



Implementation of maternal and perinatal death surveillance and response as part of quality of care efforts for maternal and newborn health: Considerations for synergy and alignment

This knowledge brief is developed to support policy-makers, managers, practitioners and implementing partners engaged in improving quality of care (QoC) for maternal, newborn and child health (MNCH). The brief is informed by the implementation experience of the Network for Improving Quality of Care for Maternal Newborn and Child Health (The Network). The Network is helping to shape the guidance on how to implement QoC in a sustainable and scalable way, by holistically addressing and building the systems required to deliver Quality of Care (QoC) (1,2).

Globally, an estimated 295,000 women die during and following pregnancy and childbirth each year, with nearly all deaths occurring in low- and middle-income countries (3). Around 2.4 million newborns die each year, with about one third dying on the day of birth and close to three quarters dying within the first week of life; an additional 2 million are stillborn (4,5). Well-known, evidence-based interventions exist to prevent the majority of these deaths (6); however, due to poor QoC and other factors, these interventions are often not available or accessed.

Universal health coverage (UHC) means that all people and communities can use the promotive, preventive, curative, rehabilitative and palliative health services they need, of sufficient quality to be effective, while also ensuring that the use of these services does not expose people to financial hardship (7). In many settings poor QoC is a greater contributor to poor health outcomes than care coverage and it is estimated that about half of maternal deaths and 58% of newborn deaths could be averted with quality health care (8). WHO defines quality of care as the degree to which health services for individuals and populations increase the likelihood of desired health outcomes (9). (Box 1.)

In 2015, the WHO made improving QoC for women, newborns and children a priority, publishing its vision that *“Every mother and newborn receives quality care throughout pregnancy, childbirth and postnatal period”* and a framework to operationalize this vision (10). The framework includes eight domains of QoC (Fig. 1). The WHO *Standards for improving quality of maternal and newborn care in health facilities* for mothers and newborns were published in 2016 (11). They were followed by the WHO *Standards for improving quality of care for children and young adolescents in health facilities*, published in 2019 (12) and the *Standards for improving the quality of care for small and sick newborns in health facilities*, published in 2020 (13).

Implementation of the maternal and newborn health (MNH) QoC standards and associated actionable quality statements (11) requires a favorable QoC policy and strategy in each country to address systemic deficiencies and requires a myriad of interventions that improve quality at large (14). Identifying and building a common understanding of how these interventions can enhance MNH QoC allows implementers to make informed choices about which interventions to prioritize across diverse health systems, and levels of implementation. Aligned and harmonized implementation of specific interventions aiming to improve MNH QoC allows for better allocation and use of resources, strengthening of systems and related structures and achievement of targeted MNH outcomes.

► Box 1: Quality of Care

- **Effective** – providing evidence-based healthcare services to those who need them;
- **Safe** – avoiding harm to people for whom the care is intended; and
- **People-centred** – providing care that responds to individual preferences, needs and values.

To realize the benefits of quality health care, health services must be:

- **Timely** – reducing waiting times and sometimes harmful delays;
- **Equitable** – providing care that does not vary in quality on account of gender, ethnicity, geographic location, and socio-economic status;
- **Integrated** – providing care that makes available the full range of health services throughout the life course;
- **Efficient** – maximizing the benefit of available resources and avoiding waste.

► Fig. 1: WHO Framework for the quality of maternal and newborn health care



Maternal and Perinatal Death Surveillance and Response (MPDSR) (15) is one important QoC intervention that aims to improve MNH outcomes. (Box 2). Tracking the numbers and understanding the causes of deaths is key to improving maternal, perinatal, and neonatal survival. Systematic analyses of mortality trends and the factors that contribute to individual deaths can help uncover QoC and health systems deficits and inspire local solutions. The MPDSR continuous action cycle relies on teams to collect and analyze information on when, where, and why women and babies die, and define actions to prevent similar deaths.

The application of the MPDSR cycle – to identify and report deaths, review, develop and implement and monitor responses – contributes to the identification of local causes of death and associated gaps, and the development of remedial actions (15). Therefore, it is important that MPDSR and QoC improvement processes and actions (14, 16), are aligned and connected, and if possible integrated. This will ensure that local causes of death and associated gaps identified through the MPDSR process inform the response and are addressed holistically and systematically as part of broader QoC efforts by health policymakers, managers, providers, and communities.

Synergies and linkages between MPDSR implementation and the broader efforts to improve MNCH QoC

Comprehensive MPDSR generates quality information on leading causes of maternal and perinatal deaths and important common contributors to these deaths. This information can advise on the prioritization of responses as part of the MPDSR process and can also help inform prioritization of improvement aims by QoC managers and teams. MPDSR often lacks systematic implementation and monitoring of responses and analysis of whether responses are yielding desired effects. Integrating MPDSR within broader QoC efforts for MNH have the potential to enhance follow up, implementation and monitoring of responses at facility and subnational levels.

► Box 2: Maternal and Perinatal Death Surveillance and Response

MPDSR is a continuous cycle of identification, notification and review of maternal and perinatal deaths followed by actions to improve QoC and prevent future deaths. The MPDSR process relies on:

- Effective identification of deaths;
- Assignment of appropriate causes of death;
- Collection of information to conduct death reviews;
- Analysis of results, identifying modifiable factors that may contribute to the prevention of further deaths;
- Elaborate recommendations, assigning actions or responses to designated groups or individuals (at all levels);
- Implementation of solutions;
- Monitor, evaluate, refine and follow up to ensure that responses have been undertaken.

MPDSR is a systematic process that builds on data from and contributes to routine health management information system (HMIS) and QoC processes. It can be an integral part of efforts to improve QoC through linking data to solutions and ensuring accountability for changes in care.



Ethiopia - Aligning and synergizing QoC efforts with MPDSR

In Ethiopia, MPDSR and MNH Quality Improvement (QI) processes have developed alongside one another and have benefited from each other's successes. MPDSR identifies the factors leading to death and informs the recommendations which are then implemented and monitored by the QoC teams. The Plan-Do-Study-Act (PDSA) cycle used by QoC teams as part of the Quality Improvement cycles is a feature in both MPDSR and QoC processes. The PDSA planning phase draws upon problems identified by the MPDSR committees. The doing, studying, and acting phases of PDSA, which belong to the *response* aspect of MPDSR, are carried out by QoC teams.

At the **national level**, the emphasis is on leadership, coordination of linkages, and provision of guidance on how QI for QoC and MPDSR should function. The national level determines priorities based on data, designs strategies and guides implementation of QoC roadmaps. At the **subnational level**, the MNH QoC working group interact with the MPDSR working group and use the information generated by MPDSR to inform QI priorities and action at the subnational level. At the **facility level**, the quality leadership team oversees general QoC initiatives. The facility-based QoC team (the rapid response team) and MPDSR team have similar membership. Specific multidisciplinary QI teams are established for every project. To maximize communication between MPDSR and QI activities, at least one or two members of MPDSR team are engaged in QI project teams.

The linkages between the broader QoC efforts and MPDSR are strengthened by a number of factors, including the government's commitment to improve MNH outcomes and efforts to align programmes as a means for improving efficiencies and achieving results, as well as the well-established surveillance system and availability of surveillance data within MPDSR.



Examples from selected states in Nigeria - Aligning and integrating MPDSR and QoC structures and activities at the subnational level

In Ebonyi and Kogi states, Nigeria, members of the MPDSR committees worked in collaboration with the state, the Local Government Area (district) and health facility managers to prioritize state-wide MNH areas for improvement (improvement aims) and to understand the root causes of QoC problems at tertiary, secondary and primary health care (PHC) levels. A subnational monthly reporting template was harmonized to capture MPDSR and QI activities and results. District and state MPDSR committee members participated in all QI learning meetings across facilities and helped to support QI, clinical and MPDSR capacity building activities. In 2021, a decision was made to combine the state-level MPDSR and QoC committees in Ebonyi State. In Sokoto state in Nigeria, MPDSR structures have been incorporated into a state-wide operational plan to improve quality of maternal, newborn and child health care. This includes participation of the state MPDSR committee chair as a member of the state QI Technical Working Group and discussion about whether to merge the two structures are ongoing. In some PHC centers, death audits have been incorporated as part of the responsibility of PHC QI teams.

Practical considerations for strengthening synergies and linkages between MPDSR and QoC structures and processes

The structures to support MNH QoC and MPDSR will vary across countries. By and large, policies, structures and strategies to support broader MNH QoC and MPDSR are developed separately. Policymakers and implementers are trying to reduce these siloes to achieve better alignment of MPDSR and QoC efforts, and thus reduce inefficiencies and enhance results. When feasible, aligning MPDSR structures and implementation with broader MNH QoC efforts and structures will promote linkages and integration across sub-national, district, and facility levels.

Within smaller subnational administrative areas, such as districts or regions, MNH QoC and MPDSR roles might be combined in a single job description, resulting in integration by default.

Within larger sub-national administrative areas, such as states or large provinces, there may be focal point(s) for MNH QoC or QoC in general and related committee(s), as well as MPDSR focal point(s) and committee(s). In this scenario, direct linkages should be promoted through participation of the QoC and MPDSR focal points or a committee member in the respective QoC or MPDSR committee meetings. These representatives, who would sit on both committees, will report back to the MPDSR or QoC committee on a regular basis.

This model can be replicated at the facility level in both public and private sector facilities. Some facilities might have an MPDSR committee or QoC team without a corresponding sub-national structure. In such instances, in-facility alignment of QoC and MPDSR processes can be established through aligning meetings and joint discussion and action, including formal collaboration between facility QoC and MPDSR focal points and/or committees, if these are separate entities.

Synergies and alignment between MPDSR and QoC processes:

Minimum: Share information between MPDSR and MNCH QoC team members working on QoC improvement, including data, meeting action plans, reports

Where feasible: Harmonize processes, align formal structures, and monitoring and reporting mechanisms

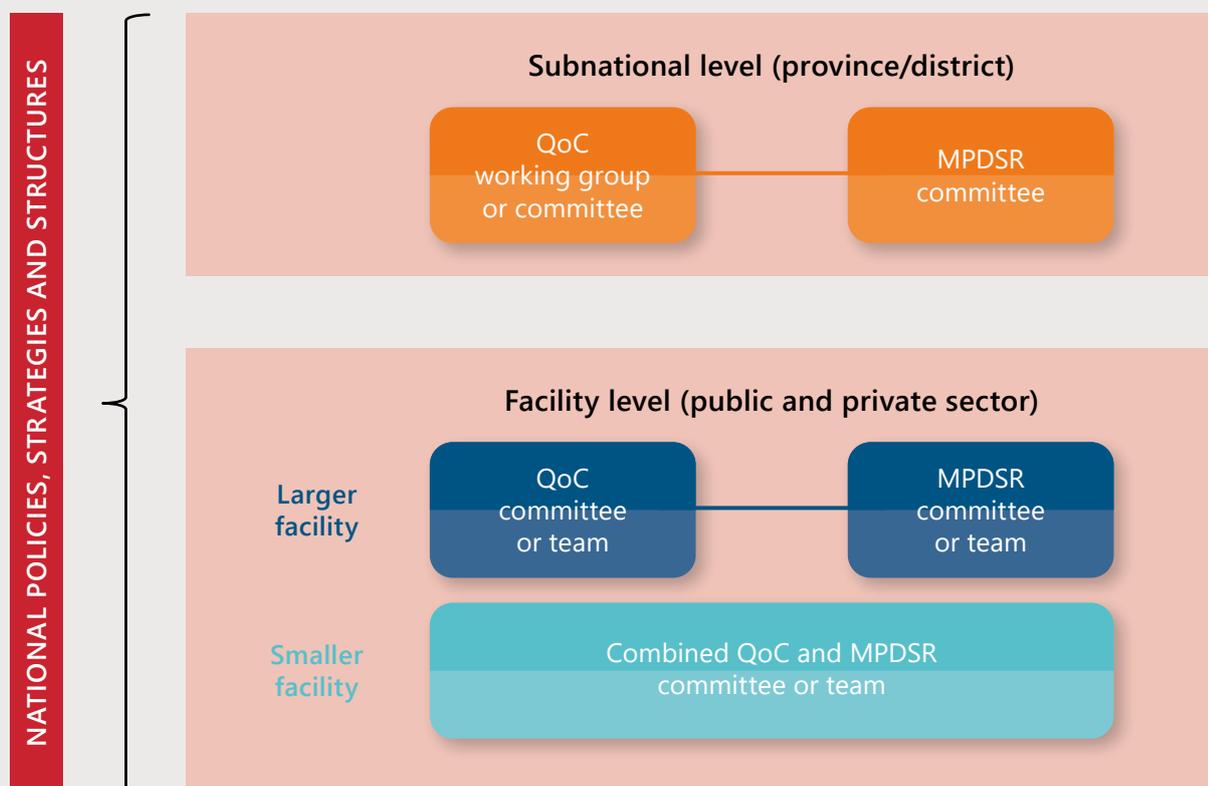
Options for strengthening synergies and alignment at the national, district and facility levels

National MNH program managers, in collaboration with members of national MPDSR and QoC committees or working groups, can help strengthen MPDSR and QoC linkages through a range of mechanisms including: highlighting MPDSR as a core QoC intervention in the national MNH strategy documents; developing a national brief on linkages between QoC and MPDSR processes and structures in the country setting; inclusion of MPDSR roles/structures and processes in MNH QoC strategy and guidance documents; developing and implementing integrated capacity-building materials, using common systems to monitor and report data to inform priorities for action, evaluating and aligning recommendations. MPDSR findings that are shared and discussed at the national level may also help identify which districts or regions may need extra support for MPDSR or QoC more generally.

At the subnational (district or region) level, MPDSR and QoC Committees may collaborate closely (e.g. share members, conduct periodic coordination meetings) or may be combined depending on existing structures and priorities. At the facility level, especially for small PHC facilities, MPDSR and QoC activities may be better managed by a single team (Fig. 2).

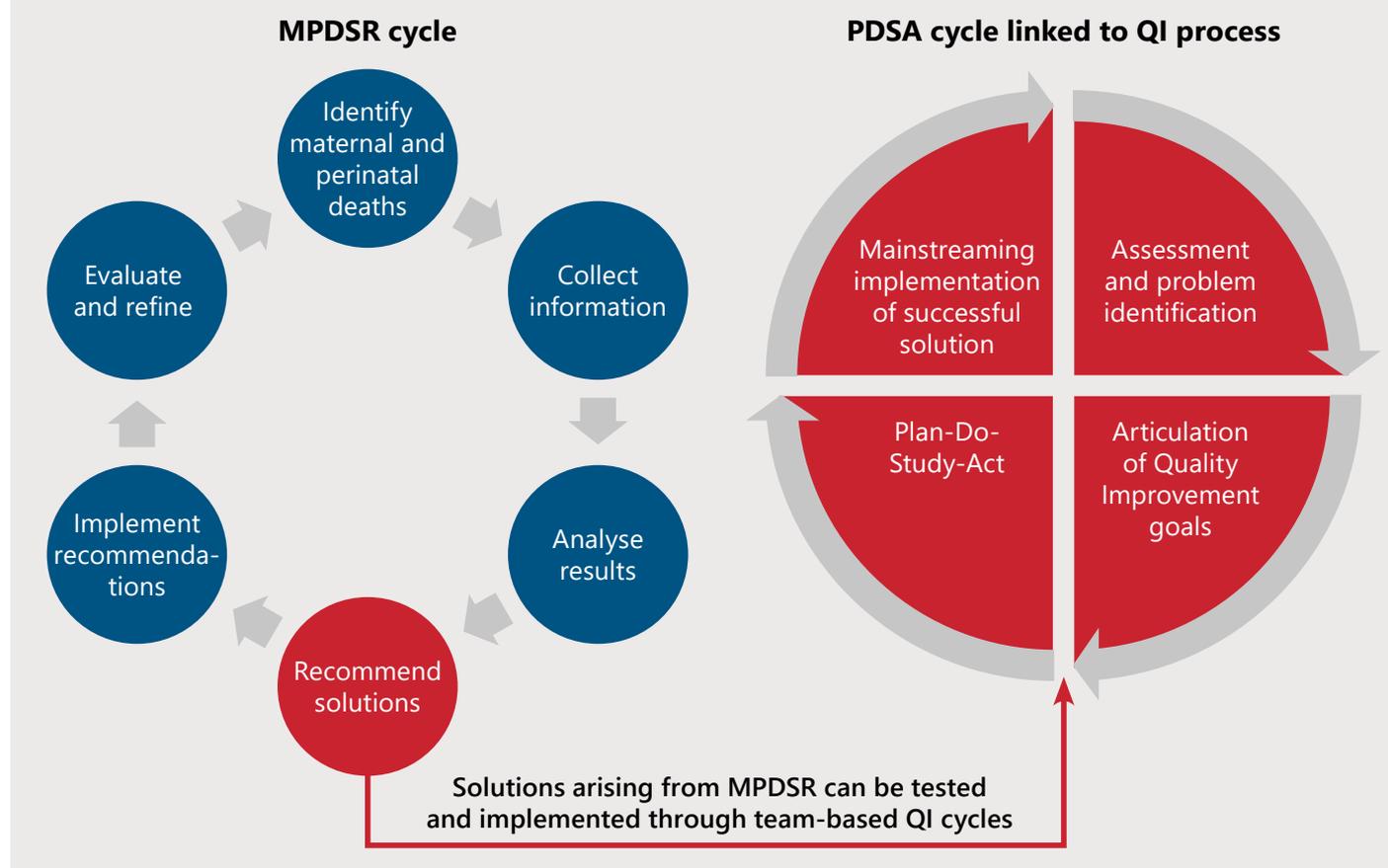


► Fig. 2: Possible alignment of QoC for MNCH and MPDSR structures at the subnational level



At this level, MPDSR committees can help shed light on the most common causes of maternal and perinatal mortality and contributing factors in the local setting. This information can help subnational QoC committees and managers prioritize improvement aims (areas for improvement) based on the local disease burden. Information on key contributors to deaths generated through death audits can help supplement the analysis of QoC deficits and underlying root causes. This can be led by QoC teams to guide the design of QI interventions, including testing of death audit recommendations. The regular monitoring of quality indicators - a key principle of QoC efforts - can help local stakeholders assess whether implementation of death audit recommendations (responses) is associated with improved health outcomes and care processes (Fig. 3).

► Fig. 3: Applying a PDSA approach within the MPDSR cycle at the facility level (adapted from Ethiopia example)



Emerging questions for learning and implementation

As countries move forward with developing a systems-wide approach to support QoC for MNCH, new areas of inquiry around MPDSR and QoC implementation linkages will emerge. Here are some initial questions to consider and test:

- In contexts where both QoC and MPDSR committees/teams are operational, what are some of the best practices for maximizing communication and harmonizing processes?
- What changes or adaptations are required to increase alignment of MPDSR and QoC activities at the subnational and facility level?
- If the MPDSR "Response" functions are linked with QoC and QI processes (including measurement), will responses be more reliably implemented and sustained at the subnational (e.g. district) level?
- Is more accurate classification of cause of death via enhanced MPDSR processes associated with more accurate local monitoring of cause of death as part of routine health information and Civil registration and vital statistics (CRVS) systems and/or within MNCH QoC programs? What are best practices in using information generated by MPDSR, HMIS and CRVS to guide analysis of local causes of death and linked prioritization of improvement aims?
- What are the most effective ways to engage the private sector (for profit and not for profit) in MPDSR and QoC, monitoring, and information sharing?

Key resources

Resources from the Network for improving quality of care for maternal, newborn and child health

- Quality, Equity, Dignity: Network for improving quality of care for maternal, newborn and child health brief. https://www.who.int/maternal_child_adolescent/topics/quality-of-care/quality-of-care-brief-qed.pdf
- Implementation guidance – updated. <https://www.qualityofcarenetwork.org/sites/default/files/2020-06/POCQI%20Facilitator%20Manual%20Ver03%202020.pdf>
- QoC MNCH Network Monitoring Framework. <https://www.who.int/publications/m/item/quality-of-care-for-maternal-and-newborn--a-monitoring-framework-for-network-countries>
- Improving the Quality of Care for Mothers and Newborns in Health Facilities Point of Care Quality Improvement. <https://www.qualityofcarenetwork.org/sites/default/files/2020-06/POCQI%20Facilitator%20Manual%20Ver03%202020.pdf>

MPDSR materials

- MDSR technical guide. <https://www.who.int/publications/i/item/9789241506083>
- The WHO application of ICD-10 to maternal deaths during pregnancy, childbirth and puerperium: ICD-MM. [https://www.who.int/reproductivehealth/publications/monitoring/9789241548458/en/#:~:text=Diseases%20\(ICD\),The%20WHO%20Application%20of%20ICD%2D10%20to%20deaths%20during%20pregnancy,of%20information%20on%20maternal%20deaths](https://www.who.int/reproductivehealth/publications/monitoring/9789241548458/en/#:~:text=Diseases%20(ICD),The%20WHO%20Application%20of%20ICD%2D10%20to%20deaths%20during%20pregnancy,of%20information%20on%20maternal%20deaths)
- WHO application of ICD-10 to deaths during the perinatal period: ICD-PM. <https://www.who.int/reproductivehealth/publications/monitoring/icd-10-perinatal-deaths/en/>
- WHO Making Every Baby Count guide. http://www.who.int/maternal_child_adolescent/documents/stillbirth-neonatal-death-review/en/
- Maternal and Child Survival Program (MCSP) MDSR workshop facilitator guide. <https://www.healthynewbornnetwork.org/hnn-content/uploads/Maternal-and-Perinatal-Death-Surveillance-and-Response-Capacity-Building-Materials-MDSR-module-Facilitator%E2%80%99s-Guide.pdf>
- UNICEF Skill building on perinatal death reviews guide. <https://www.healthynewbornnetwork.org/hnn-content/uploads/Skill-building-on-Perinatal-Death-Review-1.pdf>
- WHO & UNICEF, MPDSR: materials to support implementation, 2021. (Coming soon)
- Making Every Baby Count Neonatal and Stillbirth Audit : Audit tool. <https://www.who.int/publications/i/item/9789241511223>

References

1. Launch of the Network for Improving Quality of Care for Maternal, Newborn and Child Health. 14–16 February 2017, Lilongwe, Malawi. Meeting Report. Geneva: World Health Organization; 2017. <https://www.qualityofcarenetwork.org/sites/default/files/2019-09/2430%20Malawi%20report%20040319%20pressready.pdf>
2. The Network to Improve Quality of Care for Maternal, Newborn and Child Health. Strategic Objectives. Geneva: World Health Organization; 2018. <https://apps.who.int/iris/bitstream/handle/10665/272612/9789241513951-eng.pdf> WHO, UNICEF, UNFPA, World Bank Group, United Nations Population Division. Trends in maternal mortality: 2000 to 2017. Geneva: World Health Organization; 2019. <https://apps.who.int/iris/handle/10665/327596>
3. WHO, UNICEF, UNFPA, World Bank Group, United Nations Population Division. Levels and Trends in child mortality, Report 2019. New York; 2019. <https://www.unicef.org/media/60561/file/UN-IGME-child-mortality-report-2019.pdf>
4. UNICEF, WHO, UNFPA, World Bank Group, United Nations Population Division. A Neglected Tragedy: The Global Burden of Stillbirths. New York; 2020. <https://data.unicef.org/resources/a-neglected-tragedy-stillbirth-estimates-report/>
5. Chou D, Daelmans B, Jolivet RR, Kinney M, Say L, Every Newborn Action P, Ending Preventable Maternal Mortality working g: Ending preventable maternal and newborn mortality and stillbirths. *BMJ* 2015, 351:h4255.
6. Fact sheet: Universal health coverage (UHC). Geneva: World Health Organization; 2019. [https://www.who.int/news-room/fact-sheets/detail/universal-health-coverage-\(uhc\)](https://www.who.int/news-room/fact-sheets/detail/universal-health-coverage-(uhc))
7. Kruk ME, Gage A, Arsenault C, Jordan K, Leslie H, Roder-DeWan S, et al. High-quality health systems in the Sustainable Development Goals era: time for a revolution. *Lancet Glob Health*, 2018;6(11):e1196-e1252. doi: [https://doi.org/10.1016/S2214-109X\(18\)30386-3](https://doi.org/10.1016/S2214-109X(18)30386-3).
8. Quality of care. https://www.who.int/health-topics/quality-of-care#tab=tab_1 accessed 9 April 2021

9. Tuncalp O, Were WM, MacLennan C, Oladapo OT, Gulmezoglu AM, Bahl R, Daelmans B, Mathai M, Say L, Kristensen F et al, Quality of care for pregnant women and newborns: the WHO vision. *BJOG* 2015, 122(8):1045-1049.
10. Standards for improving quality of maternal and newborn care in health facilities. Geneva: World Health Organization; 2016. https://www.who.int/maternal_child_adolescent/documents/improving-maternal-newborn-care-quality/en/
11. Standards for improving the quality of care for children and young adolescents in health facilities. Geneva: World Health Organization; 2018. https://www.who.int/maternal_child_adolescent/documents/quality-standards-child-adolescent/en/
12. Standards for improving quality of care for small and sick newborns in health facilities. Geneva: World Health Organization; 2020. <https://www.who.int/publications/i/item/9789240010765>
13. Handbook for National Quality Policy and Strategy: a practical approach for developing policy and strategy to improve quality of care. Geneva: World Health Organization; 2018. https://www.who.int/servicedeliverysafety/areas/qhc/nqps_handbook/en/
14. Maternal death surveillance and response: technical guidance. Information for action to prevent maternal death. Geneva: World Health Organization and partner organizations; 2013. https://www.who.int/maternal_child_adolescent/documents/maternal_death_surveillance/en/
15. Quality health services: a planning guide. Geneva: World Health Organization; 2020. <https://www.who.int/publications/i/item/9789240011632>

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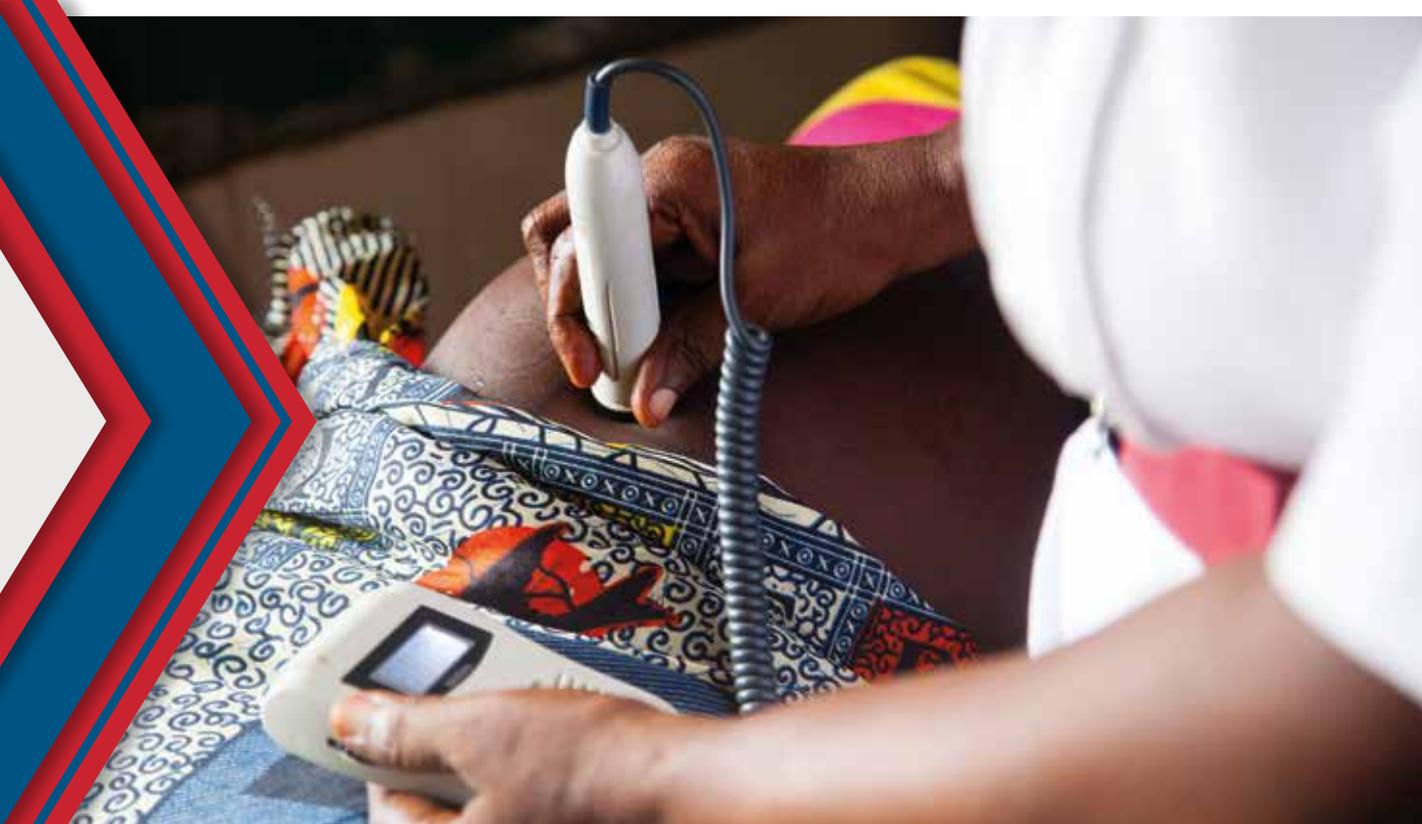


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Quality, Equity, Dignity
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for Maternal, Newborn and Child Health

The secretariat of the Network is hosted by the Department of Maternal, Newborn, Child and Adolescent Health and Ageing, World Health Organization, Geneva, Switzerland.
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