



Quality, Equity, Dignity

A Network for Improving Quality of Care  
for Maternal, Newborn and Child Health

# EVIDENCE SYNTHESIS: IMPLEMENTATION INTERVENTIONS FOR IMPROVING QUALITY OF CARE FOR MATERNAL AND NEWBORN HEALTH



## Background

Standards for improving quality of maternal and newborn care incorporate critical evidence-based practices (1); however, much is yet to be learnt and understood about how to effectively deploy evidence-based clinical practice at facility, national or regional levels. Effectively implementing these practices and improving the quality of care requires a set of systematic interventions to adopt and integrate evidence-based practices into care: 'implementation interventions'. The World Health Organization (WHO) systematically identified and described a comprehensive set of evidence-based implementation intervention categories. These categories can then be used collectively to organize more detailed guidance to national programmes and facilitate learning and generation of local and global evidence.

## Identifying implementation interventions for improving quality of care

Building on the systematic review of cluster randomized trials for implementation of effective practices in health-care facilities, which identified core components consistently common to the implementation of evidence-based practices across all medical disciplines (2), and four other systematic reviews with similar objectives (3,4,5,6), a framework was created to consolidate the implementation interventions. A search for systematic reviews on implementation strategies to improve quality of care at any health-care setting was also conducted, to verify and generate a comprehensive list of intervention strategies. Technical consultations were held to build consensus, and the implementation interventions were then consolidated into eight categories with associated descriptions (Table 1).

Effective Practice and Organisation of Care group (EPOC) is a Cochrane review group that focuses on systematic reviews of educational, behavioural, financial, regulatory and organizational interventions designed to improve health-care professionals' practice and the organization of health care services (7). EPOC reviews were screened, and the relevant systematic reviews published between 2010 and 2016 were mapped for each category to examine the available evidence.

During this process, a number of projects and programmes with a focus on quality improvement for

maternal and newborn health were identified to illustrate real-life application of the implementation interventions. Criteria used for this selection included that the projects or programmes focused on quality of care improvement for maternal and newborn health, used a combination of evidence-based interventions and strengthening health-system interventions, collaborated closely with the national health system in a scale-up plan, and showed improved maternal and/or newborn health outcomes. A summary of the categories, descriptions, summary of evidence from Cochrane and the case studies is presented in Table 1.

**Table 1. Eight categories of implementation interventions and their descriptions**

Category of implementation interventions	Description	EPOC evidence for the implementation interventions, 2010–2016 Summary of findings (8)	Examples of implementation interventions applied in a real-life project/programme (9)
<b>1. Leadership and governance of quality</b>	<p>Leadership of improvement mandates change, builds will for improvement, solicits policies that support quality, promotes care designs based on systems thinking and learning, integrates quality efforts and structures, coordinates and commits needed resources, and builds a coalition of stakeholders.</p> <p>Governance ensures the functionality and accountability of programming through integrated regulatory and monitoring structures, supports transparent data reporting, ensures required resources, supports the environment for improvement, and designs changes informed by continuous learning.</p>	<p><i>Three systematic reviews examined interventions regarding governance and leadership:</i></p> <ul style="list-style-type: none"> <li>• Interventions comprised local opinion leaders (n=1), private contracts for health-system management and health-system managerial training (n=1) and the implementation of legislative guidelines (n=1).</li> <li>• Interventions had generally positive but moderate effects on improving use of health services and performance of health-care professionals; there was no evidence on health outcomes.</li> </ul>	<p>In Mozambique, the Ministry of Health (MOH) launched initiatives to improve evidence-based, humanized and respectful care practices over antepartum, intrapartum and postpartum periods to reduce maternal and newborn deaths. The MOH issued explicit standards for desired practices, articulated steps for processes of care, provided required health resources for quality-of-care activities at health-care facility level, and participated in the programme evaluation. In the first year of the programme, some health-care facilities were selected to pilot a new model for maternity and newborn care. The MOH planned to expand the new care model to more health-care facilities each year.</p>
<b>2. System redesign for implementation and scale-up</b>	<p>The system redesign can include new designs that are mandated by leadership or management as well as those that are developed iteratively through rapid cycle testing. Adaptive design is a theory-based implementation intervention that allows front-line teams, managers and leaders to tailor the implementation strategies to address system barriers and leverage facilitators of care. Adaptive design incorporates knowledge and learning from the field into future designs at all levels.</p>	<p><i>Seven systematic reviews assessed the effects of system redesigns focused on health-service organization and delivery:</i></p> <ul style="list-style-type: none"> <li>• Interventions comprised tailored designs (n=1), introduction of evidence-based clinical practice or restructuring health-service delivery (n=6).</li> <li>• Interventions had generally positive but moderate effects on improving coverage of health services and efficiency of health-service delivery; there was no evidence on health outcomes.</li> </ul>	<p>The South African Medical Research Council Maternal and Infant Health Care Strategies unit carried out a project to introduce compulsory emergency obstetric drills at all maternity units. The project applied a 'Stage-of-Change' framework consisting of three phases: (i) In the pre-implementation phase, context and stakeholder analyses were conducted to facilitate intervention development. (ii) In the implementation phase, off-site and in-service training on managing obstetric emergencies were organized, and the effects of training were assessed through pre- and post-training survey and objective structured clinical examination. (iii) In the institutionalization phase, the new practices were integrated into routine care through integration into all pre-service curricula in medical school and nursing college, and maintaining master trainers at health-care facility level.</p>
<b>3. Financial strategies to support improvement</b>	<p>Financial strategies ensure that the implementation plan is costed and well financed (e.g. through existing or additional funds). Strategies can include improved payment and collection methods, and financial incentives to providers or consumers.</p>	<p><i>Twelve systematic reviews assessed effects of different financial strategies:</i></p> <ul style="list-style-type: none"> <li>• Financial strategies comprised various pharmaceutical policies (n=4) and financial incentives targeting either health-care users or health-care professionals (n=8).</li> <li>• Pharmaceutical policies generally reduced drug spending, but had uncertain effects on the use of health care and there was no evidence on patient outcomes.</li> <li>• Financial incentives to patients moderately increased care use; financial strategies targeting health-care professionals had positive but moderate effects on the performance of health-care professionals; there was insufficient evidence on health outcomes.</li> </ul>	<p>None of the identified projects or programmes adopted specific financial strategies to support improvement. One project in Rwanda that aimed to improve quality of childbirth care and eliminate preventable newborn deaths was conducted in the country context of performance-based health financing.</p>

Category of implementation interventions	Description	EPOC evidence for the implementation interventions, 2010–2016 Summary of findings (8)	Examples of implementation interventions applied in a real-life project/programme (9)
<b>4. Assessment and provision of resources</b>	Key human and physical (structure, equipment and supplies) resources are continuously identified, assessed and addressed at all levels.	<i>There was no systematic review identified to provide evidence in this category.</i>	With support from central and local government, an international implementation partner applied a comprehensive health-system improvement approach to improve quality of childbirth care in Rwanda. The project team conducted the situation analysis and identified gaps in essential equipment and materials for newborn care based on national norms and standards for each level of health-care facility. Project funds were used to fill the gap.
<b>5. Engaging women, families and communities in their care</b>	Activated and informed patients participate in the design and maintenance of their own care. Patients and communities are engaged in the design of quality-of-care programming, and their feedback is incorporated into programme design.	<i>Three systematic reviews assessed effects of engaging patients and communities in their care:</i> <ul style="list-style-type: none"> <li>• Interventions were often multifaceted and largely included educational interventions at health-care facility or in the community and use of decision aid.</li> <li>• Interventions had mixed effects on the use of health services. When interventions targeted both patients and health-care professionals, they had generally positive effects.</li> </ul>	In India, a Quality Improvement (QI) approach was introduced at health-care facility level with a focus on improving care for mothers and babies. The introduction of the QI approach aimed to help front-line health-care providers to identify barriers to 'good care', develop solutions, and test and implement them. To identify health priorities and needs, community health workers, women and their family members were invited to join the facility QI team and participate in the discussions and observations of quality of care improvement process.
<b>6. Education, training and supportive supervision for clinical and system activities</b>	Leaders, managers and practitioners have knowledge and are able to use that knowledge in two closely related content areas: clinical excellence and health systems functionality. Managers use both didactic and facilitative teaching and supervision methods to achieve high levels of performance in these two areas.	<i>Six systematic reviews examined various interventions in this category:</i> <ul style="list-style-type: none"> <li>• Interventions included educational games, provision of printed education materials, in-service training or education session, and managerial supervision.</li> <li>• Interventions had small benefits or uncertain effects on health-care professionals' practices.</li> </ul>	The project team in Rwanda organized off-site training for health-care providers at different levels of health-care facilities according to the national practice guideline, followed by on-site supportive supervision and mentorship every 4–6 weeks. Moreover, national and district leaders were invited to participate in learning sessions and were engaged in problem-solving.
<b>7. Data to support improvement</b>	A set of relevant, accurate and timely data (quantitative and qualitative) are continually collected and fed back at all levels of the system for planning, monitoring and improving care. Skilled collection, reporting and interpretation of data at all levels are supported by simple collection and reporting tools.	<i>Nine systematic reviews assessed interventions regarding data to support improvement:</i> <ul style="list-style-type: none"> <li>• Interventions comprised introduction of data report system (n=1), audit and feedback (n=1), data release (n=1), use of electronic health information (n=3) and external inspection or peer review (n=3).</li> <li>• Interventions had generally uncertain effects on clinical practices.</li> </ul>	The Making It Happen (MiH) programme was carried out in 11 countries in sub-Saharan Africa and Asia to improve quality of skilled birth attendance and emergency obstetric and newborn care. One of the core strategies was to strengthen data to support improvement of quality of care. An audit cycle, including feedback, monitoring and evaluation, was introduced to review all maternal and perinatal deaths in programme health-care facilities. Moreover, all process and outcome data were integrated into routine data collection, which was collected by health-care providers at facility level from facility registers and case notes for death audit. A one-day training workshop was organized to give health-care providers a better understanding of data collection and the importance of data quality and data use.
<b>8. Learning communities for accelerating improvement</b>	Improvement is accelerated when practitioners, managers or leaders, are working towards a common purpose, using a common methodology, and sharing knowledge and learning through structured and unstructured face-to-face or virtual peer-to-peer collaboration. Existing administrative structures such as health districts provide opportunities for networked learning.	<i>One systematic review assessed effects of interprofessional education:</i> <ul style="list-style-type: none"> <li>• Interprofessional education intervention involved health-care professional or patients.</li> <li>• The intervention had uncertain effect on the performance of health-care professionals.</li> </ul>	In Rwanda, an 18-month Learning Collaborative (LC) in each project district was established that built health-care providers' leadership in data use for continuous improvement of quality of care with interdisciplinary teams from every health centre and hospital in the catchment area (including health managers, health-care providers, community health supervisors and data officers). In each district, five mentor-led learning sessions were organized over 18 months. During each session, the teams met to discuss and identify specific process barriers and coping strategies. These ideas were tested and implemented, and assessed against key indicators of neonatal care.

## The way forward

The implementation interventions provide an informed starting point for the identification of strategies to improve quality of care for maternal and newborn health in the countries of the Network for Improving Quality of Care for Maternal, Newborn and Child Health. They will inform the implementation and evaluation guidance to support country activities. The configuration and emphasis of the categories will differ across countries, districts and facilities, and will be adaptable to country context and needs. Using Programme Reporting Standards for sexual, reproductive, maternal, newborn, child and adolescent health (10) will facilitate the documentation of country experiences and implementation research in a structured way. As part of the global Learning Platform of the Network, this will enable sharing of knowledge and generation of further evidence at local and global levels for implementation interventions to improve quality of care for better results for women, babies and children.

## Notes and references

1. WHO. Standards for improving quality of maternal and newborn care in health facilities. Geneva: World Health Organization; 2016 ([http://www.who.int/maternal\\_child\\_adolescent/documents/improving-maternal-newborn-care-quality/en/](http://www.who.int/maternal_child_adolescent/documents/improving-maternal-newborn-care-quality/en/), accessed 30 January 2017).
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10. Programme Reporting Standards (PRS) for sexual, reproductive, maternal, newborn, child and adolescent health. Geneva: World Health Organizations. 2017.