

Connect | Inspire | Challenge | Learn | Act

Dear Network members - welcome to our October 2016 MDSR Action Network newsletter!

In this edition, we will explore perinatal and neonatal death audit (or review) processes around the world and look at how they can be integrated into existing maternal death surveillance and response (MDSR) systems to improve the quality of maternal and newborn care.

If you have stories or examples of how stillbirths and neonatal deaths are reviewed at facility or community levels and how these reviews are being scaled up into a surveillance and response system, then please email them to [us](#) so that we can share with all Network members.

In this edition:

- Read what experts say about implementing perinatal death audits and integrating them in wider surveillance and response systems
- Discover how Ethiopia is piloting a perinatal and neonatal death surveillance and response (PNDSR) system in Tigray to inform national implementation in the first part of this two-series case study
- Be inspired by South Africa's achievements in implementing PNDSR
- Browse the theme resources that include three new publications launched by the WHO in August
- Learn about how five countries are progressing in reviewing and responding to neonatal deaths and stillbirths
- Find out which four countries have recently become eligible to receive Global Financing Facility funding and read about the new 2016 Lancet Series on maternal health.
- Act on upcoming events near you!



Photo credit: Abbie Traylor Smith

Connect | a call for submissions

We need your case studies, experiences and publications for our upcoming newsletters.

We're interested in methods of measuring maternal and perinatal deaths and near misses whether at a facility or in a community. We would also like to know more about your experiences in strengthening civil registration and vital statistic systems.

Do you have anything you would like to share amongst our members so that they can learn more about these topics? Please [get in touch](#) if you do. In addition, do let us know if there's an issue relating to maternal and perinatal death surveillance and response (MPDSR) which you think would make a great newsletter topic.

Best wishes,

Louise Hulton, Network Co-ordinator

Challenge | expert opinions from around the world

Perinatal death surveillance and response to improve survival of babies

The mortality audit (or review) process is an established tool to assess the events around a death. Applying an audit cycle can highlight breakdowns from local to national levels and ultimately improve civil registration and vital statistic (CRVS) systems and quality of care. Maternal death surveillance and response (MDSR) is a form of this strategy that has been used by many countries¹.

Less information, however, has been captured and assessed on stillbirths and neonatal deaths². In 2014, 51 priority countries reported having a policy on maternal death notification, and only 17 countries had a policy for reporting and reviewing stillbirths and neonatal deaths³.

According to the [International Classification of Diseases \(ICD\)-10](#), the 'perinatal period' refers to antepartum (before birth) and intrapartum (during birth) stillbirths, and early neonatal deaths (see table for WHO definition).

However, in line with the WHO guide - [Making Every Baby Count: Audit and review of stillbirths and neonatal deaths](#) - the term 'perinatal' will also refer to late neonatal deaths (occurring eight to 28 days after birth) as deaths during this period may be influenced by circumstances from the perinatal stage⁴.

THE SILENT TRAGEDY OF PERINATAL DEATHS: THE FACTS

Every year, more than five million babies die worldwide in the last few weeks of pregnancy, during labour or soon after delivery⁵, shattering the hopes and dreams of parents for a healthy baby.

- About 2.7 million newborn babies die in their first month of life each year⁶
- Another 2.6 million babies die every year before birth in the last trimester of pregnancy⁷
- 1.3 million stillbirths take place during labour (intrapartum stillbirths)⁸

DEFINITION OF PERINATAL DEATHS AS RECOMMENDED BY THE WHO FOR INTERNATIONAL COMPARISON

Number of deaths in foetuses born weighing \geq 1000 g and after 28 completed weeks of gestation (late stillbirths)
AND
Neonatal deaths through the first 7 completed days after birth (early neonatal deaths).

Source: WHO (2016)

¹ World Health Organization (WHO). (2016). *Making Every Baby Count: Audit and review of stillbirths and neonatal deaths*. Geneva: World Health Organization.

² Kerber, K.J., Mathai, M., Lewis, G., Flenady, V., Erwich, J.J.H.M., Segun, T., Aliganyira, P., Abdelmegeid, A., Allanson, E., Roos, N., Rhoda, N., Lawn, J.E., Pattinson, R. (2015). Counting every stillbirth and neonatal death through mortality audit to improve quality of care for every pregnant woman and her baby. *BMC Pregnancy and Childbirth*, 15(Suppl 2): S9.

³ Kerber, K.J., Mathai, M., Lewis, G., Flenady, V., Erwich, J.J.H.M., Segun, T., Aliganyira, P., Abdelmegeid, A., Allanson, E., Roos, N., Rhoda, N., Lawn, J.E., Pattinson, R. (2015). Counting every stillbirth and neonatal death through mortality audit to improve quality of care for every pregnant woman and her baby. *BMC Pregnancy and Childbirth*, 15(Suppl 2): S9.

⁴ World Health Organization (WHO). (2016). *Making Every Baby Count: Audit and review of stillbirths and neonatal deaths*. Geneva: World Health Organization.

⁵ Child mortality estimates. New York (NY): United Nations Children's Fund; 2015 (<http://www.childmortality.org/index.php?r=site/index>, accessed 02 September 2016)

⁶ Child mortality estimates. New York (NY): United Nations Children's Fund; 2015 (<http://www.childmortality.org/index.php?r=site/index>, accessed 02 September 2016)

⁷ Heazell, A.E.P., Siassakos, D., Blencowe, H., Burden, C., Bhutta, Z.A., Cacciatore, J., Dang, N., Das, J., Flenady, V., Gold, K.J., Mensah, O.K., Millum, J., Nuzum, D., O'Donoghue, K., Redshaw, M., Rizvi, A., Roberts, T., Saraki, H.E., Storey, C., Wojcieszek, A.M. & Downe, S. (2016). Stillbirths: economic and psychosocial consequences. Early online publication

- The majority of stillbirths, especially intrapartum, are preventable⁹
- Three quarters of all neonatal deaths are preventable¹⁰

Most stillbirths happen in countries where fewer women can access high quality care before and around the time of birth. With 40 million women giving birth at home each year without a skilled birth attendant, a focus on improving the quality of intrapartum care can help prevent stillbirths and about half of all maternal deaths¹¹.

Moreover, many stillbirths and newborn deaths go unrecorded. Most stillbirths and half of all newborn deaths do not receive a birth certificate and are not registered¹².

To improve the survival of babies, we need to know more about how many stillbirths and newborn deaths take place, where and why they occur, what are the contributing factors and what can be done to prevent similar events. This information can help identify the avoidable factors, and improve service provision and overall quality of care through health systems to prevent babies dying from similar causes in the future.

HOW AUDITS CAN REDUCE PERINATAL DEATHS

Reported country experiences of implementation suggest perinatal death audits may be a useful tool for reducing stillbirths and neonatal deaths in facilities, and can improve quality of care, as long as the audit loop can be closed¹³.

The ability to respond effectively to recommendations identified through audits is pivotal to reducing mortality. When successful, **audits can result in a 30% reduction in perinatal deaths**¹⁴. This reduction will help countries meet target 3.2 of the third Sustainable Development Goal (to reduce neonatal mortality to at least 12 per 1,000 live births by 2030)¹⁵, and Goals 1 and 2 of the Every Newborn Action Plan (to meet the target of ten or less newborn deaths per 1,000 live births and ten or less stillbirths per 1,000 total births by 2035)¹⁶.

How can national, sub-national or facility committees make sure that perinatal death reviews are detailed enough? And how can they be supported to develop and address modifiable factors? The available literature is



Click [here](#) to see the full infographic from WHO

3 out of every 10 babies could be saved by introducing perinatal death audits

⁸ Heazell, A.E.P., Siassakos, D., Blencowe, H., Burden, C., Bhutta, Z.A., Cacciatore, J., Dang, N., Das, J., Flenady, V., Gold, K.J., Mensah, O.K., Millum, J., Nuzum, D., O'Donoghue, K., Redshaw, M., Rizvi, A., Roberts, T., Saraki, H.E., Storey, C., Wojcieszek, A.M. & Downe, S. (2016). Stillbirths: economic and psychosocial consequences. Early online publication.

⁹ Bhutta ZA, Das JK, Bahl R, Lawn JE, Salam RA, Paul VK et al. Can available interventions end preventable deaths in mothers, newborn babies, and stillbirths, and at what cost? *Lancet*. 2014;384(9940):347–70. doi:10.1016/S0140-6736(14)60792-3

¹⁰ Bhutta ZA, Das JK, Bahl R, Lawn JE, Salam RA, Paul VK et al. Can available interventions end preventable deaths in mothers, newborn babies, and stillbirths, and at what cost? *Lancet*. 2014;384(9940):347–70. doi:10.1016/S0140-6736(14)60792-3

¹¹ Heazell, A.E.P., Siassakos, D., Blencowe, H., Burden, C., Bhutta, Z.A., Cacciatore, J., Dang, N., Das, J., Flenady, V., Gold, K.J., Mensah, O.K., Millum, J., Nuzum, D., O'Donoghue, K., Redshaw, M., Rizvi, A., Roberts, T., Saraki, H.E., Storey, C., Wojcieszek, A.M. & Downe, S. (2016). Stillbirths: economic and psychosocial consequences. Early online publication.

¹² Lawn JE, Blencowe H, Oza S, You D, Lee ACC, Waiswa P et al.; for The Lancet Every Newborn Study Group. Progress, priorities, and potential beyond survival. *Lancet*. 2014;384(9938):189–205. doi:10.1016/S0140-6736(14)60496-7.

¹³ Kerber, K.J., Mathai, M., Lewis, G., Flenady, V., Erwich, J.J.H.M., Segun, T., Aliganyira, P., Abdelmegeid, A., Allanson, E., Roos, N., Rhoda, N., Lawn, J.E., Pattinson, R. (2015). Counting every stillbirth and neonatal death through mortality audit to improve quality of care for every pregnant woman and her baby. *BMC Pregnancy and Childbirth*, 15(Suppl 2): S9.

¹⁴ Pattinson R, Kerber K, Waiswa P, Day LT, Mussell F, Asiruddin S, Blencowe H, Lawn JE. (2009) Perinatal mortality audit: Counting, accountability, and overcoming challenges in scaling up in low- and middle-income countries. *International Journal of Gynecology and Obstetrics* 107 (2009) S113–S122

¹⁵ United Nations. (2016). Sustainable Development: Knowledge Platform. Retrieved September 29, 2016, from <https://sustainabledevelopment.un.org/sdg3>

¹⁶ World Health Organization (WHO) & UNICEF. (2014). *Every Newborn: An Action Plan to End Preventable Deaths*. Geneva: World Health Organization.

sparse on how best to optimise quality-of-care audits as a tool to reduce perinatal mortality in a low- and middle-income setting and further investigation is needed¹⁷.

We asked five experts in maternal, newborn and child health to share their knowledge and experiences in perinatal death surveillance and response (PDSR) around the world.

EXPERT PROFILES

Dr Animesh Biswas, Senior Scientist at the [Centre for Injury Prevention and Research, Bangladesh](#), supports the implementation of maternal and perinatal death surveillance and response (MPDSR) in country. He also conducts research on maternal and neonatal review systems (e.g. social autopsy) and recently received his doctorate degree in this very topic.

Ms Kate Kerber is the Senior Technical Specialist with [Save the Children's Save Newborn Lives](#) programme based in Canada. She has worked both in South Africa and Uganda on mortality audit programmes and is currently co-leading a multi-country evaluation of MPDSR implementation. Ms Kerber is a contributor to the WHO [Making Every Baby Count: audit and review of stillbirth and neonatal death guidance](#).

Dr Natasha Rhoda is a neonatologist in South Africa. She is an attending clinician at the Perinatal Mortality and Morbidity Meetings (PNMM) at the Groote Schuur Hospital and is the chairperson of the National Perinatal Morbidity and Mortality Committee. Previously, she was responsible for ensuring that the [Perinatal Problem Identification Program \(PPIP\)](#) was functional.

Dr Nathalie Roos, Program Officer at the Maternal, Newborn, Child and Adolescent Health Department at the WHO, is a gynaecologist and obstetrician providing technical guidance and implementing support to MDSR at the global level. Dr Roos is a contributor to [three recent WHO publications](#) to strengthen data on stillbirths, and maternal and neonatal deaths.

Dr Tunde Segun is a public health physician and has over twenty years of experience in maternal and newborn health. He is the Country Director for the [MamaYe-Evidence for Action programme in Nigeria](#) and is supporting country efforts to develop a MPDSR system.

QUESTIONS AND ANSWERS

Q: What are your thoughts on investing in a perinatal death surveillance and response (PDSR) system, particularly where MDSR already exists but is not fully functional?

Kerber: At the facility level, ideally, perinatal death review should take place anywhere that maternal death reviews are happening. A full death review isn't as feasible at the community level given the additional number of stillbirths and neonatal deaths compared to maternal deaths. All systems should be looking to at least count stillbirths and newborn deaths, and collect basic information on each of these.

Roos: Yes – as the mother and baby share the same periods of risk, there are lessons to be learnt from perinatal deaths as well as maternal deaths to save the lives of both mothers and their babies. The information should therefore not be separated.

Segun: I agree; perinatal deaths should be included in the review process. That makes sense. However, the challenges (in incorporating a perinatal component when healthcare providers are struggling with maternal death reviews) are in the implementation. We need to ask: are there enough human resources to review the

"In places where the burden of death is high, I love the idea of reviewing near-misses and positive outcomes as a morale-boosting opportunity." Ms Kate Kerber

¹⁷ Allanson & Pattinson (2015) Quality-of-care audits in South Africa. *Bull World Health Organ* 2015;93:424–428|

deaths? If we are reviewing all maternal deaths, can we also review all perinatal deaths knowing that the numbers are higher?

Rhoda: The 18-years of experience of MDSR in South Africa has given the participating clinical staff (doctors and nurses) insight into the importance of reviewing maternal deaths with the main focus on prevention and improvement of the quality of care provided. On the back of this, we have extended this review system to the perinatal population, starting with the review of all neonatal deaths. For us, it is the correct time to invest in perinatal deaths. We have the data, [we have identified the] avoidable causes and now people who understand a MDSR process can see the benefit of including perinatal deaths.

Q: How can countries implement PDSR mechanisms? What recommendations would you suggest?

Roos: The existing platform or processes for MDSR should be used when collecting information and reviewing perinatal deaths with the idea of building on what is already in place rather than creating parallel systems. **“Think big, start small and grow steadily”**. When the system is working well then you could add on perinatal deaths.

Kerber: I don't know if the perceived dichotomy between maternal and perinatal systems exists as much as a dichotomy between facility and community. It is much more difficult to count every death that occurs in the community. With very few exceptions, those involved in maternal death review should be the same as those involved in perinatal death review.

The WHO application of ICD-10 to deaths during the perinatal period: ICD-PM publication highlights the inseparable link between mother and baby by providing a classification system that enables a maternal condition to be added to a baby's cause of death. Communication amongst health professionals is key, especially across disciplines, and the maternal and perinatal death surveillance and response (MPDSR) system can really facilitate that. It's important, however, to make sure that blame is not shifted to other cadres and that safeguards are put in place to maintain an atmosphere of learning and improvement rather than punishment.

Rhoda: [When we first starting reviewing perinatal deaths], our health staff was numbed by the large numbers of stillbirths and neonatal deaths to the extent that they had come to ignore them. However with carefully crafted newborn messages and strategies, we have been able to build a solid platform to address perinatal deaths.

One of the biggest obstacles in developing PNMM in South Africa was working with the management staff – partly because they were not clinically proficient and partly because they saw this as a possible intrusion on their work. Once we engaged with them and discussed why this was important, the PNMM functioned better. It is also important that a qualified and senior clinician is present at the PNMM to ensure that sound clinical knowledge is used to make decisions and the causes of perinatal deaths are coded accurately.

Q: What are the options or possible approaches to introducing MPDSR to avoid 'dilution' of effect with MDSR efforts? Please provide examples or recommendations.

Segun: One option is to approach [MPDSR] in a phased manner i.e. start with MDSR before proceeding to MPDSR. This was the approach in Nigeria - MDRs were first established before integrating the “P”.

“For [South Africa], it is the correct time to invest in perinatal deaths.” Dr Natasha Rhoda

“Think big, start small and grow steadily’ should be the guiding principle.” Dr Nathalie Roos

Rhoda: In retrospect, the running of MDSR [in South Africa] has provided a strong foundation on which to build perinatal death surveillance. We have already had ten years of recording data on the perinatal deaths in the PPIP and have published nine [national] [Saving Babies](#) reports based on the data. These were all necessary steps which have allowed perinatal death surveillance nationally. Our next step is to ensure that facilities not only report, but act more efficiently on the avoidable factors.

Roos: One recommendation [to help strengthen CRVS] is that all hospitals should collect data on all births and deaths, which is the minimum set of perinatal indicators.

Kerber: Yes – I agree - improving care at the time of birth affects both mother and baby. Improving the civil registration and vital statistics system and data collection processes improves data across the health system so there are a lot more synergies than competitions. However, I think it is wise not to review the factors for each death (whether stillbirth, neonatal or maternal) in settings where MPDSR is just getting started – rather select particular cases for a more-in-depth review. Otherwise the process can be very time consuming in places where the mortality burden is still quite high.

At minimum, Pattinson and colleagues (2009) recommend that facilities should count the number of intrapartum stillbirths and neonatal deaths that happen in their settings.

The Every Newborn Action Plan specifies a minimum set of 6 essential pieces of information to collect on each birth and death. These are:

1. maternal age
2. place of delivery
3. mode of delivery
4. birth weight
5. gestational age
6. birth outcome



Q: What can be done to tackle the extra workload that perinatal death audits may add to already overstretched health workers?

Roos: As noted, perinatal deaths are much higher in number than maternal deaths, which can be a challenge in settings where health workers are already overstretched. The new [WHO guide](#) for conducting audit and review of stillbirths and neonatal deaths, suggests a way forward to review a sample of all perinatal deaths. Even though it may not be possible to review each death, one case can provide learnings to prevent similar events from happening in the future.

Kerber: As quality of care improves, fewer complications and deaths occur and work-related stress may actually decrease, if not the actual number of deliveries and workload. I also think good leaders can facilitate a culture of review, learning, and improvement instead of making MPDSR just another task to get through.

Q: What advice would you give on sampling which perinatal deaths to review in settings where incidence is high, assuming the aim is to count all?

Roos: The [WHO guide](#) (which I previously mentioned) proposes different approaches. One approach is to analyse maternal and perinatal deaths if they occur together. Another possible approach is to analyse all deaths which, occur in the first week of each month, or having a thematic approach to analysing all deaths caused by a specific condition.

Kerber: If there is no existing system of death notification at community level, and existing stigma around reporting stillbirths that occur at home, even a sampling system is a resource-intensive undertaking. Getting a count on all deaths that occur in the facility and creating a culture around the importance of reporting all births and deaths is likely a good place to start.

In places where the burden of death is high, I love the idea of reviewing near-misses and positive outcomes as a morale-boosting opportunity, but also because there are important lessons to highlight in those cases around teamwork, preparedness and innovative thinking.

I also think it's helpful to pick a theme – e.g. just review deaths in a certain birth-weight category, due to a particular cause, or those that occurred on the weekend – and vary this at each meeting, so that death review is not such a tedious process.

Q: What are your reflections on the feasibility and scope of community-level audits?

Kerber: I think it is essential to involve the community in understanding and implementing the recommendations from facility-based death reviews. This has been successful by having a community liaison sit on the mortality audit committee, under the same confidentiality rules as the other participants. I think it is more challenging to conduct the whole process at the community level (e.g. counting the deaths, investigating the cause, coming up with solutions) and I haven't seen this done at wide scale in routine systems.

Segun: We know that many deaths take place in communities that are not captured or classified appropriately. A community-level audit will strengthen the continuum of care across the community and facility level. It will also build relationships between communities and health facilities. Improvements in CRVS systems can have a positive ripple effect.

Biswas: In my opinion, it is essential to give greater emphasis to community-based audits. The findings can help governments better understand the medical and social factors associated with maternal and perinatal deaths.

"In Bangladesh, different social and belief systems must be taken into account" Dr Animesh Biswas

An active surveillance system can generate a quick response from local health managers to implement solutions. In Bangladesh, deliveries commonly happen at home or on the way to the facility. [Moreover] many community cases are treated by unskilled individuals. Community-based audits will provide a clearer picture about why, how, when and where deaths occur. These findings can also help communities understand the importance of seeking adequate health care from facilities.

Rhoda: In South Africa, we have not started the open conversation of the burden of the perinatal deaths with our communities. In our experience with HIV, we need to think carefully about how to share such high figures with communities to avoid scare-mongering that may create a backlash. I do think that some sort of positive media campaign must be part of the department plan to address this problem.

Q: In your experience, can you describe some of the cultural and social constraints that challenge effective implementation of PDSR, and how they can be addressed or overcome?

Biswas: In Bangladesh, different social and belief systems must be taken into account, particularly in hard to reach areas (i.e. hill areas which are very different to, say, the coastal belt). In these areas, communities are influenced by myths, traditional practices and cultural beliefs that restrict them from seeking appropriate healthcare. Social autopsy is a key example of a method that can improve the knowledge and perception of the community around the factors contributing to a death. It can sensitise communities by dispelling myths, building knowledge and changing care seeking behaviour. It can also engage community leaders in the discussion to ensure their buy in to lead change.

Kerber: We need advocacy to shift our norms around counting every birth and death, and strengthening vital registration systems in general.

Q: How can blame be avoided or addressed when conducting perinatal (or maternal) audits?

Segun: In Nigeria, the approach to conducting MPDSR is on the basis of 'no name, no blame'. Emphasis is placed on the ability to learn from each event to ultimately improve quality of care. This will encourage healthcare providers to continue to conduct reviews, ensuring their sustainability. The other aspect is to shield MPDSR findings entirely from legal processes to prevent findings from being subpoenaed. However if there is evidence of gross negligence, then there are other ways healthcare providers can be sanctioned i.e. through disciplinary committees of specific cadre councils (e.g. the Medical and Dental Council, the Nursing and Midwifery Council, and so on).

Kerber: I think blame is one of the biggest barriers. There must be legal protection in place for healthcare professionals, such that the discussions in mortality audit meetings are separate from any disciplinary or legal action. Anonymity may be difficult to guarantee in smaller facilities or on smaller teams, but confidentiality outside of the meetings is a requirement. Having a code of conduct that participants sign at each meeting may help reinforce the goal of the review meeting being a safe space.

Biswas: The issue of blame is a key challenge in a death review system at the community level – something that was discovered during Bangladesh's piloting of maternal and perinatal death review (MPDR) in 2010. Healthcare and family planning professionals that were conducting MPDRs were well known in the communities where they worked. This meant that they had to be assured by higher-level officials that they would not be blamed for notifying deaths or assessing their causes. This reassurance approach enabled health workers to accurately report and review each death, as well as reducing underreporting, because they did not fear the repercussions. Health personnel, during MPDR trainings, were trained in strategies to avoid blame while conducting death reviews in communities. When reviewing a maternal or perinatal death, the health workers were trained to explain to the community the purpose for the review and collection of information. If blame were to arise during the review process, then the health workers would bring the focus back to the medical and social factors affecting each death.

Rhoda: Our best example of a well-run PNMM is in the rural areas, 200km outside of Cape Town. A senior clinician does outreach to the peripheral hospitals and part of his duty is to lead the PNMM meetings. Staff flock to his meeting as they know him and he addresses them as equals. He uses examples as a teaching opportunity to prevent recurrence of avoidable factors. He specifically focuses on the near misses and morbidity issues, and not only deaths. His meetings are regular - notification is one year in advance so people can plan ahead to be present (e.g. third Wednesday of every month at 08:00) - and on some occasions he also covers a topic as part of the Continuing Medical Education programme which is an incentive. Staff know that they will be heard and that their opinions are valued.

Q: What, in your opinion, are the priority (i.e. key research and evidence) gaps in our knowledge for the successful implementation of MPDSR?

Rhoda: We have to first start with ensuring that issues with data quality are addressed. The PPIP, for example, is a free download and while the limitation is [the need for] a computer, it can be a useful tool for data analysis and for managers to monitor their units.

In terms of financial and human resources to oversee and run data systems, the institutionalisation of PPIP should be mandatory. We have numerous examples locally where PPIP champions (e.g. provincial data coordinators) are no longer available and as a result, both the quality and quantity of the data falls dramatically. However, I think, institutionalisation must be the end goal for any health system to make maternal, perinatal and neonatal death surveillance and response sustainable in the reduction of mortalities and morbidities. Clinical insight (i.e. good clinical leadership and understanding of epidemiology) in the analysis of data is important to ensure that appropriate actions are made to prevent the recurrence of deaths.

Biswas: In Bangladesh, more research is needed on the response component of MPDSR implementation, particularly around how data collected is used to inform solutions and drive change. Lessons learnt on this topic could help inform the gaps in knowledge and improve the implementation of MPDSR. On a global level, more research on community-level audits is necessary as there is a greater focus on facility-based audits.

Segun: Using Nigeria as an example, MPDSR is at the beginning, so mapping what exists is a priority to better understand the scope of the system across the country, including challenges and lessons learnt.

Kerber: There are three questions I would like answered:

- a) Is there a cost-effective way of collecting data on perinatal deaths at the community level within routine systems in high-burden settings?
- b) How do we involve communities in the review of deaths at facility level while maintaining a safe space for both health professionals and affected families?
- c) How do we move from data collection and discussion of gaps to implementing recommendations?

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Inspire | case study from Ethiopia

Piloting PNDSR in Tigray region to inform national implementation – Part 1

This case study is the first of two. The second part will be published in 2017 and will report on progress toward scaling up perinatal and neonatal death surveillance and response (PNDSR) across the country.

BACKGROUND

In December 2015, Ethiopia began piloting a perinatal and neonatal death surveillance and response system in Tigray region in response to national commitments to improve newborn survival. The perinatal mortality rate in Ethiopia is high, estimated 46 per 1,000 births in 2011¹⁸.

¹⁸ Central Statistical Agency and ICF International. (2012). *Ethiopia Demographic Health Survey, 2011*. Addis Ababa: Government of Ethiopia.

The Tigray Regional Health Bureau (RHB) initiated the implementation of PNDSR after learning the importance of maternal death surveillance and response to generate evidence to save pregnant women's lives following the scale up and national launch of maternal death surveillance and response (MDSR) in May 2013. The World Health Organization (WHO) has been supporting the region following its good performance during the initial phase of MDSR implementation.

PROCESS OF IMPLEMENTATION

- The MDSR platform is used to implement PNDSR, which is incorporated in the Integrated Disease Surveillance and Response (IDSR) - Public Health Emergency Management (PHEM) system in the region. The methods used for MDSR guide the case definition, and method of surveillance (identification, investigation and review) and response used for PNDSR.
- Maternal and child health (MCH) officers and surveillance focal persons implement MDSR at the facility level. These same officers have been oriented on case definition and tools of PNDSR. As the officers were already familiar with the methods of surveillance from MDSR implementation, the orientation was given at a reduced cost and therefore improved efficiency in conducting the training. Overall, nearly 680 health professionals were oriented and trained in PNDSR in the region at the beginning of 2016.
- A regional MPNDSR technical working group (TWG) has already been established, with the addition of paediatricians from hospitals and a university in the region as members to the existing members of the MDSR TWG. The terms of reference for the TWG have been revised and so far, the meetings have been held every two months.
- The [E4A programme](#) is affiliated with the WHO country office and has been supporting the region on PNDSR implementation both technically and financially.
- The WHO/E4A Technical Assistant supports regional PNDSR and MDSR activities, and also helps to scale up maternal, perinatal and neonatal death surveillance and response (MPNDSR) to the national level



MPNDSR supportive supervision at Axume Health Centre
(from left: Mr Solomon Hailu, Mr Fisha Gebrewhad and Dr

GUIDELINES AND TOOLS

- The regional MPNDSR guidelines combine PNDSR with MDSR. Five-hundred copies have been printed and distributed to all health facilities, Woreda/district health offices and universities across the region.
- Tools for PNDSR are included in the regional guideline in both English and Tigrigna languages. These tools are distributed in both hard and soft copies to all health facilities in the region.

RESULTS

- As of September 2016, almost all hospitals and some health centres have started to implement facility-based PNDSR in Tigray region. The 'perinatal and neonatal death review form' is used to collect relevant data for each case. Between June and August 2016, more than 200 perinatal deaths were identified, investigated and reviewed in the region. Based on this data it has become possible to determine the causes, contributing factors and preventability of perinatal deaths. This information was presented in the national reproductive, maternal, neonatal, child, adolescent and nutrition review meeting in August 2016.
- All Ethiopian regions have planned to start implementing PNDSR in the coming fiscal year. The Ministry of Health (MoH) included a plan to develop a national MPNDSR guideline, training manuals, and

standard tools in its Annual Plan. At the national level, the MDSR focal person at the MoH is tasked to manage the PNDSR programme and receives technical assistance from the WHO/E4A programme.

- Applying the lessons learnt from Tigray implementation and consulting with national experts will help adapt the recently published the WHO guide - [Making Every Baby Count: Audit and review of stillbirths and neonatal deaths](#) - to the local context.

CHALLENGES, LESSONS LEARNT AND FUTURE PLANS

- Currently, there are no national guidelines, standard tools or training materials for MPNDSR. Plans are under way to develop, print and distribute these.
- PNDSR in Tigray region has yet to develop a community based surveillance system. Applying lessons learnt from community based MDSR implementation could be helpful when developing such a system.
- Greater mobilisation of resources are required to tackle the high burden of perinatal mortality, conduct trainings and provide technical assistance at all levels of the health system. Future plans include conducting a national training of trainers and regional cascade of trainings on PNDSR.
- Presently, there is no database available for PNDSR data. Plans are in progress to establish a PNDSR database nationally and regionally in a phased approach.
- Although civil registration and vital statistics (CRVS) systems have been launched nationally, they have not yet been linked to MPNDSR. Linking CRVS and MPNDSR is needed to strengthen the notification of maternal, perinatal and neonatal deaths.
- A legal framework for MPNDSR is not yet available on a global or national level. The development of a legal framework could help curb the fear of blame - which currently challenges MDSR implementation - in PNDSR.
- Continued technical assistance support will help strengthen MPNDSR in Tigray region.
- Plans to support the MoH and RHBs will help scale up MPNDSR implementation to all regions at the facility and community level.



MPNDSR technical support at the labour ward in Mekele Hospital (Mr Solomon Hailu with two midwives).

Learn more about recent MDSR activities in Ethiopia by visiting the [country update](#) from July 2016.

To read more about Tigray region and measuring maternal mortality at the community level using mid-level providers, browse this [feasibility study](#).

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Inspire | case study from South Africa

Developments in PNDSR

Scale of the problem

In South Africa, perinatal deaths are defined as all stillbirths and early neonatal deaths (from live birth to seven full days after birth). While the country has accepted the definition* of reporting and recording all deaths (foetal and neonatal) weighing more than 500 grams, it is uncertain if all hospitals where deliveries take place are correctly reporting all deaths weighing less than 1000 grams, especially stillbirths. This may be influenced by a [South African law](#) that requires all defined stillbirths to have a burial and notification of death. In rural areas and busy hospitals, this may be seen as labour intensive for already overworked staff.

The [new global guidance](#) will help monitor stillbirths weighing more than 1000 grams. However, what still remains to be addressed are the deaths of babies weighing less than 1000 grams – the extreme low-birth weight (ELBW) infant. In South Africa, prematurity is the driver of mortality. Babies who die weighing less than 1000 grams contribute to over half of all premature deaths¹⁹. This is problematic as the country does not provide equitable care to ELBW infants, with large disparities in available care within and across provinces. Moreover, admission criteria for ELBW infants is not standardised even within tertiary centres where most of the dedicated specialised care is provided. The wide and growing disparity in available care in South Africa is a contributing factor to the static Neonatal Mortality Rate (NMR).

Furthermore, the private sector, with 6 times more money per patient²⁰, caring for 16 per cent of the population²¹, is informing the quality of care that patients now expect from government hospitals, but without the resources to match the demand.

South Africa is also a unique country in the African continent in that it tracks morbidities. With a population of 55 million²² and an NMR of less than 15 per 1,000 live births²³, South Africa could benefit looking for solutions (i.e. lessons learnt) from countries like Thailand that have similar NMRs.

Country Updates

In South Africa, the National Department of Health's Maternal, Neonatal, Child and Women's Health (NDOH MNCWH) Directorate in conjunction with the three ministerial committees for maternal, perinatal and children's health have provided the lead in addressing the mortalities and morbidities in women, neonates and children. Since their inception in 2008 by the Minister of Health, all three committees have developed and improved upon the existing plans to address these mortalities in women and children. The strategies and interventions to reduce maternal, neonatal and child deaths are being implemented. The National Perinatal Mortality and Morbidity Committee (NaPeMMCo) in conjunction with the South African MNCHW Directorate are in the process of developing a Stillbirth Plan for the country. This is to formally address the large burden of stillbirths which is double the neonatal deaths and around 14 times that of the maternal deaths²⁴. This task should be completed by December 2016 and will have to follow the due process to effect implementation across the country.

¹⁹ Pattinson, R. & Rhoda, N. (2014). *Saving Babies 2012-2013: Ninth report on perinatal care in South Africa*. Pretoria: Saving Babies

²⁰ McIntyre, D. (2009). *The Public-Private Health sector Mix in South Africa*. HEU Information Sheet. Cape Town: Health Economics Unit, UCT

²¹ Department of Health: Republic of South Africa. (2015). *National Health Insurance for South Africa: Towards Universal Health Coverage*. Government of South Africa

²² The World Bank. (2016). *South Africa*. Retrieved September 30, 2015, from <http://data.worldbank.org/country/south-africa>

²³ UNICEF, the World Health Organization, the World Bank Group & the United Nations. (2015). *Levels & Trends in Child Mortality*. New York: UNICEF

²⁴ Dorrington, R., Bradshaw, D., Laubscher, R., & Nannan, N. (2015). *Rapid Mortality Surveillance Report 2014*. Cape Town: Burden of Disease Research Unit & Medical Research Council

The appointment of the District Clinical Specialist Teams (DCST) for the 52 districts nationwide in 2012, was specifically to aid the implementation of these interventions at district level where specialist care was lacking. To date, there has been a demonstrable change in the quality of maternal, perinatal and newborn care though not necessarily a change in the health outcome indicators (yet). DCST members are appointed at the district level to provide specialist leadership and clinical governance for the district. They include an obstetrician, paediatrician, family physician, midwife, paediatric nurse and primary health nurse. While the teams are not all complete, the maternal (obstetrician and midwife) and paediatric (paediatric nurse and paediatrician) dyads are making slow but definite inroads into how care is delivered across the continuum. The NDOH MNCWH Directorate is in the process of documenting the best practice related to DCST appointments to provide some concrete evidence of how their presence has made a difference to the delivery of quality care at the facility level.

While DCSTs are appointed in all districts, the anaesthetic appointments have proven to be the limiting factors in completing the teams. More than 95% of the nursing posts are filled and half the obstetricians and paediatricians are appointed. Getting the right fit of specialist with public health training has been the limiting factor and both universities and nursing colleagues are now producing post graduate diplomas to address this gap. The first groups of candidates for the post graduate diploma in community paediatrics and the masters in nursing for maternal neonatal and child health will graduate in December 2016.

South Africa is also in the process of taking all maternal and perinatal interventions up to scale. This will require good national co-ordination and funding to support the process.

Learn more about how the DCST work by browsing the 2014 [Handbook](#).

To read about perinatal mortality and the implementation of perinatal audits in South Africa, please click on the following journal articles published from 2009 to 2015:

- [Experiences with perinatal death reviews in South Africa – the Perinatal Problem Identification Programme: scaling up from programme to province to country.](#)
- [Counting every stillbirth and neonatal death through mortality audit to improve quality of care for every pregnant woman and her baby](#)
- [Stages of change: a qualitative study on the implementation of a perinatal audit programme in South Africa](#)
- [Perinatal mortality audit: Counting, accountability, and overcoming challenges in scaling up in low- and middle-income countries](#)

* In the WHO (2016)²⁵ publication, adapted from Lawn *et al.* 2011, stillbirths are defined as the following:

- “Stillbirth (early definition – ICD)[:] Birthweight \geq 500 g; \geq 22 completed weeks; body length \geq 25 cm.” (p.19)
- “Stillbirth (international comparison definition – WHO)[:] Birthweight \geq 1000 g, or if missing, \geq 28 completed weeks gestation, or if missing, body length \geq 35 cm.” (p.19)

According to Moxon *et al.* 2015, cited by WHO (2016)²⁵, perinatal mortality rate definitions vary:

- “Number of deaths in fetuses born weighing \geq 1000 g and after 28 completed weeks of gestation, plus neonatal deaths through the first 7 completed days after birth” (p.20).
- “Number of deaths in fetuses born weighing \geq 500 g and after 22 completed weeks of gestation, plus neonatal deaths through the first 7 completed days after birth” (p.20).

²⁵ World Health Organization (WHO). (2016). *Making Every Baby Count: Audit and review of stillbirths and neonatal deaths*. Geneva: World Health Organization.

- “Some definitions include all neonatal deaths up to 28 days” (p.20).

Acknowledgments: This case study was written by Dr Natasha R Rhoda, Senior Neonatal Consultant at Grootte Schuur Hospital, Observatory, Cape Town, South Africa and the chairperson of the National Perinatal Mortality and Morbidity Committee.

Learn | resources on perinatal death surveillance and response

Theme resources

THE WHO APPLICATION OF THE INTERNATIONAL CLASSIFICATION OF DISEASE-10 (ICD-10) TO DEATHS DURING THE PERINATAL PERIOD: ICD-PM

This is the first [publication](#) to help countries strengthen their data on maternal and neonatal deaths, and stillbirths that the WHO launched in August, 2016. This report presents a standardised system that enables the accurate capture and categorisation of stillbirths and neonatal deaths around the world. The ICD-PM is meant to guide those assisting healthcare providers and those tasked with death certification to accurately classify perinatal deaths.

Three distinct features of the ICD-PM are worth noting:

- It captures the time of the perinatal death - either before, during or seven days after labour
- It applies a multi-faceted approach to categorising the cause of death
- It links a perinatal death to the mother's condition (e.g. diabetes or hypertension), even if there is no condition to report. This feature aligns with the recommendation of the [Every Newborn Action Plan](#) to capture maternal complications with the registration of a perinatal death

The report includes tools and classification codes to facilitate consistent reporting. This is the first time that all stillbirths, and neonatal and maternal deaths can be consistently classified across all low-, middle- and high-income settings.

Visit the [MamaYe-E4A website](#) to read the evidence summary, and to link to the report and other relevant publications.

MAKING EVERY BABY COUNT: AUDIT AND REVIEW OF STILLBIRTHS AND NEONATAL DEATHS

This second [publication](#) - launched by the WHO in August, 2016 - aims to help countries improve their data on maternal and neonatal deaths, and stillbirths. This document provides guidance on the review and investigation of perinatal deaths to recommend and put into action solutions to avoid future cases of similar causes. The guide and tools have been developed to be used at multiple levels of a health system from a few individuals at a health facility to a national. The tools offer a simpler version of the [WHO application of ICD-10 \(ICD-10\) to deaths during the perinatal period \(ICD-PM\)](#) to be used in low-resource settings to help initiate and build up audit (or review) systems.

Moreover, the guide integrates elements of the ICD-PM classification system to carry out an in-depth review of the causes and factors leading to all stillbirths and neonatal deaths.

The structure of the guide provides an overview of the key components to develop an audit system by:

- justifying the purpose of the guide and development of an audit system
- discussing the issues around defining and categorising causes of death, and providing examples of differing systems to classify preventable causes of deaths and near misses
- defining six necessary approaches to set up and complete an audit cycle at the facility level
- describing how to integrate community deaths into an established facility-based audit system
- promoting a supportive atmosphere for the success of an audit system and giving advice on how to create an enabling environment

- providing guidance on how to extend an audit system to a regional or national level as well as strengthening links to civil registration and community surveillance systems

Visit the [MamaYe-E4A website](#) to read the evidence summary, and to link to the report and other relevant publications.

TIME TO RESPOND: A REPORT ON THE GLOBAL IMPLEMENTATION OF MATERNAL DEATH SURVEILLANCE AND RESPONSE

This is the third [publication](#) that the WHO launched in August 2016 to help countries improve their data on maternal and neonatal deaths, and stillbirths. This document presents the findings of a global survey conducted by the WHO and UNFPA to determine the status of MDSR implementation in countries where there is a national system.

The report helps countries improve their review process for maternal deaths at the facility level (hospitals and clinics). It also gives guidance for developing a safe environment (free of blame) for healthcare providers to improve the quality of care at facilities. Lastly, it offers an approach to capture deaths taking place beyond the health system (e.g. home births).

The document presents implementation and case study insights, which include identifying barriers to successful systems. The next global survey will take place in 2017 and will be repeated every two years.

Visit the [MamaYe-E4A website](#) to read the evidence summary, and to link to the report and other relevant publications.

MATERNAL AND PERINATAL DEATH REVIEWS TO REDUCE MORTALITY: SPOTLIGHT ON WEBUYE HOSPITAL, KENYA

In July 2016, the Maternal and Newborn Health Improvements (MANI) project in Kenya's Bungoma County funded by the UK Department for International Development, published a [Human Interest Story](#) in the MANI Learning Series. The MANI project supports six sub-counties in Bungoma to implement maternal and perinatal death surveillance and response (MPDSR).

MANI has been assisting Webuye Hospital to introduce and conduct maternal and perinatal death reviews (MPDRs). This Story presents a few ways MPDRs helped Webuye Hospital to improve maternal and newborn health. Various challenges were overcome by developing an on-call rota system, connecting a generator to the maternity ward and newborn unit, training staff in neonatal resuscitation, improving communication channels between all stakeholders and conducting a blood drive. A new operating theatre is due to open soon and the newborn unit is to be redesigned.

COUNTING EVERY STILLBIRTH AND NEONATAL DEATH THROUGH MORTALITY AUDIT TO IMPROVE QUALITY OF CARE FOR EVERY PREGNANT WOMAN AND HER BABY

This [article](#) by Kate Kerber and colleagues in *BMC Pregnancy & Childbirth* presents the findings of a review and assessment of evidence for facility-based perinatal mortality audit in low- and middle- income countries, including their policy and implementation status on maternal and perinatal mortality audits.

The authors found that only 17 countries have a policy on reporting and reviewing stillbirths and neonatal deaths despite evidence suggesting that birth outcomes can be improved if the audit cycle is completed. Key challenges in completing the audit cycle and where improvements are needed were identified in the health system building blocks of "leadership" and "health information systems". Evidence based solutions and experiences from high-income countries are provided to help address these challenges.

The authors conclude that the system needs data mechanisms (e.g. standardised classification for cause of death and best practice guidelines to track performance) as well as leaders to champion the process (e.g. bring about a no-blame culture) and access decision-makers at other levels to address ongoing challenges.

PERINATAL MORTALITY AUDIT: COUNTING, ACCOUNTABILITY, AND OVERCOMING CHALLENGES IN SCALING UP IN LOW- AND MIDDLE-INCOME COUNTRIES

[Pattinson et al \(2009\)](#), published by the International Journal of Gynaecology and Obstetrics, conducted a systematic review and meta-analysis of perinatal mortality audit at the facility level in low- and middle-income countries. The results showed a reduction in perinatal mortality by 30% with the establishment of a perinatal audit system.

The findings suggest that an audit system may be helpful in reducing perinatal deaths in facilities and improving the quality of care. Pattinson and colleagues also reviewed information about community audits and verbal/social autopsy drawing on examples from Africa (Guinea and Uganda) and Asia (Uttar Pradesh, India). Furthermore, two country case studies were presented on scaling up perinatal audit in South Africa and Bangladesh.

The authors identify areas that merit further research and conclude that successful implementation of perinatal audit to improve the quality of care relies on closing the audit cycle.

MBRAACE-UK – PERINATAL MORTALITY SURVEILLANCE REPORT: UK PERINATAL DEATHS FOR BIRTHS FROM JANUARY TO DECEMBER 2014

This [report](#) was published in May 2016 and is based on information collected of perinatal deaths in the UK for births from January to December 2014. The document focuses on deaths reported through the secure online reporting system, which include all late foetal losses (22nd to 23rd weeks of gestational age), stillbirths (a baby delivered at or after 24 weeks of gestational age with no signs of life) and neonatal deaths (a liveborn baby delivered at 20 weeks of gestational age or later, or weighing 400g or more when gestation is unavailable) who died within 28 days of being born. The findings are displayed in mortality rates for stillbirths, neonatal deaths and extended perinatal deaths (both stillbirths and neonatal deaths). The report offers key findings and recommendations, as well as describing causes of death and factors that influence rates of perinatal death.

STAGES OF CHANGE: A QUALITATIVE STUDY ON THE IMPLEMENTATION OF A PERINATAL AUDIT PROGRAMME IN SOUTH AFRICA

In this [article](#), published in 2011 by the BMC Health Services Research, Belizan and colleagues set out to examine the implementation and management of the Perinatal Problem Identification Programme (PPIP) in South Africa. The authors conducted two workshop sessions to draw on the experiences of clinical care providers. An analytical framework was applied, divided into three phases: 'pre-implementation', 'implementation' and 'institutionalisation'. Each phase has two stages of change.

The authors identified four themes that are key to sustaining the implementation of an audit system across the stages of change. These include:

1. Drivers of change and teamwork
2. Outreach visits and supervisory meetings
3. The review of perinatal deaths and feedback meetings
4. Communicating and networking

The six stages that correspond to the three phases - before implementation, during implementation and the institutionalisation of the audit programme - include:

- Building awareness
- Committing to audit implementation
- Preparing for audit implementation

- Implementing the audit programme
- Making audit routine practice
- Sustaining the programme

These findings may be applied to other low- and middle-income settings that have high neonatal mortality and are planning on adapting a perinatal audit system. The authors also provide a comprehensive tool to reflect on the implementation and management of a perinatal audit system.

EXPERIENCES WITH PERINATAL DEATH REVIEWS IN SOUTH AFRICA - THE PERINATAL PROBLEM IDENTIFICATION PROGRAMME: SCALING UP FROM PROGRAMME TO PROVINCE TO COUNTRY

This [article](#), published by the International Journal of Obstetrics and Gynecology in 2014, discusses the development of the Perinatal Problem Identification Programme (PIIP) in South Africa, which was first implemented in a few hospitals in 1990 as a facility audit tool to improve the quality of maternal and newborn care. By 2012, PIIP became a requirement for all public health facilities delivering newborns and was introduced to all districts across the country.

The article describes the various functions of PIIP, including the audit cycle, data entry, verification and analysis, and training. Rhoda and colleagues detail the experiences of two facilities - Western Cape and Mpumalanga - that have been implementing PIIP the longest and offer two differing experiences that may be helpful to other facilities interested in using perinatal death audit. Finally, the authors draw on the strengths, challenges and opportunities of PIIP, concluding that with adequate support, training and guidance, PIIP can help mothers and their newborns survive in South Africa.

THE CONDUCT OF MATERNAL AND PERINATAL DEATH REVIEWS IN OYAM DISTRICT, UGANDA: A DESCRIPTIVE CROSS-SECTIONAL STUDY

In this [paper](#), published in the *BMC Women's Health* in 2016, Agaro and colleagues critically look at the implementation of maternal and perinatal deaths reviews at health facilities in Oyam District, Uganda. They conducted a cross-sectional study reporting both quantitative data and qualitative findings.

Accordingly, the factors that affect the conduct of MPDR are the 'functionality of maternal and perinatal review committees', 'service delivery' and 'health workforce'. The authors describe the challenges, lessons learnt and solutions to these factors. They conclude that for the successful implementation and sustainability of MPDRs it is necessary to have the following:

- A functioning MPDR committee
- Trained MPDR members
- Senior staff and administrators attending meetings
- Feedback and supportive supervision
- An understanding of accountability
- Staff motivation
- An extension to communities

TOWARDS GREATER EFFECTIVENESS OF PERINATAL DEATH AUDIT IN LOW- AND MIDDLE-INCOME COUNTRIES

This [commentary paper](#), published in the International Journal of Gynaecology and Obstetrics in 2014, gives an overview of the effect of perinatal death audit in low- and middle-income settings. It describes the function of an outcomes audit for perinatal deaths. Buchmann postulates that where perinatal mortality is less frequent (in some middle-income countries) then reviewing near misses may be a more appropriate audit outcome.

The author discusses the two frameworks that are regularly used to assess the preventable factors for each death – the 'three delays' and the 'patient-administrative-healthcare provider' models. The latter is typically applied to middle-income settings while the former is best suited for low-income areas. Buchmann goes on to

describe the criterion-based clinical audit, a popular method used to assess recurrent adverse events commonly identified in an outcomes audit. Finally, the author reviews past studies to determine the effect of change by implementing perinatal audit and to identify where there are gaps in research.

PERINATAL DEATH AUDITS IN A PERI-URBAN HOSPITAL IN KAMPALA, UGANDA

This [paper](#) by Nakibuuka *et al* (2012), published in the *African Health Sciences* journal, reports a retrospective descriptive study conducted from March to November 2008 to determine what effect an integrated perinatal death audit system in routine care would have on perinatal mortality at Nsambya Hospital. Modifiable factors that cause stillbirths and early neonatal deaths were: Low capacity of neonatal resuscitation, incorrect use of partographs and delays in administering caesarean sections. Interventions to offset these factors include training sessions in neonatal resuscitation and refresher courses on partograph use. Nakibuuka and colleagues conclude that perinatal audits are feasible and can reduce perinatal mortality at the facility level.

Act | updates from around the world

Bangladesh | the roll out of MPDSR

Maternal and perinatal death surveillance and response in Bangladesh was initiated by the Ministry of Health and Family Welfare (MOH&FW) to monitor the overall improvement of maternal and neonatal health. Since its inception, the MoH&FW has been implementing MPDSR in 17 districts across Bangladesh following the pilot programme in Thakurgaon district in 2010. The approval of the national MPDSR guideline has paved the way to scale up MPDSR. From July to September 2016, a number of initiatives have taken place to further MPDSR implementation across the country.

RECENT ACTIVITIES

- The national guidelines for MPDSR have been approved by the MOH&FW. Printing is underway and the dissemination workshop will take place in October 2016.
- Plans to scale up MPDSR countrywide by 2021 have been drafted in the results framework of the [Health, Population and Nutrition Sector Development Program 2011-2016](#).
- The MPDSR Training of Trainers manual is under development and will be implemented to train sub-national level facilitators who in-turn will train healthcare providers from multiple disciplines at the district and upazila levels. The upazila team will then train the field-level health care providers on death notification, verbal autopsy (VA), social autopsy and facility death review. Participants will also be trained in data collection and analysis
- A booklet on MDPSR for health and family planning workers in the field is also being developed in the local Bengali language. A draft will be complete by September 2016. The booklet is expected to be distributed to field-level health workers (health assistants, family welfare assistants, health inspectors, assistant health inspectors, family planning inspectors and sanitary inspectors) by November 2016
- Simplified tools of MPDSR to help facilitate death notification, VA and facility death reviews, to name a few, are being prepared for dissemination to all 17 districts. Selected variables of VA have been incorporated in the District Health Information System-2 (DHIS-2)
- A national-level meeting - led by the Director, Primary Health Care and Line Director of Maternal, Neonatal, Child and Adolescent Health of the Directorate General of Health Services - was planned in September 2016 to share experiences in maternal and perinatal death review across 14 districts
- The national MPDSR guidelines will be shared at six divisional workshops once finalised (expected date: December 2016).
- The UNICEF South Asian Regional Office has organised a South-to-South exchange visit for the MOH&FW [Obstetric and Gynaecological Society of Bangladesh](#) to travel to China in November 2016 to share experiences about auditing maternal near misses

To learn more about Bangladesh's implementation of MPDSR or components of it, please read the [country update from July 2016](#).

Browse this [case study](#) to read about how social autopsy is used as an intervention tool to prevent maternal and neonatal deaths in communities in Bangladesh. The WHO has also published a [case study](#) about social autopsy in Bangladesh.

Acknowledgements: This country update was prepared and reviewed by Dr Riad Mahmud, Health Specialist (Maternal and Neonatal Health), Health Section, UNICEF Bangladesh and Dr Animesh Biswas, National Consultant (MPDSR), Health Section, UNICEF, Bangladesh.

Kenya | A phased approach to MPDSR implementation and county focus

In order to eliminate preventable maternal and perinatal mortality, several measures have been taken by the Kenyan Government through the Ministry of Health. They include:

- scaling up training of Emergency Obstetrics and Newborn Care countrywide
- eliminating user fees for maternity services through the Free Maternity Services Initiative led by The President of Kenya, H.E. Uhuru Kenyatta
- instituting maternal and perinatal death surveillance and response mechanisms

Kenya recently developed comprehensive national MPDSR guidelines. MPDSR, however, is not new to the Kenyan health system. In 2004, maternal deaths were declared a notifiable event which led to the implementation of maternal death reviews at health facilities. Maternal death reviews are the foundation to MPDSR while perinatal death reviews are less developed.

With the launch of the National MPDSR guidelines - 2016, Kenya is taking a phased approach in implementing the “P” in MPDSR. The implementation has recently begun in facilities with a low burden of maternal morbidity and mortality. It is noted that in health facilities with low maternal death occurrence, perinatal deaths remain quite high.

Murang’a County Referral Hospital is one such facility, with a low burden of maternal mortality but a persistently high perinatal mortality rate. At Murang’a County Referral Hospital, the (facility-level) MPDSR committee holds monthly meetings to discuss each case of perinatal mortality. The case files are usually accompanied by a review of the maternal file. The team reviews each case individually discussing the clinical care and health system factors that contributed to the death. The recommendations are well documented and followed up in the next meeting.

“...The MPDSR reviews have improved our teamwork, both amongst ourselves and even interdepartmental collaboration. Everyone involved in the care of mothers and newborns are involved in the MPDSR committee deliberation...” (Webuye staff about MPDSR meetings)

The Ministry of Health is working with the facility, sub-county and county teams to monitor the response to the recommendations made during perinatal death reviews.

COUNTY FOCUS: BUNGOMA COUNTY

The Maternal and Newborn Improvement (MANI) project supports six sub-counties in the roll out of MPDSR within and across 42 facilities in Bungoma County. The national maternal death review (MDR) and perinatal death review (PDR) tools are regularly used at these facilities. Narrative qualitative analyses describing the events of each maternal and perinatal case were introduced in September 2015 and are reviewed on a monthly basis.

The 42 facilities have received ongoing support through trainings, mentorship and supportive-supervisory visits to identify maternal and perinatal deaths, conduct reviews and analyse probable causes of death.

The MPDSR committees in six sub-counties meet quarterly to discuss feasible and immediate interventions that are within the capacity of the sub-county or facility levels to apply remedial solutions to each cause of death.

From September to December 2015 and April to June 2016, there were reported increases in the number of facilities with functional MPDSR committees from 20 to 42. From the committees that met, 33 facilities made necessary changes to service provision and/or management practices based on MPDR findings between April and June 2016; an increase from two facilities between September and December 2015.

While the percentage of maternal deaths that were reviewed and uploaded to the District Health Information System (DHIS) stayed constant at 100% from September 2015 to June 2016, perinatal deaths reviewed and uploaded to the DHIS increased from 54% to 67%, over the respective quarterly periods.

SUB-FOCUS: WEBUYE HOSPITAL

Webuye hospital has the second highest number of maternal and perinatal deaths in Bungoma County. With the roll out of the new 2015 Kenya National Maternal and Perinatal Death Surveillance and Response Guidelines, there has been substantial progress to review perinatal causes of death to inform the quality of care.

The facility-MPDSR committee at Webuye hospital was established in October 2015 with the support of the MANI project and Bungoma County Health Management Team (CHMT). Prior to this, maternal and perinatal deaths were seldom reviewed, collaboration between maternal and newborn health departments was particularly low and record keeping was poor. As such, perinatal deaths were infrequently accounted for and the true causes of death rarely known.

The MPDSR committee at Webuye holds monthly review meetings. During the initial stages of these meetings, discrepancies were identified between the Ministry of Health PDR forms and the DHIS, preventing PDR data from being uploaded to the DHIS system. As a result, the Webuye team supported the standardisation of the PDR tools in January 2016. The PDR form has since been updated and pretested. The review and upload of PDR findings have increased since the new PDR tool was introduced. For each quarterly period from September 2015 to June 2016, there were marked increases from 44% to 100%, respectively.

Please visit [here](#) to read the country update for Kenya from March 2016.

Acknowledgements: The national update was prepared and reviewed Dr Wangui Muthigani, Program Manager- Maternal and Newborn Health at Ministry of Health in Kenya. The update for Bungoma county was developed based on feedback from Mr Peter Ken Kaimenyi, Maternal and Newborn Health Technical Advisor at MANI Project funded by UK Aid; two MANI Project abstracts accepted for presentation at the Kenya Midwives Annual Scientific Conference 2016; and the MANI Project power-point presentation for the Kenya Midwives Annual Scientific Conference 2016.

Nepal | building on MPDRs to implement MPDSR

Nepal has shown significant progress in reducing maternal and perinatal mortality over the past two decades (see Table 1). Despite progress, maternal mortality in Nepal continues to be one of the main causes of death among women of reproductive age and a major public health problem. In 2015, it was estimated that about 1500 women died in Nepal during pregnancy, delivery and the puerperium period (WHO 2015). While it is clearly important to monitor this, the maternal mortality ratio only illustrates part of the story. There is a real need to better understand the story behind the maternal mortality change over the past 10 years and to put in place the necessary steps to prevent maternal deaths in the future. Thus, Nepal has been undertaking a number of initiatives to identify programmatically useful information to inform investment and interventions in maternal health.

Table 1: Estimates on the maternal mortality ratio, neonatal mortality rate and perinatal mortality rate

Years	1995	2006	2011	2015
Maternal mortality ratio (per 100,000 live births) ²⁶	660	-	-	258
Neonatal mortality rate (per 1,000 live births) ²⁷	47.7	-	-	22.2
Perinatal mortality rate (per 1,000 births) ²⁸	-	45	37	-

Note: the next Demographic Health Survey for Nepal will report data from 2016.

In 1990, a maternal death review process was first introduced in Paropakar Maternity and Women's Hospital in Kathmandu, the only maternity hospital in the country. The hospital began implementing perinatal death review in 2003. By 2006, maternal and perinatal death reviews were being conducted in six hospitals increasing to 44 referral hospitals by 2014. Furthermore, maternal mortality and morbidity studies were undertaken in three districts in 1998 increasing to eight districts in [2008-9](#).

In line with the recommendations of the Commission on Information and Accountability / World Health Organization (CoIA/WHO), the Government of Nepal (GoN) initiated a maternal and perinatal death surveillance and response system in 2014. The system builds on experiences from MPDR implementation and the maternal mortality and morbidity study.

While facility-based reviews of maternal and perinatal deaths continue in 44 referral hospitals, the GoN, with support from the WHO and other partners has been implementing MPDSR in five districts, namely Banke, Dhading, Kailali, Kaski and Solukhumbu since 2016. In these districts, MPDSR is implemented at two levels: health facility and community. At the facility level, both maternal and perinatal deaths are reviewed and appropriate actions are taken. In the community, verbal autopsies are conducted for maternal deaths only.

The diagram below presents the role of different stakeholders/actors in the MDSR at the community level and MPDSR at the facility level.

The Ministry of Health of Nepal, with support from the WHO, UNICEF, Nepal Health Sector Support Programme / Department for International Development and other partners, has taken the lead and made a commitment to gradually scale up maternal and perinatal death surveillance and response to all hospitals across the country by 2020 and ultimately expand to include community-based maternal death surveillance and response. A series of planning meetings are taking place with experts to finalise the training modules, review processes, and develop implementation guidelines, to name a few.

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Acknowledgements: This country update was prepared and reviewed by Dr Sharad Kumar Sharma, Senior Demographer, Family Health Division, DoHS, MoH; Dr Pooja Pradhan, WHO Country Office, Nepal; and Mr Pradeep Poudel, NHSSP/DFID/MoH, Nepal.

²⁶ World Health Organization (WHO), UNICEF, UNFPA, the World Bank Group & the United Nations Population Division. (2015). Trends in Maternal Mortality: 1990 – 2015. Estimates by WHO, UNICEF, UNFPA, World Bank Group and the United Nations Population Division. Geneva: WHO.

²⁷ UNICEF, WHO, World Bank, UN DESA Population Division. (2015). Child mortality estimates: UN Inter-agency Group for Child Mortality Estimation. Retrieved September 22, 2016, from: <http://www.childmortality.org>

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Diagram 1: The MDSR/MPDSR process in Nepal



Abbreviations for diagram 1

DHO	health office
DPHO	District public health office
D-MPDSR-C	district maternal and perinatal death surveillance and response committee
FCHV	Female community health volunteer
HF	Health facility
H-MPDSR-C	Hospital maternal and perinatal death surveillance and response committee
MDR	Maternal death review
PDR	Perinatal death review
VA	Verbal autopsy
WRA	Women of reproductive age

Nigeria | the development of a MPDSR system

Nigeria has been working towards developing a national MPDSR system and several activities have taken place at the national and State level over the past few months.

In April and May 2016, a maternal and perinatal death surveillance and response training was held in Lagos to build the capacity of key personnel of the state healthcare system (including gynaecologists, obstetricians, representatives from private hospitals and local government surveillance officers) to further efforts to institutionalise MPDSR in the state, building on existing Maternal Death Review structures. This was the first State-level training in country that incorporated perinatal, surveillance and response components. Read the [July 2016 Nigeria update](#) to learn more about the training.

After the training, the Chief Medical Directors of the participating secondary facilities were tasked with establishing maternal and perinatal death review committees at their facilities. To date, committees have been set up in 21 general hospitals that offer maternal, newborn and child health services. These committees have started reviewing maternal and perinatal deaths at the facility level and are sharing MPDSR findings with the State.

Also, participants from each facility developed work plans for MPDSR implementation. Progress towards implementing the facility work plans will be presented in a scorecard based on MPDSR data from July to September 2016. The Lagos State Ministry of Health, with support from the MamaYe-E4A, has collected and analysed the data, and will disseminate the scorecard to MPDSR stakeholders in October 2016.

In Bauchi State, the Bauchi State Maternal and Perinatal Death Surveillance and Response Committee provides mentorship to facility-MDR committees and recently supported the collection of data on maternal and perinatal deaths from 25 secondary facilities in the last quarter with support from MamaYe-E4A. A draft MPDSR scorecard has been prepared, and will be reviewed and validated at a stakeholder meeting at the end of September 2016 before printing.

As a follow up to the [country update](#) shared in the July 2016 newsletter, a workshop was conducted at the end of June to develop the national MPDSR training (for trainers) manual. This workshop took place over five days and was led by the FMOH with members of the national MPDSR Steering Committee.

Participants went through the MPDSR national guidelines and tools, and agreed on a modular format for the training manual. During the workshop, participants successfully developed some training sessions. Two consultants have since been tasked with completing the remaining sessions using the agreed format. They have submitted a completed draft of the training manual, which will be reviewed and finalised at a stakeholder meeting in October 2016. A National MPDSR Training of Trainers will then take place in November 2016.

Acknowledgements: This country update was developed based on feedback from Dr Tunde Segun, Country Director for MamaYe-E4A Nigeria; Mr Oko Igado, National Technical Advisor for MamaYe-E4A Nigeria; and content from the Report on the Training of Lagos State Health Care Providers on Maternal and Perinatal Death Surveillance and Response (MPDSR): April 28-29 and May 3-4, 2016, and MamaYe-E4A Quarterly and Country reports.

Tanzania | Scaling up MPDSR implementation with new guidelines

Maternal and perinatal death surveillance and response is recognised by the Tanzanian government as a process for improving quality of maternal and newborn care in health facilities. With a stepwise approach and the decision to initially focus on facility-based maternal and perinatal deaths before scaling up to include deaths occurring at the community level, new guidelines were developed and are being rolled out to all 26 regions in mainland Tanzania. The process is supported by the WHO country office and involves the training of trainers in each region so that implementation is tailored to the local settings rather than a centralised initiative led by the Ministry of Health (MoH).

Support from the WHO has complemented previous efforts by health stakeholders to roll out of the new national guidelines in four regions in the Lake and Southern zones. Funding from the WHO helped quicken the roll-out process across the country, especially in regions previously not supported. Led by the MoH, national experts were invited to participate in drafting the timeframe of the countrywide roll-out. Three teams of at least three experts each helped disseminate the new guidelines and trained at least 20 trainers in each region to take over the dissemination and training in districts and health facilities.

In contrast to the 2006-2015 maternal and perinatal death review guidelines, the MPDSR guidelines focus on strengthening skills in maternal and perinatal death audits at the facility level - including the use of information to improve service delivery - and improving capacities to oversee and support implementation at the district, regional and national levels. The MPDSR guidelines define the differences between audit committees at the facility level and technical teams at the district, regional and national levels. They also clarify the use of generated data to inform service delivery and MPDSR implementation at all levels. Reporting from facility to national levels and developing feedback loops are also highlighted in the guidelines to ensure a common understanding. Additionally, the use of information and communications technology, such as WhatsApp groups, to link MPDSR trainers to health facilities in each district and region is also encouraged and are already used to share progress in developing skills that are impactful at all levels.

The MPDSR guidelines are expected to be disseminated to all regions by September 2016 as the scale up of MPDSR in Tanzania progresses.

- To read the country update for Tanzania from July 2016, please click [here](#).
- To learn more about MPDSR implementation in Tanzania, read this [case study](#) published by the World Health Organization.
- Read this [paper](#), published by the Tropical Medicine and International Health journal in 2014, to learn about the strengths and weaknesses in implementing MPDRs in Tanzania.

Acknowledgements: This update was written by Dr Moke Magoma, Team Leader QI, TGPSH (Tanzanian German Programme to Support Health).

Act | news updates

THE LANCET MATERNAL HEALTH SERIES

On 18 September, *The Lancet* launched the 2016 [maternal health series](#) in New York City on the opening day of the United Nations' General Assembly, following a decade since the maternal survival Series was published. The new Series comprises of six papers discussing the diversity and divergence of poor maternal health, the

extremes of maternal care (too little, too late and too soon, too much), childbirth care, women centred care in high-income countries, future external factors and health-system innovations, and a call to action to presenting five key targets to ensure that the Sustainable Development Goals are met.

GLOBAL FINANCING FACILITY

Global Financing Facility (GFF): the Country Powered Investments [report](#) supporting [Every Woman, Every Child](#), was launched 20 September. Four new countries – Guatemala, Guinea, Myanmar and Sierra Leone - have also recently become eligible to access GFF funding. For more information about the GFF, visit the website [here](#).

Act | calendar of events

EVENT	DATE AND LOCATION
Global launch of the Lancet Series on Early Child Development	5 October New York, New York, USA three regional events to proceed in Lithuania, Dubai and Nairobi –dates to be determined
Launch of The Lancet Maternal Health Series at the London School of Hygiene and Tropical Medicine	11 October LSHTM, Keppel Street, London WC1E 7HT UK
University College London seminar: Improving data improving health: verbal autopsy for health systems strengthening. Register online .	17 October – 9:00-17:00 UCL, Gower Street, London WC1E 6BT
MANA 2016 (Midwives Alliance) Register here .	10–13 October 2016 Atlanta, Georgia, USA
International Confederation of Midwives Africa Regional Conference	17-21 October 201
Fourth global symposium on health systems research 2016. Theme: resilient and responsive health systems for a changing world. Register here .	14-18 November 2016 Vancouver, Canada
European Midwives Association Fifth International Education Conference 2016. Register here .	2–3 December 2016 Westminster, London, UK
MBRRACE-UK Saving Lives, Improving Mothers' Care Report Launch Meetings 2016 Tickets can be bought here . Early bird special rates are bookable until 12 October.	7 December Royal College of Obstetricians and Gynaecologists, London, UK 9 December Royal College of Physicians and Surgeons, Glasgow, UK
25 th Annual Conference and Silver Jubilee Celebration of the Ethiopian Society of Obstetricians and Gynaecologists conference and the second Annual Conference of the African Federation of Obstetrics and Gynaecology. View online .	2-4 February, 2017 Addis Ababa, Ethiopia