



Every Woman, Every Newborn: BMC Pregnancy and Childbirth
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Overview

[The Every Woman, Every Newborn supplement](#) consists of nine papers in BioMed Central Pregnancy and Childbirth providing in depth analyses on the specific challenges to scaling up high-impact interventions and improving quality of care for mothers and newborns. We present programme-relevant analyses of the challenges and solutions to health system bottlenecks using data from 12 high-burden countries. The supplement takes forward the Every Newborn Action Plan (ENAP), endorsed at the World Health Assembly in 2014, which provides clear consensus on evidence, strategies and actions needed to end preventable newborn deaths and stillbirths (www.everynewborn.org). The goals, targets and objectives set out in the ENAP cannot be achieved without high quality, equitable coverage of intervention at and around the time of birth.

The supplement is open access and available at

<http://www.biomedcentral.com/bmcpregnancychildbirth/supplements/15/S2>

Please visit: www.everynewborn.org/BMCeverywomeneverynewborn for more information regarding the launch event

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Paper 8: Count every newborn; a measurement improvement roadmap for coverage data.

Sarah G Moxon, Harriet Ruysen, Kate J Kerber, Agbessi Amouzou, Suzanne Fournier, John Grove, Allisyn C Moran, Lara ME Vaz, Hannah Blencowe, Niall Conroy, A Metin Gülmezoglu, Joshua P Vogel, Barbara Rawlins, Rubayet Sayed, Kathleen Hill, Donna Vivio, Shamim Qazi, Deborah Sitrin, Anna C Seale, Steve Wall, Troy Jacobs, Juan Gabriel Ruiz Peláez, Tanya Guenther, Patricia S Coffey, Penny Dawson, Tanya Marchant, Peter Waiswa, Ashok Deorari, Christabel Emveronu-Laryea, Shams El Arifeen, Anne CC Lee, Matthews Mathai and Joy E Lawn.

Web link:

Paper 9: Counting every stillbirth and neonatal death through mortality audit to improve quality of care for every pregnant woman and her baby.

Kate J Kerber, Matthews Mathai, Gwyneth Lewis, Vicki Flenady, Jan Jaap HM Erwich, Tunde Segun, Patrick Aliganyira, Ali Abdelmegeid, Emma Allanson, Nathalie Roos, Natasha Rhoda, Joy E Lawn and Robert Pattinson.

Key messages and actions points

- Improving quality of and coverage of care for nine packages of interventions within the continuum of care for women's and children's health could prevent 54% of maternal deaths, 71% of newborn deaths and 33% of stillbirths.
- Facility based interventions face the most health system challenges, especially for health workforce, health financing and service delivery; but specific bottlenecks and solutions vary between intervention package and context, especially for women and newborns that face complications requiring specialised care.
- A systematic in-depth analysis of bottlenecks that hinder the scale up of maternal-newborn intervention packages was conducted in 12 high burden countries responsible for over half of the world's newborn and maternal deaths and stillbirths informing the development of systematic, targeted approaches to strengthening of health systems.
- Priority actions and solutions range from developing national strategies with specific targets for mortality reduction and allocating specific budget line items, to ensuring financial scheme are in place to cover the cost of care; establishing global standards for quality of care that can be adapted country specific contexts for implementation and involving communities in the design and delivery of maternal and newborn health services.

For each specific intervention the series explores the highest graded bottlenecks in detail and proposes priority areas for targeted actions for each of the maternal newborn intervention packages:

- **Antenatal corticosteroids (ACS) for the management of preterm birth** requires specific attention to health information systems and essential medicines (logistics and supply). Targeted efforts are needed to improve the monitoring of service delivery (coverage and quality), with research focused on improving gestational age assessment tools, to identify and track women at risk of imminent preterm labour and safely treat with ACS at the appropriate level of the health system.
- Overcoming bottlenecks for **quality essential care during labour and birth** requires comprehensive human resource planning and long term health financing, especially focused on midwifery skills within the health workforce, supported by a health systems approach to improve the quality of service delivery and to reduce inequities in access to basic and comprehensive emergency obstetric care.
- For **basic newborn care and neonatal resuscitation**, targeted efforts need to be focused on training and skills programmes within health workforce and service delivery such that all workers attending births in facilities have the skills and essential commodities and equipment to resuscitation with a bag and mask when needed. Whilst there are relatively few bottlenecks to basic newborn care, all efforts should be made to ensure every newborn

receives warmth, cleanliness, skin-to-skin and support for breastfeeding, including the 50 million births that occur outside facilities.

- **Kangaroo mother care** faces context specific bottlenecks related to different implementation pathways followed to scale-up the intervention. With premature birth now the leading cause of child deaths, leadership is required to champion service delivery and a health workforce that empowers mothers and families and secures financing for evidence based care of premature newborns, including follow up systems tailored to local community context.
- For **treatment of newborn infections**, context specific, community and service delivery based solutions are needed to make sure the 7 million possible serious bacterial infections (pSBI) each year are identified early at every level of the health system and treated with antibiotics by a health workforce trained to use appropriate diagnostic algorithms and evidence-based guidelines. All newborns with pSBI need to be treated within a system that can refer to a higher level of care when needed, tracked by a functional health information system.
- **Inpatient care of small and sick newborns** requires health financing strategies to protect families from financial catastrophe when a baby is born small and sick. Targeted actions within the nursing workforce are needed to develop a skilled neonatal nursing cadre able to deliver high quality, family-centred special care, and ultimately neonatal intensive care, in dedicated ward spaces, with appropriate follow up mechanisms in the community.
- For measurement and accountability of all maternal and newborn interventions, coverage data for maternal and newborn interventions requires focused work from 2015-2020 to improve quality and quantity of data, with the aim of institutionalisation of metrics into country-led national health information systems, supported by effective audit systems that link data to action.
- As a cross-cutting entry point which will act upon multiple interventions and approaches **mortality audit** was considered separately with the aim of describing the current evidence, assessing progress in policy uptake, and identifying approaches to overcome challenges and scale up mortality audit systems for stillbirths and neonatal deaths.

Abstracts

Research

Scaling up quality care for mothers and newborns around the time of birth: an overview of methods and analyses of intervention-specific bottlenecks and solutions

Kim E Dickson*, Mary V Kinney, Sarah G Moxon, Joanne Ashton, Nabila Zaka, Aline Simen-Kapeu, Gaurav Sharma, Kate J Kerber, Bernadette Daelmans, A Metin Gülmezoglu, Matthews Mathai, Christabel Nyange, Martina Baye and Joy E Lawn

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BMC Pregnancy and Childbirth 2015, **15**(Suppl 2):S1 doi:10.1186/1471-2393-15-S2-S1

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Abstract (provisional)

Background

The Every Newborn Action Plan (ENAP) and Ending Preventable Maternal Mortality targets cannot be achieved without high quality, equitable coverage of interventions at and around the time of birth. This paper provides an overview of the methodology and findings of a nine paper series of in-depth analyses which focus on the specific challenges to scaling up high-impact interventions and improving quality of care for mothers and newborns around the time of birth, including babies born small and sick.

Methods

The bottleneck analysis tool was applied in 12 countries in Africa and Asia as part of the ENAP process. Country workshops engaged technical experts to complete a tool designed to synthesise "bottlenecks" hindering the scale up of maternal-newborn intervention packages across seven health system building blocks. We used quantitative and qualitative methods and literature review to analyse the data and present priority actions relevant to different health system building blocks for skilled birth attendance, emergency obstetric care, antenatal corticosteroids (ACS), basic newborn care, kangaroo mother care (KMC), treatment of neonatal infections and inpatient care of small and sick newborns.

Results

The 12 countries included in our analysis account for the majority of global maternal (48%) and newborn (58%), deaths and stillbirths (57%). Our findings confirm previously published results that the interventions with the most perceived bottlenecks are facility-based where rapid emergency care is needed, notably inpatient care of small and sick newborns, ACS, treatment of neonatal infections and KMC. Health systems building blocks with the highest rated bottlenecks varied for different interventions. Attention needs to be paid to the context specific bottlenecks for each intervention to scale up quality care. Crosscutting findings on health information gaps inform two final papers on a roadmap for improvement of coverage data for newborns and indicate the need for leadership for effective audit systems.

Conclusions

Achieving the Sustainable Development Goal targets for ending preventable mortality and provision of universal health coverage will require large-scale approaches to improving quality of care. These analyses inform the development of

systematic, targeted approaches to strengthening of health systems, with a focus on overcoming specific bottlenecks for the highest impact interventions.

Research

Quality care during labour and birth: a multi-country analysis of health system bottlenecks and potential solutions

Gaurav Sharma*, **Matthews Mathai***, **Kim Eva Dickson**, **Andrew Weeks**, **G Justus Hofmeyr**, **Tina Lavender**, **Louise Tina Day**, **Jiji Elizabeth Mathews**, **Sue Fawcus**, **Aline Simen Kapeu** and **Luc de Bernis**

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Abstract (provisional)

Background

Good outcomes during pregnancy and childbirth are related to availability, utilisation and effective implementation of essential interventions for labour and childbirth. The majority of the estimated 289,000 maternal deaths, 2.8 million neonatal deaths and 2.6 million stillbirths every year could be prevented by improving access to and scaling up quality care during labour and birth.

Methods

The bottleneck analysis tool was applied in 12 countries in Africa and Asia as part of the *Every Newborn* Action Plan process. Country workshops engaged technical experts to complete the survey tool, which is designed to synthesise and grade health system "bottlenecks", factors that hinder the scale up, of maternal-newborn intervention packages. We used quantitative and qualitative methods to analyse the bottleneck data, combined with literature review, to present priority bottlenecks and actions relevant to different health system building blocks for skilled birth attendance and basic and comprehensive emergency obstetric care.

Results

Across 12 countries the most critical bottlenecks identified by workshop participants for skilled birth attendance were health financing (10 out of 12 countries) and health workforce (9 out of 12 countries). Health service delivery bottlenecks were found to be the most critical for both basic and comprehensive emergency obstetric

care (9 out of 12 countries); health financing was identified as having critical bottlenecks for comprehensive emergency obstetric care (9 out of 12 countries). Solutions to address health financing bottlenecks included strengthening national financing mechanisms and removing financial barriers to care seeking. For addressing health workforce bottlenecks, improved human resource planning is needed, including task shifting and improving training quality. For health service delivery, proposed solutions included improving quality of care and establishing public private partnerships.

Conclusions

Progress towards the 2030 targets for ending preventable maternal and newborn death is dependent on improving quality of care during birth and the immediate postnatal period. Strengthening national health systems to improve maternal and newborn health, as a cornerstone of universal health coverage, will only be possible by addressing specific health system bottlenecks during labour and birth, including within health workforce, health financing and health service delivery.

Research

Antenatal corticosteroids for management of preterm birth: a multi-country analysis of health system bottlenecks and potential solutions

Grace Liu, Joel Segrè, A Metin Gülmezoglu, Matthews Mathai, Jeffrey M Smith, Jorge Hermida, Aline Simen Kapeu, Pierre Barker, Mercy Jere, Edward Moses, Sarah G Moxon, Kim E Dickson, Joy E Lawn*, Fernando Althabe and Working Group for the UN Commission of Life Saving Commodities Antenatal Corticosteroids

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Abstract (provisional)

Background

Preterm birth complications are the leading cause of deaths for children under five years. Antenatal corticosteroids (ACS) are effective at reducing mortality and serious morbidity amongst infants born at <34 weeks gestation. WHO guidelines strongly recommend use of ACS for women at risk of imminent preterm birth where gestational age, imminent preterm birth, and risk of maternal infection can be assessed, and appropriate maternal/newborn care provided. However, coverage remains low in high-burden countries for reasons not previously systematically investigated.

Methods

The bottleneck analysis tool was applied in 12 countries in Africa and Asia as part of the Every Newborn Action Plan process. Country workshops involved technical experts to complete the survey tool, which is designed to synthesise and grade

health system "bottlenecks", factors that hinder the scale up, of maternal-newborn intervention packages. We used quantitative and qualitative methods to analyse the bottleneck data, combined with literature review, to present priority bottlenecks and actions relevant to different health system building blocks for ACS.

Results

Eleven out of twelve countries provided data in response to the ACS questionnaire. Health system building blocks most frequently reported as having significant or very major bottlenecks were health information systems (11 countries), essential medicines (9 out of 11 countries) and health service delivery (9 out of 11 countries). Bottlenecks included absence of coverage data, poor gestational age metrics, lack of national essential medicines listing, discrepancies between prescribing authority and provider cadres managing care, delays due to referral, and lack of supervision, mentoring and quality improvement systems.

Conclusions

Analysis centred on health system building blocks in which 9 or more countries (>75%) reported very major or significant bottlenecks. Health information systems should include improved gestational age assessment and track ACS coverage, use and outcomes. Better health service delivery requires clarified policy assigning roles by level of care and cadre of provider, dependent on capability to assess gestational age and risk of preterm birth, and the implementation of guidelines with adequate supervision, mentoring and quality improvement systems, including audit and feedback. National essential medicines lists should include dexamethasone for antenatal use, and dexamethasone should be integrated into supply logistics.

Research

Basic newborn care and neonatal resuscitation: a multi-country analysis of health system bottlenecks and potential solutions

Christabel Enweronu-Laryea^{*}, Kim E Dickson, Sarah G Moxon, Aline Simen-Kapeu, Christabel Nyange, Susan Niermeyer, France Bégin, Howard L Sobel, Anne CC Lee, Severin Ritter von Xylander and Joy E Lawn

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Abstract (provisional)

Background

An estimated two-thirds of the world's 2.7 million newborn deaths could be prevented with quality care at birth and during the postnatal period. Basic Newborn Care (BNC) is part of the solution and includes hygienic birth and newborn care practices including cord care, thermal care, and early and exclusive breastfeeding. Timely provision of resuscitation if needed is also critical to newborn survival. This paper describes health system barriers to BNC and neonatal resuscitation and

proposes solutions to scale up evidence-based strategies.

Methods

The maternal and newborn bottleneck analysis tool was applied by 12 countries in Africa and Asia as part of the Every Newborn Action Plan process. Country workshops engaged technical experts to complete the survey tool, which is designed to synthesise and grade health system "bottlenecks" that hinder the scale up of maternal-newborn intervention packages. We used quantitative and qualitative methods to analyse the bottleneck data, combined with literature review, to present priority bottlenecks and actions relevant to different health system building blocks for BNC and neonatal resuscitation.

Results

Eleven of the 12 countries provided grading data. Overall, bottlenecks were graded more severely for resuscitation. The most severely graded bottlenecks for BNC were health workforce (8 of 11 countries) and health financing (9 out of 11) and service delivery (7 out of 9); and for neonatal resuscitation, workforce (9 out of 10), essential commodities (9 out of 10) and service delivery (8 out of 10). Country teams from Africa graded bottlenecks overall more severely. Improving workforce performance, availability of essential commodities, and well-integrated health service delivery were the key solutions proposed.

Conclusions

BNC was perceived to have the least health system challenges among the seven maternal and newborn intervention packages assessed. Although neonatal resuscitation bottlenecks were graded more severe than for BNC, similarities particularly in the workforce and service delivery building blocks highlight the inextricable link between the two interventions and the need to equip birth attendants with requisite skills and commodities to assess and care for every newborn. Solutions highlighted by country teams include ensuring more investment to improve workforce performance and distribution, especially numbers of skilled birth attendants, incentives for placement in challenging settings, and skills-based training particularly for neonatal resuscitation.

Research

Kangaroo mother care: a multi-country analysis of health system bottlenecks and potential solutions

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Abstract (provisional)

Background

Preterm birth is now the leading cause of under-five child deaths worldwide with one million direct deaths plus approximately another million where preterm is a risk factor for neonatal deaths due to other causes. There is strong evidence that kangaroo mother care (KMC) reduces mortality among babies with birth weight <2000 g (mostly preterm). KMC involves continuous skin-to-skin contact, breastfeeding support, and promotion of early hospital discharge with follow-up. The World Health Organization has endorsed KMC for stabilised newborns in health facilities in both high-income and low-resource settings. The objectives of this paper are to: (1) use a 12-country analysis to explore health system bottlenecks affecting the scale-up of KMC; (2) propose solutions to the most significant bottlenecks; and (3) outline priority actions for scale-up.

Methods

The bottleneck analysis tool was applied in 12 countries in Africa and Asia as part of the Every Newborn Action Plan process. Country workshops involved technical experts to complete the survey tool, which is designed to synthesis and grade health system "bottlenecks", factors that hinder the scale up, of maternal-newborn intervention packages. We used quantitative and qualitative methods to analyse the bottleneck data, combined with literature review, to present priority bottlenecks and actions relevant to different health system building blocks for KMC.

Results

Marked differences were found in the perceived severity of health system bottlenecks between Asian and African countries, with the former reporting more significant or very major bottlenecks for KMC with respect to all the health system building blocks. Community ownership and health financing bottlenecks were significant or very major bottlenecks for KMC in both low and high mortality contexts, particularly in South Asia. Significant bottlenecks were also reported for leadership and governance and health workforce building blocks.

Conclusions

There are at least a dozen countries worldwide with national KMC programmes, and we identify three pathways to scale: (1) champion-led; (2) project-initiated; and (3) health systems designed. The combination of all three pathways may lead to more rapid scale-up. KMC has the potential to save lives, and change the face of facility-based newborn care, whilst empowering women to care for their preterm newborns.

Research

Treatment of neonatal infections: a multi-country analysis of health system bottlenecks and potential solutions

Aline Simen-Kapeu*, Anna C Seale, Steve Wall, Christabel Nyange, Shamim A Qazi, Sarah G Moxon, Mark Young, Grace Liu, Gary L Darmstadt, Kim E Dickson and Joy E Lawn

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Abstract (provisional)

Background

Around one-third of the world's 2.8 million neonatal deaths are caused by infections. Most of these deaths are preventable, but occur due to delays in care-seeking, and access to effective antibiotic treatment with supportive care. Understanding variation in health system bottlenecks to scale-up of case management of neonatal infections and identifying solutions is essential to reduce mortality, and also morbidity.

Methods

A standardised bottleneck analysis tool was applied in 12 countries in Africa and Asia as part of the development of the Every Newborn Action Plan. Country workshops involved technical experts to complete a survey tool, to grade health system "bottlenecks" hindering scale up of maternal-newborn intervention packages. Quantitative and qualitative methods were used to analyse the data, combined with literature review, to present priority bottlenecks and synthesise actions to improve case management of newborn infections.

Results

For neonatal infections, the health system building blocks most frequently graded as major or significant bottlenecks, irrespective of mortality context and geographical region, were health workforce (11 out of 12 countries), and community ownership and partnership (11 out of 12 countries). Lack of data to inform decision making, and limited funding to increase access to quality neonatal care were also major challenges.

Conclusions

Rapid recognition of possible serious bacterial infection and access to care is essential. Inpatient hospital care remains the first line of treatment for neonatal infections. In situations where referral is not possible, the use of simplified antibiotic regimens for outpatient management for non-critically ill young infants has recently been reported in large clinical trials; WHO is developing a guideline to treat this group of young infants. Improving quality of care through more investment in the health workforce at all levels of care is critical, in addition to ensuring development and dissemination of national guidelines. Improved information systems are needed to track coverage and adequately manage drug supply logistics for improved health outcomes. It is important to increase community ownership and partnership, for example through involvement of community groups.

Research

Inpatient care of small and sick newborns: a multi-country analysis of health system bottlenecks and potential solutions

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Gupta, Ashok Deorari, Nalini Singhal, Karen New, Carole Kenner, Vinod Bhutani, Rakesh Kumar, Elizabeth Molyneux and Hannah Blencowe*

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Abstract (provisional)

Background

Preterm birth is the leading cause of child death worldwide. Small and sick newborns require timely, high-quality inpatient care to survive. This includes provision of warmth, feeding support, safe oxygen therapy and effective phototherapy with prevention and treatment of infections. Inpatient care for newborns requires dedicated ward space, staffed by health workers with specialist training and skills. Many of the estimated 2.8 million newborns that die every year do not have access to such specialised care.

Methods

The bottleneck analysis tool was applied in 12 countries in Africa and Asia as part of the Every Newborn Action Plan process. Country workshops involved technical experts to complete the survey tool, which is designed to synthesis and grade health system "bottlenecks" (or factors that hinder the scale up) of maternal-newborn intervention packages. For this paper, we used quantitative and qualitative methods to analyse the bottleneck data, and combined these with literature review, to present priority bottlenecks and actions relevant to different health system components for inpatient care of small and sick newborns.

Results

Inpatient care of small and sick newborns is an intervention package highlighted by all country workshop participants as having critical health system challenges. Health system components with the highest graded (significant or major) bottlenecks were health workforce (10 out of 12 countries) and health financing (10 out of 12 countries), followed by community ownership and partnership (9 out of 12 countries). Priority actions based on solution themes for these bottlenecks are discussed.

Conclusions

Whilst major bottlenecks to the scale-up of quality inpatient newborn care are present, effective solutions exist. For all countries included, there is a critical need for a neonatal nursing cadre. Small and sick newborns require increased, sustained funding with specific insurance schemes to cover inpatient care and avoid catastrophic out-of-pocket payments. Core competencies, by level of care, should be defined for monitoring of newborn inpatient care, as with emergency obstetric care. Rather than fatalism that small and sick newborns will die, community interventions need to create demand for accessible, high-quality, family-centred inpatient care, including kangaroo mother care, so that every

newborn can survive and thrive.

Research

Count every newborn; a measurement improvement roadmap for coverage data

Sarah G Moxon, Harriet Ruysen, Kate J Kerber, Agbessi Amouzou, Suzanne Fournier, John Grove, Allisyn C Moran, Lara ME Vaz, Hannah Blencowe, Niall Conroy, A Metin Gülmezoglu, Joshua P Vogel, Barbara Rawlins, Rubayet Sayed, Kathleen Hill, Donna Vivio, Shamim Qazi, Deborah Sitrin, Anna C Seale, Steve Wall, Troy Jacobs, Juan Gabriel Ruiz Peláez, Tanya Guenther, Patricia S Coffey, Penny Dawson, Tanya Marchant, Peter Waiswa, Ashok Deorari, Christabel Enweronu-Laryea, Shams El Arifeen, Anne CC Lee and Matthews Mathai

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Abstract (provisional)

Background

The Every Newborn Action Plan (ENAP), launched in 2014, aims to end preventable newborn deaths and stillbirths, with national targets of ?12 neonatal deaths per 1000 live births and ?12 stillbirths per 1000 total births by 2030. This requires ambitious improvement of the data on care at birth and of small and sick newborns, particularly to track coverage, quality and equity.

Methods

In a multistage process, a matrix of 70 indicators were assessed by the Every Newborn steering group. Indicators were graded based on their availability and importance to ENAP, resulting in 10 core and 10 additional indicators. A consultation process was undertaken to assess the status of each ENAP core indicator definition, data availability and measurement feasibility. Coverage indicators for the specific ENAP treatment interventions were assigned task teams and given priority as they were identified as requiring the most technical work. Consultations were held throughout.

Results

ENAP published 10 core indicators plus 10 additional indicators. Three core impact indicators (neonatal mortality rate, maternal mortality ratio, stillbirth rate) are well defined, with future efforts needed to focus on improving data quantity and quality. Three core indicators on coverage of care for all mothers and newborns (intrapartum/skilled birth attendance, early postnatal care, essential newborn care) have defined contact points, but gaps exist in measuring content and quality of the interventions. Four core (antenatal corticosteroids, neonatal resuscitation, treatment of serious neonatal infections, kangaroo mother care) and one additional coverage indicator for newborns at risk or with complications (chlorhexidine cord cleansing) lack indicator definitions or data, especially for denominators (population in need). To address these gaps, feasible coverage indicator definitions are presented for validity testing. Measurable process indicators to help monitor health

service readiness are also presented. A major measurement gap exists to monitor care of small and sick babies, yet signal functions could be tracked similarly to emergency obstetric care.

Conclusions

The ENAP Measurement Improvement Roadmap (2015-2020) outlines tools to be developed (e.g., improved birth and death registration, audit, and minimum perinatal dataset) and actions to test, validate and institutionalise proposed coverage indicators. The roadmap presents a unique opportunity to strengthen routine health information systems, crosslinking these data with civil registration and vital statistics and population-based surveys. Real measurement change requires intentional transfer of leadership to countries with the greatest disease burden and will be achieved by working with centres of excellence and existing networks.

Research

Counting every stillbirth and neonatal death to improve quality of care for every pregnant woman and her baby

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Abstract (provisional)

Background

While there is widespread acknowledgment of the need for improved quality and quantity of information on births and deaths, there has been less movement towards systematically capturing and reviewing the causes and avoidable factors linked to deaths, in order to affect change. This is particularly true for stillbirths and neonatal deaths which can fall between different health care providers and departments. Maternal and perinatal mortality audit applies to two of the five objectives in the Every Newborn Action Plan but data on successful approaches to overcome bottlenecks to scaling up audit are lacking.

Methods

We reviewed the current evidence for facility-based perinatal mortality audit with a focus on low- and middle-income countries and assessed the status of mortality audit policy and implementation. Based on challenges identified in the literature, key challenges to completing the audit cycle and affecting change were identified across the WHO health system building blocks, along with solutions, in order to inform the process of scaling up this strategy with attention to quality.

Results

Maternal death surveillance and review is moving rapidly with many countries

enacting and implementing policies and with accountability beyond the single facility conducting the audits. While 51 priority countries report having a policy on maternal death notification in 2014, only 17 countries have a policy for reporting and reviewing stillbirths and neonatal deaths. The existing evidence demonstrates the potential for audit to improve birth outcomes, only if the audit cycle is completed. The primary challenges within the health system building blocks are in the area of leadership and health information. Examples of successful implementation exist from high income countries and select low- and middle-income countries provide valuable learning, especially on the need for leadership for effective audit systems and on the development and the use of clear guidelines and protocols in order to ensure that the audit cycle is completed.

Conclusions

Health workers have the power to change health care routines in daily practice, but this must be accompanied by concrete inputs at every level of the health system. The system requires data systems including consistent cause of death classification and use of best practice guidelines to monitor performance, as well as leaders to champion the process, especially to ensure a no-blame environment, and to access change agents at other levels to address larger, systemic challenges.