In 2010, the United Nations (UN) launched the Global Strategy for Women’s and Children’s Health to accelerate progress on maternal and child health. A UN Commission on Information and Accountability, established to ensure oversight and accountability on women’s and children’s health, outlined a framework with three processes: monitor, review, and act. This paper assesses progress on these processes. Effective monitoring depends on a functional civil registration and vital statistics system. Review requires counting all deaths and identifying contributing factors. The final, critical step is action to prevent similar deaths. Maternal death surveillance and response includes these steps and strengthens accountability. Strategies are underway to improve accountability for severe maternal morbidity and perinatal mortality. The post-2015 agenda adds greater focus on reducing inequalities, increasing availability of quality, disaggregated data, and accountability for human rights. This agenda requires engagement with communities and health providers—the foundation of accountability for women’s and children’s health.

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In 2000, the heads of state convened by the United Nations (UN) committed to achieving a set of eight global goals by the year 2015. Known officially as the Millennium Development Goals (MDGs), three of them were related to health and two focused specifically on improving maternal and child health: MDG 5 aimed for a 75% reduction in maternal mortality and MDG 4 a 66% reduction of mortality in children under 5 years old.

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Ten years later, a notable lack of progress toward achieving these two goals led the UN to adopt a Global Strategy for Women's and Children's Health. The global strategy included a strong call for improved monitoring and evaluation to ensure the accountability of all actors for meeting the agreed-upon commitments [1]. It also mandated the World Health Organization (WHO) to chair a process to determine the most effective international institutional arrangements for ensuring global reporting, oversight, and accountability on women's and children's health—a process that led to the creation of the United Nations Commission on Information and Accountability for Women's and Children's Health (CoIA) [2].

In 2015, the heads of state came together once again and committed to a new set of 17 long-term goals for the next 15 years, called sustainable development goals (SDGs). SDG 3, “ensure healthy lives and promote well-being for all at all ages,” focuses specifically on health and includes targets to address the unfinished agenda of reducing maternal and child mortality [3]. These targets call for all countries to reduce under-five mortality to at least as low as 25 per 1,000 live births and neonatal mortality to at least as low as 12 per 1,000 live births and to reduce the global maternal mortality ratio (MMR) to less than 70 per 100,000 live births. In parallel, a new Global Strategy for Women's, Children's and Adolescents' Health (2016–2030) was developed in alignment with SDG 3, which adds two additional targets for maternal and newborn mortality: all individual countries should have reduced their MMR to less than 140 and their stillbirth rate to no more than 12 per 1,000 live births [4]. The new strategy continues to emphasize the importance of accountability, with explicit focus on accountability not just for resources and results, but for rights as well.

This chapter will summarize the progress that has been made toward improving accountability for maternal and newborn health since 2011, when the CoIA recommendations were made, and it will also discuss critical challenges—both current challenges and those related to accountability for the new global targets for maternal and newborn health.

**United Nations Commission on Information and Accountability for Women's and Children's Health**

The first CoIA report published in May 2011, *Keeping Promises, Measuring Results*, outlines a clear and simple framework for accountability comprising three interconnected processes—monitor, review, and act—while at the same time linking accountability for resources to results [1]. This framework emphasizes the need to collect valid and accurate data, analyze and interpret the data to determine whether improvements have been made and commitments kept, and, finally, use the information and the evidence from the review as guidance to make recommendations that are actionable—all in tandem with tracking and reporting results. The reporting of progress is a fundamental component of accountability, and it needs to occur at many levels: health facilities, districts, countries, and regions. The institutions at these levels must be accountable for their results, or lack thereof, to stakeholders in civil society, to national and global partners, and, most important, to citizens, particularly women and their families.

This foundation of accountability will continue to apply to the SDGs and also to the agenda for the new global strategy for 2016–2030. The framework embraces the key principles of accountability contained in the global strategy, including national leadership and ownership of results and the strengthening of each country’s capacity to monitor and evaluate. It is built on the foundation of the right to the highest attainable standard of health and equity in health. In keeping with the post-2015 agenda, it will incorporate a stronger human rights-based approach to accountability, while also continuing to focus on improving measurement, data, and harmonization, but with a greater emphasis on disaggregated data that will make it possible to address the equity concerns of the SDGs and the global strategy—to better identify who is being left behind and why [5]. Finally, there will be a greater emphasis on incorporating people and communities into the accountability dialogue.

The first step in the monitor—review—act cycle is to determine the extent of the problem. Assessing progress toward achievement of the maternal and child health targets requires monitoring how many women are dying from pregnancy-related problems, how many infants and children under five are dying, and how many infants are being born. Countdown 2015, launched in 2003, was a collaboration of more than 40 different institutions and organizations with the *Lancet* as a central partner. Its task was to provide information on global and national progress toward achieving MDG 4 and 5.
COUNTDOWN 2015 reports that there were 523,000 maternal deaths in 1990 compared with only 289,000 in 2013 [6]. It is important however to ask how these numbers were obtained and whether or not they are reliable. The answers will become even more important when monitoring the impact of activities and interventions aimed at achieving the 2030 objectives not just at national levels but also at subnational levels and among women and children at greater risk. Accountability cannot exist without data [7]. For maternal and child health, having functional civil registration and vital statistics (CRVS) systems in place is “a fundamental requirement for evidence-based decisions and accountability” [5].

Civil Registration and Vital Statistics

In its 2011 report, CoIA made three recommendations for obtaining “better information for better results,” the first of which was on the subject of vital events: “By 2015, all countries [should] have taken significant steps to establish a system for registration of births, deaths, and causes of death, and [should] have well-functioning health information systems that combine data from facilities, administrative sources, and surveys” [2]. The UN defines civil registration as the “universal, continuous, permanent, and compulsory recording of the occurrence and characteristics of vital events pertaining to the population” [8]. It is real-time counting that provides data down to the district and local level. When a birth or death occurs, it should be recorded. It is different from estimates based on surveys and censuses, which although they often have a fair degree of accuracy only reflect events that took place in the past (e.g., survey-based estimates for child mortality are two to three years old, and for maternal mortality they are about eight to ten years old). Surveys also have the limitation that they provide national estimates without adequate disaggregation at the subnational, district, or local level. Given the large differences often found in results within a country, as well as the geographic, ethnic, and economic disparities within populations, true accountability to women, families, and communities requires disaggregated data for the areas in which they live and where they receive care. This information will help to ensure that the most vulnerable and economically deprived populations are given priority and that resources are channeled appropriately [9].

Countries have continued to devote time and attention to the development of functioning CRVS systems. The latest data suggest that 64 out of 75 priority countries either have CRVS assessment and national plans in place or are in the process of establishing them [9].

There are a number of reasons births and deaths are poorly registered. For example, there may be a lack of knowledge about the importance of collecting the information. In addition, families are busy when there is a birth and grieving when there is a death. Alternatively, there may be discriminatory laws or practices that prevent or discourage registration [10]. Higher levels of government may not have identified registration as a priority, and often there is a lack of leadership to call attention to its importance. Champions are needed to strengthen CRVS. In order to scale up, barriers to reporting need to be identified and addressed, and specific guidelines need to be developed to enhance reporting. In many cases, cost alone has been a significant barrier to full CRVS, with estimates suggesting that in order to scale up and sustain CRVS in 73 of the countdown countries (excluding China and India) US$ 3.82 billion would need to be spent [10].

Some innovative approaches have been developed to overcome these barriers — for example, the use of mobile technology in Uganda, the deployment of community health workers to facilitate reporting in Bangladesh, and interinstitutional collaboration in Nicaragua [10]. Although it may appear to be a technical issue, registering a birth is a matter of human rights. In 2014, the United Nations General Assembly adopted a resolution on birth registration in which it states that it is a universal human right “closely linked to the realization of many other rights such as the right to health and the right to education” [11]. Although the accuracy of the data may be suboptimal, there seems to have been overall progress in birth registration throughout the world, with the registration of children under five increasing over a 10-year period from 58% to 65% in 2013, and the work continues [10].

Registration of deaths tends to lag behind registration of births. However, once a child’s death is registered then neonatal, infant, and under-five mortality can easily be reported because the definition does not depend on an accurate cause of death, rather only on the age at which it occurred. Therefore, it is important for the age at death to be accurately reported.

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However, the identification of a maternal death depends on accurate identification of the fact that the woman was pregnant when she died or within 42 days of her death. This information is not consistently added to the death certificate. It may not be available to the individual registering the death, or the family may not want the information to be known. Abortion deaths are especially difficult to identify particularly where abortion is illegal. Families may not even be aware the woman was pregnant, or they may not want to report that she underwent an abortion. While some causes of death are automatically identified as maternal deaths (e.g., postpartum hemorrhage, eclampsia), the other causes are not (e.g., sepsis alone, unless it is identified as puerperal sepsis). It is important to train those who fill out death certificates to improve the quality of this information.

An important aspect of maternal death registration is whether or not a maternal death is a “notifiable event” – in other words, whether reporting is mandatory under the law. Countdown 2014 has provided information in this regard on 75 priority countries. Of these countries, 68 have available data on trends. For example, 47 of the 68 countries (69%) reported having a policy on maternal death notification as of 2013–2014, compared with only 34% with such a policy in 2008. Maternal death notification is an important way to ensure that all maternal deaths are identified. However, without a functioning CRVS system, legislation alone is often not sufficiently effective. Capacity building is needed to improve reporting and registration of maternal death, as well as the analysis of its causes [6]. The WHO has developed an interactive training tool (ICT) directed at individuals and organizations responsible for completing death certificates [12]. Some countries such as South Africa have developed their own training programs in an effort to improve the quality of death certificates (Personal communication: Debbie Bradshaw).

One strategy being used to improve the capture of maternal deaths is the inclusion of pregnancy check boxes on the death certificate, although there is little information about how successful they are [13]. Another strategy for increasing the identification of maternal deaths is linking birth and death certificates to determine whether a woman’s death was associated with a birth. However, this strategy is only effective when both the birth and the death are recorded, which may not be the case if the child was stillborn or if the maternal death was associated with an abortion or an ectopic pregnancy [14].

In May 2014, the WHO and the World Bank published a report that summarized why CRVS matters and how it can be improved and scaled up worldwide [10]. Given the importance of CRVS in tracking maternal and child health (MCH) outcomes, indicators have been developed to enhance global and national accountability for these systems. Global indicators include the number of countries with a national CRVS plan based on a comprehensive assessment, as well as the number of countries with functioning CRVS committees and a legal framework for CRVS. Examples of outcomes that can and should be monitored and reported by countries include the percentage of births registered, the percentage of deaths in which the cause of death is medically certified and reported, and the percentage of maternal and newborn deaths registered and investigated by a medical practitioner. Ultimately, the goal should be to have the capacity to provide accurate annual reports on maternal and newborn deaths and their causes. The target set by the WHO and the World Bank is universal registration of births and deaths, including cause of death, by 2030 [10].

The new global strategy includes, for the first time, a target for the reduction of stillbirths. Measuring progress toward this target will require strengthening registration systems to capture stillbirths in both developed and developing countries [4]. Stillbirths are currently not included in the WHO standard death certificate; they require a separate form.

Clearly, civil registration contributes greatly to effective monitoring of and accountability for maternal and perinatal deaths. However, as already noted, it often fails to correctly identify the cause of death, and it does not include the factors that may have led to or contributed to the death. This information is critical in order to ensure that interventions to reduce maternal and perinatal mortality are effective. A more in-depth review is needed in order to obtain this information.

**Maternal Death Surveillance and Response**

In 2004, the WHO published *Beyond the Numbers: Reviewing Maternal Deaths and Complications to Make Pregnancy Safer*, which outlined approaches to collecting information on maternal deaths and
emphasized the importance of “telling the story” to ensure that lessons could be learned from each and every death [15]. The approaches described in this guide included community-based maternal death reviews (verbal autopsies), health care facility-based maternal death reviews, confidential enquiries, surveys of severe morbidity (near-misses), and clinical audits. Verbal autopsies and facility-based reviews have traditionally focused on collecting information about the death, including circumstances leading up to it, the care provided both in the community and at the facility, and, if possible, avoidable factors. Confidential enquiries are anonymous, multidisciplinary, and usually national in scope, with resulting recommendations to improve future care.

Maternal death surveillance and response (MDSR) builds and expands on maternal death reviews by emphasizing the additional importance of early notification (surveillance) of all maternal deaths, an in-depth review of why each death occurred, and a response or action to close the loop and prevent similar deaths in the future [15]. This approach incorporates the third component of the accountability cycle: the need to act. MDSR is considered a cornerstone of MCH accountability. Of the 75 priority countdown countries, 68 have country accountability frameworks (CAFs) and, of these, 64 (93%) include MDSR as part of their CAF [9]. MDSR directly addresses the need for accountability by going beyond the mere numbers of maternal deaths and taking a broad approach that includes quantifying, analyzing, and reporting on the factors that contribute to maternal mortality. It looks at health care coverage, the women’s level of schooling, measurements of wealth, and whether interventions are impacting the most disadvantaged. When done at every level down to individual communities, it brings civil society on board, making everyone accountable for maternal death and morbidity.

The technical guidance for MDSR describes a “continuous action cycle” [15]. Deaths are identified and notified on an ongoing basis and then reviewed by a multidisciplinary committee. Emphasis is on identifying and reporting every death, whether it takes place in a health facility or in the community, and it includes carrying out verbal and social autopsies in communities where maternal deaths have occurred. Factors that might have prevented a death in the community are usually very different from the factors that could have prevented a death in a health facility. Ideally, information obtained from the reviews are then aggregated and reported subnationally and nationally. While actions can be taken based on lessons learned from every single death, priority recommendations are based on the aggregated data.

The final critical component of MDSR is responding to and implementing the recommendations, followed by monitoring the actions that have been taken and the impact they have had. Support for this process must come not only from national governing bodies but also from health care providers, community leaders, administrators, and, ultimately, from women themselves.

Progress has been made. The WHO publication Accountability for Women’s and Children’s Health: Report on Progress to May 2014 gives a number of examples of national initiatives to report and track progress toward achieving MDG 4 and 5, suggesting that programs such as national MDSR are driving changes in policies, which in turn are bringing about change at the local level [16]. Countries are at various stages of implementing MDSR. In Cambodia, for example, a maternal death audit was implemented in 2004, followed by more comprehensive maternal death surveillance in 2009. Two years later, a national review of all cases of maternal death was undertaken to assess the quality of maternal death audits and the outcomes resulting from them. It was determined that most of the recommendations did not actually address the most critical opportunities when interventions might have resulted in saving a woman’s life. This finding led to a number of other initiatives, including an enhanced focus on training programs to increase the number of births attended by skilled practitioners [16].

In Eastern and Southern Africa, five countries had conducted national confidential enquiries into maternal death as of the end of 2014: Botswana, Lesotho, Malawi, Namibia, and South Africa [17], while others, such as Eritrea, Swaziland, and Zimbabwe, have maternal death review committees in place that produce annual or triennial reports that can serve as a foundation for MDSR systems.

In Africa, integrated disease surveillance and response (IDSR) has been practiced since 1998, when it was adopted at the 48th session of the WHO Regional Committee for Africa [18]. IDSR promotes an approach to surveillance that encourages the wise use of limited resources by sharing processes, personnel, paperwork, and frameworks. In 2010, maternal deaths were identified as a “priority cause of
morbidity and mortality in Africa” and were incorporated into the IDSR guidelines [18]. Several countries in the Region have integrated MDSR into their national IDSR systems, including Eritrea, Malawi, Namibia, Tanzania, and Zimbabwe.

Yet there continue to be obstacles to the full implementation of MDSR, including absence of a legal framework, lack of community engagement, misconceptions about confidentiality and accountability, absence of policies and guidelines, competing priorities in an already overtaxed health care system, inadequate leadership, and inability to follow up on recommendations. There is need for accountability and transparency at all levels in order to address these barriers. In March 2015, WHO and UNFPA initiated a survey to assess the implementation of MDSR in countries throughout the world with a view to developing baseline data and then monitoring and documenting country experiences, best practices, and lessons learned over time [19]. The first survey was completed in September 2015. This MDSR implementation survey (April–September 2015) and the MNCAH Policy Indicator Survey (2013–2014) have together been applied in a total of 105 countries. Country profiles are available, including data on a number of country-level indicators, such as whether there are national policies on notifying and reviewing all maternal deaths and whether there is a national and/or subnational maternal death review committee [19]. The MDSR survey found that of 96 low- and middle-income countries that provided data, 92% had a national policy to require notification of maternal deaths, 90% had a national policy to review all maternal deaths, and 74% had implemented a maternal death review policy [19]. Through these efforts to link MDSR to maternal death registration and notification, WHO is also promoting and documenting the mutually beneficial effects of strengthening CRVS and MDSR [9].

Perinatal Mortality

While improvements are gradually taking place in the surveillance of maternal deaths, far less progress has been made with perinatal mortality. The most recent Every Newborn Action Plan, published in 2014 with contributions from UNICEF and WHO, refers to newborn health and stillbirths as the “unfinished agenda” not directly addressed by the MDGs [20]. They note that more than 80% of all newborn deaths result from three preventable conditions, two of which are directly related to maternal care: prematurity and intrapartum-related deaths (including perinatal asphyxia). While one might argue that addressing maternal mortality will also impact perinatal mortality, in fact many perinatal deaths are unrelated to maternal mortality. The action plan calls for ending preventable newborn deaths and preventable stillbirths using a framework of guiding principles that include country leadership, respect for human rights, integration, equity, innovation, and accountability. Reiterating the SDG target to reduce neonatal mortality to no more than 12 per 1,000 live births in any individual country and the global strategy target to reduce stillbirths to no more than 12 per 1,000 live births, the action plan goes on to formulate a series of focused strategic objectives. Of these objectives, the ones that are most relevant to accountability are the goals to count every newborn and to track programs and interventions.

In 2011, the Lancet published a landmark series on stillbirths, calling attention to the need to count stillbirths “alongside maternal and neonatal deaths,” stating that “strategic and programmatic action will make stillbirths count” [21]. While stillbirths are not specifically mentioned in the SDGs, they have been targeted for the first time in the global strategy. Can the neonatal and stillbirth targets be achieved? In order to do so, and to be accountable both nationally and globally, surveillance and information systems must be strengthened, just as they have been for maternal deaths, including improved vital registration, household surveys, and death reviews, which provide information on preventability. In addition, simplified and standardized classification systems need to be developed and used consistently. In the Lancet Stillbirth Series, Lawn et al. report that 35 stillbirth classification systems, based on a variety of approaches, have been developed over the last 50 years. Some of them have focused on maternal causes and others on fetal or placental causes. The multiplicity of classification systems has made it difficult to compare data between countries. The problem is further aggravated by differences in the definition of stillbirth itself [22].

Perinatal mortality generally refers to stillbirths and deaths in the first week of life. Is it possible to review perinatal mortality in the same way that maternal mortality is studied? Has this latter approach been shown to be effective? In a 2009 series on intrapartum deaths and “evidence for
action,” perinatal audits were examined in seven before-and-after cases [23]. Countries reporting on outcomes following the implementation of perinatal audits included Bangladesh, Nepal, South Africa, Tanzania, and Uganda. Overall, a 30% reduction in perinatal mortality was noted after implementation of the perinatal audit. Yet it is unclear whether the perinatal mortality review had an effect on reducing deaths or how best to improve outcomes. South Africa fully implemented a mandatory perinatal audit program in 2012. Its Perinatal Problem Identification Programme (PIPP) was designed as a tool for auditing facilities. Sites that had performed a perinatal audit for at least five years were reviewed. Of the 163 sites studied, 29% saw a decrease in mortality over the five-year period, but 32% saw increased mortality and 39% saw no change at all. These findings suggest that the perinatal audit alone does not reduce mortality. The quality of the process itself is an important element. The authors hypothesized that the sites that had seen a reduction in perinatal mortality had conducted a more thorough review of the deaths and had followed up with responses to the factors they had identified [24]. This conclusion would point to the importance of a high-quality review and to the need to close the audit loop with action — that is, with interventions that are considered likely to prevent similar deaths in the future.

In a recent review of the current evidence for facility-based perinatal mortality audits in low- and middle-income countries, the authors note that, while MDSR is gaining traction as a means of collecting and monitoring data about maternal deaths and arriving at subsequent recommendations to prevent further deaths, there has been somewhat less success in efforts to collect similar information about perinatal deaths, even when the place of death and the care providers involved are often the same [25]. After considering a number of existing definitions of the perinatal audit, the authors decided to define it as “the process of capturing information on the number and causes of all stillbirths and neonatal deaths, or near-misses where applicable, with an aim towards identifying specific cases for systematic, critical analysis of the quality of perinatal care received in a no-blame, interdisciplinary setting in order to improve the care provided to all mothers and babies.”

There are a few problems with applying surveillance and response terminology to the perinatal death audit. It is impossible to report and capture all perinatal deaths. Many stillbirths and neonatal deaths, particularly those that occur in the community, will not be consistently recorded. However, it is still important to try to assess the causes of death when possible so that evidence-guided recommendations can be made and monitored in order to ensure improved outcomes. The review of facility-based perinatal mortality audits identified many barriers to carrying out perinatal death surveillance and response [25]. The authors noted (as have others) that a significant number of deaths takes place outside the health care facility and may not be registered. There are far more perinatal deaths than maternal deaths; reviewing every single one of them can be burdensome in high-mortality areas. Furthermore, the cause of death is difficult to assign, particularly if postmortem documentation is unavailable. Classification systems are confusing and the definitions of stillbirth vary from country to country. The capacity to accurately capture and analyze data is limited. Even when the cause of death is known, important factors relating to the death are often not identified or recorded. In addition, fear of blame continues to be an issue, particularly when the process is mandated and overseen by an external body. Personnel are already under pressure and working to capacity. Teams may become demoralized when no improvement is seen. Finally, there is a lack of community engagement. The authors comment that lack of community participation is a critical gap and that champions and leaders are needed to drive the process. The review concluded that every death has “the potential to tell a story” and that, even at the facility and health worker level, changes can be made to bring about improved outcomes.

Lessons can and should be learned from the experience of high-income countries in implementing perinatal mortality audits, which have met with varying degrees of success. Australia, the Netherlands, Norway, Sweden, and the United Kingdom have all introduced some form of national perinatal mortality audit [25]. In the United States of America, many states and counties conduct fetal and infant mortality reviews (FIMRs) and a national evaluation showed that FIMR programs contributed to improvements in health care systems for pregnant women and infants, particularly at the community level [26]. Yet even in these high-income settings, despite the resources at their disposal and commitment to improve the process, problems persist with multiple classification systems, resistance to changing current practices, and sensitivities related to blame.

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Efforts are now underway to provide technical guidance or a “toolkit” for countries to use as they move forward with perinatal mortality surveillance and response. WHO is currently developing guidelines for the perinatal death audit that are expected to help standardize approaches and provide definitions and a classification system that can be used globally (WHO workshop: Perinatal Death Review Toolkit Development, September 2015). While the problems may seem insurmountable, overall evidence suggests that when the loop is closed and attention is paid to the quality of the audit process itself, these audits can identify factors that are impacting perinatal mortality and provide guidance leading to improvements in practice and outcomes.

**Maternal Morbidity**

The SDGs continue to focus on the reduction of mortality as the primary maternal health outcome. However, emphasis is increasingly being placed on eliminating preventable maternal mortality, not just on reducing it [27]. The latter is particularly important for middle- and higher-income countries where the MMR has declined to below the global target of 70 per 100,000 live births. The 2013 Global Maternal Health Conference in Tanzania produced a manifesto that called for 12 actions, including focus on both the prevention and treatment of maternal morbidity, not just maternal mortality [28]. In order to reduce maternal mortality in countries that already have relatively low levels, it will be necessary to focus on the prevention and treatment of the particular complications of pregnancy that can lead to death. This approach is in line with the SDG goal to promote well-being, not just to treat disease and prevent death. Consequently, maternal morbidity, as well as maternal mortality, will need to be included in any accountability framework for maternal health. Furthermore, maternal health interventions need to increasingly focus on primary and secondary prevention, not just tertiary prevention — i.e., the prevention of death.

The Maternal Morbidity Working Group has defined maternal morbidity as “any health condition attributed to and/or aggravated by pregnancy and childbirth that has a negative impact on the woman’s well-being” [29]. Currently, the focus of maternal morbidity surveillance and information systems is capturing severe, life-threatening complications of pregnancy, also known as “maternal near-misses,” defined by WHO as “a woman who nearly died but survived a complication that occurred during pregnancy, childbirth, or within 42 days of termination of pregnancy” [30].

The near-miss approach is typically applied primarily in health care facilities, but it can also be used to strengthen health systems and all levels of service. It can provide critical information about the quality of maternal care in health facilities, offer insight into the strengths and weaknesses of the referral system, and provide information on the implementation of health care norms, standards, and other interventions aimed at reducing severe complications of pregnancy and childbirth [28]. The near-miss approach can be used to improve clinical practice in health care facilities and address health system problems that contribute to the development of severe complications (e.g., delayed referrals, long wait times). It can also provide data to evaluate whether a facility or health system is successful in reducing severe complications of pregnancy and childbirth. This information is important and useful in holding health care facilities and local- or district-level health officials accountable for the health of women in their catchment areas.

The near-miss approach offers a way to assess the quality of care and to implement policies and interventions aimed at reducing maternal mortality in settings where the number of deaths is low, either because of the small number of births or because there is good access to quality health care. In such settings (usually hospitals or smaller districts), the number of deaths may be too low to provide a stable measure of maternal outcomes over a reasonable period of time (typically one year) such that the impact of changes or new interventions can be measured. In these settings, using a near-miss indicator can be useful for assessing the impact of policy changes or the implementation of new interventions.

The near-miss approach consists of steps similar to those used in MDSR: identification of all women with severe pregnancy complications (based on agreed criteria), an audit of patient records plus interviews with staff when necessary, analysis of near-miss indicators based on an aggregate of cases over a given time period, interpretation of the data, recommendations for improving the situation, and monitoring to ensure that recommendations are being implemented.

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In the United States of America, approximately 1.0–1.5% of pregnant women have severe complications \[31\]. In some hospital settings, where the number of maternal deaths is very small or nil, the hospital’s Maternal Mortality Review Committee will also review near-miss cases. In the United Kingdom, where the Confidential Enquiry into Maternal Deaths (CEMD) has been in place for more than 60 years, emphasis is now being placed on the need to review severe maternal morbidity. The CEMD is now part of the MBRRACE–UK Collaboration (Maternal and Babies: Reducing Risk through Audit and Confidential Enquiries across the UK), and in 2014, for the first time, the confidential enquiry report included maternal morbidity as well as mortality \[32\].

Quality of Care

Clinical audits have long been used to monitor and assess the quality of care in health facilities. However, they do not address the care provided in the community. In Beyond the Numbers, a clinical audit is defined as “a quality improvement process that seeks to improve patient care and outcomes through systematic review of care against explicit criteria and implementation of change” \[14\]. While the clinical audit process makes intuitive sense, changing a practice continues to be a challenge, and thus the effectiveness of such audits has been questioned. However, a Cochrane Review of 140 studies concluded that auditing and feedback leads to “small but potentially important” improvements and that in many cases the effectiveness depends on how the feedback is provided \[33\]. This conclusion suggests that even small improvements can lead to a reduction in maternal morbidity and mortality. Once again, the ability to “close the audit loop” by making recommendations to appropriate individuals or organizations, which, if acted upon, can bring about change, is critical to the clinical audit process. Although maternal death reviews are the cornerstone of clinical audits of maternal death, they have often been viewed as accusatory rather than constructive, particularly if no clear recommendations and actions result from the review. Furthermore, if the process is to be effective, the actions themselves have to be monitored in order to assess their impact.

Criterion-based clinical audits use evidence-based guidelines and procedures to hold facilities accountable for quality of care. Cases are audited and assessed to determine whether guidelines were adequately applied. They have been applied effectively to assess quality of obstetric care \[34,35\].

Community Participation

Thus far, the discussion has focused on accountability for maternal and perinatal death at facility, national, and global levels with emphasis on high-quality reviews, the collection and assessment of data, and the formulation of recommendations designed to bring about change. So far, there has been no discussion of the role of women and civil society groups in the process or how they can help to exert pressure for, and take part in, achieving greater accountability and better outcomes. In many ways, giving women a voice is the ultimate test of accountability. Have we met their needs? Have we changed the world in which the quality of care they receive can be dictated by their caste, their religion, and/or their skin color? Have we given a face to these women and their children? In India, the “Dead Women Talking” initiative got underway in response to a high MMR, the government’s focus on institutional birth, rather than on safe delivery, and its lack of transparency in documenting and reporting maternal deaths \[36\]. This initiative highlights the experiences of women and their families while viewing maternal mortality through the lens of social determinants and human rights. Its work has focused on the social autopsy, which examines the process of seeking care and the factors that influence it, whether in the household, the community, or the health system itself. A purposive sample of 124 maternal deaths from 31 districts in 10 states were analyzed over a two-year period using a framework in which the factors relating to maternal death were categorized into four “domains”: technical factors, health system factors, social factors, and factors related human rights. The initiative found that dysfunctional health systems were at the core of the problem and that the shortcomings were most pronounced in marginalized communities.

Communities must hold their health officials accountable for the care provided to both women and children. In this regard, they have a two-fold responsibility: they must be involved in maternal and perinatal death reviews to provide information about the circumstances in which a woman and/or her...
newborn died, and they must also identify potential ways in which the community can better support pregnant women and families. Communities are important contributors to the health of women and children, yet, they too must hold themselves accountable. Community support for pregnant women and families can be critical to ensuring that women receive antenatal care, that they are assisted in seeking skilled care when they go into labor and during childbirth, and that they have access to emergency transportation if they develop a severe complication.

**Issues of Equity: Disaggregation of Data**

The post-2015 agenda brings added emphasis to addressing inequities. SDG 10 is “reduce inequality within and among countries” [3]. The SDG newborn and child health targets, which establish a single rate to be achieved by all countries rather than a decline in percentage, aim at improving MCH equity among countries. Implementation of these SDG targets focuses on data, monitoring, and accountability, calling for an increase in the availability of high-quality, timely, and reliable data disaggregated by income, gender, age, race, ethnicity, migratory status, disability, geographic location, and other nationally relevant characteristics [3]. This disaggregation is critical to understanding who benefits from investments in health and who does not. The global strategy has greater focus on equity than its predecessor, with guiding principles that are *human rights-based* and *equity-driven*. It calls for accountability not just for results and resources but also for the fulfillment of rights.

There are many challenges. The people with the worst health outcomes are those who are often invisible, who are without access to health services, and who are never identified in information systems, except perhaps in a health survey conducted every 5 years or so. To reduce inequities, it will be essential to make them visible and gather data on all individuals in the population in a much more frequent, systematic, and comprehensive manner. To really make a difference in reducing inequities, it may be necessary to change the kind of data being collected. Community participation in collection of the data will be essential.

**Conclusion**

Clinicians and other health providers have an important role to play in ensuring that their facilities conduct morbidity and mortality reviews in order to understand the causes of maternal and perinatal illness and deaths and that clinical audits are performed to determine whether the highest quality of care is being provided. They also play a role in emphasizing the need for social autopsies in order to understand how factors outside the health care setting affect maternal and newborn health outcomes. Finally, they play a critical role in national, subnational, and local committees that assess maternal and child health in the populations they serve.

**Practice Points:**

1. The principles of accountability are *monitor, review, and act*.
2. True accountability relies on the collection of valid and accurate data, analysis to determine if improvements have been made and commitments kept, and use of the information to guide recommendations that are accountable.
3. Birth and death registration, including reporting on all maternal and neonatal deaths as well as stillbirths, is central to accountability.
4. MDSR, a cornerstone of MCH accountability, builds on maternal death reviews by emphasizing the need for an in-depth review of why the death occurred and the response or action to be taken to close the loop and prevent similar deaths from occurring.
5. Accountability needs to be viewed through a human rights lens and the perspectives of communities and civil society included.
6. Monitoring of maternal morbidity and the closely related issue of quality of care is important, particularly where the number of maternal deaths is low.
Research Agenda

1. Implementation of research assessing the barriers and enablers of strengthening CRVS systems.
2. Assessment of the ongoing impact of MDSR on reducing maternal deaths and the barriers to full implementation.
3. Effective ways to implementing perinatal death reviews and monitoring their outcomes.
4. The role of women, communities, and civil society in maternal and perinatal death accountability.

Conflict of interest statement

The authors declare no conflicts of interest.

References


