Guidance on developing national learning health-care systems to sustain and scale up delivery of quality maternal, newborn and child health care

World Health Organization

Guidance on developing national learning health-care systems to sustain and scale up delivery of quality maternal, newborn and child health care

World Health Organization

Guidance on developing national learning health care systems to sustain and scale up delivery of quality maternal, newborn and child health care

ISBN 978-92-4-004405-0 (electronic version)
ISBN 978-92-4-004406-7 (print version)

Suggested citation. Guidance on developing national learning health care systems to sustain and scale up delivery of quality maternal, newborn and child health care. Geneva: World Health Organization; 2022. Licence: CC BY-NC-SA 3.0 IGO.

Cataloguing-in-Publication (CIP) data. CIP data are available at http://apps.who.int/iris.

Cover page photo: *Flickr Creative Commons License/The Global Financing Facility/Dominic Chavez.*
Design and layout: *Annovi Design.*

Contents

Photo: Flickr Creative Commons License/©UNICEF Ethiopia

Acknowledgements

This guidance on developing national learning health-care systems to sustain and scale up delivery of quality maternal, newborn and child health care builds on the rich implementation experience emerging from the 10 countries in the Network for Improving Quality of Care for Maternal, Newborn and Child Health.

This guide was developed by the Department of Maternal, Newborn, Child and Adolescent Health of the World Health Organization (WHO) and was conceptualized by Blerta Maliqi and Nuhu Yaqub, with support from Nigel Livesley, Zainab Naimy and Benedict Walters. The guide was written by Samantha Lattof.

For their valuable input on this framework, WHO wishes to thank the Network's working group on learning, and participants at the April 2018 technical consultation in Entebbe, Uganda on the development of national learning systems to sustain and scale up delivery of quality maternal, newborn and child health (MNCH). Special thanks to the four country delegations (Ethiopia, Ghana, Malawi and Uganda) led by their ministries of health for their leadership and commitment to developing national learning systems to sustain and scale up delivery of quality MNCH. WHO acknowledges the Quality of Care Network partners and bilateral organizations for their support and for enabling several country teams to participate in the technical consultation; All India Institutes of Medical Sciences (AIIMS), Center for Human Services (CHS), Institute for Healthcare Improvement (IHI), Liverpool School of Tropical Medicine (LSTM), United Nations Children's Fund (UNICEF), University Research Co. (URC) and United States Agency for International Development (USAID) for providing technical resources; and all meeting participants, session chairs and partners for their time, resources and technical contributions. WHO would like to thank the Bill & Melinda Gates Foundation for its continued trust and support.

Photo: Flickr Creative Commons License/©UNICEF Ethiopia/2021/Mulugeta Ayene

1. Overview

Recognizing the complexity and the importance of learning for implementing sustainable quality care, the Network for Improving Quality of Care for Maternal, Newborn and Child Health has developed strategic objectives *(1)* that include learning as a core component. As one of the Network's four strategic objectives, specific outputs under learning include:

- a common language to use for documenting and sharing quality of care (QoC) efforts and improvements;
- the development and activation of mechanisms for sharing and facilitating exchange of learning; and
- the application of a process for evidence-based analysis and synthesis of knowledge and sharing.

Establishing national learning health-care systems is critical for facilitating documentation and sharing of learning within and across countries. The documentation and sharing of learning will inform systemic changes to bring evidence-based best practices to scale for sustaining implementation of QoC. This document provides guidance to countries on how to set up and use learning health-care systems to support QoC for maternal, newborn and child health (MNCH) at scale.

1.1 What is the purpose of this guide?

This guide provides direction on how countries can develop and strengthen national learning health-care systems to learn how to improve, sustain and scale up QoC for MNCH. It is a working document that will be updated as new guidance comes in from the field.

1.2 Who is this guide for?

This guide is meant for health system managers, QoC implementing partners, researchers, policy-makers and health-care providers involved in developing and implementing QoC programmes at the facility, district and national levels.

1.3 How should this guide be used?

This learning guidance is based on a conceptual framework for national learning health-care systems to sustain and scale up delivery of quality health care *(2)*. People unfamiliar with the concept of national learning health-care systems are encouraged to read the background document explaining the conceptual framework before continuing with this learning guidance.

The learning guidance should be used with the Network's implementation guidance and monitoring framework that outlines the key actions and components for implementing QoC programmes, including key aspects of learning *(3,4)*.

1.4 What terminology is needed for this guide?

Since sharing learning requires a common language and defined terminology, the Glossary (page 15-17) defines the terminology used within this guide. Learning for QoC, however, requires a definition up front. It is:

A process of individuals and teams absorbing information that, when internalized and mixed with what they have experienced, leads to changes in core competencies (knowledge, behaviours or skills) that increase the likelihood of improved health system performance and future learning for delivering QoC.

2. Why is learning necessary for improving QoC?

Learning for QoC is not a one-time activity. To improve QoC, people must continually learn from the successes and failures of implementing QoC processes. The purpose of this learning is to improve patient care; to improve the management of QoC programmes; and to improve programmes' ability to sustain, scale up and replicate success. Learning about failures and sharing this learning are particularly valuable activities as they prevent duplication of efforts that could waste valuable resources. This process of continual learning involves:

1. *Collecting quantitative and qualitative information on what worked and what did not work;*
2. *Synthesizing the information;*
3. *Sharing information in the right way at the right level with the right person;*
4. *Acting on the information shared; and*
5. *Learning whether the actions lead to better patient care.*

Developing effective learning health-care systems should be a goal for national health systems seeking to improve QoC. For this reason, learning is embedded throughout recent calls to action and a high-quality health systems research agenda *(5,6)*. It is crucial that learning systems recognize, facilitate and integrate lessons from QoC learning throughout the health system (Fig. 1). These efforts require the involvement and responsibility of people at all levels of the health system to bring evidence-based best practices to scale for sustaining implementation of QoC (Annex 1).

Fig. 1. Opportunities for learning within a learning health-care system

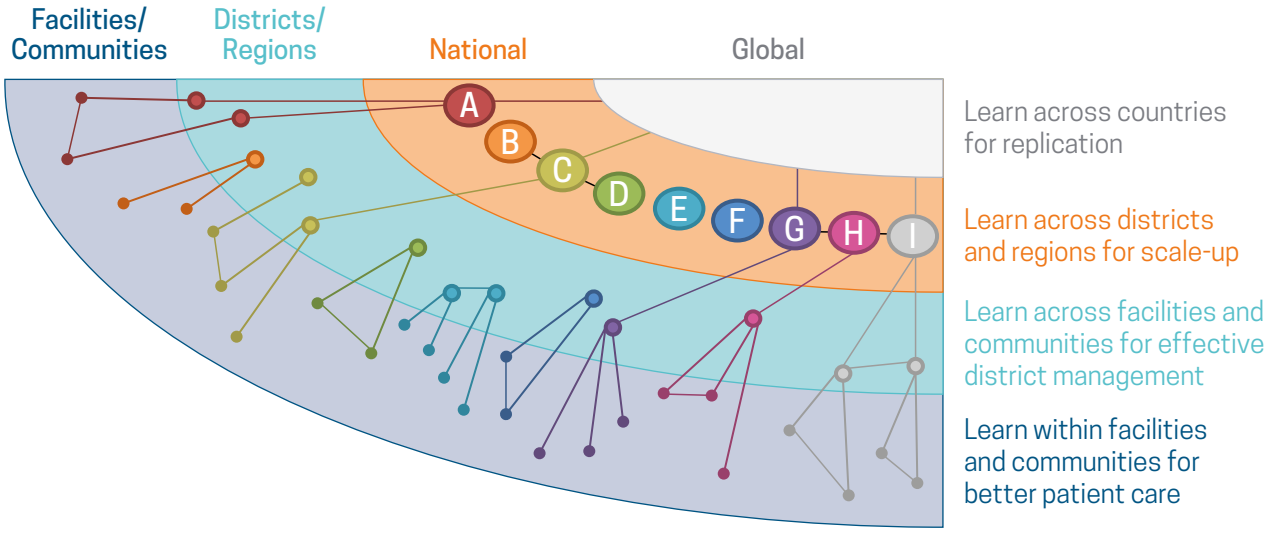

Table 1 presents an overview of the different pieces that form a national health-care learning system. The following chapters in this guide provide additional detail on how to implement this system.

Table 1. Components of a national learning health-care system

Where is learning occurring in the health system?	Who is learning?	What is learned for QoC?	How do we collect learning? (Section 3)	How do we share learning? (Section 4)	What additional support might learning require? (Section 5)
National level	Policy-makers Managers	What is needed to scale up	Data monitoring Stories (how to)	Management systems New communication platforms (national forums)	Synthesis and analysis Understanding system's support for learning Operational research Communication platforms
District/ Regional level	District leadership Facility managers	New practices	Data monitoring Stories (how to)	Management systems Learning sessions Communication platforms	Change in district management practices and learning Communication platforms Operational research
Facility/ Community level	Individual practitioners and teams Community and patient representatives	Practice	Data monitoring Stories (how to)	Management system Learning sessions Communication platforms	Optimization and use of existing clinical and management processes Quality improvement coaching

3. How is learning captured?

National learning health-care systems should ideally have both data and stories to document what is learned (see Table 2 and Annex 2). The data will cover information on what is needed to scale up the quality improvement (QI) initiatives and advance health. The data to be captured should include both health outcomes (e.g. deaths) and the performance of facilities, districts and national systems. Some of these data are already being captured in health management information systems (HMISs), but the data quality presents a challenge. A lack of appropriate indicators, particularly for experience of care, necessitates the development of new indicators. Data must be collected at baseline and continuously as interventions are implemented. Process documentation will explain how the outcomes were achieved.

Table 2. Learning products and outputs in a national learning health-care system

Health system level	Who learns?	What is learned?
National	Policy-makers and managers	What is needed to scale up
District/Region	District leadership Facility leadership and managers	New practices
Facility/Community	Individual practitioners and teams	Practice

At the facility and district levels, the most compelling data:

- are objective;
- show patient outcomes;
- have multiple data points over time;
- have frequent measurement; and
- are validated.

Box 1. How to document a learning story

At the facility level, the beginning of a learning story requires documenting the aim and objectives of a specific patient goal. The middle requires documenting the methods used to reach the goal and the context (e.g. barriers, facilitators) in which this approach was used. At the end of the facility-level learning story, one must describe what was improved and what was done, documenting what the data show and situating the story in the context of the bigger picture. When writing learning stories at the district level, the beginning and end are the same as they are for a facility-level learning story. The middle of the story, however, is longer, to reflect the multiple methods and activities used at the district level to achieve the goal.

When possible, facilities should try to measure patient-level outcomes and processes, collect and review data frequently (daily or weekly for process measures, weekly or monthly for outcome measures), and have systems to validate their data. While facility-level data tell us if something has changed or not, one must learn how these changes happened and the context in which they occurred. Stories are the best way of describing what led to changes. They expand on how scale-up could be achieved by documenting best practices. Stories come from facility leaders and staff involved in changing patient care. Countries may need to develop common tools to capture these data and stories. Without both data and stories, there is no learning.

Learning within and between countries requires standardized documentation and reporting. Different tools are available in the following sections for health facilities and districts to record and track change ideas, to conduct routine monitoring, and to document improvements in QoC.

3.1 Programme reporting

Standardized reporting and systematic data collection are crucial for successful replication, scale-up, and the interpretation of results and lessons learned. In response to the need for adequate and transparent reporting about programme processes, the World Health Organization (WHO) developed *Programme reporting standards for sexual, reproductive, maternal, newborn, child and adolescent health (7)*. The reporting standards provide a template to ensure systematic data collection on "what" works, "how" it works, and "where" it works (i.e. the context). Programme implementers and researchers may use this template for describing programme preparation, implementation and evaluation processes. The tool includes five components (i.e. programme overview; programme components and implementation; monitoring; evaluation and results; and synthesis) plus a checklist. It is intended for use in multiple ways during a programme's life cycle. Countries can adapt this template for work on QoC, and we encourage countries to share their templates.

3.2 Learning stories

Countries seeking to document learning of district- and facility-level approaches to improve QoC may consider developing structured learning stories that include a beginning, middle and end (Box 1). The easiest way to collect this information is during on-site visits by speaking with different staff members to identify what changes they have made in providing care, how they made those changes, and how they adapted their original ideas.

The challenging part of collecting these stories is obtaining sufficient details about how people improved care, such as:

1. What components of the story do we need to know? Which are most important to include?
2. How do we decide that we will need to share the story?
3. How do we document everything so that when we want to share, we have the details?
4. How do we document from the start so that we can tell the story later?
5. Is guidance needed on how to transmit this learning?

For example, a facility developed women's groups during antenatal care visits so that women pregnant for the first time could learn what to expect from women who had been pregnant multiple times. A story on these women's groups would need to provide details on who organized the sessions, where they were held, how women were informed about the sessions, what times worked well for mothers and staff, what happened during the meetings, and whether there were any training or counselling materials that the team (women and providers) found especially useful. The person talking to the staff about this intervention and preparing the story will ideally have worked in facilities to improve QoC and will know what types of details are useful for other teams.

There is a need to streamline how stories are transmitted through learning health-care systems because not all stories will likely require transmission to the national level. Countries must establish clear guidelines for selecting which stories to share, and greater sharing of expertise between countries is welcomed. Using a standardized template would assist with capturing stories for transmission.

3.3 Reporting templates to capture district-level changes

The Plan, Do, Study, Act (PDSA) cycle captures knowledge and change processes to make them more efficient and effective. The lessons learned may be adapted in response to a change in context. Change ideas include the "good idea" as well as the data to support the idea. These ideas may be linked to theory and WHO standards, and they can lead to scale-up. Developing a change package requires: (1) recording changes introduced at specific steps in the pathway (i.e. when, where, how); (2) evaluating evidence linking introduction of changes to process performance; (3) building a package of successful changes for each step along the continuum of care; and (4) scaling up the change package.

3.4 Tools to monitor and document improvements

Tools like dashboards and data aggregators exist for routine monitoring and documenting improvements at the facility, district and national levels. These tools capture the changes needed for continuous improvement processes, as well as the required data. Researchers and implementers have different motivations, particularly around publishing, that may influence tool selection. Tool selection, motivating front-line workers to document QoC improvements, linking tools and approaches, and disseminating information require thought and input.

4. How should information be shared?

Within the health system, learning can be shared between similar groups (e.g. facility to facility, district to district) as *horizontal learning* or across different levels of the health system (e.g. facility to district level, national to district level) as *vertical learning* (Fig. 2). How information on learning is packaged and shared depends on the health system level (Table 3), and requires people to use their judgement about the purpose or expectations of learning at each level of the health system. Sharing learning effectively requires advanced preparation, including:

- developing a simplified tool to capture stories and best practices;
- training on how to use this tool; and
- monitoring and assessing progress and the possibility of using and adapting existing tools for the purpose.

Fig. 2. A national learning health-care system with horizontal and vertical learning between levels

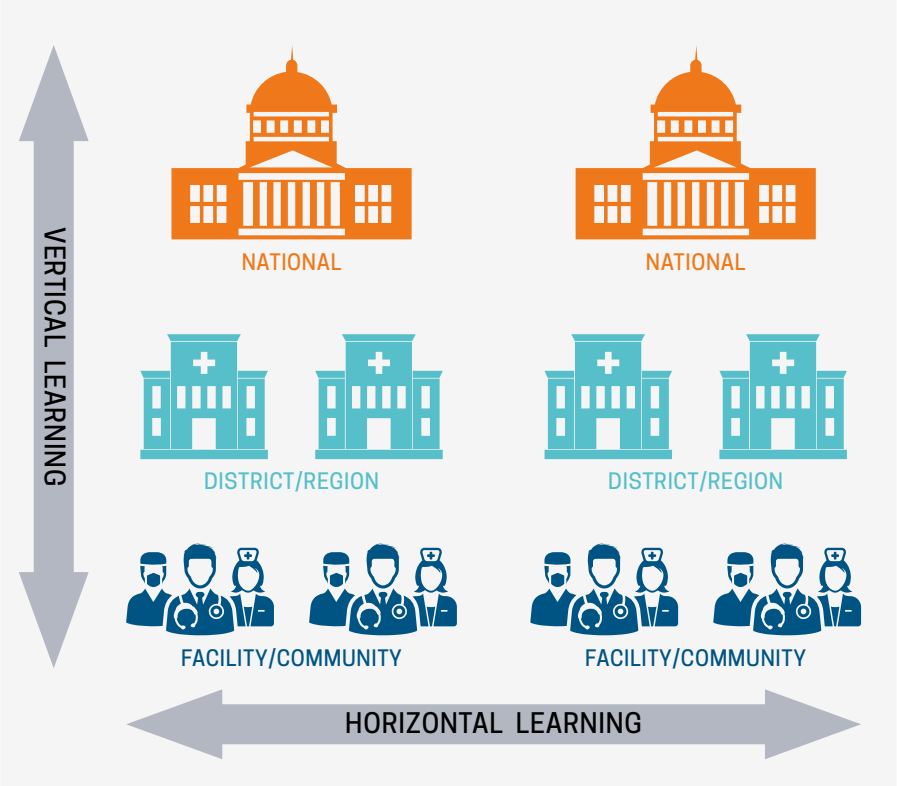

Table 3. Information sharing in a national learning health-care system

Health system level	Who learns?	How do we share information?
National	Policy-makers and managers	Management systems New communication platforms
District/Region	District leadership Facility leadership and managers	Management systems Learning sessions Communication platforms
Facility/Community	Individual practitioners and teams	Management system Learning sessions Communication platforms

Once information on learning is collected at the facility and district levels, it needs to be organized and packaged before it can be shared. Many methods exist for packaging and sharing learning horizontally and vertically within the health system (Table 4). Which tool is best for sharing this learning depends on the needs and preferences of facilities and districts. People can facilitate learning by using:

1. Methods that share learning in one direction (e.g. reports, presentations). These methods will often reach more people but may provide limited detail.
2. Interactive methods (e.g. peer-to-peer discussions) that allow people to seek answers for specific questions relevant to them. These methods provide greater detail but do not reach as many people.

Table 4. Examples of methods to package and share learning

Methods for packaging learning	Methods for sharing learning		
Case studies	Presentations	Websites	Email lists
Reports	Guidance on learning sessions	Articles in newspapers or newsletters	Videos
Interviews	Posters	Presentations to large groups (e.g. national and district forums)	Scorecards
Articles	Dashboards Structured interactions a. Peer-to-peer learning meetings b. Exchange visits (both horizontal and vertical) c. Poster presentations.		Interviews Unstructured interactions a. In-person discussion groups b. Social media platforms (e.g. WhatsApp, Facebook, Skype) c. Traditional messaging mechanisms (e.g. SMS, websites)

Information may be packaged by specific clinical topics (e.g. pre-conception, immunization) or by how best to use the different quality interventions (e.g. skills training, quality assurance). When possible, countries should explore using interactive, structured approaches (e.g. in-person and virtual peer-to-peer learning platforms, exchange visits). Peer-to-peer learning meetings can be especially effective for sharing learning. These opportunities can also be included as part of meetings already occurring in the district (e.g. monthly review meetings). When organizing and running peer-to-peer learning meetings at the district level, organizers are encouraged to keep the following principles in mind:

1. **Focus on the future** – The point of the meeting is that people have a better idea of how to improve after leaving the meeting. Organize the meeting not as a review meeting but as an opportunity to give people ideas.

2. **Focus on what has gone well** – Spend more time learning from facilities that have made good progress, and celebrate everyone's successes. Give facilities that are struggling an opportunity to learn from others who have made earlier progress. Over time, all facilities will come to meetings where they have things to teach and meetings where they need to learn.

3. **Encourage discussion and learning** – Participants should do most of the talking rather than facilitators. Small group discussions should be used more than lectures. Posters of people's improvement stories are often a better way to share learning than PowerPoint slides because posters allow small groups to discuss learning informally.

4. **Prepare for the meeting** – Be clear about what you want to achieve with peer-to-peer meetings and prepare ahead of time to design a meeting that meets your objective(s). Helping facilities develop good stories in advance makes meetings more effective.

Mechanisms to share learning may require further in-country exploration, including whether existing platforms could be leveraged to share learning or whether new platforms must be created.

4.1 Platforms to support learning across countries

Platforms are available to facilitate learning about quality care between countries. The WHO Global Learning Laboratory (GLL) for quality universal health coverage (UHC) is a repository of online information about quality UHC with links to MNCH. Its purpose is "to create a safe space to **share** knowledge, experiences and ideas; **challenge** those ideas and approaches; and **spark** innovation for quality UHC". Using different mechanisms for capturing emerging learning on QoC, it documents the "what" and "how" using simple and precise language. The GLL also seeks to collectively define the way forward for linking MNCH QoC learning with broader QoC efforts. Clinical care is complex and requires quality at the front line. Rather than unnecessarily reinventing QoC, the GLL seeks to support learning between countries so that members of the platform can access existing knowledge and exchange ideas. With features like programmatic pods driven by participants' interests (e.g. compassion; water, sanitation and hygiene), country deep dives, workshops and knowledge products, the platform is more than a traditional learning platform. Anyone may register to join the GLL (https://www.who.int/initiatives/who-global-learning-laboratory-for-quality-uhc) and access its packaged learning resources.

The Network provides opportunities for global learning via its website (www.qualityofcarenetwork.org) that features three types of tools. Website visitors and Network members may access knowledge (e.g. library, database, country pages) or packaged learning (e.g. documentation, stories, podcasts). Individuals and countries may also exchange know-how, engaging with other members through the communities of practice, webinars and social media (@qualitycareNET).

5. What is the role of national learning centres?

Learning centres are academic organizations and implementation partners that actively work with national governments, districts and facilities to support documentation and sharing of learning related to QoC. The role of national learning centres is to:

1. Support QoC data generation to facilitate learning within and between countries.
2. Build capacity to conduct operational research.
3. Conduct implementation research.
4. Provide technical support to develop critical questions and how to answer them.
5. Help synthesize evidence in support of scale-up and implementation of best practices.

Existing platforms in countries may be harnessed to provide this support. Learning centres should aim to develop capacity at various levels to facilitate learning and should promote the use of technological advancement in documenting learning. Leadership and management groups must be specifically targeted to support documentation of learning. Regarding the content of the learning, national learning centres will help organize stories that explain the reasons behind changes in data and will explore opportunities to facilitate sharing (e.g. national scientific conferences).

6. What additional support might national learning health-care systems require?

In addition to start-up activities, national learning health-care systems must also manage and support ongoing activities (Table 5). In recognition of the skills required for these activities, building national learning health-care systems may require additional support for the learning process (Table 6) as well as links to processes that help identify which learning is to be scaled up and implemented quickly (operational research). For instance, at the facility level, there may be a need for QI coaching with the aim to optimize and use existing management processes to address the QI initiatives and learning. Similarly, additional support may be needed at the district level (e.g. change in district management practices, operational research) and at the national level (e.g. understanding systems support for learning, a national learning officer for QI). The national QI agenda will be best advanced if countries commit to setting up structures in charge of supporting QI across systems (e.g. a quality directorate).

Table 5. Learning activities within a national learning health-care system

	National	District	Facility
Start-up activities	– Health system leadership identifies national learning centre (i.e. sets up structures and systems for interactive learning between health system levels) – Guidelines and clinical experts provide information on QoC standards (this helps with setting aims)	– Set up systems to facilitate information sharing within districts – Communicate with district teams on the aims and functions of the learning system	– Provide information on whether changes can be done as planned – Identify members of the QI team – Communicate with staff on the aims and functions of the learning system
Ongoing activities	– Foster collaboration by connecting facilities, leaders and managers across the country – Proactively seek out information from efforts to improve QoC – Facilitate documentation of improvement activities – Create opportunities for sharing evidence and learning – Disseminate learning – Ensure that data move through the health system – Identify and respond to learning needs in facilities and districts – Foster a positive environment for learning and sharing – Use implementation science to learn and generate evidence for scale-up – Update government guidelines and policies based on QoC learning – Connect with other countries on QoC – Stay up-to-date on global developments in QoC	– Provide information on how the district supports QI – Provide information on what works and what does not for direction setting, support and problem solving – Provide facilities with opportunities to share their experiences – Foster a positive environment for learning and sharing without fear of being reprimanded by senior staff – Ensure that data move through the health system	*Staff involved in QoC:* – Participate in peer-to-peer learning activities – Be open to sharing and learning with other facilities – Seek support, when needed, in learning how to identify the causes of poor care; systematically make changes in the provision of care; use data to assess the effectiveness of those changes; and adapt changes until care has improved *QI team:* – Collect and analyse data – May help in teaching data collection and analysis skills (QI coach) – Provide information on what works and what does not for direction setting, support and problem solving – Help package learning into presentations or case studies – Share experience of improving QoC with peers, facility leadership and other facilities *Facility leadership:* – Provide QI teams with regular mechanisms and opportunities to share learning – Participate in district-level events within the facility – Facilitate staff learning – Communicate improvement work and the results to mothers, families and the community – Foster a positive environment for learning and sharing without fear of being reprimanded by senior staff

Table 6. Additional support for learning in a national learning health-care system

Health system level	Who learns?	Additional support for learning
National	Policy-makers Managers	Synthesis and analysis Understanding system's support for learning Operational research Communication platforms
District/Region	District leadership Facility leadership and managers	Change in district management practices and learning Communication platforms Operational research
Facility/Community	Individual practitioners and teams	Optimization and use of existing management processes QI coaching

Developing and successfully implementing national learning health-care systems requires a cultural shift whereby health systems create and foster a culture of continual learning *(8)*. Many practical questions remain as to how national health systems can develop and foster this needed cultural shift in learning, and which institutions are best suited to serve as national learning centres to sustain and scale up good practices. These unanswered questions and others will be answered only once countries begin establishing national learning centres, learning from their experiences and sharing this learning.

Glossary

Sharing learning requires a common language and defined terminology to be used within facilities, districts and countries in the Network. Definitions of terminology used within this guide are grouped into four domains:

- generic quality improvement terms and interventions;
- terminology specific to learning health-care systems for QoC;
- data and indicators; and
- quality of care standards that will need to be adapted to each country context.

Generic quality improvement terms and interventions

change concept: a general idea for changing a process. Change concepts are usually at a high level of abstraction, but evoke multiple ideas for specific processes. "Simplify", "reduce handoffs", and "consider all parties as part of the same system" are all examples of change concepts *(9)*.

horizontal scale-up: scaling up to expand and replicate good practice (also called quantitative scale-up) *(10)* (see "scale-up").

implementation research: the scientific inquiry into questions concerning implementation *(11)*.

intervention: an activity or set of activities aimed at modifying a process, course of action or sequence of events, in order to change one or several of their characteristics, such as performance or expected outcome *(12)*.

operations research: a discipline that uses advanced analytical methods (e.g. simulation, optimization, decision analysis) to better understand complex systems and aid in decision-making (also referred to as "operational research" in British English) *(13)*.

Plan-Do-Study-Act (PDSA) cycle: a structured trial of a process change. Drawn from the Shewhart cycle, this effort includes:

Plan – a specific planning phase

Do – a time to try the change and observe what happens

Study – an analysis of the results of the trial

Act – devising next steps based on the analysis

This PDSA cycle will naturally lead to the Plan step of a subsequent cycle *(9)*.

process improvement: a systematic, data-based method for improving the quality of work processes. It uses team decision-making to continually improve processes that affect the quality of products and services for a customer (i.e. patient) *(14)*.

quality assurance: all the planned and systematic activities implemented within the quality system, and demonstrated as needed, to provide adequate confidence that an entity will fulfil requirements for quality *(15)*.

quality control: operational techniques and activities that are used to fulfil requirements for quality *(15)*.

quality improvement: an organizational strategy that formally involves the analysis of process and outcomes data and the application of systematic efforts to improve performance *(16)*.

quality improvement (QI) cycle: a planned, repetitive sequence of systematic and documented activities aimed at improving a process (see "Plan-Do-Study-Act (PDSA) cycle").

quality improvement (QI) intervention: a change process in health-care systems, services or suppliers for the purpose of increasing the likelihood of optimal clinical quality of care measured by positive health outcomes for individuals and populations. Examples include: physician reminder systems, facilitated relay of clinical data to providers, audit and feedback, benchmarking, physician education, practice guidelines, critical pathways, patient education, promotion of self-management, and patient reminder systems *(16)*.

quality management: all activities of the overall management function that determine the quality policy, objectives and responsibilities, and implement them by means such as quality planning, quality control and quality improvement within the quality system *(15)*.

quality planning: activities that establish the objectives and requirements for quality and for the application of quality system elements *(15)*.

scale-up: deliberate efforts to increase the impact of successfully tested health innovations so as to benefit more people and to foster policy and programme development on a lasting basis *(10)*.

vertical scale-up: the institutionalization of an innovation through policy, regulatory, budgetary or other health system changes – in other words, the complex process of embedding an innovation in the institutional structure of a health system; scale-up can also concern the expansion of the organizational, financial and technical capabilities of a health system *(11)* (see "scale-up").

Terminology specific to learning health-care systems for QoC

change ideas: (see "change concept").

change package: a set of evidence-based changes that can provide some ideas to front-line health workers about how to improve a specific clinical topic. For example, a postpartum haemorrhage (PPH) change package may include practical information summarizing the evidence on the clinical methods to prevent and manage PPH, as well as a list of changes that other facilities have used to implement these clinical methods (e.g. specific changes that different facilities have used to make sure that women receive oxytocin right after delivery to prevent PPH).

horizontal learning: the sharing of learning between similar groups (e.g. facility to facility, district to district) within the health system.

implementation package: the set of implementation interventions that will be used in the Quality of Care Network learning sites.

learning context: interplay of all the values, beliefs, relationships, frameworks and external structures that operate within a given learning environment *(17)*.

learning district: a district where all quality improvement processes are being implemented and are working.

learning facility: a facility where all quality improvement processes are being implemented and are working.

learning organization: those organizations structured in such a way as to facilitate learning as well as the sharing of knowledge among members or employees. Like learning people, learning organizations are better placed to anticipate problems and develop responses, thus becoming more effective. Key to the learning organization's ability to learn is the capacity to assimilate and put into effect new knowledge that develops iteratively as knowledge is tested and new lessons are learned *(11)*.

learning stories: a structured tool for documenting learning in district- and facility-level approaches to improve QoC that presents a written narrative of events, including a beginning, middle and end.

national learning centres: academic organizations and implementation partners that actively work with national governments, districts and facilities to support documentation and sharing of learning related to QoC.

national learning health system: a national health system that uses continuous cycles of learning and reflection to inspire growth and development, involving all stakeholders – staff, managers, executives, clinicians, patients, communities and others – in that effort.

priority setting: the identification, balancing and ranking of priorities by stakeholders *(12)*.

stakeholder: an individual, group or organization that has an interest in the organization and delivery of health care *(18)*.

strategy: a series of broad lines of action intended to achieve a set of goals and targets set out within a policy or programme *(12)*.

vertical learning: the sharing of learning across different levels of the health system (e.g. facility to district level, national to district level).

Data and indicators

assessment: a formal process of evaluation of a process or system, preferably quantitative, but sometimes necessarily qualitative *(18)*.

benchmark: (i) a measurement or point of reference at the beginning of an activity that is used for comparison with subsequent measurements of the same variable; (ii) an acceptable standard in evaluation *(18)*.

core indicators: indicators that the global community would prioritize for the purposes of monitoring national and global progress, maintaining programme support and advocating resources and funding *(19)*.

data: facts and figures as raw material, not analysed *(12)*.

evaluation: the systematic and objective assessment of the relevance, adequacy, progress, efficiency, effectiveness and impact of a course of actions, in relation to objectives and taking into account the resources and facilities that have been deployed *(20)*.

evidence: any form of knowledge, including – but not confined to – research, of sufficient quality to inform decisions *(21)*.

impact: (i) the total – direct and indirect – effects of a programme, service or institution on a health status and overall health and socioeconomic development; (ii) positive or negative, long-term or medium-term effects produced by a programme or intervention; (ii) the degree of achievement of an ultimate health objective *(12)*.

input: a quantified amount of a resource put in a process *(12)*.

monitoring: the continuous oversight of an activity to assist in its supervision and to see that it proceeds according to plan. Monitoring involves the specification of methods to measure activity, use of resources, and response to services against agreed criteria *(20)*.

outcome: those aspects of health that result from the interventions provided by the health system, the facilities and personnel that recommend them and the actions of those who are the targets of the interventions *(22)*.

output: the quantity and quality of activities carried out by a programme *(12)*.

Quality of care standards

best practices: the most up-to-date patient care interventions that result in the best patient outcomes and minimize patient risk of death or complications *(23)*.

quality: satisfying the customers' (i.e. patients') wants and needs for products and services while at the same time achieving the technical standards for public health practice *(14)*.

quality of care: the extent to which health-care services provided to individuals and patient populations improve desired health outcomes. In order to achieve this, health care must be safe, effective, timely, efficient, equitable and people-centred *(24)*.

quality measure: criterion for assessing, measuring and monitoring the quality of care as specified in a quality statement *(25)*.

quality statement: a concise statement of a prioritized aspect of a standard that describes what is required to ensure measurable quality of care (adapted from *(25)*).

standard: an established, accepted and evidence-based technical specification or basis for comparison *(18)*.

standards of care: a general statement about what is expected to be provided to ensure high-quality care (adapted from *(25)*).

References

1. Quality, equity, dignity: 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/handle/10665/272612, accessed 14 February 2022).
2. Maliqi B, et al. National learning health care systems to sustain and scale up delivery of quality health care: a conceptual framework. Geneva: World Health Organization; 2019.
3. A Network for Improving Quality of Care for Maternal, Newborn and Child Health Implementation guidance: improving quality of care for maternal, newborn and child health. Working document. Geneva: World Health Organization; 2017.
4. A Network for Improving Quality of Care for Maternal, Newborn and Child Health. Quality of care for maternal and newborn health: a monitoring framework for Network countries. Geneva: World Health Organization; 2019.
5. Kruk ME, Gage AD, Arsenault C, Jordan K, Leslie HH, 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):e1196–252. doi:10.1016/S2214–109X(18)30386–3.
6. Delivering quality health services: a global imperative for universal health coverage. Geneva: World Health Organization, Organisation for Economic Co-operation and Development, World Bank; 2018; (https://apps.who.int/iris/handle/10665/272465, accessed 14 February 2022).
7. Programme reporting standards for sexual, reproductive, maternal, newborn, child and adolescent health. Geneva: World Health Organization; 2017 (https://apps.who.int/iris/handle/10665/258932, accessed 14 February 2022).
8. Crossing the global quality chasm: improving health care worldwide. Washington, D.C.: National Academies of Sciences, Engineering, Medicine; 2018 (http://nationalacademies.org/hmd/Reports/2018/crossing-global-quality-chasm-improving-health-care-worldwide.aspx, accessed 14 February 2022).
9. Glossary of improvement terms. Cambridge: Institute for Healthcare Improvement; 2004.
10. Scaling up projects and initiatives for better health: from concepts to practice. Copenhagen: World Health Organization Regional Office for Europe; 2016; (https://www.euro.who.int/__data/assets/pdf_file/0004/318982/Scaling-up-reports-projects-concepts-practice.pdf, accessed 14 February 2022).
11. Peters DH, Tran NT, Adam T. Implementation research in health: a practical guide. Geneva; Alliance for Health Policy and Systems Research and World Health Organization; 2013 (https://apps.who.int/iris/handle/10665/91758, accessed 14 February 2022).
12. Health systems strengthening glossary. Geneva: World Health Organization; 2011(https://cdn.who.int/media/docs/default-source/documents/health-systems-strengthening-glossary.pdf, accessed 14 February 2022).

13. Bradley BD, Jung T, Tandon-Verma A, Khoury B, Chan TCY, Cheng Y-L. Operations research in global health: a scoping review with a focus on the themes of health equity and impact. Health Res Policy Syst. 2017;15(1):32. doi:10.1186/s12961-017-0187-7.

14. Process improvement for public health professionals: facilitator's guide. Atlanta: U.S. Centers for Disease Control and Prevention: n.d.

15. Juran J, Godfrey A. Juran's quality handbook. New York: McGraw-Hill; 1999.

16. Evidence-based Practice Center systematic review protocol: closing the quality gap 2010: quality improvement interventions to address health disparities. Rockville: Agency for Healthcare Research and Quality; 2012 (https://effectivehealthcare.ahrq.gov/sites/default/files/pdf/disparities-quality-improvement_research-protocol.pdf, accessed 14 February 2022).

17. Quality improvement glossary of terms. In: NHS Scotland Quality Improvement Hub [website] (http://www.qihub.scot.nhs.uk/qi-basics/quality-improvement-glossary-of-terms.aspx).

18. Last JM. A dictionary of public health, 1st edition. Oxford: Oxford University Press; 2007.

19. 2018 Global reference list of 100 core health indicators (plus health-related SDGs). Geneva: World Health Organization; 2018 (https://apps.who.int/iris/handle/10665/259951).

20. Roberts JL. Terminology : a glossary of technical terms on the economics and finance of health services. Copenhagen: WHO Regional Office for Europe; 1998 (https://apps.who.int/iris/handle/10665/108335, accessed 14 February 2022).

21. Buse K, Mays B, Walt G. Making health policy. New York: Open University Press; 2005.

22. Starfield B. Basic concepts in population health and health care. J Epidemiol Community Health. 2001;55(7):452–4. doi:10.1136/jech.55.7.452.

23. Robert Wood Johnson Foundation. Quality/equality glossary. In: Robert Wood Johnson Foundation [website]; 24 April 2013 (https://www.rwjf.org/en/library/research/2013/04/quality-equality-glossary.html, accessed 14 February 2022).

24. Tunçalp Ö, Were WM, MacLennan C, Oladapo OT, Gülmezoglu AM, Bahl R, et al. Quality of care for pregnant women and newborns—the WHO vision. BJOG. 2015;122(8):1045–9. doi:10.1111/1471-0528.13451.

25. Standards for improving the quality of care for children and young adolescents in health facilities. Geneva: World Health Organization; 2018 (https://apps.who.int/iris/handle/10665/272346, accessed 14 February 2022).

Annex 1: Roles and responsibilities for improving quality of care within the health system

Health system level	Role in learning for QoC
National	National leadership should: 1. Foster collaboration by connecting facilities, leaders and managers around the country. 2. Proactively seek out information from efforts to improve QoC (e.g. case studies, stories that combine data with details of the context and how improvement was achieved). 3. Facilitate documentation of improvement activities. 4. Create opportunities for evidence sharing and learning (e.g. websites, online resource libraries, webinars, communities of practice, virtual or face- to-face meetings). 5. Disseminate QoC implementation knowledge and tools (e.g. newsletters, national forums, podcasts). 6. Identify and respond to any learning needs in districts and facilities. 7. Foster a positive environment for learning and sharing. 8. Use implementation science to learn and generate evidence for scale-up. 9. Update government policies based on QoC learning outcomes. 10. Connect with other countries on QoC. 11. Stay up to date on global developments in QoC. 12. Not become a bottleneck.
District	District leadership should: 1. Provide facilities opportunities to share their experiences in improving care (e.g. integrate QoC into existing meetings; organize new meetings focused on improving QoC; create new forums for sharing such as WhatsApp; exchange visits). These sessions should not be training or monitoring sessions. Ideally, facility staff working on QoC will have a chance to meet and share every two to three months. 2. Ensure that facility staff is able to discuss challenges and successes without fear of being reprimanded by senior staff. 3. Plan how to help collect learning from facilities and how to organize meetings that encourage sharing.

Health system level	Role in learning for QoC
Facility	Staff involved in QoC should: 1. Participate in peer-to-peer learning activities 2. Be open to sharing and learning with other facilities. 3. Seek support, when needed, in learning how to: a. Use various methods and tools to identify the causes of poor care in their setting b. Systematically make changes in how they provide care c. Use data to learn how effective those changes are d. Adapt changes until care has improved. The QI team should: 1. Share its experience of improving QoC with peers, facility leadership and other facilities (e.g. in-person meetings, exchange visits, webinars, emails, instant messaging). 2. Document how they are improving their services, challenges they are facing, and the results of their improvement efforts. Facilities should document which solutions worked and which did not and share them with the coach and the district support team. Such documentation can be used for sharing with other facilities and for understanding what works and what does not. Facility leadership should: 1. Provide QI teams regular mechanisms and opportunities to share learning (e.g. routine facility meetings). 2. Participate in district-level events where the facility can compare and discuss its indicators and QI activities with other facilities. Larger facilities with multiple departments should use this opportunity to introduce QoC activities to other departments. 3. Facilitate staff learning. 4. Communicate improvement work and the results to mothers, families and communities.

Annex 2: Data collection, use and reporting

In a district-wide QI programme, there are four basic information needs. We need to know:

1. Is care improving?
2. What did facilities do to improve care?
3. Is the district management system responsible for improvement (i.e. the overall QI programme) working?
4. What did the district, state or partners do to support improvement?

1. Is care improving? (Data for improvement)

Facilities should measure specific indicators related to the aims on which they are working. Facility staff should use these data to assess progress towards their aims. Data may also be used to learn whether facilities' solutions to improving care are working or whether facilities need to try something else.

These data can be aggregated at higher levels to understand which facilities and districts are doing well, so that their success stories can be identified and so that higher levels can determine who needs more support.

Health facilities in a district-wide QI programme will need a systematic way to track and review their progress. One way to do this is to include the QI indicators in the routine HMIS. However, this approach is often not feasible, and separate Excel databases might be needed. Data on the QI aims from facilities should be shared at the district and subnational levels on a monthly basis. Depending on computer access and use, the database can be provided in paper format (hard copy) or in electronic format (soft copy).

2. What did the facilities do to improve care? (Learning)

Along with the quantitative data showing improvement, staff should also capture qualitative details of what the facility or district did to achieve these improvements (i.e. learning stories). Both successes and failures should be shared. Coaches and facility staff should identify key lessons and guidance applicable to other facilities or districts.

3. Is the system to support improvement working? (Data for programme management)

This information comes from monitoring the programme activities. For example, the district might need to measure:

- How many facilities have been trained
- How many facilities have started improvement work
- The number and frequency of coaching visits
- The problems being addressed
- The number of peer-to-peer learning sessions conducted.

4. What did the district, state or partners do to support improvement? (Learning)

At higher levels, we need to know what worked and what did not work in supporting QI at a large scale. What resources, structures and processes were needed to enable this work? Which elements of this support were effective, and which were ineffective?

ISBN 978-92-4-004405-0

World Health Organization