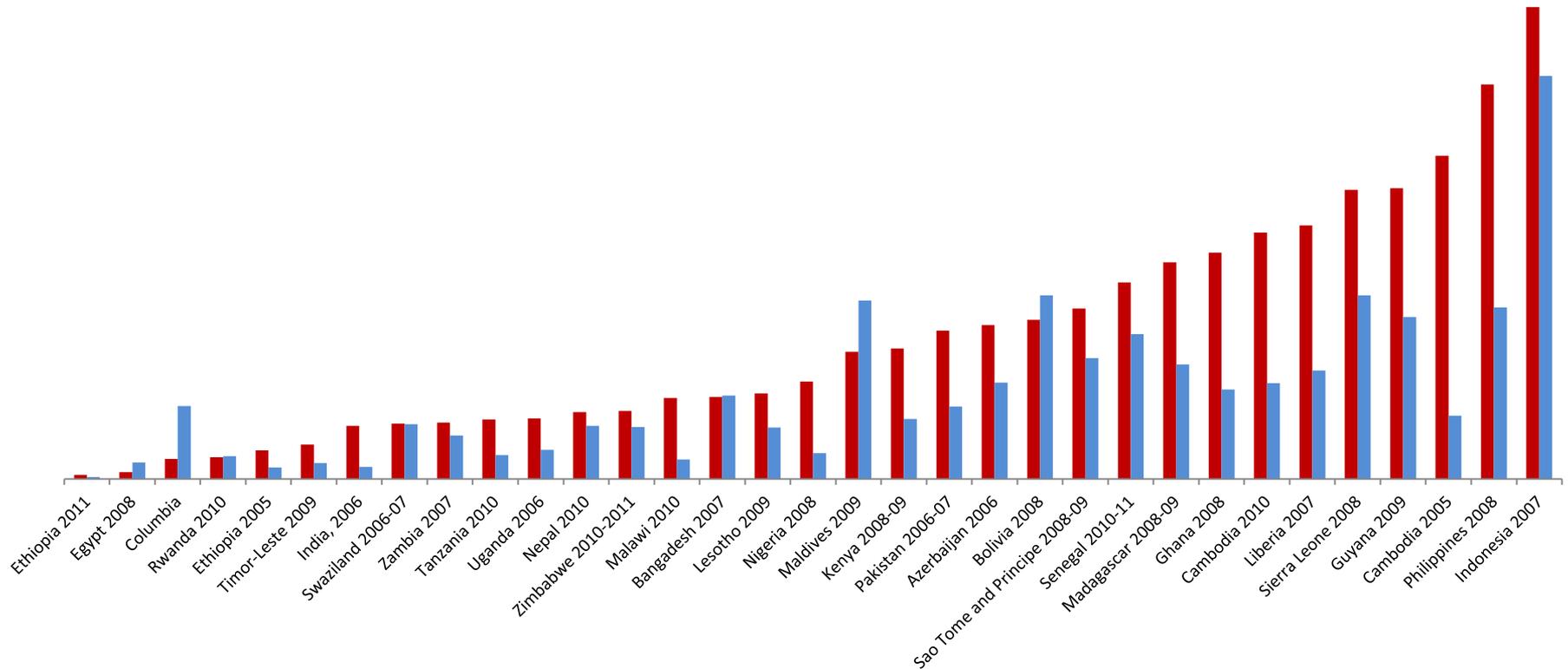
Percent of women who received PNC within 24 hours of delivery by time of first PNC contact, DHS data 2005-2011



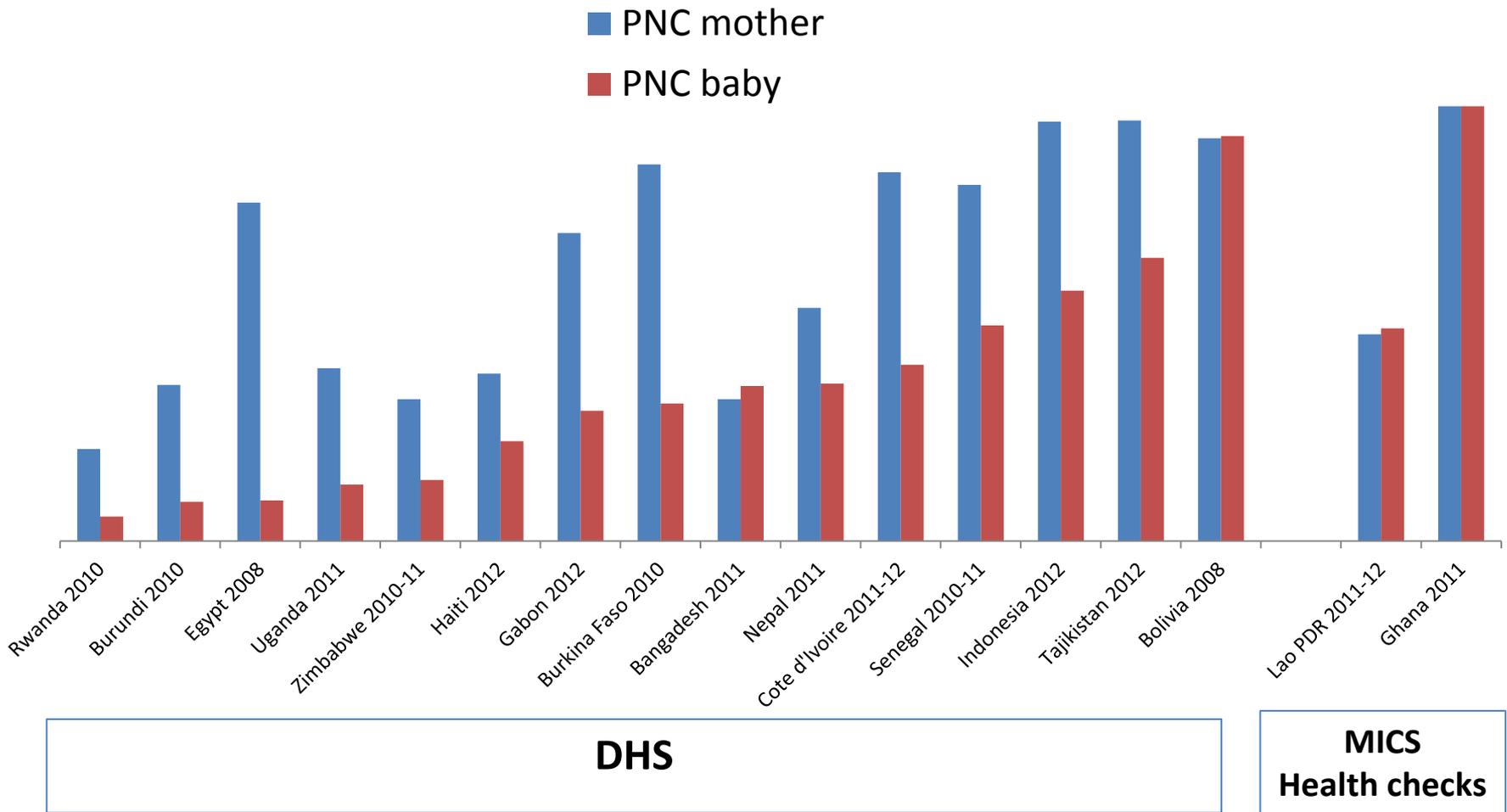
PNC for births that take place at home

Percent of *home births* for which women and newborns received PNC within two days of delivery, DHS data 2005-2011

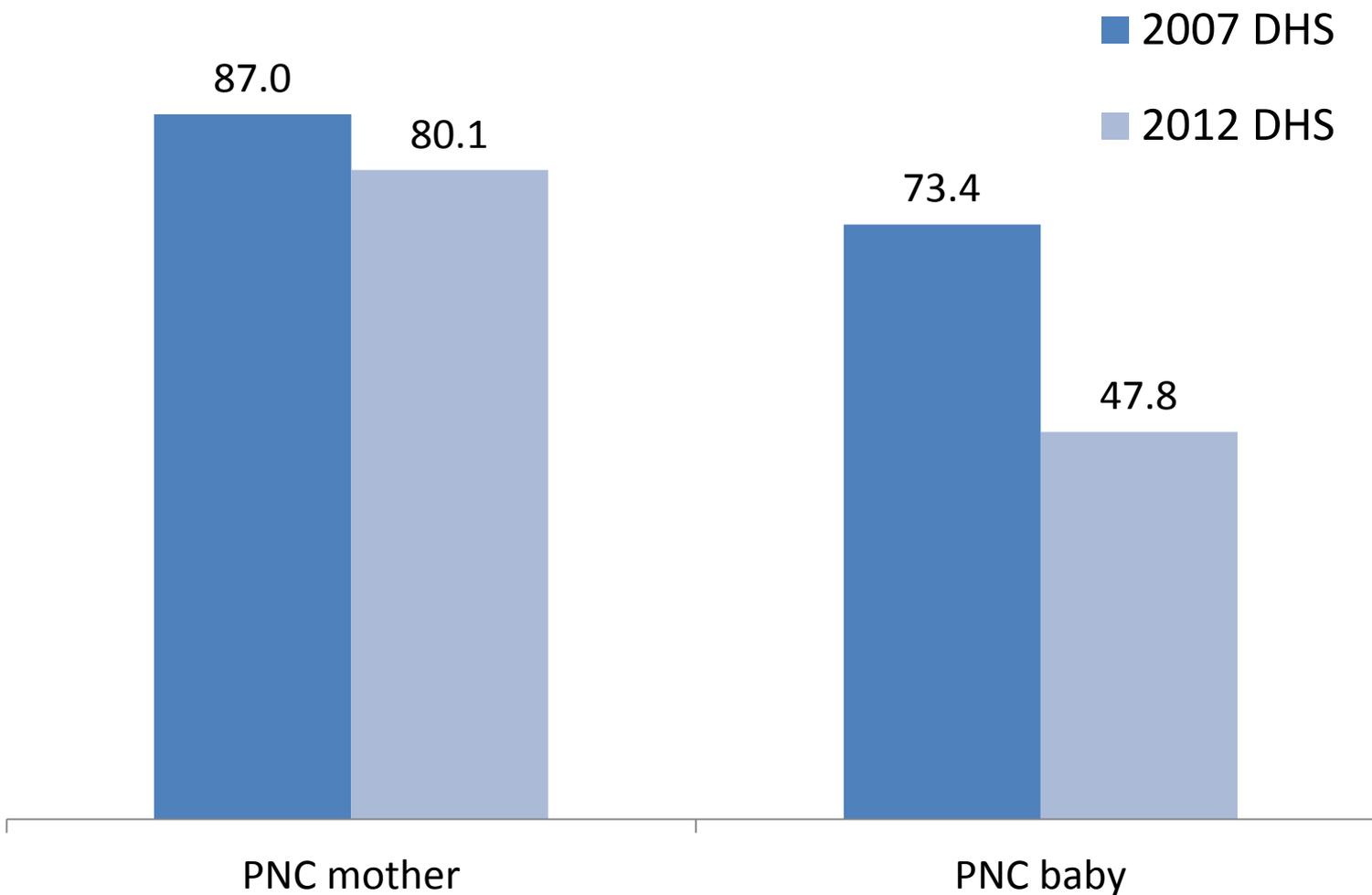
■ Woman ■ Newborn



Gaps between mother and baby PNC coverage is large in most DHS, small in MICS



Trends over time may be challenge even between the same type of survey, e.g. Indonesia





Way forward

Consensus

- Timing of visit ✓
- Denominator should be all births ✓
- Mother and baby data comparable ✓
- Place of check can vary ✓
- Provider does not need to be a health professional ✓
- PNC 'Prompts' ✓

Outstanding questions

- Number of visits?
- Content of care?
- Comparability between DHS and MICS?
- Better capture of PNC outside of household surveys?

Household surveys in Burkina Faso and Ethiopia: learning about recall

Melinda Munos

JHU

Research questions

- What can we learn about recall for newborn indicators from survey datasets?
 - Do point estimates for newborn indicators change significantly when the reference period is shortened?
 - Does the proportion of “don’t know” responses increase as the recall period increases?
 - Do certain sub-groups have higher proportions of “don’t know” responses?

Survey methods in Burkina and Ethiopia

	Burkina	Ethiopia
Survey area	Rural areas of 16 health districts in 5 regions	2 zones of Oromia region
Stratification	Districts	Woredas
PSUs		Census EAs
Sampling PSUs		PPS
Sampling SSUs		Systematic random sampling
Sample size (HHs)	18,000	12,000
Study population	Most recent live birth born to women aged 15-49 years	
Reference period for neonatal indicators	12-24 months	24 months
Year	2010-11	2013

Survey indicators

Indicator	Burkina	Ethiopia
Breastfeeding initiation	X	X
Colostrum	X	
Prelacteals	X	
Thermal care (drying, wrapping, delayed bathing)	X	X
Skin to skin care		X
Clean/dry cord care	X	X
PNC	X	X
Careseeking for sick newborns	X	X

Analysis

- Indicators were calculated using a “standard” 1-2 year reference period, then re-estimated by restricting the sample to women with < 1 month recall (2-3 month recall for careseeking)
- Assessed recall period and background variables as determinants of “don’t know” responses using Poisson regression models with robust error estimation
- All data are weighted, and Taylor linearization used to estimate standard errors

RESULTS

Characteristics of study populations

	Burkina Faso			Ethiopia		
	Number	Percent	95%CI	Number	Percent	95% CI
Maternal education						
Any	521	6.6	[5.9,7.4]	740	21.2	[19.0,23.6]
None	7,356	93.4	[92.6,94.1]	2,750	78.8	[76.5,81.0]
Mean number live births		4.0	[4.0, 4.1]	4.1	[4.0,4.2]	
Mean maternal age (years)		28.1	[27.9,28.2]	27.8	[27.5,28.1]	
Place of delivery						
Home or community	2,163	27.5	[25.1,30.0]	3,302	94.6	[92.7,96.1]
En route to health facility	82	1	[0.8,1.3]	-	-	-
Hospital	298	3.8	[3.0,4.7]	69	2	[1.3,2.9]
Govt/private health center	5,317	67.5	[64.8,70.0]	107	3.1	[2.1,4.4]
Health post	-	-	-	10	0.3	[0.1,0.6]
Total	7,878	100		3,490	100	

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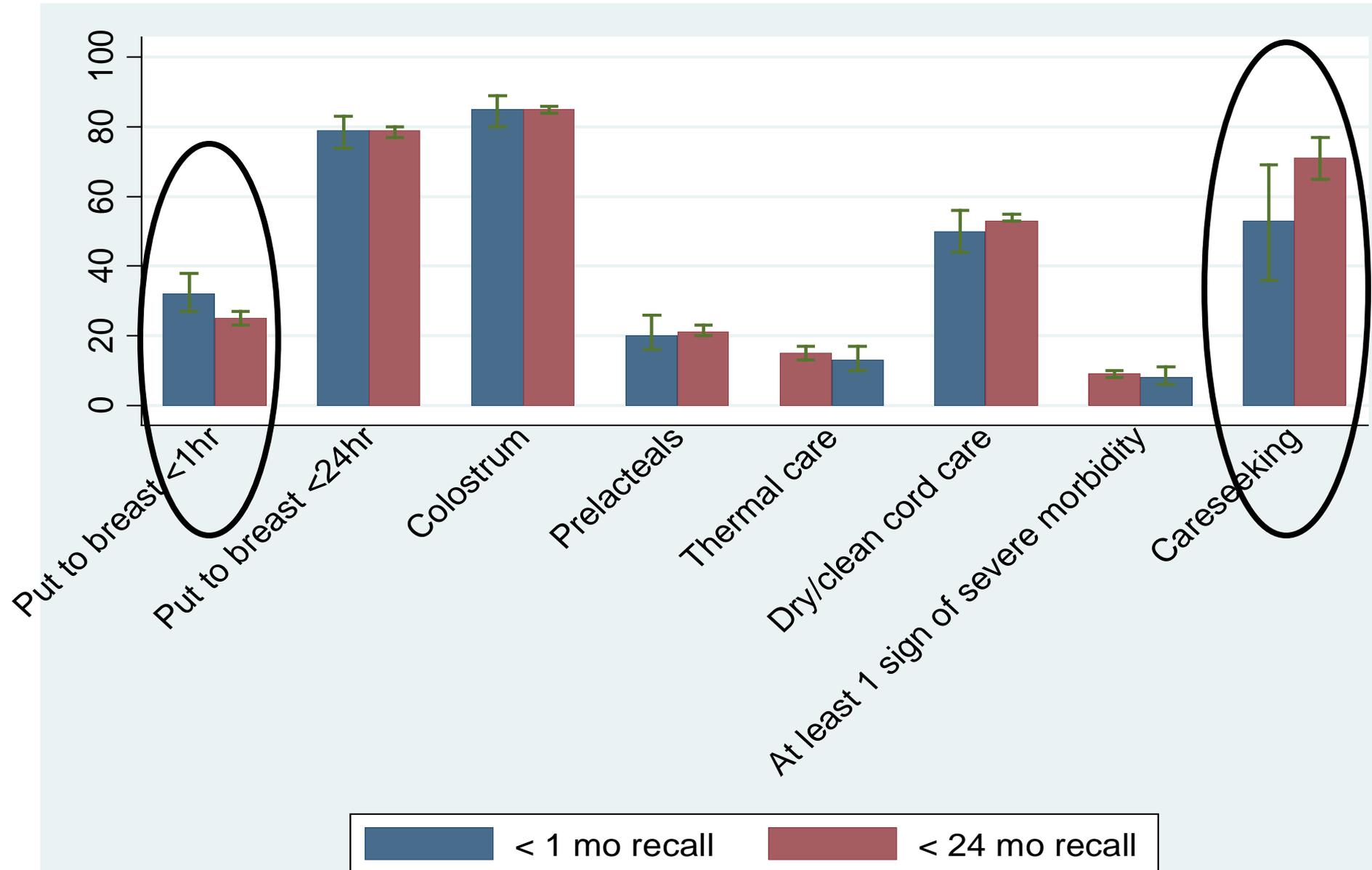
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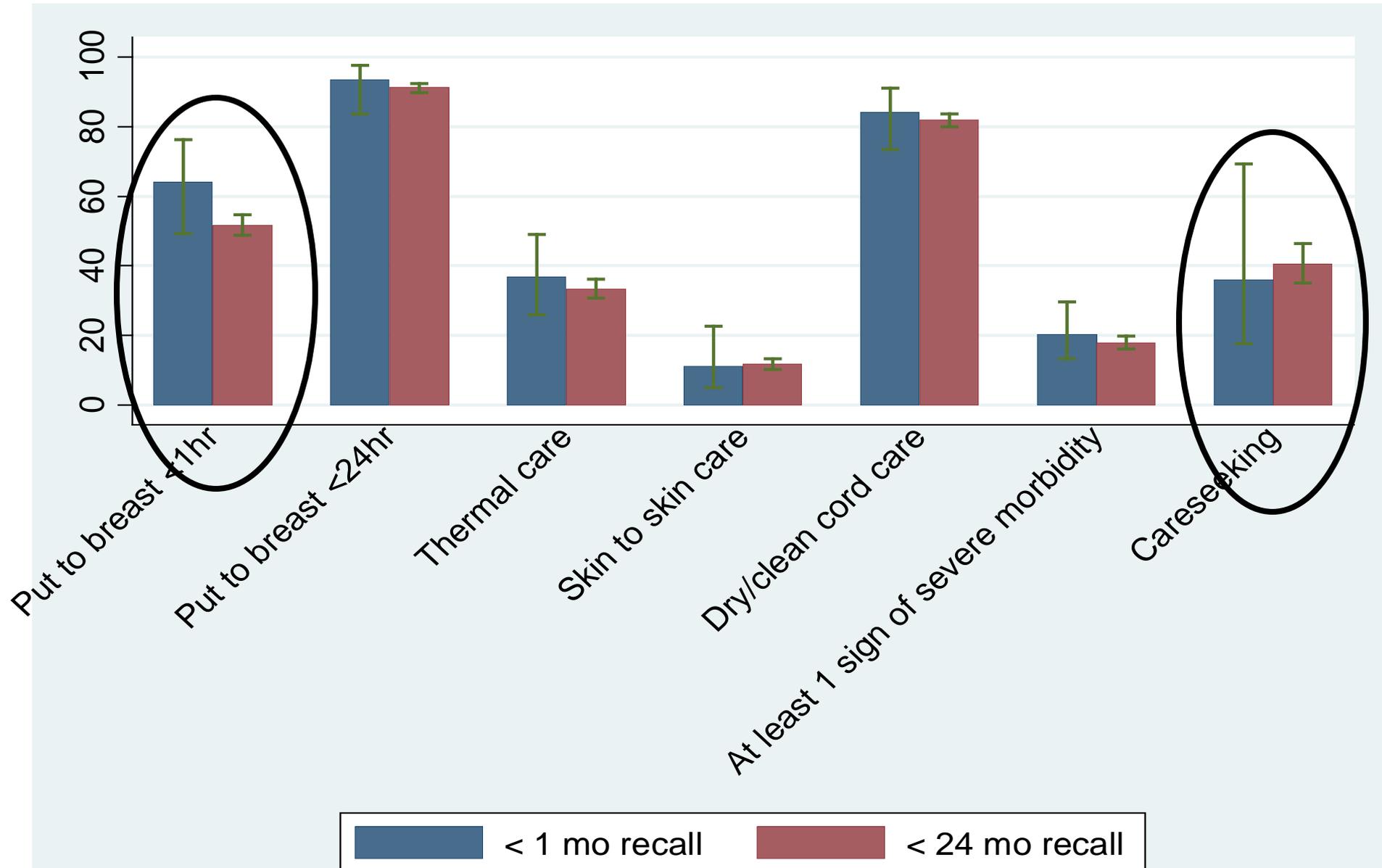
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Comparing reference periods - Burkina



Comparing reference periods - Ethiopia



“Don’t know” responses

	Burkina Faso	Ethiopia
Indicator	Percent “don’t know”	Percent “don’t know”
Breastfeeding initiation	2.6	6.8
Colostrum	0.2	-
Prelacteals	0.1	-
Drying	14.0	4.3
Wrapping	11.2	3.0
Delayed bathing	4.3	11.5
Cord applications	12.0	4.4
Careseeking for newborns with signs of severe disease	1.1	0.2

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Determinants of “don’t know” responses

- Length of recall not associated with “don’t know” responses for any neonatal coverage indicator in Ethiopia
- In Burkina, women with longer recall periods were slightly more likely to have “don’t know” responses for careseeking and wrapping
- In Ethiopia, women who delivered at a facility or attended ANC were less likely to have “don’t know” responses
- In Burkina, traditional religion was associated with a higher proportion of “don’t know” responses

Conclusions and implications

- This is a simple analysis – would be great to do it with datasets from other settings
- Restricting the sample to women with recall < 1 month did not significantly change point estimates for most indicators (and greatly reduced the precision)
 - Exceptions: breastfeeding within 1 hour of birth, careseeking
- For most indicators, longer recall period did not increase the proportion of “don’t know” responses
- These results would seem to justify a longer (1-2 year) reference period for newborn care indicators measured in household surveys
 - validation studies are needed to assess whether women are able to accurately answer these questions

Funding

The Bill and Melinda Gates Foundation

UNICEF/New York

UNICEF/Burkina Faso

U.S. Fund for UNICEF through the Lives Saved Tool

THANK YOU

Comparing reference periods - Burkina

	Recall < 1 month		All live births	
	Percent	95% CI	Percent	95% CI
Newborn care practices				
Put to breast <1hr after birth	32.4	[27.2-38.1]	24.8	[23.2-26.5]
Put to breast <24 hrs after birth	78.7	[73.9-82.7]	78.6	[77.3-79.9]
Received colostrum	84.9	[80.4-88.5]	84.9	[83.5-86.3]
Thermal care	12.7	[9.6-16.7]	14.9	[13.4-16.5]
Dry/clean cord care	49.9	[43.5-56.3]	52.8	[50.4-55.2]
Morbidity				
At least one sign of very severe disease (VSD)	8.1	[5.9-11.1]	8.6	[7.6-9.6]
Careseeking				
Care-seeking from formal sector for newborns with VSD*	52.7	[36.0-68.8]	71.4	[65.3-76.7]

*2 mo recall

Comparing reference periods - Ethiopia

	Recall < 1 mo		Recall < 2 yrs	
	Percent	95% CI	Percent	95% CI
Newborn care practices				
Put to breast < 1 hr after birth	64	[49.3-76.4]	51.6	[48.6-54.6]
Put to breast < 24 hrs after birth	93.5	[83.7-97.6]	91.3	[89.9-92.5]
Received skin to skin care	11	[5.0-22.7]	11.7	[10.2-13.3]
Thermal care	36.7	[25.9-49.0]	33.4	[30.6-36.2]
New/boiled instrument used to cut cord	94.7	[85.5-98.2]	93.8	[92.2-95.0]
Dry/clean cord care	84.2	[73.4-91.1]	82	[80.1-83.8]
Morbidity				
At least one sign of very severe disease (VSD)*	20.2	[13.3-29.6]	17.8	[16.1-19.7]
Careseeking				
Any care sought for newborns with VSD*	35.9	[17.7-59.3]	40.6	[35.0-46.5]

*3 mo recall

Effect of number of months of recall - Burkina

	RR	95% CI
Newborn care practices		
Breastfeeding initiation within 1 hour of birth	1.00	[0.99 - 1.00]
Breastfeeding initiation within 24 hours of birth	1.00	[1.00 - 1.00]
Received colostrum	1.00	[1.00 - 1.00]
Received prelacteals	1.00	[0.99 - 1.01]
Dried within 5 minutes of birth	1.00	[0.99 - 1.01]
Wrapped within 5 minutes of birth	1.01	[0.99 - 1.03]
Delayed bathing	0.99	[0.98 - 1.00]
Thermal care (all 3 practices)	0.98	[0.95 - 1.02]
Dry cord care or antiseptic or alcohol only	1.01	[1.00 - 1.02]
Morbidity		
At least one sign of very severe disease (VSD)	0.99	[0.94 - 1.05]
Careseeking		
Careseeking in the formal sector for newborns with VSD	1.06	[1.01 - 1.10]
Careseeking in the formal sector for newborns without VSD	1.02	[1.00 - 1.04]

Effect of number of months of recall - Burkina

	RR	95% CI
Newborn care practices		
Breastfeeding initiation within 1 hour of birth	1.00	[0.99 - 1.00]
Breastfeeding initiation within 24 hours of birth	1.00	[1.00 - 1.00]
Received colostrum	1.00	[1.00 - 1.00]
Received prelacteals	1.00	[0.99 - 1.01]
Dried within 5 minutes of birth	1.00	[0.99 - 1.01]
Wrapped within 5 minutes of birth	1.01	[0.99 - 1.03]
Delayed bathing	0.99	[0.98 - 1.00]
Thermal care (all 3 practices)	0.98	[0.95 - 1.02]
Dry cord care or antiseptic or alcohol only	1.01	[1.00 - 1.02]
Morbidity		
At least one sign of very severe disease (VSD)	0.99	[0.94 - 1.05]
Careseeking		
Careseeking in the formal sector for newborns with VSD	1.06	[1.01 - 1.10]
Careseeking in the formal sector for newborns without VSD	1.02	[1.00 - 1.04]

Sensitivity analysis for missing newborns

	Survey estimate	Assuming no missing neonates received the intervention	Assuming all missing neonates received the intervention
Breastfeeding initiation <1 hour after birth	24.80%	24.30%	26.60%
Breastfeeding initiation <24 hours after birth	78.60%	76.80%	79.10%
Prelacteals given	21.10%	20.60%	22.80%
Colostrum given	84.90%	83%	85.30%
Dry cord care, antiseptic, or alcohol only	52.80%	51.40%	54%
Thermal care (3 practices)	14.90%	14.50%	16.80%
At least one sign of VSD	8.60%	8.40%	10.80%
Careseeking in the formal sector for newborns with signs of VSD*	71.40%	55.30%	78.00%

Evaluation of the Rapid Scale-up in Burkina Faso

